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INSTALLATION AND SERVICE MANUAL LANCER SERIES 100 AND 145

POST - MIX VALVE, LEV® AND LMV®

MODEL 100	3.0	LMV®	MODEL 145L	4.5	LEV®
MODEL 100L	3.0	LEV®	MODEL 145SSL	4.5	LEV® WITH SELF-SERVE LEVER
MODEL 100SSL	3.0	LEV® WITH SELF-SERVE LEVER	MODEL 145P	4.5	LEV® PUSHBUTTON
MODEL 100P	3.0	LEV® PUSHBUTTON	MODEL 145SF	4.5	LEV® SUREFILL
MODEL 100SF	3.0	LEV® SUREFILL	MODEL 145PC	4.5	LEV® PORTION CONTROL
MODEL 100PC	3.0	LEV® PORTION CONTROL			

SPECIFICATIONS

FLOW RATE:

- All Model 100 (3.0 Valve) valves are adjustable from 1.5 ounces/second (44.4 ml/sec) to 3.0 ounces/second (88.8 ml/sec) of finished drink.
- All Model 145 (4.5 Valve) valves are adjustable from 2.5 ounces/second (74.0 ml/sec) to 5.0 ounces/second (148.0 ml/sec) of finished drink.
- Restricted flow adjustment plug, maximum flow 2.0 ounces/second (59.2 ml/sec) in the Model 100 valves and 3.3 ounces/second (97.7 ml/sec) in the Model 145 valves .

FLOW CONTROLS:

Water and syrup flow controls are individually adjustable without removing valve cover. Syrup flow control operates with both sugar and diet syrups.

MOUNTING:

Mounts on the same hole center as the following valves with the same mounting screws.

Dole SEV	Cornelius SF1
Dole FFV	McCann Coca-Cola Valve
Smart Valve	

SODA/WATER LEVER:

Manually operated and field convertible.

(SPECIFICATIONS continued inside cover)

This Manual supersedes Installation and Service Manual, 28-0027/03, dated 09/30/98



6655 LANCER BLVD. • SAN ANTONIO, TEXAS 78219 USA • (210) 310-7000

FAX SALES

• NORTH AMERICA – 210-310-7245 • INTERNATIONAL SALES – 210-310-7242 • CUSTOMER SERVICE – 210-310-7242 •
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DATE: 07/16/01
P.N.: 28-0027/04

(SPECIFICATIONS continued)

OPERATION:

Non-electric (**LMV®**) or electric (**LEV®**) operation.

WATER AND SYRUP REQUIREMENTS:

MODEL 100 (3.0 Valves)	Flowing Pressures at Valve	
	Minimum	Maximum
Water/Soda	40 PSIG (2.8 kg/cm ²)	110 PSIG (7.73 kg/cm ²)
Syrup (Sugar)	20 PSIG (1.4 kg/cm ²)	70 PSIG (4.92 kg/cm ²)
Syrup (Diet)	10 PSIG (0.7 kg/cm ²)	70 PSIG (4.92 kg/cm ²)

MODEL 145 (4.5 Valves)	Flowing Pressures at Valve	
	Minimum	Maximum
Water/Soda	30 PSIG (2.11 kg/cm ²)	110 PSIG (7.73 kg/cm ²)
Syrup (Sugar)	15 PSIG (1.1 kg/cm ²)	80 PSIG (5.62 kg/cm ²)
Syrup (Diet)	10 PSIG (0.7 kg/cm ²)	80 PSIG (5.62 kg/cm ²)

ELECTRICAL REQUIREMENT:

24 VAC, 50/60 Hz for **LEV®** only

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1. INSTALLATION

1.1 RECEIVING

Each unit is completely tested under operating conditions and thoroughly inspected before shipment. At time of shipment, the carrier accepts the unit and any claim for damage must be made with the carrier. Upon receiving units from the delivering carrier, carefully inspect carton for visible indication(s) of damage. If damage exists, have carrier note same on bill of lading and file a claim with the carrier.

1.2 REMOVAL OF EXISTING VALVE

- A. Turn OFF carbonated water supply to dispenser to depressurize the system.
- B. Turn OFF all syrup supplies to dispenser.
- C. Operate each valve to ensure complete depressurization of water and syrup in the system.
- D. Remove existing valve and mounting block. Reuse the mounting block screws.

1.3 INSTALLATION OF VALVE (LMV® OR LEV®)

WARNING

IF DISPENSER IS CONNECTED TO ELECTRICAL POWER, THE UNIT MUST BE PROPERLY GROUNDED TO AVOID POSSIBLE FATAL ELECTRICAL SHOCK OR SERIOUS BODILY INJURIES.

- A. Slide I.D. panel up to expose cover mounting screw (see Figure 1).
- B. Loosen cover mounting screw (*DO NOT REMOVE*) and remove cover.
- C. Turn both stems on mounting block to the CLOSED position (see Figure 2).
- D. Lift up wire retainer and remove mounting block from valve.
- E. Replace the inlet water and syrup o-rings on dispenser valve fittings.
- F. Lubricate o-rings on the fittings and mounting block with water or an FDA-approved lubricant.
- G. If syrup-out light is furnished with valve, run light wires through mounting block and valve plate. Connect wiring to pressure switch in product line (24 VAC power supply required).
- H. Install mounting block to valve plate using four (4) mounting screws removed from existing mounting block.
- I. Install valve on mounting block. Push wire retainer down. This will lock valve to mounting block. (White stems must be in closed position. See Figure 2.)
- J. Turn on carbonator water supply and syrup supply to dispenser.
- K. Turn both white stems on mounting block to the OPEN position (see Figure 3). Top of stem will lock wire retainer in position.
- L. If electric version, reconnect to 24 VAC power supply.
- M. Operate the valve momentarily to ensure flow of carbonated water and syrup.

NOTE

Model 100 valves are factory preset for a flow rate of 3.0 ounces per second; an adjustment may be required.

Model 145 valves are factory preset for a flow rate of 4.5 ounces per second; an adjustment may be required.

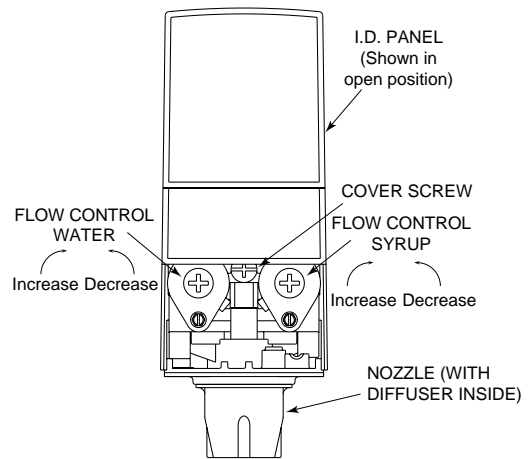
- N. Adjust water flow to correct flow rate (see following instructions).
- O. Adjust ratio (°Brix) to correct setting (see following instructions).
- P. Install cover on valve and tighten cover mounting screw.
- Q. Slide down I.D. panel.

1.4 ADJUSTING WATER FLOW

The water flow for the Model 100 may be adjusted from 1.25 oz/sec (37 ml/sec) to 2.50 oz/sec (74 ml/sec). The water flow for the Model 145 may be adjusted from 2.0 oz/sec (59.2 ml/sec) to 4.50 oz/sec (133.2 ml/sec). The restricted flow adjustment plug (Model 100) adjusts to a maximum flow of 2.0 oz/sec (59.2 ml/sec). The restricted flow adjustment plug (Model 145) adjusts to a maximum flow of 3.3 oz/sec (97.7 ml/sec).

- A. Slide up I.D. panel until flow control adjustments are exposed (see Figure 1).
- B. Remove nozzle by twisting counter clockwise and pulling down.

- C. Remove diffuser by pulling down.
- D. Install Lancer syrup separator (yellow) (PN 54-0031 for Model 100 valves) or Lancer syrup separator (smoke) (PN 54-0201 for Model 145 valves) in place of the nozzle.
- E. Activate valve to fill separator syrup tube.
- F. Hold a Lancer °Brix cup under syrup separator. Dispense water and syrup into cup for two (2) seconds. Divide number of ounces (ml) of water in cup by two (2) to determine water flow rate per second.
- G. To obtain desired water flow rate, use a screwdriver to adjust water flow control (see Figure 1).



Typical Valve
Figure 1

1.5 ADJUSTING WATER TO SYRUP °BRIX

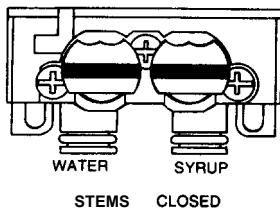
For the Model 100, the syrup flow may be adjusted from 0.25 oz/sec (7.4 ml/sec) to 0.50 oz/sec (14.8 ml/sec). For the Model 145, the syrup flow may be adjusted from 0.50 oz/sec (14.8 ml/sec) to 0.90 oz/sec (26.6 ml/sec).

- A. Hold the Lancer °Brix cup under the syrup separator and activate valve. Check °Brix.
- B. To obtain desired °Brix, use screwdriver to adjust syrup flow control (see Figure 1).
- C. Remove syrup separator.
- D. Install diffuser and nozzle.
- E. Slide down I.D. panel.

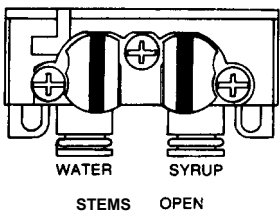
1.6 INSTALLATION OF SODA LEVER

The soda lever may be field installed on any **LMV®** or **LEV®**.

