

CHEM-FEED[®]

INJECTOR



MODEL C-1100

POSITIVE DISPLACEMENT INJECTOR PUMP OPERATING MANUAL

Models C-1100A, C-1100C, C-1100F, C-1100X

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1.0 Introduction

Congratulations on purchasing the C-1100 Model-E positive displacement Metering Pump. The C-1100 is designed to inject chemicals into piping systems and is capable of injecting against system pressures up to 150 PSI (10.4 bar). In addition to the front mounted mechanical flow rate adjustment, the C-1100A and C-1100C models include timer circuitry, and C-1100F includes speed control circuitry designed to adjust the pump's output. This manual covers models with the following feed rate mechanisms:

1. Fixed Cycle Timer & Mechanical Stroke Length - (Models C-1100A and C-1100C) The fixed speed pumping mechanism is turned on and off by an electronic timer. The *total* cycle time is factory set. The *on-time* cycle is adjustable from 5% through 100% of the total cycle time. Model C-1100A has a 60 second cycle with a 60 second adjustable on-time. Model C-1100C has a 5 second cycle with a 5 second adjustable on-time.

2. Variable Speed Controller & Mechanical Stroke Length - (Model C-1100F) The speed of the pumping mechanism is adjustable from 5% through 100%.

3. Mechanical Stroke Length - (Model C-1100X) Mechanical adjustment only.

2.0 Specifications

Maximum Working Pressure	150 psig / 10.4 bar (most models)
Maximum Fluid Temperature	130° F / 54° C
Ambient Temperature Range	14 to 110° F / -10 to 43° C
Duty Cycle	Continuous
Maximum Viscosity	1,000 Centipoise
Maximum Suction Lift	up to 30 ft. water
Power Requirements	115V60Hz 80 Watts, 220V50Hz 40 Watts, 230V60Hz 45 Watts
Dimensions	6-1/4" H x 10-1/8" W x 9" D
Weight	8 lb. / 3.6 Kg

3.0 Features

- Double-ball, springless ceramic check valves with PVDF (Kynar) body, TFE/P (Aflas) and Viton o-ring seals.
- Easy access, front mounted mechanical feed rate adjustment.
- High outlet pressure capability of 150 psig (most models)
- Easy to adjust cycle timer or electronic motor speed control.
- 400:1 adjustment turn down ratio. (Model C-1100X turndown 20:1)
- Corrosion proof Valox housing.
- Tamper resistant electronic control panel cover.

4.0 Unpacking


Your pump package should contain the following:

- 1 - Injector pump
- 1 - Suction tube footvalve & strainer assembly
- 1 - Ceramic tubing weight
- 1 - 5' Length of clear PVC suction tubing
- 1 - 5' Length of opaque LLDPE discharge tubing
- 1 - Injection fitting with internal back-flow check valve
- 1 - Mounting hardware kit

5.0 Installation

CAUTION: Proper eye and skin protection must be worn when installing and servicing the pump.

CAUTION: This pump been evaluated for use with water only.

 *Note: All diagrams are strictly for guideline purposes only. Always consult an expert before installing the pump into specialized systems. The pump should be serviced by qualified persons only.*

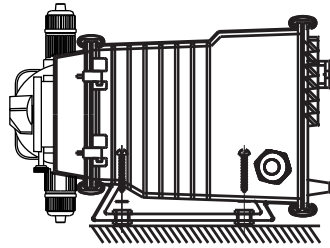
5.1 Mounting Location

Choose an area located near the chemical supply tank, chemical injection point and electrical supply. Although the pump is designed to withstand outdoor conditions, a cool, dry, well ventilated location is recommended. Install the pump where it can be easily serviced.

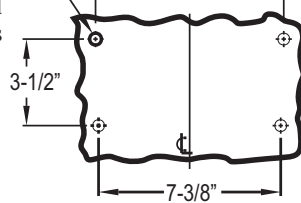
- Mount the pump to a secure surface or wall using the enclosed hardware. Wall mount to a solid surface only. Mounting to drywall with anchors is not recommended.
- Mount the pump close to the injection point. Keep the outlet (discharge) tubing as short as possible. Longer tubing increases the back pressure at the pump tube.
- Your solution tank should be sturdy. Keep the tank covered to reduce fumes. Do not mount the pump directly over your tank. Chemical fumes may damage the unit. Mount the pump off to the side or at a lower level than the chemical container.
- Mounting the pump lower than the chemical container will gravity feed the chemical into the pump. This “flooded suction” installation will reduce output error due to increased suction lift. You must install a shut-off valve, pinch clamp or other means to halt the gravity feed to the pump during servicing.
- Be sure your installation does not constitute a cross connection with the drinking water supply. Check your local plumbing codes.

INJECTOR MOUNTING

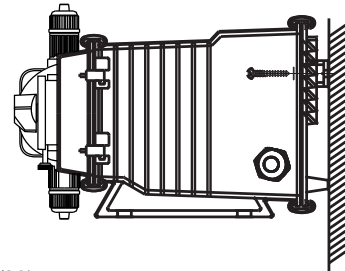
Floor Mount



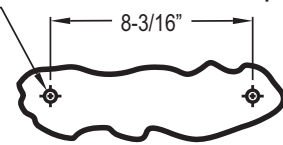
Drill .156 Dia. (5/32)
For Self-Tap Screw
#10 X 1" Phillips Steel
4 Places



Wall Mount



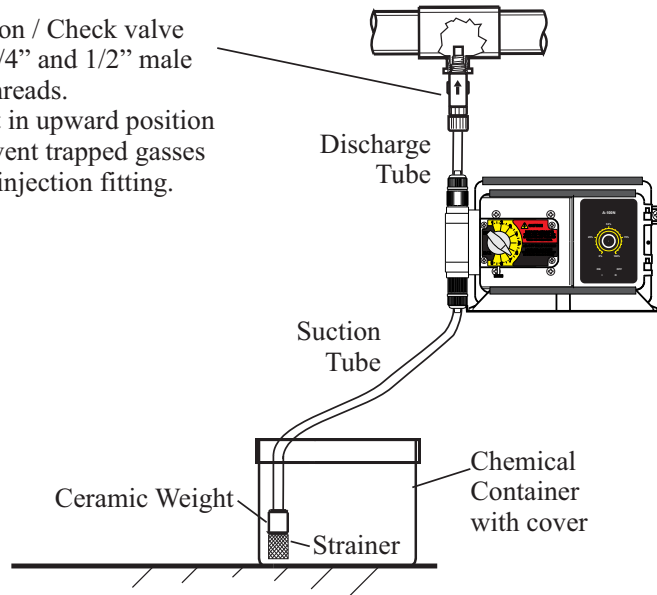
Drill .156 Dia. (5/32)
For Self-Tap Screw
#10 X 1" Phillips Steel
2 Places



Note: For wall-mounting, drill & thread into solid wood only.

