System Controller Installation

System Controller Diagram

1. Controller Chip
2. Nickel Metal Hydride 9 volt battery
3. Probe & CL hook-up
4. Dip Switches
5. Grounding Lug
6. Terminal Strip
7. 20 Amp Water Pump Breaker
8. 45 Amp Water Pump Relay
9. Transformer
10. Aeration Relay
11. 15 Amp Aeration Breaker

*A 30 Amp Service Box - within sight of the unit, must be provided by the homeowner before the unit can be installed. Installer must have a qualified electrician bring a line out to the area where the unit is being installed for hook-up.

DETAILED INSTRUCTIONS

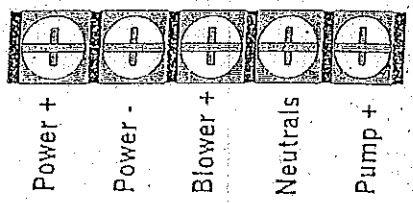
1. Unscrew the two screws securing the cover of the box.
2. Determine and cut the length of 1" PVC Conduit needed so that the box will be mounted taller than the blower housing.
3. Cut the conduit and glue it to the probe base on the Tank - feeding the probe wires through.
4. Mount the controller box to the top of the 1" conduit, feeding the probe wires through into the box.
5. Cut the probe wires so that there is approx. 12 inches of wire coming out of the box.
6. Strip back each of the wires, lift lever and insert wires according to the sticker under the board.
7. Feed the aerator cord through the compression connector, though the flex conduit and into the box. Then screw conduit into the connector on the box and glue conduit to compression adapter. Pull wire into the box, leaving approx. 1" of wire between the end of the conduit and the blower.
8. Connect the black wire to the + Blower screw on the terminal strip.
9. Bring the sprinkler pump wires and gray chlorinator sensor wires through flex conduit, screw flex conduit into the connector on the bottom of the box, then fill the stub on the tank, and each end of the flex conduit with Silicone II.(Failure Silicone II flex pipe will void the warranty!)
10. Connect one of the black pump wires + Pump screw on the terminal strip.
11. Strip back the gray wires and connect to the board next to the probe wires.
12. Make sure 30 amp circuit breaker,(power from house, supplied by owner) is turned off!
13. Bring the power wire through flex conduit, screw conduit into the connector on the box and fill each end of the flex conduit with Silicone II (failure to Silicone II flex pipe will void the warranty!)
14. Connect the hot wire (+) to space provided on the terminal strip.
15. Connect the neutral (-) from power line to the space provided on the terminal strip.
16. Connect the 2nd sprinkler pump wire and aerator to the neutrals space on the terminal strip.
17. Connect the ground from the power line, sprinkler pump and aerator to the grounding lug.
18. Turn both breakers in control box off, then on again to reset.
19. Hook up black air line to the brass compression fitting on the aeration tee.
20. Turn on 30 amp breaker at the house
21. Install the 9 volt battery into the connector on the board.
22. Re-install cover with the two screws, do not use screw gun or box damage may occur.
23. Turn Control box so that it faces the house or driveway.

New Instructions for 2000 System Controller

You will quickly notice a lot fewer wires in the box. We have added the photo cell, rechargeable battery, beeper, push button switch, and pressure switch to the board, eliminating 15 wires. All of the internal wiring to connect these parts is not required, simplifying the inside of the box and improving reliability. The controller now includes a much more powerful computer, lightning protection on the probe inputs and an automatically resetting fuse on the power supply. The hook-up to the transformer and the wires that operate the relays are now all connected to the board via a quick disconnect harness. This will provide for easy powering down of the board at the controller.

Electrical Hook-Up

You will notice there are no more butt-end connectors. We have included a terminal strip for our hook-up convenience.



Gone is the 0 wire for the transformer, we have already hooked it up for you.

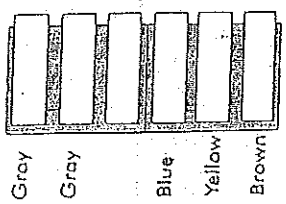
All of the grounds (from house, aerator, and water pump) are hooked up to the grounding lug located in the bottom left hand corner of the control box. To hook-up the grounds, it is easiest if you unscrew the lug from the metal plate, twist your wires together, insert them in the grounding lug, and tighten. Then re-install the ground lug using the Phillips screw you just removed.