- A. Remove valve cover.
- B. Turn both stems on mounting block to CLOSED position (see Figure 2).
- C. If **LEV®**, disconnect electric wiring harness.
- D. Remove valve from mounting block.
- E. Locate bottom plate plug in bottom plate on left side of nozzle (if necessary).



Mounting Block Stems in CLOSED Position
Figure 2



Mounting Block Stems in OPEN Position
Figure 3

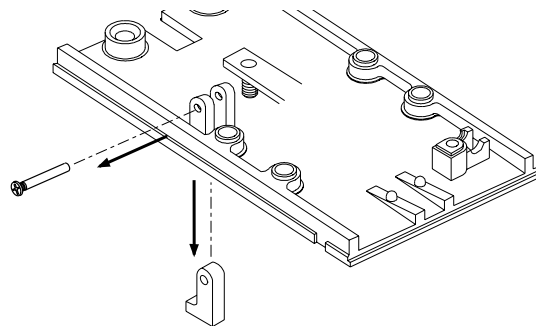


Figure 4

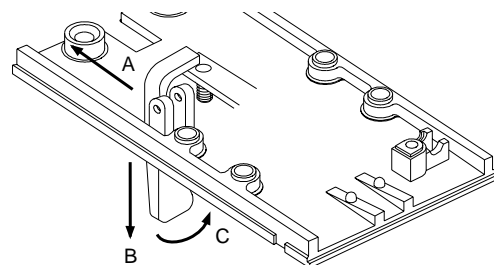


Figure 5

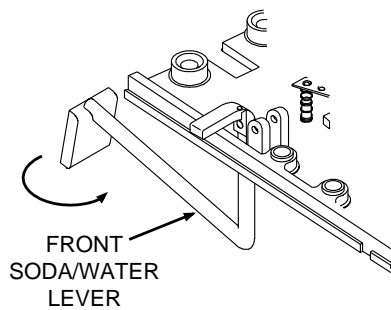


Figure 6

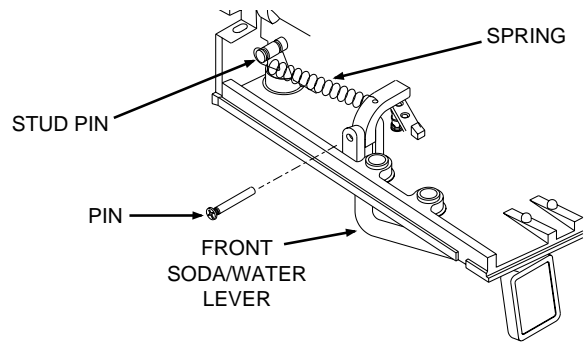


Figure 7

- F. Pull out stainless steel pin and remove bottom plate plug (see Figure 4).

NOTE

If valve does not have pin, push bottom of plug to snap it out of position.

- G. Remove nozzle by twisting counter clockwise and pulling down.
 H. Remove diffuser by pulling down.
 I. Hold cup lever back and lay soda lever across bottom of valve with small leg extending through hole. Twist soda lever slightly and bring to upright position. Soda lever will slide between the vertical supports.
 J. Release cup lever.
 K. Line up holes in supports and soda lever and install stainless steel pin.
 L. Install diffuser and nozzle.
 M. Install valve on mounting block and latch wire retainer.
 N. If **LEV®**, reconnect electric wire harness.
 O. Turn both stems on mounting block to OPEN position (see Figure 3).
 P. Push soda lever back and check for soda/water flow.
 Q. Install cover and tighten cover screw.
 R. Slide down I.D. panel.

1.7 REMOVAL AND INSTALLATION OF FRONT SODA/WATER LEVER (KIT # 82-1458)

- A. Slide I.D. panel up to expose cover mounting screw (see Figure 1).
 B. Loosen cover mounting screw (*DO NOT REMOVE*) and remove cover.
 C. Close stems on mounting block (see Figure 2).
 D. Operate valve to check for complete shutoff of water and syrup.
 E. Lift up wire retainer and carefully remove valve from mounting block. If **LEV®**, disconnect wire harness.
 F. Locate bottom plate plug or soda lever in bottom plate on left side of valve. For removal of either item, remove pin and retain for reinstallation (see Figure 4).

NOTE

If valve does not have pin, push bottom of plug to snap it out of position.

- G. To remove existing soda lever, slide lever behind vertical supports (see Figure 5). Carefully pull lever down, rotating it towards the back right corner of the bottom plate. Then slide lever out of the slot.
 H. To install the front soda/water lever, first position the lever so that the contact pad faces towards the rear of the valve (see Figure 6).
 (1) Insert the front soda/water lever through the bottom plate and rotate the lever to the left until the contact pad is facing forward and the extension is positioned over the paddle arm on the left.
 (2) To install spring (see Figure 7), press stud pin into hole on upper body and fit one end of spring into outer groove of stud pin. Fit other end of spring into hole on top of front soda/water lever. Install pin.
 I. Install diffuser and nozzle.
 J. Install valve on mounting block and latch wire retainer.

- K. If **LEV®**, reconnect electric wire harness.
- L. Turn both stems on mounting block to OPEN position (see Figure 3).
- M. Push soda lever back and check for soda/water flow.
- N. Attach appropriate label to push pad on front soda/water lever.
- O. Install cover and tighten cover screw.
- P. Slide down I.D. panel.

1.8 REMOVAL AND INSTALLATION OF FLOW CONTROLS

- A. Slide I.D. panel up to expose cover mounting screw (see Figure 1).
- B. Loosen cover mounting screw (*DO NOT REMOVE*) and remove cover.
- C. Close stems on mounting block (see Figure 2).
- D. Operate valve to check for complete shutoff of water and syrup.
- E. Remove top screw and loosen bottom screw. Remove retainer.
- F. Remove plug adjustment assembly by threading extractor tool (PN 52-1950) into the bonnet and pulling it out. This will expose the flow control.
- G. Lift up wire retainer and carefully remove valve from mounting block. If electric, disconnect wire harness.
- H. Tilt valve forward to remove spring and piston.

NOTE

If piston is going to be reused, use caution when handling.

- I. Replace valve to mounting block and push wire retainer down. This will provide a stable working condition.
- J. To remove sleeve, use flow control extractor tool (PN 52-1950) (see Figure 8).

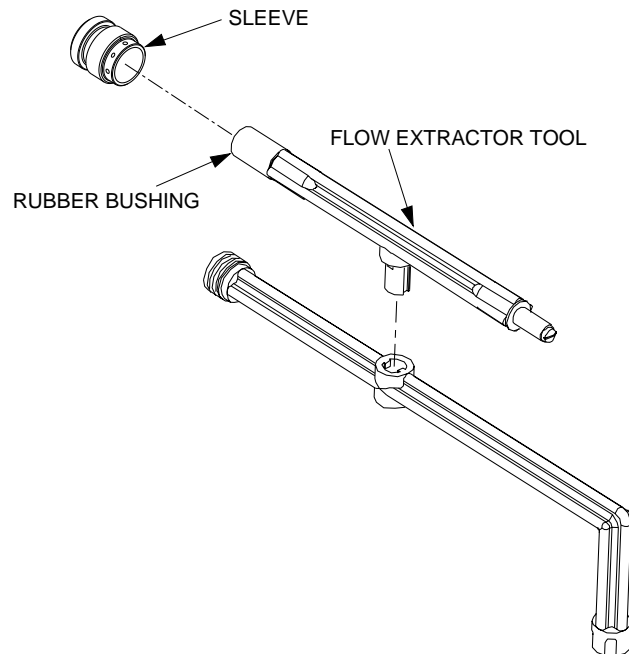
- (1) Ensure rubber bushing is loose on handle.
- (2) Push rubber bushing into sleeve.
- (3) Turn clockwise to tighten bushing inside sleeve.

NOTE

This will allow sleeve to be removed or installed.

- (4) Turn counterclockwise to loosen bushing inside sleeve. This will allow tool to be removed from sleeve.

- K. To replace sleeve, place sleeve on flow control extractor tool (see Figure 8) and insert in upper body.
- L. Lubricate o-ring with water (or any FDA approved lubricant) and push sleeve to bottom.
- M. Reassemble spool, spring, plug adjustment assembly, retainer and screws
- N. Turn both shut offs on mounting block to the OPEN position (see Figure 3).
- O. Replace cover and tighten mounting screw.
- P. Adjust water flow to correct flow rate (refer to Section 1.4).
- Q. Adjust °Brix to correct setting (refer to Section 1.5).
- R. Slide down I.D. panel.



**Flow Control Extractor Tool
Figure 8**

2. CLEANING

2.1 DAILY CLEANING

- A. Nozzle and diffuser must be cleaned daily.
 1. Remove nozzle by twisting counter clockwise and pulling down.

2. Remove diffuser by pulling down.
3. Wash nozzle and diffuser with warm water. *Ensure that cleaning solution is thoroughly rinsed from nozzle and diffuser.* Residual solution will cause foaming and off taste in finished product.
4. Reinstall diffuser and nozzle.

NOTE:

Ensure compliance with the instructions of the dispenser manufacturer to properly clean and sanitize the nozzle and diffuser, and ensure no off-taste is present.

2.2 BI-WEEKLY SANITIZING

- A. Nozzle and diffuser must be sanitized bi-weekly. Comply with the instructions of the dispenser manufacturer to properly sanitize the nozzle and diffuser, and insure no off-taste is present.