TYPICAL INSTALLATION

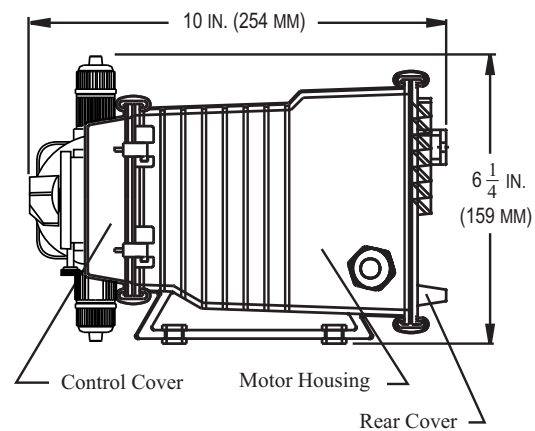
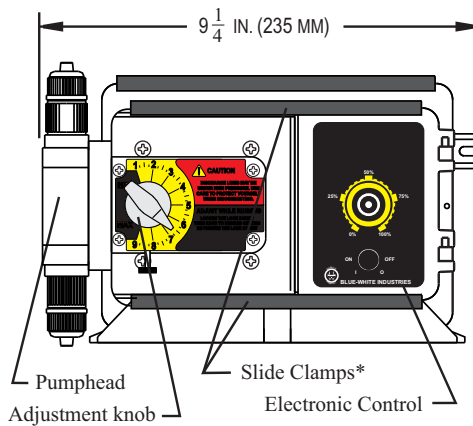
Injection / Check valve with 1/4" and 1/2" male pipe threads. Mount in upward position to prevent trapped gasses in the injection fitting.



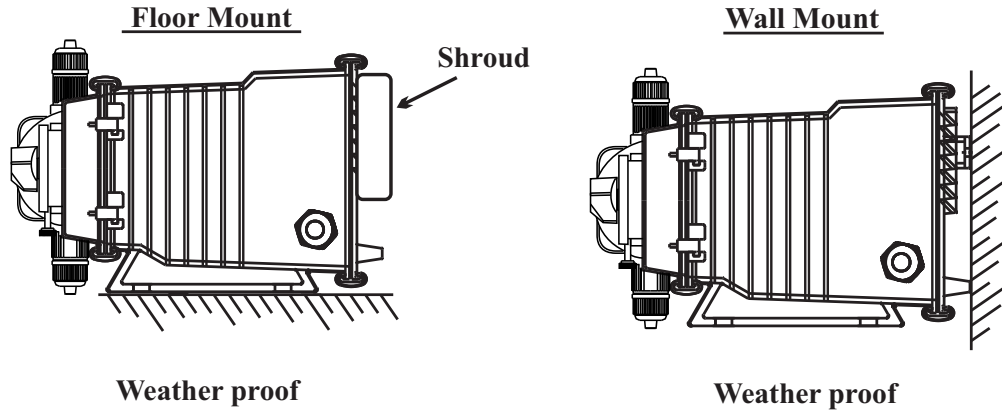
CHEM-FEED[®]

Wall or shelf mount away from the top of the solution tank. Chemical fumes can damage the unit.

PARTS LOCATOR DRAWING



This **Shroud** is designed to weather proof this Peristaltic Pump. If the pump is wall mounted the shroud is not necessary and will still be considered weather proof.



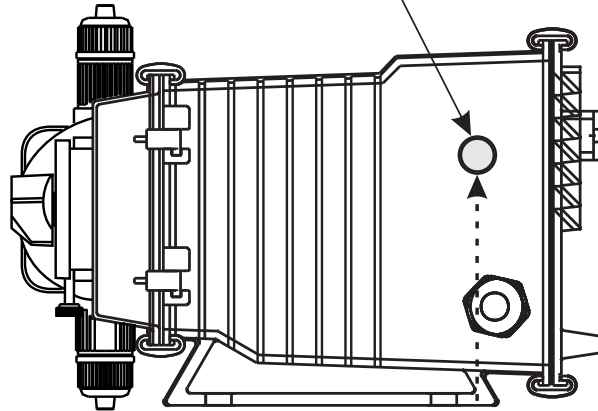
5.2 Optional circuit board signal connection installation - The pump includes three optional external signal connections:

- \ FVS - FLOW VERIFICATION SENSOR INPUT
 Accepts a pulse signal from an optional Blue-White sensor confirming that fluid is passing through the pump. Triggers the AL alarm output if fluid is not detected.
- \ AL - ALARM OPEN COLLECTOR OUTPUT
 The output (purple wire) sinks to DC ground when an alarm condition exists. 6-30Vdc collector voltage. 50mAdc maximum sinking current.
- \ MA - MOTOR ACTIVE OPEN COLLECTOR OUTPUT
 The output (brown wire) sinks to DC ground when the motor is de-energized. 6-30Vdc collector voltage. 50mAdc maximum sinking current.

All signal wires must be connected to the circuit board, located inside the pump enclosure, using connector plug wiring assemblies. A liquid-tight connector must be installed in the pump enclosure wall and the signal wires passed through the liquid-tight connector and secured. See pages 8 & 9 for wiring details.

1. Remove the rear enclosure panel.
2. Remove knock-out using a screwdriver.
3. Trim edge with a knife and remove sharp edges.
4. Install the provided liquid-tight connector.
5. Connect the connector plug to the circuit board.

1/2" DIAMETER KNOCKOUT



LIQUID-TIGHT CONNECTOR

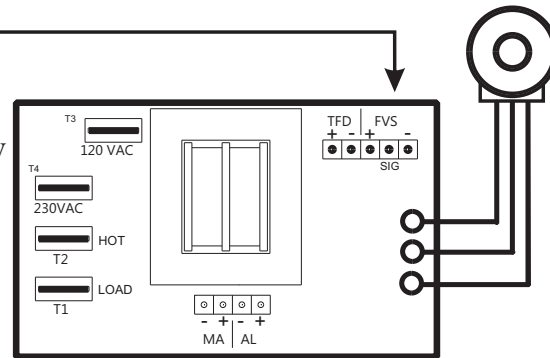


CIRCUIT BOARD SIGNAL CONNECTIONS

FVS - FLOW VERIFICATION
 SENSOR INPUT
 order part number 90010-261
 3-wire connector plug wire assembly

