

LE - 350 Series / 0.5 (IN²)

When pumping solutions, make certain that all tubing is securely attached to the fittings. It is recommended that tubing or pipe lines be shielded to prevent possible injury in case of rupture or accidental damage. Always wear protective clothing and face shield when working on or near your metering pump.

Note: See parts list for materials of construction

A. INSTALLING INJECTION CHECK VALVE

- 1. The purpose of the injection check valve is to prevent backflow from the treated line.
- 2. A 1/2" NPT female fitting with sufficient depth will accept the injection check valve.
- 3. To insure correct seating of the ball inside the injection check valve, the injection check valve should be installed upwards (vertically) into bottom of the pipe.

B. CONNECTING DISCHARGE TUBING

Note: Cut tubing to length needed for discharge line.

- 1. Route tubing from the injection check valve to the metering pump, making sure it does not touch hot or sharp surfaces, or is bent so sharply that it kinks.
- 2. Slide the small end of the coupling nut onto tubing.
- 3. Slide the long, straight end of the ferrule onto tubing such that tubing exits at the cone shaped end of the ferrule.
- 4. Insert tubing so that it butts up against the valve housing and will not go any further.
- 5. Slide ferrule down so that the cone shaped end fits snugly into valve housing.
- 6. Slide the coupling nut to the threads and engage. While pushing the tubing into valve housing, tighten the coupling nut by hand until tubing is held securely in place.

Excessive force will crack or distort fittings.

DO NOT USE PIPE WRENCH.

C. CONNECTING SUCTION TUBING

- 1. Cut suction tubing to a length so that the foot valve hangs just above the bottom of the solution container. Maximum recommended vertical suction lift is 5 ft (1.5 m).
- 2. Follow same procedure in connecting suction tubing to suction valve and foot valve (see **B. Connecting Discharge Tubing**).

D. PRIMING with 3FV / 4FV (see page 4 for B/4FV)

- 1. Connect pressure relief tubing to pressure relief port on the discharge valve.
- 2. Route tubing to solution reservoir and anchor with a plastic tie. Do not submerge tubing in solution.
- 3. Start pump. Set at 80% speed and 100% stroke.
- 4. Turn Pressure Relief knob (black knob) 1/4 turn. Let pump run until solution is visible through translucent return tubing.
- 5. Turn Pressure Relief knob back 1/4 turn. The pump is now primed.

Note:

- (a) Pump is normally self-priming if suction lift is not more than 5 ft (1.5 m), valves in the pump are wet with water (pump is shipped from factory with water in pump head) and the above steps (**D. Priming**) are followed.
- (b) If the pump does not self prime, remove cartridge valve and pour water or solution slowly into discharge port until head is filled. Follow step **D. Priming** thereafter.

E. DEPRESSURIZING DISCHARGE LINE

1. It is possible to depressurize the discharge line and pump head without removal of tubing or loosening of fittings.

Be sure injection check valve is properly installed and is operating. If a gate valve or globe valve has been installed downstream of injection check valve, it should be closed. Be certain relief tubing from the four function valve is connected and run to solution reservoir.

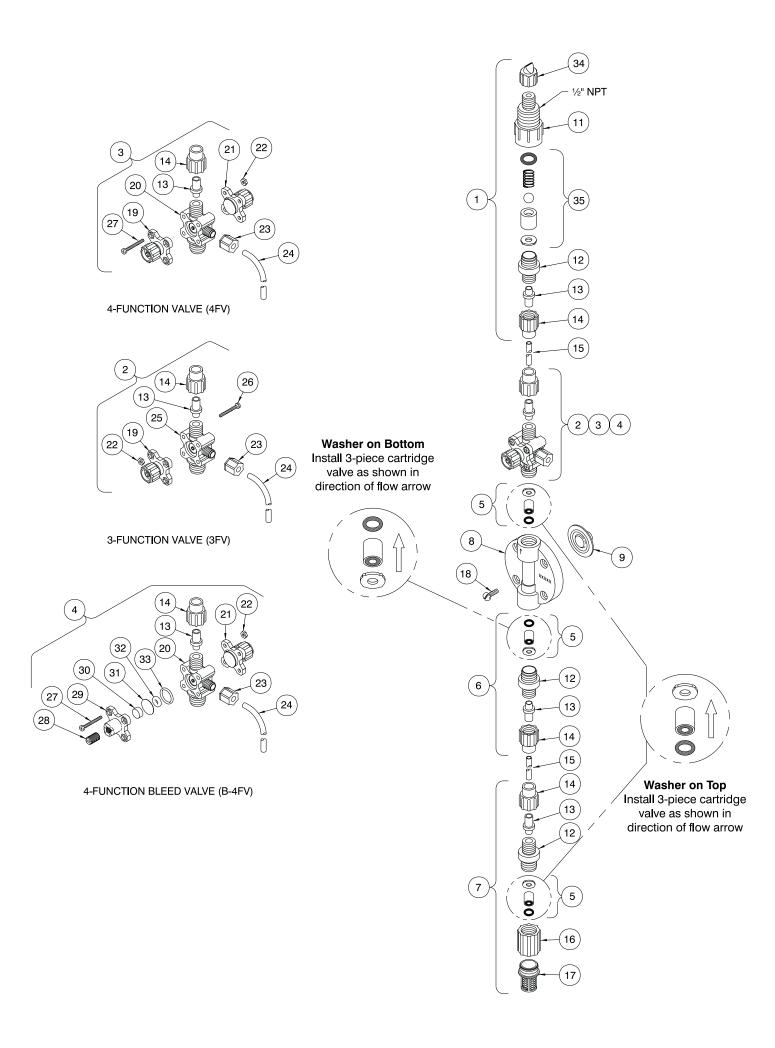
- 2. Turn Pressure Relief knob 1/4 turn.
- 3. The discharge line is now depressurized.
- 4. If injection check valve is of higher elevation than pump head, disconnecting tubing at injection check valve end will allow air to enter and cause solution to drain back to tank.