3. SYRUP BRIX CUP

<ul style="list-style-type: none"> 05-0081 Soda Brix Cup 05-0083 Syrup Brix Cup 4.00 to 1 05-0084 Syrup Brix Cup 4.20 to 1 05-0085 Syrup Brix Cup 4.40 to 1 05-0171 Syrup Brix Cup 4.50 to 1 05-0169 Syrup Brix Cup 4.75 to 1 	<ul style="list-style-type: none"> 05-0170 Syrup Brix Cup 5.00 to 1 05-0086 Syrup Brix Cup 5.2 to 1 05-0087 Syrup Brix Cup 5.30 to 1 05-0088 Syrup Brix Cup 5.40 to 1 05-0089 Syrup Brix Cup 5.50 to 1 05-0090 Universal Split Cup
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4. TROUBLESHOOTING

<u>TROUBLE</u>	<u>CAUSE</u>	<u>REMEDY</u>
4.1 Water leakage around nozzle.	<ol style="list-style-type: none"> A. O-ring is not properly installed above diffuser. B. O-ring is damaged or missing. 	<ol style="list-style-type: none"> A. Install or replace o-ring correctly. B. Replace o-ring.
4.2 Leakage between upper and lower bodies.	<ol style="list-style-type: none"> A. One or more retaining screws loose. B. Paddle arm assemblies are worn or damaged. 	<ol style="list-style-type: none"> A. Tighten all six (6) retaining screws. B. Replace paddle arm assemblies.
4.3 Miscellaneous leakage.	<ol style="list-style-type: none"> A. Gap between parts. B. Damaged, missing, or improperly installed o-rings. 	<ol style="list-style-type: none"> A. Tighten appropriate retaining screws. B. Replace appropriate o-rings.
4.4 Insufficient water flow.	<ol style="list-style-type: none"> A. Water flowing pressure is too low, or restricted. B. Foreign debris in water flow controls. 	<ol style="list-style-type: none"> A. <ol style="list-style-type: none"> 1. Check incoming water from carbonator to ensure minimum flowing pressure. See SPECIFICATIONS. 2. Check stems on mounting block to ensure it is in fully OPEN position. B. Remove water flow control from upper body and clean out any foreign materials to ensure smooth free piston movement.
4.5 Insufficient syrup flow.	<ol style="list-style-type: none"> A. Syrup flowing pressure is too low, or restricted. B. Foreign debris in syrup flow controls. 	<ol style="list-style-type: none"> A. <ol style="list-style-type: none"> 1. Check incoming syrup to ensure minimum flowing pressure. See SPECIFICATIONS. 2. Check shutoff on mounting block to ensure it is in fully OPEN position. B. Remove syrup flow control from upper body and clean out any foreign materials to ensure smooth free piston movement.

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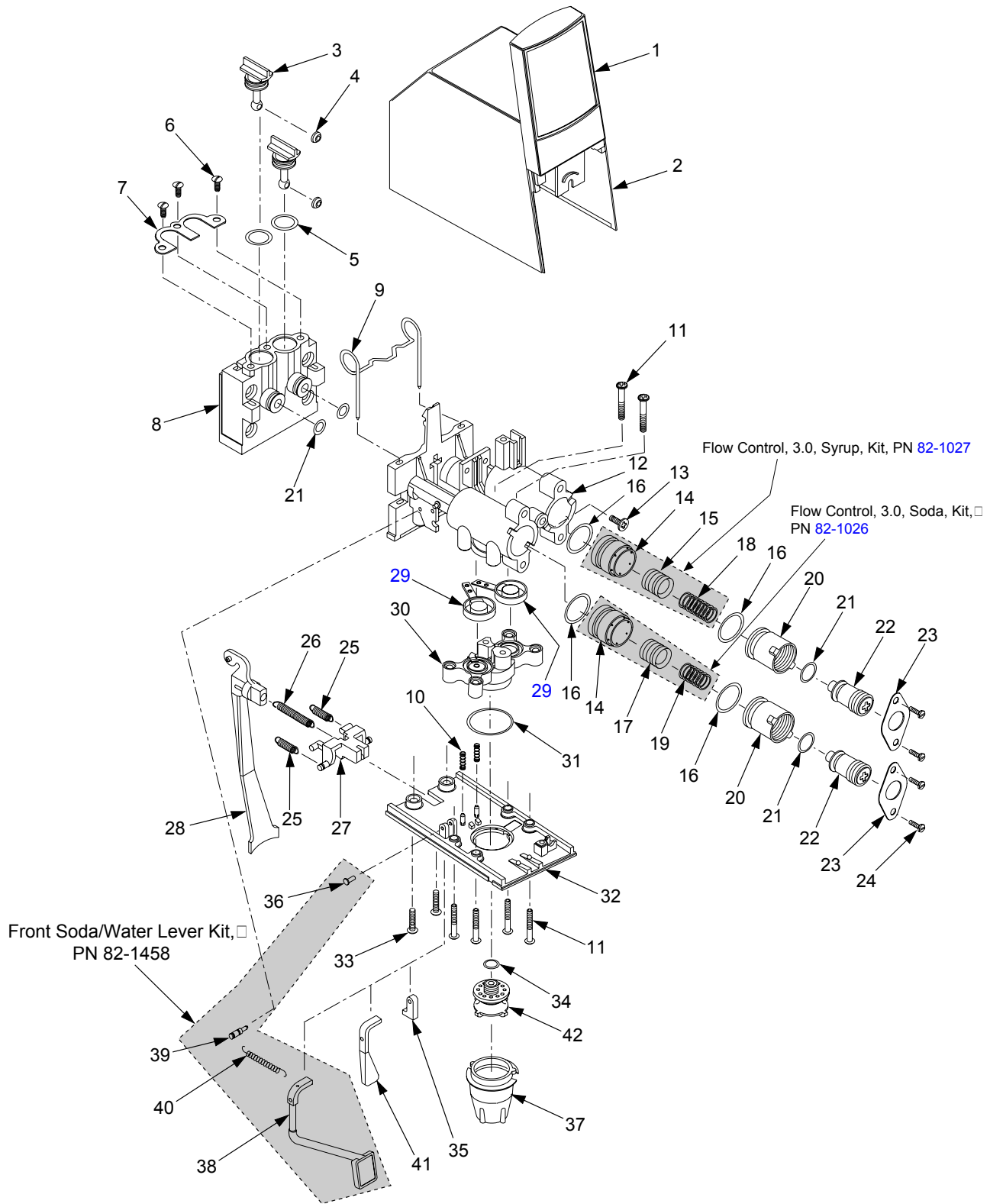
PROBLEM	CAUSE	CORRECTIVE ACTION
<i>(Continued from previous page)</i>		
4.6 Erratic Ratio °Brix.	A. Incoming water and/or syrup supply not at sufficient flowing pressure. B. Foreign debris in water and/or syrup flow controls.	A. Check incoming water and syrup supply to ensure sufficient flowing pressure. B. Remove flow controls and clean out any foreign materials to ensure smooth free piston movement.
4.7 No product dispensed.	A. Water and syrup shutoffs are not fully OPEN. B. If LEV ®, ensure cup lever arm, or I.D. Panel actuator is actuating switch. C. If LEV ®, electric current not reaching valve. D. Improper or inadequate water or syrup supply. E. If LMV ®, valve is not functioning correctly.	A. Check stems on mounting block to ensure they are in fully OPEN position. B. If not, repair or replace. C. Check electric current supplied to valve. See SPECIFICATIONS. If current is adequate, check solenoid coil and switch. Replace if necessary. D. Remove valve from mounting block and open stems slightly and check to ensure proper water and syrup supply. If no supply, check dispenser for freeze-up or other problems. E. Check manual operation of valve to ensure proper function.
4.8 Water only dispensed, no syrup; or syrup only dispensed, no water.	A. Water or syrup stem on mounting block not fully OPEN. B. Improper or inadequate water or syrup supply.	A. Check stems on mounting block to ensure they are in full OPEN position. B. Remove valve from mounting block and open stem slightly to check for proper syrup and water supply. If no supply, check dispenser for freeze-up or other problems.
4.9 Valve will not shut off.	A. Cup Lever may be sticking or binding. B. If LEV ®, switch not actuating properly. C. If LEV ®, solenoid armature not returning to bottom position. D. Debris or damage to Paddle arms.	A. Correct or replace lever. B. Check switch for free actuation. C. Replace defective solenoid armature or spring. D. Remove debris and/or replace damaged paddle arms.
4.10 Excessive foaming.	A. Incoming water or syrup temperature too high. B. Water flow rate too high. C. Nozzle and diffuser not clean. D. Nozzle and diffuser not properly installed. E. CO ₂ pressure too high.	A. Correct at dispenser. B. Readjust and reset °Brix. See Section 1.5. C. Remove and clean. D. Remove and install properly. E. Check for proper pressure setting.
4.11 No syrup-out light. (If equipped.)	A. Burned out or defective lamp. B. Faulty wiring and/or pressure switch in product line.	A. Replace harness. B. Repair or replace.

NOTES

Please refer to the Lancer web site (www.lancercorp.com) for information relating to Lancer Installation and Service Manuals, Instruction Sheets, Technical Bulletins, Service Bulletins, etc.