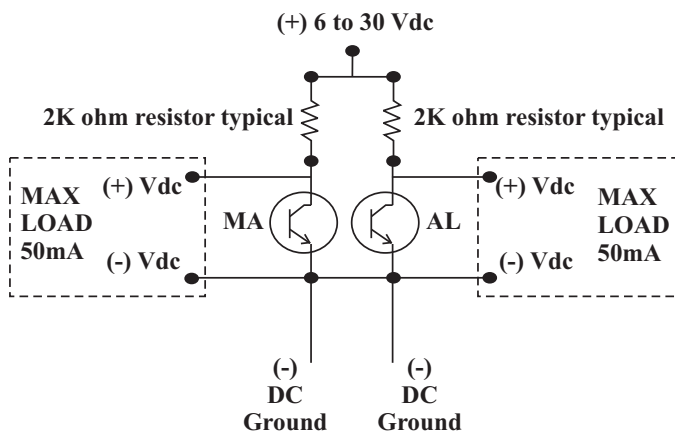
MA - OPEN COLLECTOR
 MOTOR ACTIVE OUTPUT
 AL - OPEN COLLECTOR
 ALARM OUTPUT

order part number 90010-258
 4-wire connector plug wire assembly

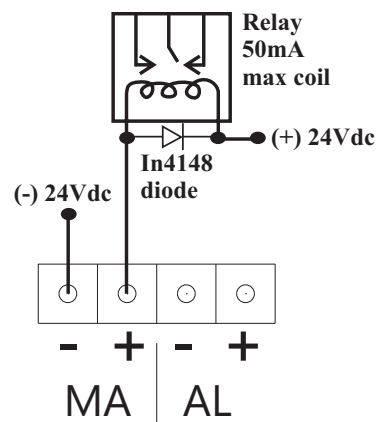


OPEN COLLECTOR OUTPUT SCHEMATICS

OUTPUT SCHEMATIC



TYPICAL EXAMPLE



5.3 Input Power Connections

WARNING: Risk of electric shock.

Be certain to connect the pump to the proper supply voltage. Using the incorrect voltage will damage the pump and may result in injury. The voltage requirement is printed on the pump serial label.

The pump is supplied with either a ground wire conductor and a grounding type attachment plug (power cord) or a junction box for field wiring.

POWER CORD MODELS -To reduce the risk of electric shock, be certain that the power cord is connected only to a properly grounded, grounding type receptacle.

JUNCTION BOX MODELS -To reduce the risk of electric shock, be certain that a grounding conductor is connected to the green grounding conductor located in the junction box.

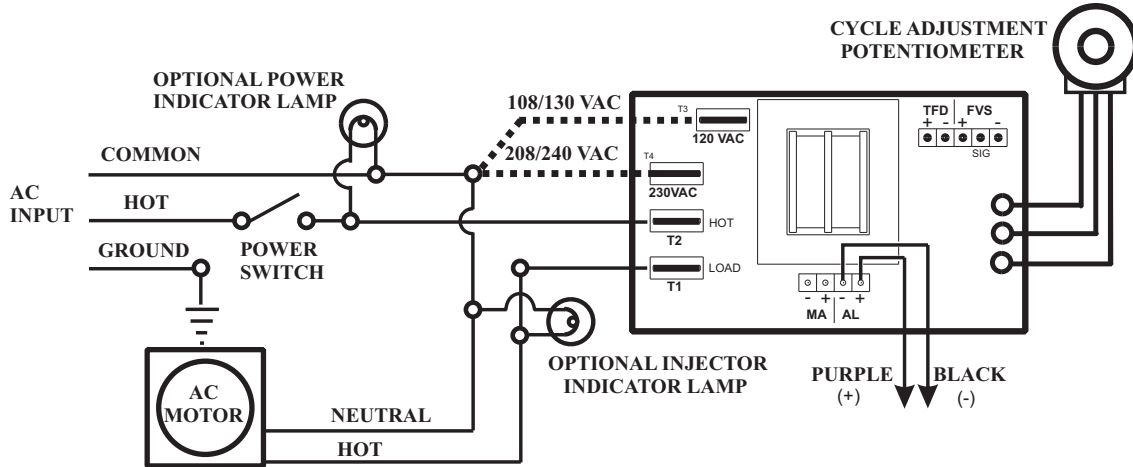
Note: When in doubt regarding your electrical installation, contact a licensed electrician.

MOTOR LEADWIRES

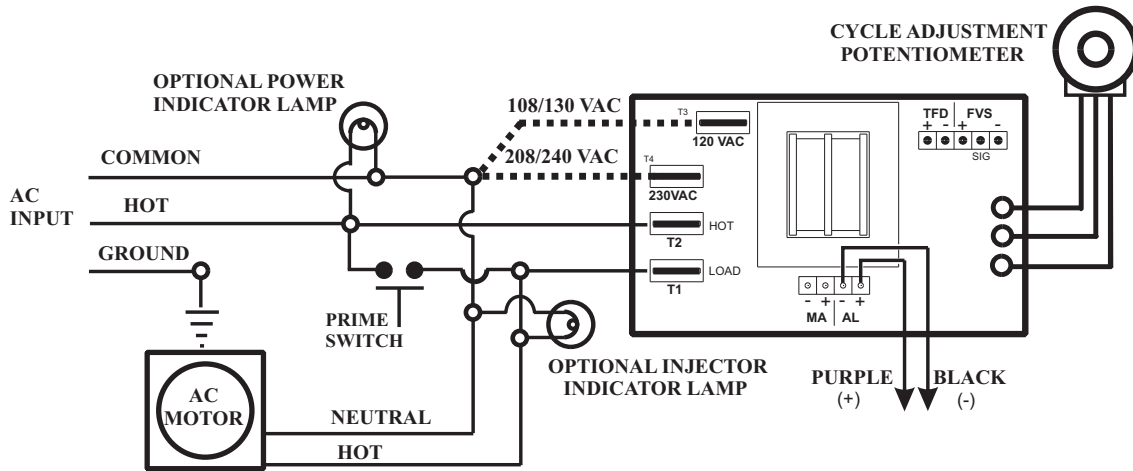
INPUT VOLTAGE	HOT LEADWIRE	NEUTRAL LEADWIRE	GROUND LEADWIRE
115VAC 60Hz	YELLOW	BLUE	GREEN
220VAC 50Hz	YELLOW	BROWN	GREEN
230VAC 60Hz	YELLOW	RED	GREEN
90VDC	(+) RED	(-) BLACK	GREEN