Component Mounting

All of the components in the box are surface mounted to an aluminum heat sink that covers the entire back of the box. They are all mounted using #8 self-tapping Phillips head sheet metal screws. No more nuts, and gone are over a dozen holes in the outside of the box. The metal plate is fastened to the box using #10 x 32 machine screws and can be removed entirely from the box if you feel necessary.

Board Hook-Up

The only wires that get hooked to the board are the chlorinator sensor and probe wires. From left to right the wires are hooked up in this order:



We have added an additional connector so both chlorine wires have their own terminal.

To Inspect Water Pump Operation

To prevent damage to the pump, the computer will not allow you to start the pump unless there is water over the low probe. To make the pump turn on to observe spray pattern, empty the tank or for inspection visits and sampling, you have four ways to turn it on:

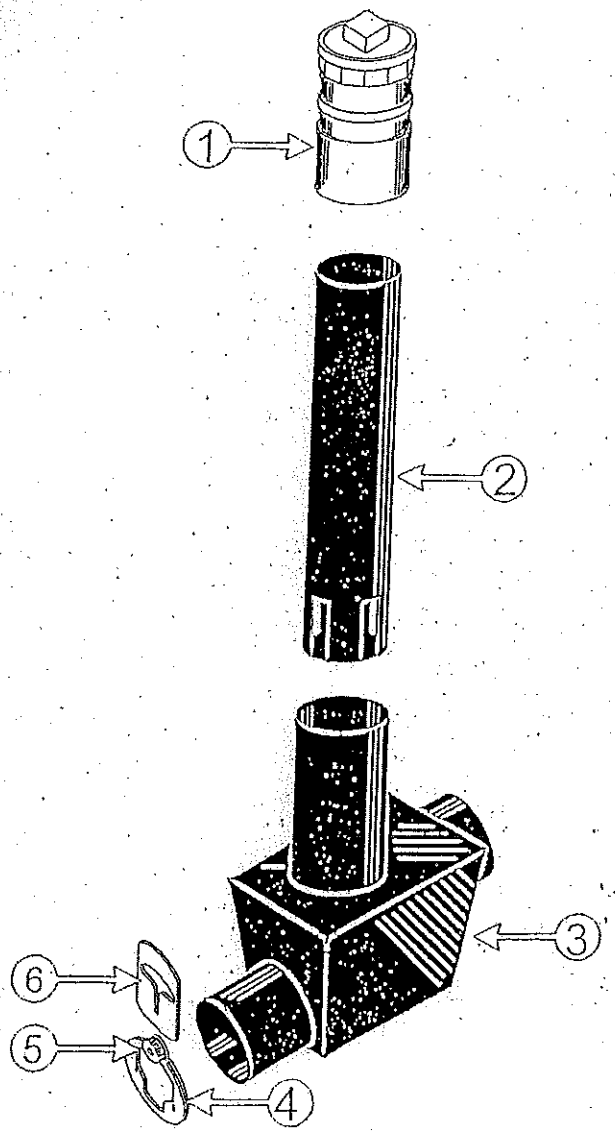
1. With system running fill tank until water level reaches the high probe. This will turn on the pump for 4 minutes if it is a night pumper, or for one complete cycle if it is a day pumper.
2. Hold system alarm switch in the up position when you power up the system at the breaker. This will empty the tank to the level of the low water probe.
3. Unscrew the compression nut (where the black hose attaches) on the aeration tee. This will create an aeration failure, and the water pump will automatically lower the water level to the low water probe level.
4. Power up the controller and observe green light. Confirm that there is water over the low water probe, but not above the high probe. Wait 3 minutes. Place a piece of black electrical tape over the photocell and wait an additional 3 minutes. Remove the tape. Approximately 2 minutes later the pump will activate and confirm that the photocell is working correctly.

To Create A High Water Alarm for Inspection

To create a high water alarm for inspection purposes is a simple operation. Disconnect the Schedule 80 gray connection inside the tank which connects the pump to the application method chosen. Be sure to not loose the O-ring, it would be safe to remove it at this time. Rotate pump so that outlet faces a side wall (to minimize spray out of the system) Make sure system is on and you have a Green light SYSTEM OK. Next, fill the tank until the water level reaches the high water probe and continue filling tank during the test. This will activate the night pumper warning circuit if it is a night system for 30 seconds, then turn on the pump. If the system is a day or demand pumping configuration, then it will immediately turn on the pump. After four (4) minutes of operation, the system will realize that the water level has not dropped, it will attempt to clear what it thinks is a clogged pump. It will do this by electronically "jogging" it, turning it on for one (1) second, off for two (2) seconds ten (10) times in an attempt to loosen any debris that may be caught in the pump. The pump will then continue to pump down for an additional four (4) minutes. Since the water level has not lowered below the high water probe, a SYSTEM ALARM will occur, HIGH WATER PROBLEM. Silence alarm, reconnect pump (using O-Ring) and power down system. Wait 5 seconds and power up again.