5. ILLUSTRATIONS AND PARTS LISTINGS

5.1 LMV® (MODEL 100, 3.0 OZ/SEC)

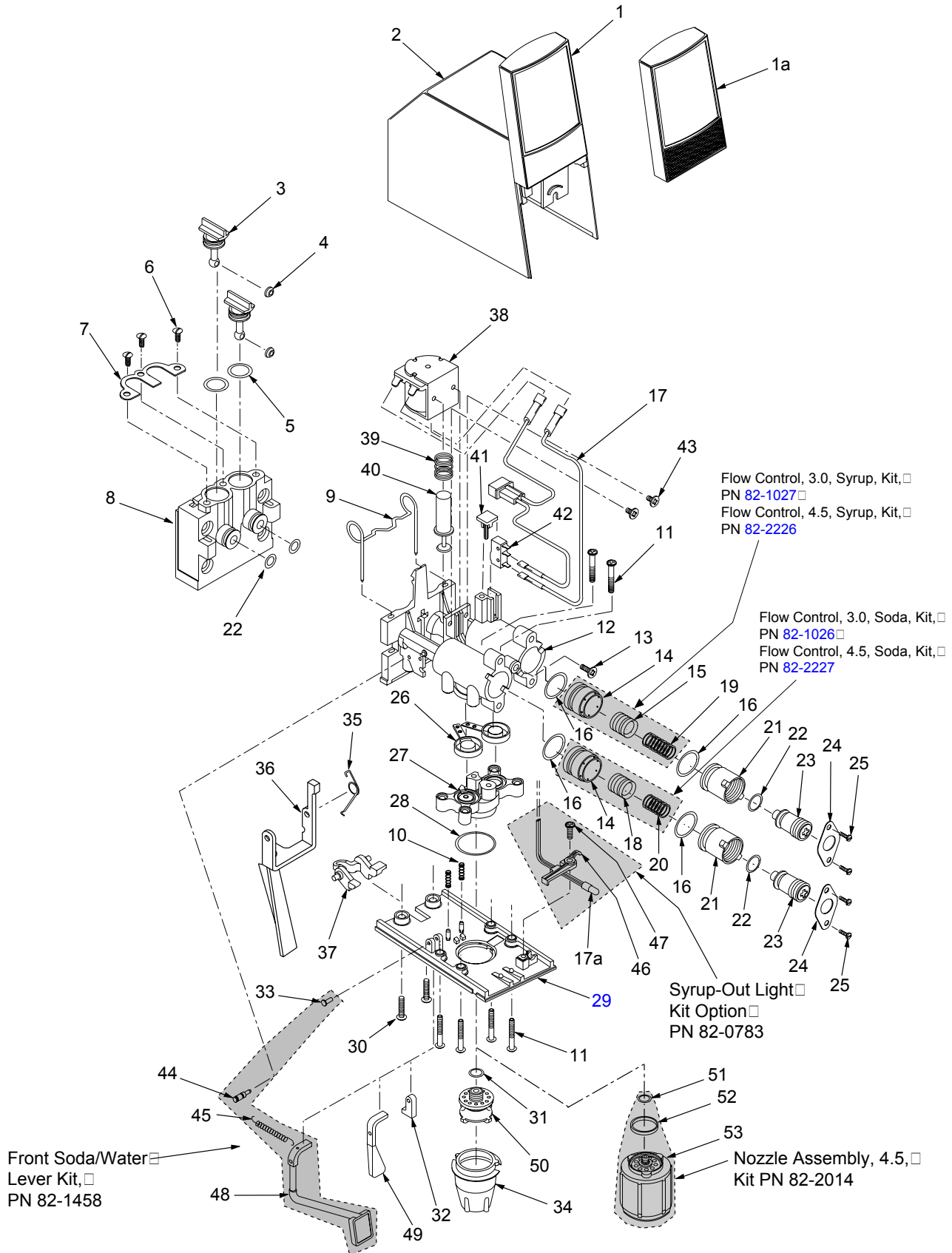


5.1 LMV® (MODEL 100, 3.0 OZ/SEC) (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	05-0287	I.D. Panel	39	03-0238	Spring, Front Soda/Water Lever
2	54-0029	Cover Sub Assy	41	05-0274	Lever, Soda, 3.0
-	54-0030	Cover Assy (Item No. 1-2)	42	54-0028	Diffuser Assy, 3.0 (Used in Valves produced through September 1998)
3	05-0266	Stem, Valve, Mounting Block	-	05-1593	Diffuser Assy, 3.0 (Used in Valves produced in September 1998 and later)
4	05-0267	Washer			
5	02-0047	O-Ring			
6	04-0269	Screw			
7	03-0087	Retainer, Stem, Valve, Mounting Block			
8	05-0265	Mounting Block			
-	82-0274	Block Mounting Assy (Item No. 3-8, 21)			
9	03-0233	Retainer, Valve, 1-Piece			
10	03-0143	Spring, Pin, LEV ®			
11	04-0270	Screw			
R 12	54-0045	Body Assy, Upper, 3.0, LMV ®			
13	04-0302	Screw			
14	81-0274	Sleeve, Syrup/Water, 3.0			
15	81-0273	Piston, Syrup, 3.0			
16	02-0132	O-Ring			
17	81-0275	Piston, Soda, 3.0			
18	03-0169	Spring, Syrup, Flow Control, LEV ®			
19	03-0171	Spring, Soda, Flow Control, LEV ®			
20	05-0262	Bonnet, Flow Control			
21	02-0126	O-Ring			
R 22	05-1919	Plug, Adjustment, Flow Control, White			
R -	82-0527/01	Plug, Adjustment Assy, White (Item No. 16, 20-22)			
23	03-0088	Retainer, Flow Control			
24	04-0267	Screw			
25	03-0095	Spring			
26	03-0094	Spring (Center)			
27	05-0222	Yoke, Mechanical			
28	05-0248	Lever, Mechanical			
-	82-0526	Lever Assy, Mechanical (Item No. 26-28)			
R 29	82-2929	Arm, Paddle, Assy			
30	54-0046	Body Assy, Lower, 3.0			
31	02-0408	O-Ring, Nozzle, Red, 3.0 (Used in Valves produced through September 1998)			
32	05-0232	Plate, Bottom, 3.0			
33	04-0310	Screw			
34	02-0133	O-Ring (Used in Valves produced through September 1998)			
35	05-0281	Plug, Bottom Plate			
36	04-0775	Pin, Lever, Soda			
37	05-0233	Nozzle, 3.0 (Used in Valves produced through September 1998)			
-	05-1463	Nozzle, 3.0 (Used in Valves produced in September 1998 and later)			
37	09-0120	Lever, Front Soda/Water			
38	04-0724	Pin, Stud			