CIRCUIT BOARD SIGNAL IN/OUT CONNECTIONS

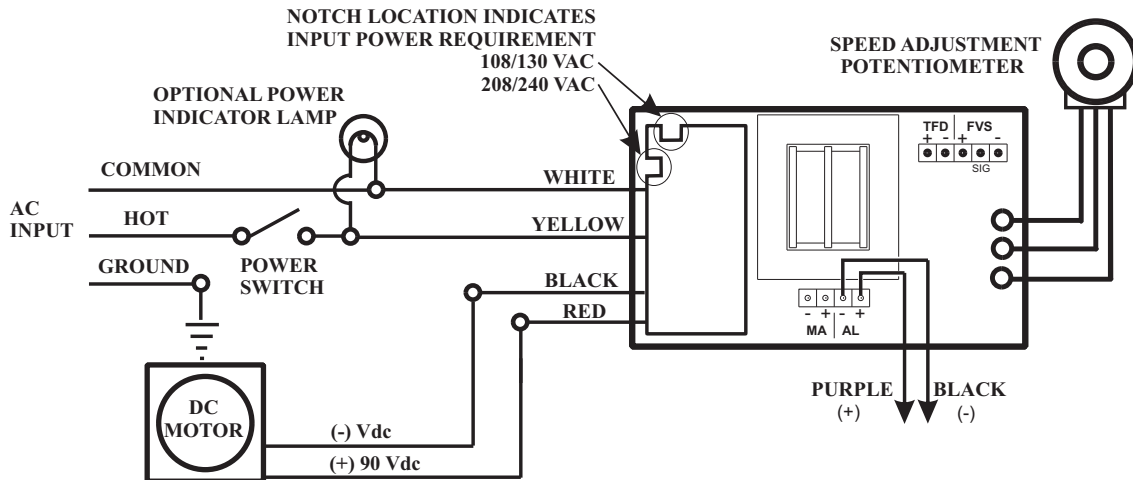
SYSTEM DESCRIPTION	WIRE COLOR CODE
FVS - FLOW VERIFICATION SENSOR INPUT Accepts a pulse signal from an optional Blue-White sensor confirming that fluid is passing through the pump. Triggers and alarm output if fluid is not detected.	RED (+ 20VDC) BLACK (-) YELLOW (signal)
TFD - TUBE FAILURE DETECTION SYSTEM INPUT Monitors a pair of sensors in the pumphead. Triggers an alarm output if fluid with a conductivity of greater than 500 micro-seimens is detected. Typical chemicals include chlorine, acid, caustic. The system will not detect water or silicone lubricating oil.	GRAY & GRAY
AL - ALARM OPEN COLLECTOR OUTPUT The output (purple wire) sinks to DC ground when an alarm condition exists. 6-30Vdc collector voltage. 50mAdc maximum sinking current.	PURPLE (+) & BLACK (-)
MA - MOTOR ACTIVE OPEN COLLECTOR OUTPUT The output (brown wire) sinks to DC ground when the motor is de-energized. 6-30Vdc collector voltage. 50mAdc maximum sinking current.	BROWN (+) & BLACK (-)



WIRING DIAGRAM - Model A-100NA & A-100NC



WIRING DIAGRAM - Model A-100NS



WIRING DIAGRAM - Model A-100NF

5.4 How To Install the Tubing and Fittings

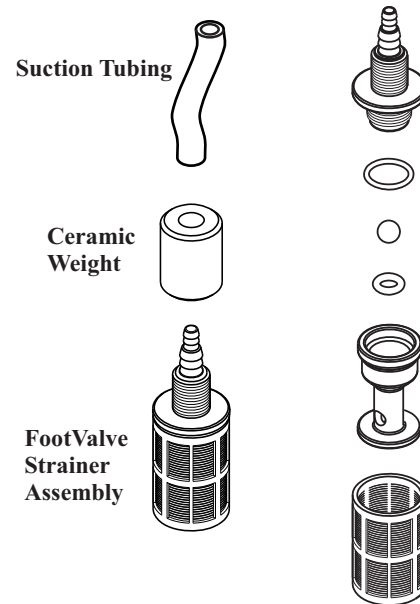
CAUTION: Proper eye and skin protection must be worn when installing and servicing the pump.

- **Inlet Tubing** - Locate the inlet fitting of the pump head. Remove the tube nut. Push the clear suction tubing through the tube nut and onto the fitting barb. Hand tighten the tube nut to secure the tubing.
- **Footvalve/Strainer** - Trim the inlet end of the suction tubing so that the strainer will rest approximately two inches from the bottom of the solution tank. This will prevent sediment from clogging the strainer. Slip the ceramic weight over the end of the suction tube. Press the strainer's barbed fitting into the end of the tube. Secure the ceramic weight to the strainer. Drop the strainer into the solution tank.
- **Outlet Tubing** - Locate the outlet fitting of the pump head. Remove the tube nut. Push the opaque discharge tubing through the tube nut and onto the compression barb of the fitting. Hand tighten the tube nut to secure the tubing.

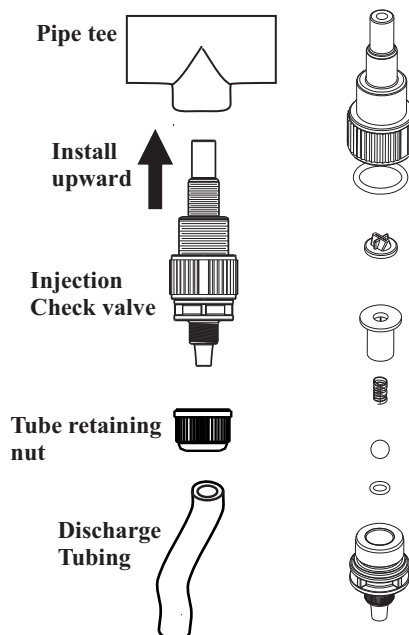
Keep outlet tube as short as possible.

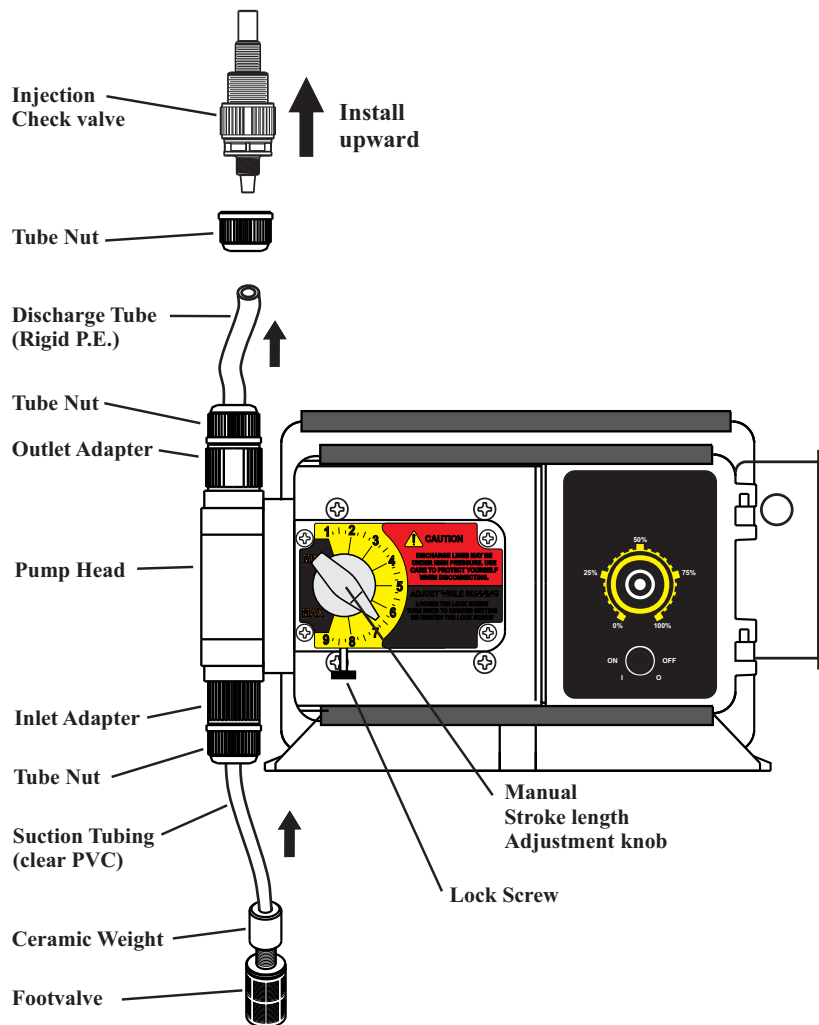
- **Injection/Check Valve Fitting Installation** - The Injection/Check valve fitting is designed to install directly into either 1/4" or 1/2" female pipe threads. This fitting will require periodic cleaning, especially when injecting fluids that calcify such as sodium hypochlorite. See section 7.0. Install the Injection/Check valve directly into the piping system. **To prevent trapped gasses, install the fitting in an upward direction.** Use PTFE thread sealing tape on the pipe threads. Push the opaque outlet (discharge) tubing through the tube nut and onto the compression barb of the Injection/Check valve fitting. Hand tighten the tube nut to secure the tubing.