If this does not produce an alarm, (common to day pumpers) then leave everything as it is above (pump scd. 80 disconnected) and disconnect the blue probe wire. Observe a green light on the front of the control panel. Fill the tank to two inches above the high probe and while you still have a green light on, reconnect the blue probe wire, resume test as is above. This is necessary because on a day pumping system the pump kicks on immediately and may break contact with the high probe, running the pump for one hour before giving an alarm.

HOOT Chlorination System



1. Chlorinator Cap
2. Chlorine Tube
3. Chlorine Contact Reservoir
4. Weir Frame
5. Flow Control Plate
6. Adjustment Knob

HOOT BLASTER® Filtered Effluent Pump

SPECIFICATIONS

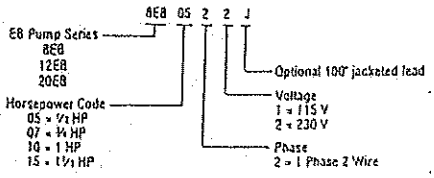
Model	Flow Range GPM	Horsepower Range	Best Eff. GPM	Discharge Connection	Maximum Solids Size	Rotation①
12EB	3 – 16	½ – 1½	10	1¼	⅛" dia.	CCW
20EB	6 – 28	½ – 1½	18	1¼	⅛" dia.	CCW

① Rotation is counterclockwise when observed from pump discharge end.

"EB" SERIES MATERIALS OF CONSTRUCTION

Part Name	Material
Discharge Head	Glass Filled Ultrathane
Check Valve Poppet	Ultrathane
Check Valve O-ring	E P Rubber
Bearing Spider – Upper	Glass Filled Polycarbonate
Bearing	Urethane
Klipring	AISI 301 SS
Diffuser	Glass Filled Polycarbonate
Impeller	
Bowl	AISI 304 SS
Shim	AISI 304 SS
Spacer	AISI 304 SS, Powder Metal
Inlet Strainer	Glass Filled Ultrathane
Motor Adapter	Glass Filled Ultrathane
Casing	AISI 304 SS
Shaft	
Coupling	AISI 304 SS, Powder Metal