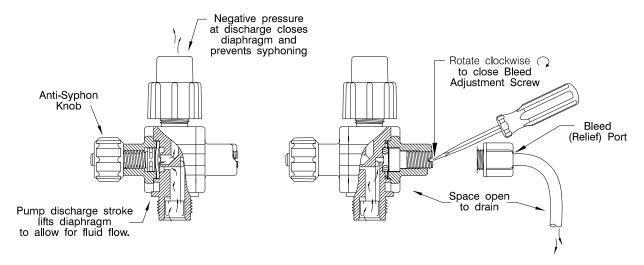
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Kev	Part	Part	Quantity												
	No.	Description	350TI	35051	350BI	351TI	351SI	351BI	-	35251	352BI	353TI	353SI	353BI	
⊢—	37353	Inj Ck Valve, PGC™	1	1	1	1	1	1	00211	00201	OOZDI	00011	00001	0000	
'	37354	Inj Ck Valve, PVDF	•	'	'	•	<u>'</u>	'	1	1	1	1	1	1	
2	36261	3FV, PGC™ 1/4	1			1			'-	'	'	<u>'</u>	<u>'</u>		
-	36265	3FV, PVDF 1/4	'			•			1			1			
3	36271	4FV, PGC™ 1/4		1			1		'						
ਁ	36275	4FV, PVDF 1/4		<u>'</u>			<u>'</u>			1			1		
4	36386	B4FV, PGC™ 1/4			1			1		'			<u> </u>		
	36389	B4FV, PVDF 1/4			- '			<u>'</u>			1			1	
5	36305	CV .281 PGC™/Polyprel®	3	3	3	3	3	3			'			- '-	
	36304	CV .281 PVDF/Polyprel®	_ <u> </u>	۰	۰		۰	 	3	3	3				
	36303	CV .281 PVDF/PTFE							-		- 3	3	3	3	
6	36345	Suction Valve, PGC™	1	1	1	1	1	1				3	3	-	
0	36415	Suction Valve, PVDF	'	'	'	'	<u>'</u>	'	1	1	1				
	36348	Suction Valve, PVDF							<u>'</u>		<u>'</u>	1	1	1	
7	36343	Foot Valve, PGC™	1	1	1	1	1	1				<u>'</u>	<u> </u>	- '	
	36413	Foot Valve, PVDF	'	<u> </u>	<u>'</u>	'	'	'	1	1	1				
	36346	Foot Valve, PVDF							- ' -	<u> </u>	<u> </u>	1	1	1	
8	36156	Head Acrylic 0.5	1	1	1							<u>'</u>	'	- '-	
°	36118	Head PGC™ 0.5		!	ı ı	1	1	1							
	36119	Head PVDF 0.5				<u> </u>		'	1	1	1	1	1	1	
9	30916	Liquifram™ 0.5	1	1	1	1	1	1	1	1	1	1	1	1	
-		Inj Fitting PGC™	1	1	1	1	1	1	- '-	'	l I	<u>'</u>	<u> </u>	<u> </u>	
11	37350 37351	Inj Fitting PVDF	'		<u> </u>	'	<u> </u>	'	1	4	1	1	1	-	
12	37351	Valve Housing PGC™	3	3	3	3	3		1	1	l l	<u>'</u>	1	1	
	37112		3	3	3	3	3	3	3	3	3	3	3	3	
13	28663	Valve Housing PVDF Ferrule	1	4	4	1	1	4	4	4	4	4	4	1	
-	10299		4	4	4	4	4	4	4	4		_		4	
14 15		Coupling Nut	4			4	4				4	4	4	4	
		Tubing .250 P.E. 1													
16	36204	Tubing .250 U.V.P.E.	1	1 1	1	1				1	1 1			-	
-	10123	Foot Valve Coupling Strainer		<u> </u>		1	1	1	1			1	1	1	
	10123	Screw, Head	1	1	1	4	4	1	4	4	1	1	4	4	
-			1	1	4	1	1	4	1	1	4	4 1	1		
-	36260	P/R Cap Asm. 4FV Body, PGC™	<u>'</u>	1	_	<u> </u>	1	-	- '-	'		<u>'</u>	<u> </u>		
	37218 37219				1		<u> </u>	1		4	4		1	-	
	36866	4FV Body, PVDF		1	-		_	1		1	1		1	1	
-	25628	A/S Cap Asm. Nut	4		4	4	4	4	4	1	1	1	1	4	
-	25631	Coupling Nut	1	1	1	4 1	1	1	1	4	4 1	4	1	1	
-		Tubing .250 P.E.	1	1	1	1	1	1	1	1	1	1	1	1	
24		Tubing .250 F.E.	'								ımple 35			<u> </u>	
25			4	Diack,	OV IESI		birig - c	lange	1 10 0	(IOI EXA	lilibie 30	131103	130)		
25	37220	3FV Body, PGC™ 3FV Body, PVDF	1			1			1			-		 	
06	37221	•	A			A			4			1		 	
-	35716	Screw, 3FV	4	1	1	4	1	1	 4	1	1	4	1	1	
-	25627	Screw, 4FV		4	4		4	4		4	4		4	4	
-	34876	Screw, B/4FV			1			1			1			1	
-	32171	Cap			1			1			1			1	
-	34868	Disc			1			1			1			1	
	32173	Diaphragm			1			1			1			1	
-	32175	O-Ring			1			1			1			1	
	32176	O-Ring			1			1			1	<u> </u>	<u> </u>	1	
-	27352	Flapper Valve	1	1	1	1	1	1	1	1	1	1	1	1	
	37349	Inj Ck Valve Kit	1	1	1	1	1	1	1	1	1	1	1	1	
L	10322	Weight (not shown)	1	1	1	1	1	1	1	1	1	1	1	1	