FOOTVALVE/STRAINER



INJECTION/CHECK VALVE





6.0 How To Operate The Pump

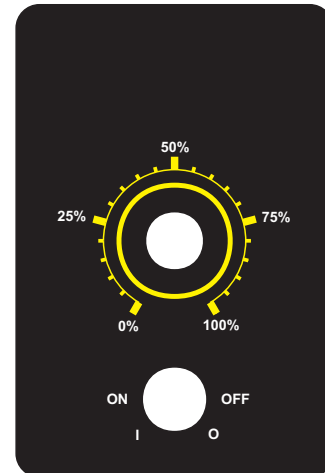
6.1 How to adjust the output- manual stroke adjustment The Pump flow rate can be adjusted within a range of 5% -100% of maximum output (20:1 turndown ration) by means of a mechanical, cam type mechanism. The mechanism adjusts the pump's stroke length to an infinite number of settings within the flow range.

Note: The pump's output will reduce due to increased system pressure, increased suction lift, and increased fluid viscosity. The pump must be over-sized to allow for these factors. Sizing the pump to allow adjustment within the midrange is preferred to maintain accuracy. Consult the factory for individual pump model output curve data.

To adjust the pump's output:

1. With the pump running, loosen the lock screw.
2. Turn the adjustment knob to the desired setting.
3. Re-tighten the lock screw.

6.2 Fixed Cycle Timer Models -The pumping mechanism is turned on and off by an electronic cycle timer. The total-time cycle is factory preset and is not user adjustable. The on-time cycle is adjustable from 5% to 100% of the total cycle time. Example: If the total-time cycle is 60 seconds and the on-time cycle is adjusted for 25 percent, the pump will run for 15 seconds and turn off for 45 seconds (60 second total cycle). This cycle is repeated until either the power switch is turned off, the cycle time is changed or the input power is disconnected from the pump.



To adjust the pump output -

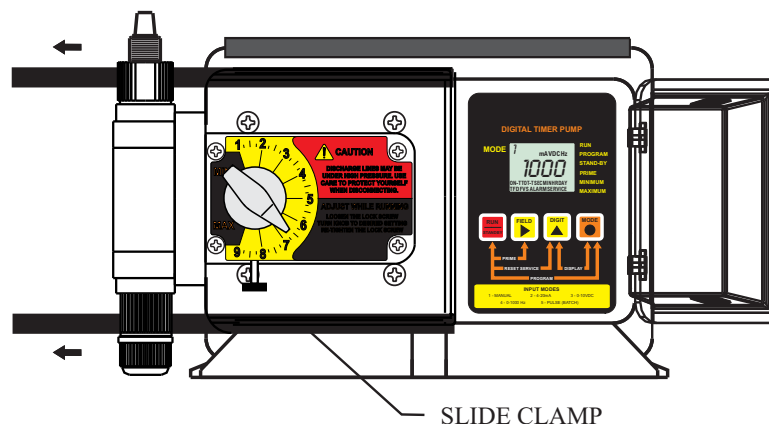
- Slide the slide clamps to the left only far enough to open the control panel door.
- Turn the adjustment knob to the desired percentage of on-time per cycle.

Note: When power is applied to the pump, the pump will either automatically begin to pump, or maintain power-off status, depending on the power switch status.

6.3 Variable Speed Model -The speed of the pumping mechanism is adjustable from 5 % through 100%.

To adjust the pump output -

- Slide the slide clamps to the left only far enough to open the control panel door.
- Turn the adjustment knob to the desired percentage of speed.



6.4 (FVS) Flow Verification System - The pump is equipped with a *Flow Verification System* which is designed to stop the pump and provide an open collector (sinking) output signal in the event the sensor does not detect chemical during pump operation. This could indicate a clogged injection fitting, empty chemical solution tank, loose tubing connection, etc. The system features an alarm delay time of 6 seconds which allows the pump to clear any gasses that may have accumulated during stopped operation. The pump will stop, and the alarm mode activated, if no pulses are received by the pump and the alarm delay time period has ended. Turn the power switch off and on to clear the alarm and restart the pump. The Flow Verification Sensor is sold as an optional accessory.

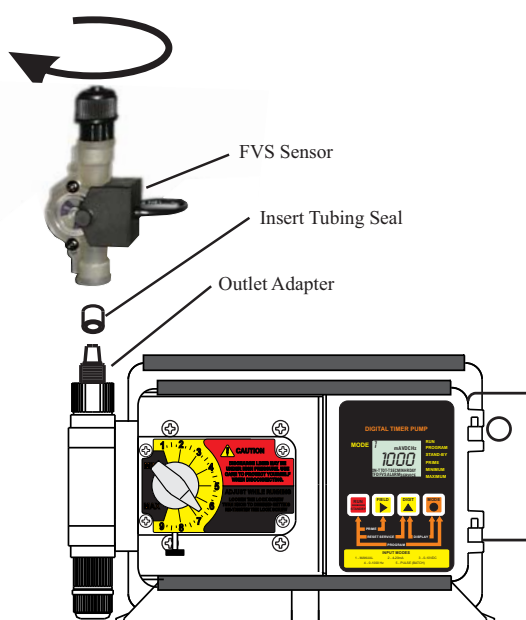
Confirm the FVS flow range - The Flow Verification Sensor (FVS) will only function within its operating range. Sensor model FV-100-6V has an operating range of 30-300 ml/min (1-10 oz/min). If the pump's output is less than 30 ml/min (0.5 ml/sec), the sensor will not detect chemical and a signal will not be sent to the pump.

SENSOR MODEL NUMBER	OPERATING FLOW RANGE (ml/min)
FV-100-6V	30-300
FV-200-6V	100-1000
FV-300-6V	200-2000
FV-400-6V	300-3000
FV-500-6V	500-5000
FV-600-6V	700-7000

Install the FVS Flow Sensor - The Flow Verification Sensor (FVS) should be installed on the outlet (discharge) side of the pump head valve. The sensor includes a PVC tubing insert, located inside the sensor's female thread connection, that is designed to seal the sensor onto the pump tube inlet adapter. Thread the sensor onto the pump tube until the tubing insert is snug against the pump tube inlet fitting - do not over-tighten.