R in margin indicates revision or data change

5.2 LEV® (MODEL 100L, 3.0 OZ/SEC AND MODEL 145L, 4.5 OZ/SEC)

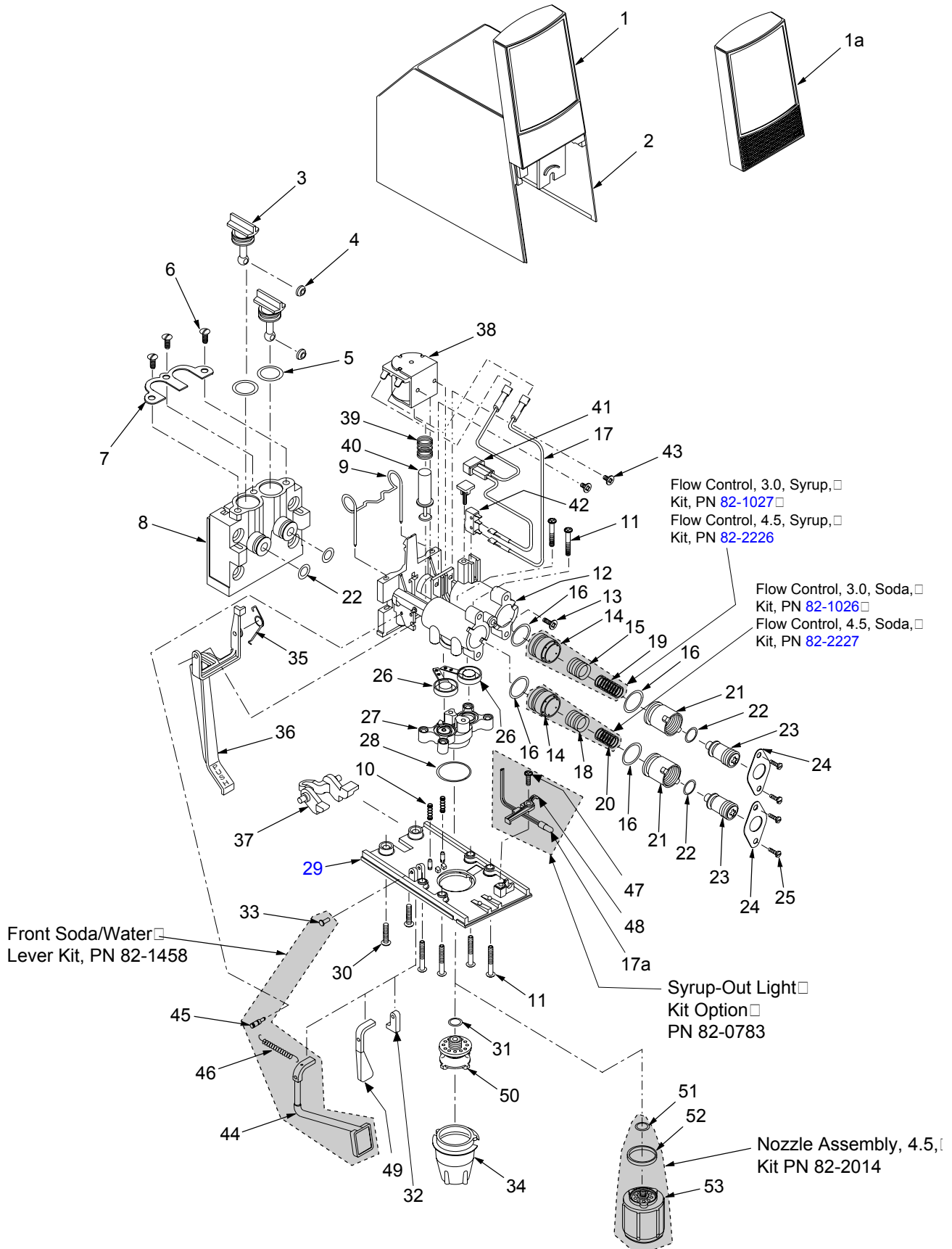


5.2 LEV® (MODEL 100L, 3.0 OZ/SEC AND MODEL 145L, 4.5 OZ/SEC) (CONTINUED)

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	05-0287	I.D. Panel	34	05-0233	Nozzle, 3.0 (Used in Valves produced through September 1998)
1a	54-0057	I.D. Panel (Syrup-Out)			
2	54-0029	Cover Sub Assy			
-	54-0030	Cover Assy (Item No. 1-2)	-	05-1463	Nozzle, 3.0 (Used in Valves produced in September 1998 and later)
-	54-0059	Cover Assy (Item No. 1a-2)			
3	05-0266	Stem, Valve, Mounting Block			
4	05-0267	Washer	35	03-0081	Lever, Spring, Electric
5	02-0047	O-Ring	36	05-0231	Lever, Electric
6	04-0269	Screw	37	05-0238	Yoke, Electric
7	03-0087	Retainer, Stem, Valve, Mounting Block	38	52-0288	Coil Assy, LEV®
8	05-0265	Mounting Block	39	03-0125	Spring, Solenoid, LEV®
-	82-0274	Block Assy, Mounting (Item No. 3-8, 22)	40	10-0117	Armature, LEV®
9	03-0233	Retainer, Valve, 1-Piece	41	05-0935	Plug, Retainer, Micro-Switch
10	03-0143	Spring, Pin, LEV®	42	26-0265	Micro-Switch
11	04-0270	Screw	43	04-0486	Screw
12	54-0189	Body Assy, Upper	44	04-0724	Pin, Stud
13	04-0302	Screw	45	03-0238	Spring, Front Soda/Water Lever Holder
14	81-0274	Sleeve, Syrup/Water, 3.0	46	05-0490	Holder
-	81-0382	Sleeve, Syrup/Soda, 4.5	47	04-0470	Screw
15	81-0273	Piston, Syrup, 3.0	48	09-0120	Lever, Front, Soda/Water
-	81-0383	Piston, Syrup, 4.5	49	05-0274	Lever, Soda, 3.0
16	02-0132	O-Ring	50	54-0028	Diffuser Assy, 3.0 (Used in Valves produced through September 1998)
17	52-0622	Wire Harness	-	05-1593	Diffuser Assy, 3.0 (Used in Valves produced in September 1998 and later)
17a	52-0902	Wire Harness (Syrup-Out)			
18	81-0275	Piston, Soda, 3.0	51	02-0133	O-Ring
-	81-0384	Piston, Soda, 4.5	52	02-0421	Seal, Nozzle, 4.5
19	03-0169	Spring, Syrup, Flow Control, LEV®	53	54-0183	Nozzle Assy, 4.5
20	03-0171	Spring, Soda, Flow Control, LEV®			
21	05-0262	Bonnet, Flow Control			
22	02-0126	O-Ring			
R 23	05-1919	Plug, Adjustment, Flow Control, White			
R -	82-0527/01	Plug, Adjustment Assy, White (Item No. 16, 21-23)			
24	03-0088	Retainer, Flow Control			
25	04-0267	Screw			
R 26	82-2929	Arm, Paddle, Assy			
27	54-0046	Body Assy, Lower, 3.0			
-	54-0188	Body Assy, Lower, 4.5			
28	02-0408	O-Ring, Nozzle, Red, 3.0 (Used in Valves produced through September 1998)			
29	05-0232	Plate, Bottom, 3.0			
-	05-1108	Plate, Bottom, 4.5			
30	04-0310	Screw			
31	02-0133	O-Ring (Used in Valves produced through September 1998)			
32	05-0281	Plug, Bottom Plate			
33	04-0775	Pin, Lever, Soda			