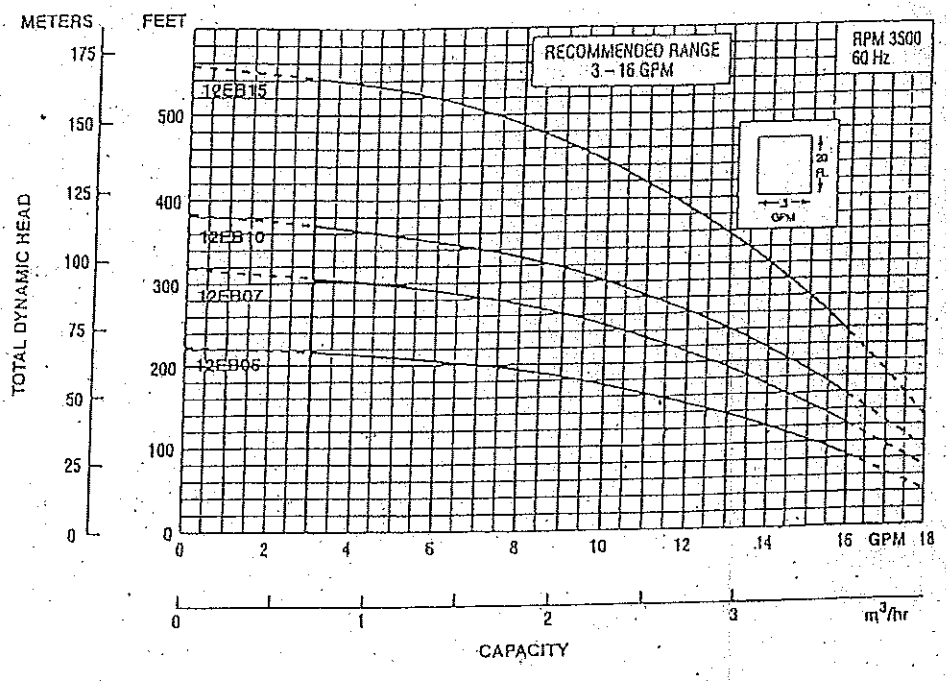
ORDER NUMBER CODE



FEATURES

- Designed for pumping filtered effluent from processed septic systems only.
- Field Serviceable: Pump can be rebuilt in the field to like new condition with common tools and readily available spare parts. NOTE: The Model EB has left hand casing threads.
- Powered for Continuous Operation: All ratings are within the working limits of the motor as recommended by the motor manufacturer. Pump can be operated continuously without damage to the motor.
- Metal Parts are Stainless Steel: AISI types 301 and 304 are corrosion resistant.
- Non-Metallic Parts are Effluent Compliant: Impellers, diffusers and bearing spiders constructed of glass filled polycarbonate, an engineered composite. This material is corrosion resistant.
- Discharge Head: State of the art engineered composite material for superior strength and corrosion resistance. Loop for safety line molded into head.
- Motor Adapter: State of the art engineered composite material with high rigidity to provide accurate alignment of liquid end to motor. Generous space for removal of motor mounting nuts with regular open-end wrench.
- Bowls: Stainless steel for strength and abrasive resistance.
- 100" 3 wire motor lead standard.
- Consult factory for recommendations involving long run cycles followed by short off cycles to assure proper motor cooling flows.
- Check Valve: Built-in check valve assembly on all models.
- Warranted for one year against failure due to workmanship and materials. Solids plugged pumps are not covered. Pumps used for liquids other than filtered effluent are not covered.
- Stainless Steel Casing: Polished stainless steel is attractive and durable in the most corrosive effluent.
- Hex Shaft Design: Six sided shafts for positive impeller drive.
- Inlet Strainer: Molded suction strainer built into motor adapter.
- Urethane Upper Bearings: Fluted design for free passage of abrasives.
- Franklin Electric Motor:
  - Corrosion resistant stainless steel construction.
  - Built-in surge arrestor is provided on single phase motors.
  - Stainless steel splined shaft.
  - Hermetically sealed windings.
  - Replaceable motor lead assembly.
  - UL 778 and CSA recognized.
  - NEMA mounting dimensions.
- Optional 100' jacketed power cord available.
- Agency Listings: All complete pump/motor assemblies are UL778 and CSA listed. All Franklin Electric Motors are UL778 recognized.
- All models have ¼" diameter bypass in discharge head to ensure venting on start up.

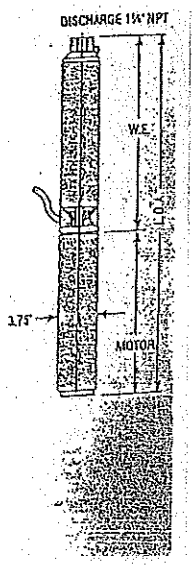
Underwriters Laboratories
File no. E174426
Canadian Standards Association
File no. 38549



DIMENSIONS AND WEIGHTS

Order Number	HP	Phase	Stages	Length (inches)			Weight (lbs.)		
				W.E.①	Motor	L.O.A.②	W.E.	Motor	Total
12EB0522, 12EB0521	½	1	7	11.0	9.5	20.5	4	18	22

① W.E. = water end or pump without motor.
② L.O.A. = length of assembly – complete pump – water end and motor.



"GEAR DRIVEN SPRINKLER"

SETTING AND INSTALLATION

NOTE: All of our sprinklers are preset for you with a 90° arc setting, and include a pre-installed #3 nozzle.

CHANGING A NOZZLE

1 USE YOUR K-KEY

After you remove the nozzle retention screw with your KEY, insert the KEY into the ⊶ shaped Keyhole on the top of the turret. Then turn the Key ¼ turn so it doesn't slip out of the hole when you pull it up.

2 PULL UP THE RISER

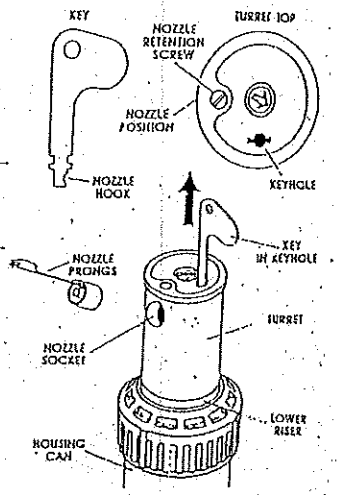
Firmly pull the entire spring loaded riser up with the KEY to access the nozzle socket. Hold the riser up with one hand.