Connect the red/white (+), black (-), and bare (signal) wires from the sensor to the red (+), black (-), and yellow (signal) wires on the plug connector. Knock-out the liquid-tite connector mounting hole on the side of the pump enclosure and install the liquid tight connector. Route the wires through the connector and tighten the connector nut. Plug the connector onto the circuit board at the pins marked "FVS". See page 6.

Open Collector Alarm Output - An open collector (sinking) output signal is provided with the FVS system. (See page 6).



7.0 How to Maintain the Pump

CAUTION: Proper eye and skin protection must be worn when installing and servicing the pump.

7.1 Routine Inspection and Maintenance

The pump requires very little maintenance. However, the pump and all accessories should be checked regularly. This is especially important when pumping chemicals. Inspect all components for signs of leaking, swelling, cracking, discoloration or corrosion. Replace worn or damaged components immediately.

Cracking, crazing, discoloration and the like during the first week of operation are signs of severe chemical attack. If this occurs, immediately remove the chemical from the pump. Determine which parts are being attacked and replace them with parts that have been manufactured using more suitable materials. The manufacturer does not assume responsibility for damage to the pump that has been caused by chemical attack.

7.2 How to Clean the Pump

The pump will require occasional cleaning, especially the Injection fitting, the Footvalve/Strainer, and the pump head valves. The frequency will depend on the type and severity of service.

- ☑ Inspect and replace the pumphead valves as required.
- ☑ When changing the diaphragm, the pump head chamber and pump head cover should be wiped free of any dirt and debris.
- ☑ Periodically clean the injection/check valve assembly, especially when injecting fluids that calcify such as sodium hypochlorite. These lime deposits and other build ups can clog the fitting, increase the back pressure and interfere with the check valve operation. See page 8.
- ☑ Periodically clean the suction strainer. See page 8.
- ☑ Periodically inspect the air vents located under the motor housing and in the back on the rear housing cover. Clean if necessary.

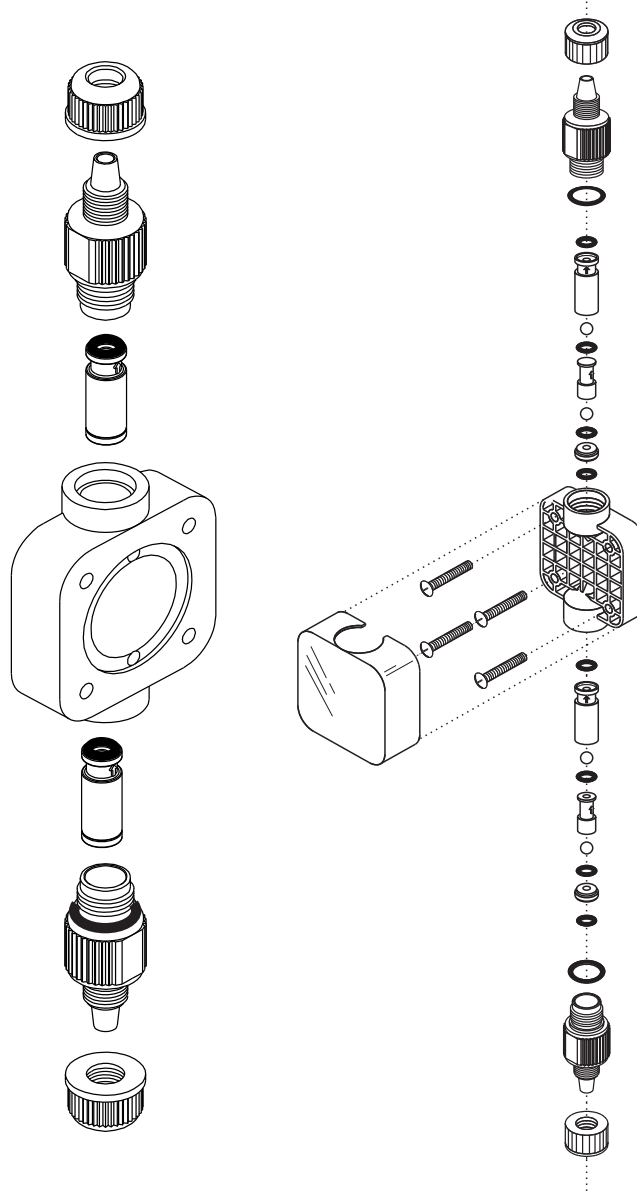
7.3 Measuring the Pump's Output - Volumetric Test.

This volumetric test will take into account individual installation factors such as line pressure, fluid viscosity, suction lift, etc. This test is the most accurate for measuring the injector's output in an individual installation.