R in margin indicates revision or data change

5.3 LEV® WITH SELF-SERVE LEVER (MODEL 100SSL, 3.0 OZ/SEC AND MODEL 145SSL, 4.5 OZ/SEC)

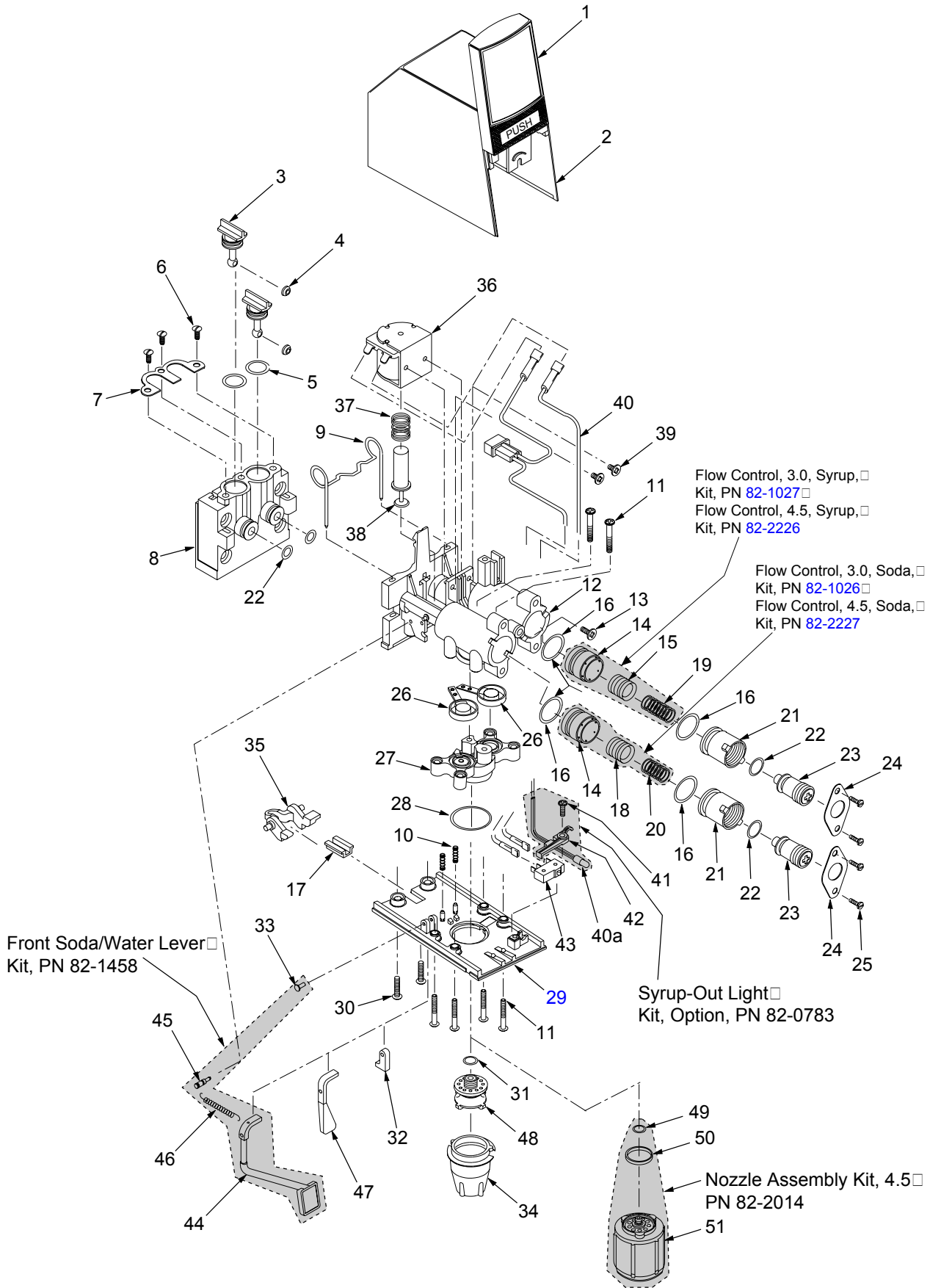


5.3 LEV® WITH SELF-SERVE LEVER (MODEL 100SSL, 3.0 OZ/SEC AND MODEL 145SSL, 4.5 OZ/SEC) (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	05-0287	I.D. Panel	34	05-0233	Nozzle, 3.0 (Used in Valves produced through September 1998)
1a	54-0057	I.D. Panel (Syrup-Out)			
2	54-0029	Cover Sub Assy			
-	54-0030	Cover Assy (Item No. 1-2)	-	05-1463	Nozzle, 3.0 (Used in Valves produced in September 1998 and later)
-	54-0059	Cover Assy (Item No. 1a-2)			
3	05-0266	Stem, Valve, Mounting Block			
4	05-0267	Washer	35	03-0081	Lever, Spring, Electric
5	02-0047	O-Ring	36	54-0165	Lever, Self-Serve
6	04-0269	Screw	37	05-0238	Yoke, Electric
7	03-0087	Retainer, Stem, Valve, Mounting Block	38	52-0288	Coil Assy
8	05-0265	Mounting Block	39	03-0125	Spring, Solenoid
-	82-0274	Block Assy, Mounting (Item No. 3-8, 22)	40	10-0117	Armature
9	03-0233	Retainer, Valve, 1-Piece	41	05-0935	Plug, Retainer, Micro-Switch
10	03-0143	Spring, Pin, LEV®	42	26-0265	Micro-Switch
11	04-0270	Screw	43	04-0486	Screw
12	54-0189	Body, Upper, Assy	44	09-0120	Lever, Front Soda/Water
13	04-0302	Screw	45	04-0724	Pin, Stud
14	81-0274	Sleeve, Syrup/Water, 3.0	46	03-0238	Spring, Front Soda/Water Lever
-	81-0382	Sleeve, Syrup/Soda, 4.5	47	04-0470	Screw
15	81-0273	Piston, Syrup, 3.0	48	05-0490	Holder
-	81-0383	Piston, Syrup, 4.5	49	05-0274	Lever, Soda, 3.0
16	02-0132	O-Ring	50	54-0028	Diffuser Assy, 3.0 (Used in Valves produced through September 1998)
17	52-0622	Wire Harness	-	05-1593	Diffuser Assy, 3.0 (Used in Valves produced in September 1998 and later)
17a	52-0902	Wire Harness (Syrup-Out)			
18	81-0275	Piston, Soda, 3.0	51	02-0133	O-Ring
-	81-0384	Piston, Soda, 4.5	52	05-0421	Seal, Nozzle, 4.5
19	03-0169	Spring, Syrup, Flow Control, LEV®	53	54-0183	Nozzle Assy, 4.5
20	03-0171	Spring, Soda, Flow Control, LEV®			
21	05-0262	Bonnet, Flow Control			
22	02-0126	O-Ring			
R 23	05-1919	Plug, Adjustment, Flow Control, White			
R-	82-0527/01	Plug, Adjustment Assy, White (Item No. 16, 21-23)			
24	03-0088	Retainer, Flow Control			
25	04-0267	Screw			
R 26	82-2929	Arm, Paddle, Assy			
27	54-0046	Body Assy, Lower, 3.0			
-	54-0188	Body Assy, Lower, 4.5			
28	02-0408	O-Ring, Nozzle, Red, 3.0 (Used in Valves produced through September 1998)			
29	05-0232	Plate, Bottom, 3.0			
-	05-1108	Plate, Bottom, 4.5			
30	04-0310	Screw			
31	02-0133	O-Ring (Used in Valves produced through September 1998)			
32	05-0281	Plug, Bottom Plate			
33	04-0775	Pin, Lever, Soda			

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5.4 LEV® PUSHBUTTON (MODEL 100P, 3.0 OZ/SEC AND MODEL 145P, 4.5 OZ/SEC)

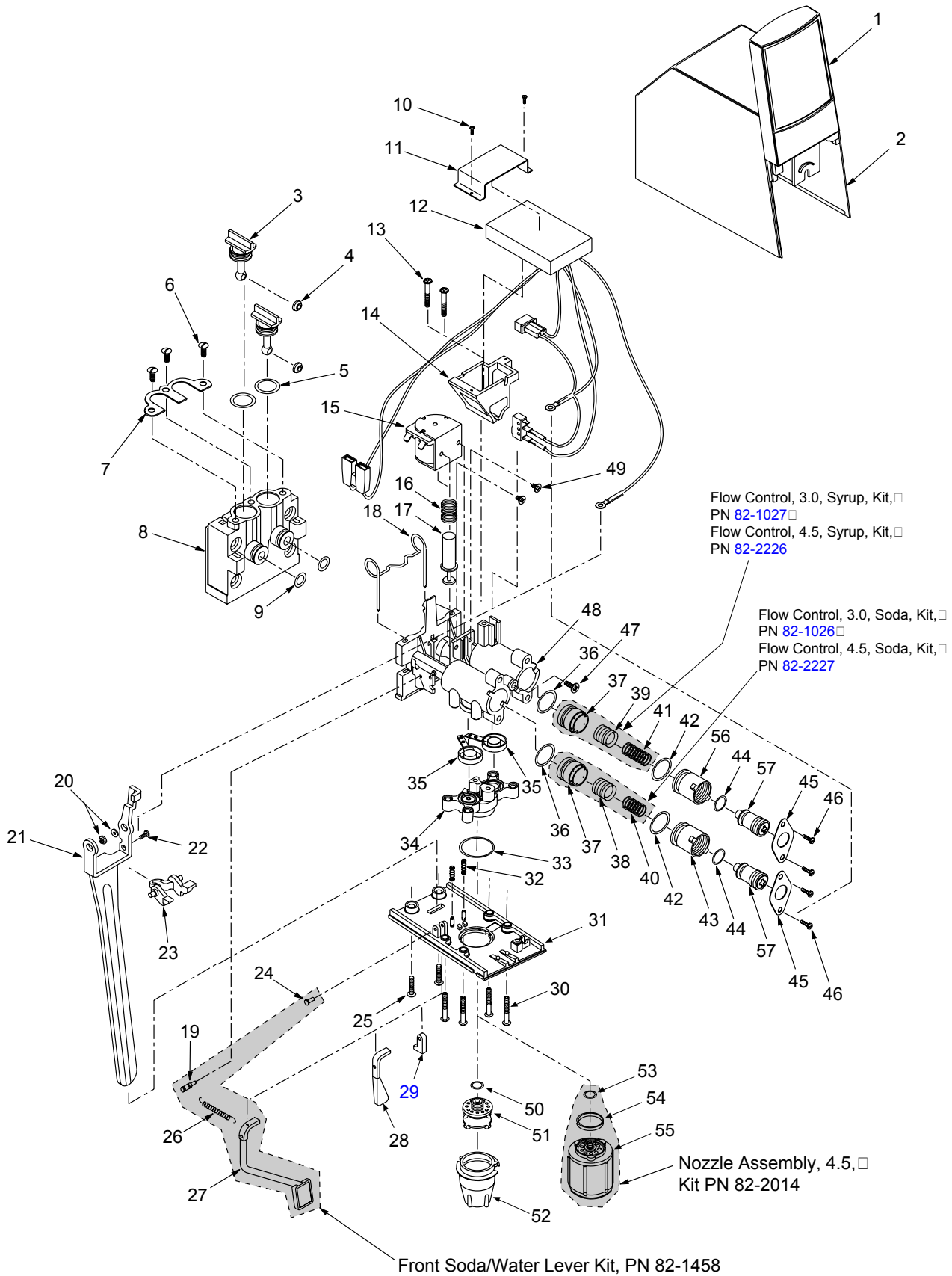


**5.4 LEV® PUSHBUTTON (MODEL 100P, 3.0 OZ/SEC AND MODEL 145P, 4.5 OZ/SEC)
(CONTINUED)**

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	54-0140	I.D. Panel, Large Pushbutton	37	03-0125	Spring, Solenoid, LEV®
2	54-0029	Cover Sub Assy	38	10-0117	Armature, LEV®
-	54-0139	Cover Assy, Large (Pushbutton, Item No. 1-2)	39	04-0486	Screw
3	05-0266	Stem, Valve, Mounting Block	40	52-0622	Wire Harness
4	05-0267	Washer	40a	52-0902	Wire Harness (Syrup-Out)
5	02-0047	O-Ring	41	04-0470	Screw
6	04-0269	Screw	42	05-0490	Holder
7	03-0087	Retainer, Stem, Valve, Mounting Block	43	26-0265	Micro-Switch
8	05-0265	Mounting Block	44	09-0120	Lever, Front Soda/Water
-	82-0274	Block Assy, Mounting (Item No. 3-8, 22)	45	04-0724	Pin, Stud
9	03-0233	Retainer, Valve, 1-Piece	46	03-0238	Spring, Front Soda/Water Lever
10	03-0143	Spring, Pin	47	05-0274	Lever, Soda
11	04-0270	Screw	48	54-0028	Diffuser Assy, 3.0 (Used in Valves produced through September 1998)
12	54-0189	Body Assy, Upper	-	05-1593	Diffuser Assy, 3.0 (Used in Valves produced in September 1998 and later)
13	04-0302	Screw	49	02-0133	O-Ring
14	81-0274	Sleeve, Syrup/Water, 3.0	50	02-0421	Seal, Nozzle, 4.5
-	81-0382	Sleeve, Syrup/Soda, 4.5	51	54-0183	Nozzle Assy, 4.5
15	81-0273	Piston, Syrup, 3.0			
-	81-0383	Piston, Syrup, 4.5			
16	02-0132	O-Ring			
17	05-0491	Filler			
18	81-0275	Piston, Soda, 3.0			
-	81-0384	Piston, Soda, 4.5			
19	03-0169	Spring, Syrup, Flow Control, LEV®			
20	03-0171	Spring, Soda, Flow Control, LEV®			
21	05-0262	Bonnet, Flow Control			
22	02-0126	O-Ring			
R 23	05-1919	Plug, Adjustment, Flow Control, White			
R -	82-0527/01	Plug, Adjustment Assy, White			
24	03-0088	Retainer, Flow Control			
25	04-0267	Screw			
R 26	82-2929	Arm, Paddle, Assy			
27	54-0046	Body Assy, Lower, 3.0			
-	54-0188	Body Assy, Lower, 4.5			
28	02-0408	O-Ring, Nozzle, Red, 3.0 (Used in Valves produced through September 1998)			
29	05-0232	Plate, Bottom, 3.0			
-	05-1108	Plate, Bottom, 4.5			
30	04-0310	Screw			
31	02-0133	O-Ring (Used in Valves produced through September 1998)			
32	05-0281	Plug, Bottom Plate			
33	04-0775	Pin, Lever, Soda			
34	05-0233	Nozzle, 3.0 (Used in Valves produced through September 1998)			
-	05-1463	Nozzle, 3.0 (Used in Valves produced in September 1998 and later)			
35	05-0238	Yoke, Electric			
36	52-0288	Coil Assy, LEV®			