METHOD OF OPERATION



A. PRIMING with B/4FV (see page 1 for 3FV / 4FV)

- 1. Connect bleed return tubing to bleed (relief) port.
- 2. Route tubing to solution tank. Be sure the end of tubing is above the maximum solution level. (Do not submerge tubing in solution.)
- 3. Set pump at 80% speed and 100% stroke. Start pump. With screwdriver rotate bleed adjustment screw counterclockwise () two (2) full turns. When solution begins to flow through translucent bleed return tubing, the pump is primed.
- 4. Stop pump.

Note:

- (a) Pump is normally self-priming if suction lift is no more than 5 ft (1.5 m), valves in the pump are wet with water (pump is shipped from factory with water in pump head) and the above steps (A1 thru A3) are followed.
- (b) If the pump does not self prime, remove Bleed/4-Function Valve and Discharge Cartridge, and pour water or solution slowly into discharge port until it is filled. Replace Cartridge, and follow steps A1 thru A3 thereafter.

B. BLEED ADJUSTMENT

- Start pump and let pump inject solution into the discharge line.
- 2. Close the bleed adjustment screw by rotating it clockwise with a screwdriver.

- 3. Now adjust the pump stroke length and/or speed (frequency) to a range approximately 25% higher than you would normally want for the process.
- 4. Slowly rotate bleed adjustment screw counter-clockwise until just a small amount of solution begins to trickle down inside the bleed return tubing. A small amount of solution pumped back to the tank with each stroke of the pump will allow gas and air to escape without air or gas locking in the pump head.

C. DEPRESSURIZING DISCHARGE LINE

1. It is possible to depressurize discharge line and pump head without removal of tubing or loosening of fittings.

Be sure injection check valve is properly installed and is operating. If a gate valve or globe valve has been installed, downstream of injection check valve, it should be closed. Be certain bleed return tubing is connected and run to solution supply tank.

- 2. With a screwdriver, rotate bleed adjustment screw counterclockwise two (2) full turns. A small amount of solution in discharge line should drain back to the supply tank.
- 3. The discharge line is now depressurized.
- 4. If injection check valve is of higher elevation than pump head, disconnecting tubing at injection check valve end will allow air to enter and cause solution to drain back to tank.



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