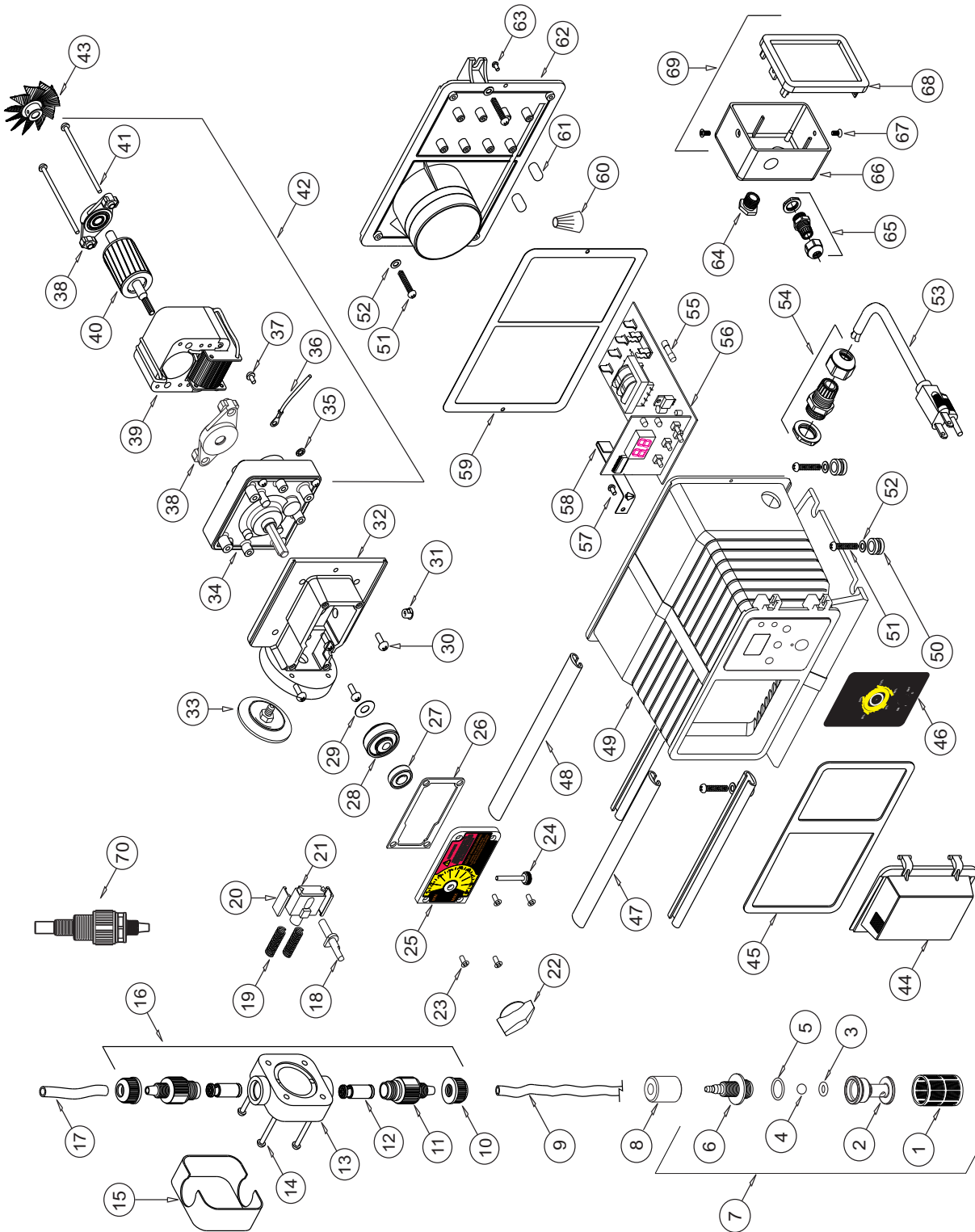
1. Be sure the Injection Fitting and Footvalve/Strainer is clean and working properly.
2. Fill a large graduated cylinder with the solution to be injected.
3. With the pump installed under normal operating conditions, place the suction tubing with the Footvalve/Strainer installed in the graduated cylinder.
4. Run the pump until all air is removed from the suction line and the solution

- enters the discharge tubing. If the pump does not easily prime, remove the discharge tubing from injection fitting until the pump primes. Re-connect the discharge tubing to the injection fitting.
5. Remove the suction tubing from the graduated cylinder and refill the graduated cylinder if necessary. Note the amount of solution in the graduated cylinder.
 6. Place suction tubing with the Footvalve/Strainer installed back into the graduated cylinder.
 7. Run the injector for a measured amount of time. A longer testing time will produce more accurate results.
 8. Remove the suction tubing from the graduated cylinder. Measure the amount of chemical injected.

PUMP HEAD AND VALVE EXPLODED VIEW



REPLACEMENT PARTS DRAWING



REPLACEMENT PARTS LIST

Item	Part No	Description	Qty	Item	Part No	Description	Qty	Item	Part No	Description	Qty
1	90002-086	Screen, FootValve, P.P.	1	32	76001-183	Motor Mount, Large Dia	1	54	70000-589	Connector Liq-tite w/ nut .375	1
2	90002-214	Body, FootValve, PVDF	1	33	70000-683	Diaph. S/A 2.0 15N, Vit/TFE	1	56	A-023N-B	Timer 60 sec. Model A	1
3	2-108A	O-ring Seat, FootValve, Aflas	1	34	70000-682	Diaph. S/A 2.0 15N, EP/TFE	1		A-023N-H	Timer 5 sec. Model C	1
4	90003-129	O-ring Seat, FootValve, E.P.	1		71000-357	Gearbox, 14 RPM	1		C-1817N-4	Speed control 115V model F	1
5	90003-014	O-ring, FootValve, Viton	1		71000-358	Gearbox, 30 RPM	1		C-1817N-5	Speed control 220V model F	1
6	90003-015	O-ring, FootValve, E.P.	1		71000-359	Gearbox, 45 RPM	1		90011-146	Screw, 8-32 X .25 Phil Pan F	1
7	90002-215	Adapter, FootValve, PVDF	1		71000-360	Gearbox, 60 RPM	1		90006-583	Motor Retaining Clip, Ss	1
8	71000-325	FootValve S/A, C-340E, EP	1		71000-361	Gearbox, 125 RPM	1		90010-036	Wire Nut, Blue	2
9	90008-068	FootValve S/A, C-340A, Aflas	1	35	90011-078	Washer, #8 Intri/Star	1		90012-192	Enclosure Back Plate, Valox	1
10	90008-116	Ceramic weight, C-346	1	36	90010-222	Lead Wire, ground, Green	1		90011-044	Screw 6-32 x .37 Swag Form	1
11	71000-204	Tubing Suction 3/8 x 5 FT	1	37	90011-024	Screw 8-32 x .25 Hex SL ST	1		90007-515	Bushing, J-Box Conn, Alum.	1
12	71000-205	Tube Nut, .37T, PVDF	2	38	70000-028	Bearing Bracket With Bearing	2		90008-199	Connector Liq-tite w/ nut .187	1
13	71000-224	Adapter S/A Bullet .37T Vit	2	39	71000-211	Stator 115v Blue- Wht/Yell	1		76001-168	J-Box, Ext. Input, Valox	1
14	71000-224	Adapter S/A Bullet .37T EP	2		71000-213	Stator 230v Red-White/Yellow	1		90011-129	Screw, 6-32 X .25 Phil SS	2
15	71000-224	Adapter S/A Bullet .37T Sil	2	40	70000-027	Rotor With Shaft And Spacers	1		70000-364	J-Box Assembly, Ext. Input	1
16	90002-146	Cartridge Valve S/A, D-Ball	2	41	90011-022	Screw, 8-32 X 2.5" Phil Steel	2		C-395N-6A	Inj. Valve .5-.25 MptX.37od T	1
17	90002-146	P/Head Noir Molded, P.P.	1	42	70002-204	Gearmotor, 14 Rpm, 115v60	1				
18	90011-141	Screw 10-32 x 1.25	4		70002-205	Gearmotor, 30 Rpm, 115v60	1				
19	70004-074	Cover P/Head, HD logo	1		70002-206	Gearmotor, 45 Rpm, 115v60	1				
20	70001-149	Kit P/Head HDN 37T V. P-P	1		70002-207	Gearmotor, 60 Rpm, 115v60	1				
21	70001-153	Kit P/Head HDN 37T E.P. P-P	1		70002-208	Gearmotor, 125 Rpm, 115v60	1				
22	76000-374	Tubing D/Charge, 3/8 x 10 FT	1		70002-209	Gearmotor, 250 Rpm, 115v60	1				
23	90001-132	Offset Cam #1 .125"	1		70002-210	Gearmotor, 14 Rpm, 220v50	1				
24	90001-133	Offset Cam #2 .055"	1		70002-211	Gearmotor, 30 Rpm, 220v50	1				
25	90001-134	Offset Cam #3 .187"	1		70002-212	Gearmotor, 45 Rpm, 220v50	1				
26	90001-141	Offset Cam #4 .100"	1		70002-213	Gearmotor, 60 Rpm, 220v50	1				
27	90006-006	Return Spring	2		70002-214	Gearmotor, 125 Rpm, 220v50	1				
28	90002-001	Slide Bearing	2		70002-215	Gearmotor, 250 Rpm, 220v50	1				
29	76000-172	Stirr-up	1		70002-216	Gearmotor, 14 Rpm, 230v60	1				
30	90002-017	Dial Knob	1		70002-217	Gearmotor, 30 Rpm, 230v60	1				
31	90011-168	Screw #6 x .62 PH oval 'A'	4		70002-218	Gearmotor, 45 Rpm, 230v60	1				
32	90011-121	Thumb Screw 6-32 x 1.125	1		70002-219	Gearmotor, 60 Rpm, 230v60	1				
33	71000-363	Cover Cam S/A C-1100	1		70002-220	Gearmotor, 125 Rpm, 230v60	1				
34	90006-597	Gasket, Top Cover	1		70002-221	Gearmotor, 250 Rpm, 230v60	1				
35	90004-005	Bearing, Top Cover	1		70002-222	Gearmotor, 250 Rpm, 230v60	1				
36	90012-218	Label, Cam Cover	1	43	90006-581	Fan, Motor, 2.25" Dia, Alum	1				
37	70000-131	Drive Cam S/A #1 .125"	1	44	90002-191	Door, Controls Cover	1				
38	70000-133	Drive Cam S/A #2 .055"	1	45	90006-579	Gasket, Front, Neoprene	1				
39	70000-132	Drive Cam S/A #3 .187"	1	46	90012-224	Label percent control	1				
40	70000-722	Drive Cam S/A #4 .100"	1	47	90012-225	Label blank (model X)	1				
41	90011-014	Spacer, Rotor	1	48	76000-999	Slide Clamp, Encl Front	2				
42	90011-122	Screw 10-32 x .50 PHL PAN	4	49	76001-000	Slide Clamp, Encl Rear	2				
43	90008-138	Plug .312 Hole Black	1		90002-190	Enclosure, P/cord model 1	1				