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5.5 LEV® SUREFILL (MODEL 100SF, 3.0 OZ/SEC AND MODEL 145SF, 4.5 OZ/SEC)

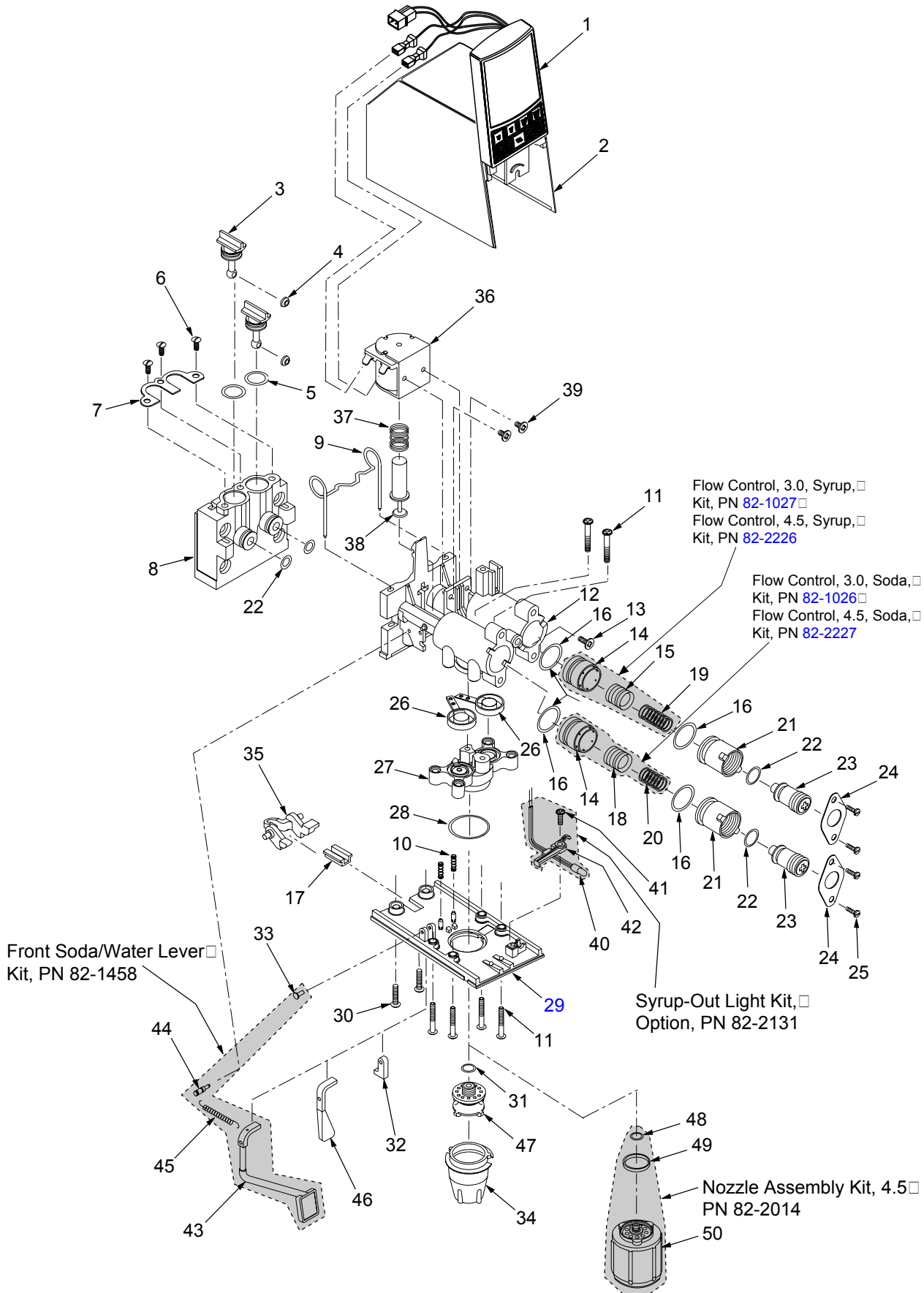


5.5 LEV® SUREFILL (MODEL 100SF, 3.0 OZ/SEC AND MODEL 145SF, 4.5 OZ/SEC) (CONTINUED)

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	05-0287	I.D. Panel	41	03-0169	Spring, Syrup, Flow Control, LEV®
2	54-0029	Cover Sub Assy	42	02-0132	O-Ring
-	54-0030	Cover Assy (Item No. 1-2)	43	05-0796	Bonnet, Surefill
3	05-0266	Stem, Valve, Mounting Block	44	02-0126	O-Ring
4	05-0267	Washer	R -	82-2992	Plug, Adjustment Assy, SF, White
5	02-0047	O-Ring	R 45	03-0088	Retainer
6	04-0269	Screw	R 46	04-0267	Screw
7	03-0087	Retainer, Stem, Valve, Mounting Block	R 47	04-0302	Screw
8	05-0265	Mounting Block	R 48	54-0189	Body Assy, Upper
-	82-0274	Block Assy, Mounting (Item No. 3-9)	R 49	04-0486	Screw
9	02-0126	O-Ring	R 50	02-0133	O-Ring (Used in Valves produced through September 1998)
10	04-0478	Screw	R 51	54-0028	Diffuser Assy, 3.0 (Used in Valves produced through September 1998)
11	30-7245	Strap	-	05-1593	Diffuser Assy, 3.0 (Used in Valves produced in September 1998 and later)
12	82-1982	Module, Surefill	R 52	05-0233	Nozzle, 3.0 (Used in Valves produced through September 1998)
13	04-0270	Screw	-	05-1463	Nozzle, 3.0 (Used in Valves produced in September 1998 and later)
R 14	05-0788	Module Bracket (Used in Valves produced through September 2000)	R 53	02-0133	O-Ring
R -	05-1928	Bracket, PCB, White (Used in Valves produced in October 2000 and later)	R 54	02-0421	Seal, Nozzle, 4.5
15	52-0288	Coil Assy, LEV®	R 55	54-0183	Nozzle Assy, 4.5
16	03-0125	Spring, Solenoid, LEV®	R 56	05-0262	Bonnet, Flow Control
17	10-0117	Armature, LEV®	R 57	05-1919	Plug Adjust, Flow Control, White
18	03-0233	Retainer, Valve, 1-Piece	-	82-0527/01	Plug Adjust Assy, White (Items 42, 44, 57, and 58)
19	04-0724	Pin, Stud			
20	05-0777	Bushing, Lever			
21	30-5416	Lever			
22	04-0642	Screw, 6 - 32 x 0.250			
23	05-0238	Yoke, Electric			
24	04-0775	Pin, Lever, Soda			
25	04-0310	Screw			
26	03-0238	Spring, Front Soda/Water Lever			
27	09-0120	Lever, Front Soda/Water			
28	05-0274	Lever, Soda			
29	05-0281	Plug, Bottom Plate			
30	04-0270	Screw			
31	05-0801	Plate, Bottom, 3.0			
-	05-1544	Plate, Bottom, 4.5			
32	03-0143	Spring, Pin			
33	02-0408	O-Ring, Nozzle, Red, 3.0 (Used in Valves produced through September 1998)			
34	54-0046	Body Assy, Lower, 3.0			
-	54-0188	Body Assy, Lower, 4.5			
R 35	82-2929	Arm, Paddle, Assy			
36	02-0132	O-Ring			
37	81-0274	Sleeve, Syrup/Soda, 3.0			
-	81-0382	Sleeve, Syrup/Soda, 4.5			
38	81-0275	Piston, Soda, 3.0			
-	81-0384	Piston, Soda, 4.5			
39	81-0273	Piston, Syrup, 3.0			
-	81-0383	Piston, Syrup, 4.5			
40	03-0171	Spring, Soda, Flow Control, LEV®			

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5.6 LEV® PORTION CONTROL (MODEL 100PC, 3.0 OZ/SEC AND MODEL 145PC, 4.5 OZ/SEC)