LIMITED WARRANTY

Your new pump is a quality product and is warranted to be free of defects as set down in this policy. All parts, including rubberized goods, and labor are covered under warranty for 90 days from the date of purchase. Used peristaltic pump tube assemblies are not warranted. Parts, excluding rubberized goods, are covered under warranty for 12 months from the date of purchase.

Warranty coverage does not include damage to the pump that results from misuse, carelessness, abuse or alteration. Only the repair or the replacement of the pump is covered. Blue-White Industries does not assume responsibility for any other loss or damage.

Warranty status is determined by the pump's serial label and the sales invoice or receipt. The serial label must be on the pump and the pump must be accompanied by the sales invoice or receipt to obtain warranty coverage. The warranty status of the pump will be verified by Blue-White or a factory authorized service center.

Please be advised that although safety tested by independent testing laboratories, **Caution - This Pump Has Been Evaluated For Use With Water Only. *Installers and operators of these devices must be well informed and aware of the precautions to be taken when injecting various chemicals -especially those considered hazardous or dangerous.***

Should it become necessary to return an injector for repair or service, you must attach information regarding the chemical used as some residue may be present within the unit which could be a hazard to service personnel.

Blue-White Industries will not be liable for any damage that may result by the use of chemicals with their injectors and it's components. Thank you.

PROCEDURE FOR IN WARRANTY REPAIR

Carefully pack the pump to be repaired. To assist in troubleshooting, please include the foot strainer and injection/check valve fitting if possible. Enclose a brief description of the problem as well as the original invoice or sales receipt showing the date of purchase. The receipt will be returned with the unit. Prepay all shipping costs. COD shipments will not be accepted. Warranty service must be performed by the factory or an authorized service center. Damage caused by improper packaging is the responsibility of the sender.



Users of electrical and electronic equipment (EEE) with the WEEE marking per Annex IV of the WEEE Directive must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to them for the return, recycle, recovery of WEEE and minimize any potential effects of EEE on the environment and human health due to the presence of hazardous substances. The WEEE marking applies only to countries within the European Union (EU) and Norway. Appliances are labeled in accordance with European Directive 2002/96/EC.

Contact your local waste recovery agency for a *Designated Collection Facility* in your area.

AUTHORIZED SERVICE CENTERS
ARKANSAS

BT Environmental, Inc
 Bill Thomason
 225 Castleberry Street
 Hot Springs, AR 71901
 501-624-3837

**CALIFORNIA
(NORTHERN)**

**Howard E. Hutching
 company
 (Repair Center)**
 7190 Penryn Plaza
 Penryn, CA 95663
 800-568-3958

Swimco Electric Co.

753 Camden Avenue
 Campbell, CA 95008
 408-378-2607

**CALIFORNIA
(SOUTHERN)**

**Blue-White Industries
 (Repair Center)**
 5300 Business Drive
 Huntington Bch. CA 92649
 714-893-8529

COLORADO

Denver Winpump
 5754 Lamer ave
 .Arvada, CO 80002
 303-424-3551

CONNECTICUT

**Cronin-Cook &
 Associates**
 24 West Road
 Vernon, CT 06029
 860-875-0544

Rice Pump & Motor

Repair 5740 Powerline
 Road
 Ft. Lauderdale FL 33309
 954-776-6049

American Pump

7580-A W. Tennessee St.
 Tallahassee, FL 32304
 850-575-9618

Jerry Lee Chemical Co.

3407 W. Old Fairfield
 Drive
 Pensacola, FL 32505
 904-432-9929

Picard Chemical

1670 S. Congress Avenue
 W. Palm Beach, FL 33406
 561-965-3434

ILLINOIS**Mullarkey Associates
(Repair Center)**

12346 S. Keeler Ave.
 Alsip, IL 60658
 708-597-5558

MARYLAND**Century Pool Service,
Inc**

5020 Nicholson Court,
 #201
 Kensington, MD 20895
 301-231-8999

NEW YORK**Sherwood Specialties,
Inc.**

875 Atlantic Ave. 'B'
 Rochester, NY 14609
 585-546-1211

NORTH CAROLINA**Southern Industrial
Sales**

1903 Herring Avenue
 Wilson, NC 27893
 800-872-7665

SOUTH DAKOTA**Son-Aqua Distributing**

Jim Robinson
 2447 W. Main Street
 Rapid City, SD 57702
 605-343-7716

TENNESSEE**Rock City Machine**

307 3rd Avenue South
 Nashville, TN 37201
 615-244-1371

TEXAS**Alamo Water Refiners**

13700 Hwy. 90 West
 San Antonio, TX 78245
 210-677-8400

Shelter's Water Refining

Robert Shelton
 2708 E. Randol Mill Rd.
 Arlington, TX 76011
 817-640-6188

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Huntington Beach, CA 92649
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