5.6 LEV® PORTION CONTROL (MODEL 100PC, 3.0 OZ/SEC AND MODEL 145PC, 4.5 OZ/SEC (CONTINUED))

<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
R 1	52-1581	I.D. Panel (Used in Valves produced through May 2000)	34	05-0233	Nozzle, 3.0 (Used in Valves produced through September 1998)
R -	52-2296	I.D. Panel, PC, Parylene (Used in Valves produced through June 2000 and later)	-	05-1463	Nozzle, 3.0 (Used in Valves produced in September 1998 and later)
2	54-0029	Cover Sub Assy	35	05-0238	Yoke, Electric
-	54-0181	Cover Assy, Large (Items No. 1-2)	36	52-0288	Coil Assy, LEV®
3	05-0266	Stem, Valve, Mounting Block	37	03-0125	Spring, Solenoid, LEV®
4	05-0267	Washer	38	10-0117	Armature, LEV®
5	02-0047	O-Ring	39	04-0486	Screw
6	04-0269	Screw	40	52-2069	Wire Harness (Syrup-Out)
7	03-0087	Retainer, Stem, Valve, Mounting Block	41	04-0470	Screw
8	05-0265	Mounting Block	42	05-0490	Holder
-	82-0274	Block Assy, Mounting (Item No. 3-8, 22)	43	09-0120	Lever, Front Soda/Water
9	03-0233	Retainer, Valve, 1-Piece	44	04-0724	Pin, Stud
10	03-0143	Spring, Pin	45	03-0238	Spring, Front Soda/Water Lever
11	04-0270	Screw	46	05-0274	Lever, Soda
12	54-0189	Body Assy, Upper	47	54-0028	Diffuser Assy, 3.0 (Used in Valves produced through September 1998)
13	04-0302	Screw	-	05-1593	Diffuser Assy, 3.0 (Used in Valves produced in September 1998 and later)
14	81-0274	Sleeve, Syrup/Water, 3.0	48	02-0133	O-Ring
-	81-0382	Sleeve, Syrup/Soda, 4.5	49	02-0421	Seal, Nozzle, 4.5
15	81-0273	Piston, Syrup, 3.0	50	54-0183	Nozzle Assy, 4.5
-	81-0383	Piston, Syrup, 4.5			
16	02-0132	O-Ring			
17	05-0491	Filler			
18	81-0275	Piston, Soda, 3.0			
-	81-0384	Piston, Soda, 4.5			
19	03-0169	Spring, Syrup, Flow Control, LEV®			
20	03-0171	Spring, Soda, Flow Control, LEV®			
21	05-0262	Bonnet, Flow Control			
22	02-0126	O-Ring			
R 23	05-1919	Plug, Adjustment, Flow Control, White			
R -	82-0527/01	Plug, Adjustment Assy, White			
24	03-0088	Retainer, Flow Control			
25	04-0267	Screw			
R 26	82-2929	Arm, Paddle, Assy			
27	54-0046	Body Assy, Lower, 3.0			
-	54-0188	Body Assy, Lower, 4.5			
28	02-0408	O-Ring, Nozzle, Red, 3.0 (Used in Valves produced through September 1998)			
29	05-0232	Plate, Bottom, 3.0			
-	05-1108	Plate, Bottom, 4.5			
30	04-0310	Screw			
31	02-0133	O-Ring (Used in Valves produced through September 1998)			
32	05-0281	Plug, Bottom Plate			
33	04-0775	Pin, Lever, Soda			

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NOTES

LANCER[®]

Please refer to the Lancer web site (www.lancercorp.com) for information relating to Lancer Installation and Service Manuals, Instruction Sheets, Technical Bulletins, Service Bulletins, etc.

*(Continued from previous page)***EcuLancer S.A. - Ecuador**

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 FAX: 632-531-1271
 e-mail: rbpsales@info.com.ph

Freser (S) Pte Ltd - Singapore

Blk 998 Toa Payoh North
 #04-12/14
 Singapore 318993
 Phone: 65-6352-0943
 FAX: 65-6352-8594
 e-mail: fresersin@pacific.net.sg

Freser International Corporation - Taiwan

No. 76, Gui-Sui Street
 Taipei 103, Taiwan R.O.C.
 Phone: 886-2-2553-1555
 FAX: 886-2-2553-2742
 e-mail: allen@intl.freser.com.tw

Freser (Thailand) Co Ltd - Thailand

3/15 Moo 3, Soi Ruammitr
 Tivanont Road, Banmai
 Pakkred, Nonthaburi, 11120
 Thailand
 Phone: 662-961-9543
 FAX: 662-961-9550
 e-mail: prachat@asianet.co.th

Lancer - Indian Sub-Continent**India**

Shabbir Shafiqi - Area Manager
 India and Sub-Continent
 B-7, Pannalal Silk Mill Compounds
 78, LBS Marg, Bhandup (W)
 Mumbai 400-078, India
 Phone: 91-22-2561-6665
 Cel No.: 91-98-2029-5252
 FAX: 91-22-5637-4018
 e-mail: shafiqis@vsnl.com

Lancer Authorized Distributors**Western Refrigeration Ltd - India**

B-7, Pannalal Silk Mill Compounds
 78 L.B.S. Marg, Bhandup (W)
 Mumbai 400-078, India
 Phone: 91-22-2561-6665
 FAX: 91-22-2562-2257
 e-mail: western@bom5.vsnl.net.in

Bengal Marketing Company - Bangladesh

Skylark Point (6th Floor)
 Room #G-2
 24/A Bijoy Nagar,
 Dhaka-1000, Bangladesh
 Phone: 880-2-934-2987
 FAX: 880-2-935-0127
 e-mail: bmc@dhaka.agni.com

Dynamic Equipment - Pakistan

Dynamic Equipment and Controls (Pvt.) Ltd.
 F-1/23, Canal Cottages, Block-D.
 New Muslim Town.
 Lahore. Pakistan.
 Phone: 0092-42-583-6737
 0092-42-583-6787
 FAX: 0092-42-586-7924
 e-mail: info@dynamic-eqpt.com.pk



**Directory of USA - Canada Offices,
International Offices, and Authorized Distributors**

Corporate Office

6655 Lancer Blvd. • San Antonio, Texas 78219 • 210-310-7000 • 1-800-729-1500 • FAX 210-310-7250

Lancer USA

Manufacturing Locations

Foster Road Facilities

6655 Lancer Blvd
San Antonio, TX 78219
Phone: (210) 310-7000
MFG FAX: (210) 310-7088
ENG FAX: (210) 310-7096
ACCT FAX: (210) 310-7091
PURCH FAX: (210) 310-7094

Lancer FBD

5620 Business Park
San Antonio, TX 78218
Phone: (210) 666-0544
FAX: (210) 666-2044

Lancer Ice Link

6655 Lancer Blvd
San Antonio, TX 78219
Phone: (210) 310-7174
FAX: (210) 310-7245

Remanufacturing

6655 Lancer Blvd
San Antonio, TX 78219
Phone: (210) 310-7356
FAX: (210) 310-7261
1-800-729-1550

Lancer North America

USA - Canada Sales

6655 Lancer Blvd.
San Antonio, TX 78219
Phone: (210) 310-7000
SALES FAX: (210) 310-7245
CUSTOMER SERVICE FAX: (210) 310-7250
1-800-729-1500

Georgia Office

1125 Northmeadow Parkway, Suite 116
Roswell, GA 30076
Phone: (770) 343-8828
FAX: (770) 475-8646
1-800-729-1750

Lancer Authorized Distributors

Advanced Beverage Solutions (ABS)

100 N. Gary Avenue, Suite C
Roselle, IL 60172
Phone: (847) 524-1707
(877) 814-2271
FAX: (847) 524-1710
www.absone.com

Bevco

6900 Camille Avenue
Oklahoma City, OK 73149
Phone: (405) 672-7770
FAX: (405) 672-7443
e-mail: info@bevcoinc.com

Joe Kirwan Company

119 White Oak Lane
Old Bridge, NJ 08857
Phone: (732) 679-1900
FAX: (732) 679-9236
e-mail: sales@jkirwan.com

L & M Beverage Equipment Co. Inc.

12510 Santa Fe Trail Drive
Lenexa, KS 66215
Phone: (913) 888-8988
FAX: (913) 888-9137
e-mail: L7mco@aol.com

(Update #44 - as of May 01, 2003)

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Salt Lake City, UT 84104
Phone: (801) 359-3744
FAX: (801) 531-9615
e-mail: febell@efmco.com, or
clay@efmco.com

Mark Powers & Company, Inc.

P.O. Box 72
1821 Henry Street
Guntersville, AL 35976
Phone: (256) 582-6620
FAX: (256) 582-8533
e-mail: sales@markpowers-and-company.com

Maurer Supply, Inc.

843 Rainier Avenue South
Seattle, WA 98144
Phone: (206) 323-8640
FAX: (206) 323-9286
e-mail: maurersupply@qwest.net

Simgo Ltd.

5122 Timberlea Blvd.
Mississauga, Ontario L4W 2S5
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Phone: 905-602-5800
FAX: 905-602-5804
e-mail: simgo@simgo.com

Simgo (B.C.) Ltd.

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Surrey, B.C. V3W 7X4
Canada
Phone: 604-590-4022
FAX: 604-590-1601

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17 Bembridge Gardens
Ruislip, Middlesex
HA4 7ER, England
Phone: 44-1895672667
FAX: 44-1895637537
e-mail: court4lancer@msn.com

Hungary

H-2100 Gödöllő
Isaszegi út 67
Hungary
Phone: 36-28-417-179
FAX: 36-28416-881
e-mail: bodolai@compuserve.com

Lancer Authorized Distributors

Complete Beverage Services, Ltd.

Republic of Ireland and Northern Ireland
Gortrush Industrial Estate
Omagh County Tyrone
Northern Ireland
Office: 44-1662 250 008
FAX: 44-1662-252-991

Intercom - Spain

Intercom
Avda. Concha Espina 8
28036 Madrid Spain
Phone: 34-91-564 6900
FAX: 34-91-564 3065
e-mail: jmorales@bevserve.com

Lancer Russia

Lancer Sales Company

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Building 15, 4th Floor
125015 Moscow, Russia
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FAX: 7-095-745-7109
Mobile Phone: 7-095-991-7778
7-095-139-0335
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vdemkin@ktv.ru

Lancer Middle East / Africa

Elsayed Moniem - Technical Manager
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East Ain Shams 11311
Cairo, Egypt
Phone/FAX: 2-02-49-35-395
Mobile Phone (GSM): 2-010-500-4007
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Lancer Authorized Distributor

DispenseTech - South Africa

P.O. Box 17495
Sunward Park, 1470
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Phone: 27-11-397-7455
FAX: 27-11-397-7648
e-mail: david@dispensetech.co.za

Lancer Latin America

Latin America Sales

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San Antonio, TX 78219
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1-800-729-1500
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Lancer de México, Branch Office, Cd.

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