3 REMOVE THE NOZZLE

With the nozzle retention screw removed, insert the KEY into the slot directly under the nozzle "prongs" at the top of the nozzle. Now, pivot your KEY ¼ of a turn to "hook" the nozzle and pull the nozzle out.

4 INSTALL A NOZZLE

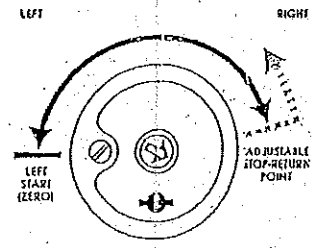
Press the desired nozzle into the nozzle socket. Make sure the nozzle number is visible and the nozzle "prongs" are up. Then, re-install the nozzle retention screw. NOTE: The nozzle retention screw is also a break-up screw and adjusts the distance of the spray.



PRESETTING THE ARC ADJUSTMENT

5 FIND THE LEFT START POSITION

First, rotate the turret with your fingers around to the RIGHT (clockwise) until it stops. Then, rotate the turret around to the LEFT until it stops again. This is the LEFT START position of the arc. The sprinkler will begin spraying from this point and will rotate clockwise.

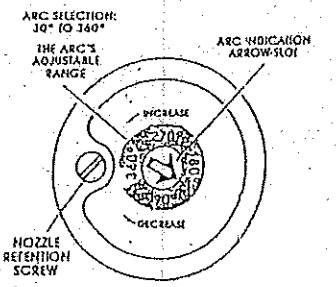


6 TO CHANGE THE ARC SETTING

To INCREASE THE ARC, insert the KEY into the arc indication ARROW SLOT at the center of the turret. While holding the turret with your fingers (so that it doesn't rotate), turn the key COUNTERCLOCKWISE until the arc indication arrow points to the arc desired. TO DECREASE THE ARC, hold the turret, and turn the key CLOCKWISE to the desired setting. (IMPORTANT: DO NOT TURN THE ARC INDICATION ARROW PAST THE 360° SETTING OR PAST THE 30° SETTING.)

TO ADJUST THE ARC WITH THE SPRINKLER ON

If the sprinkler is turning to the right, hand-spin the turret to the right until it stops. Then, turn the turret to the left until it stops again. THIS IS THE LEFT START POSITION, and you can now turn the arc indication arrow to the desired setting. (See TO CHANGE THE ARC SETTING.) If the sprinkler is turning to the left, hand-spin the turret to the left until it stops. (See TO CHANGE THE ARC SETTING.) IMPORTANT: DO NOT TURN THE ARROW PAST THE 30° SETTING OR PAST THE 360° SETTING.



BE CAREFUL: Don't force the arc indication arrow under the 30° setting or over the 360° setting.

{Sprinkler should be Seal-o-Matic, to prevent Leakage}

SPRINKLER INSTALLATION

7 INSTALL AND BURY

Thread the sprinkler onto the pipe. Bury the sprinkler flush to grade.

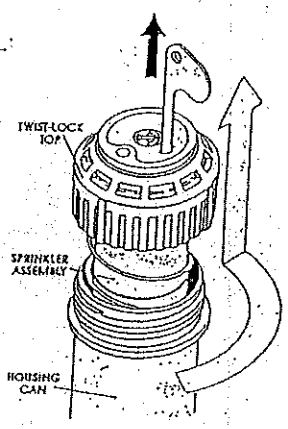
POINTING THE LEFT START

8 TURN THE CAN

You can orient the LEFT START position (the point where the sprinkler will begin spraying) by simply turning the entire sprinkler housing can on the pipe. Visually point the nozzle retention screw where you want it to begin spraying.

OR TURN THE LOWER PORTION OF THE RISER

Pull the riser up with your KEY. Grab the LOWER portion of the riser, and rotate it to orient the nozzle to the desired LEFT starting position: IMPORTANT: DO NOT GRAB THE TOP PORTION OF THE RISER.



9 INSPECTING THE FILTER

Unscrew the top and lift complete sprinkler assembly out of the housing can. The filter is on the bottom of the sprinkler assembly and can easily be pulled out, cleaned and re-installed.

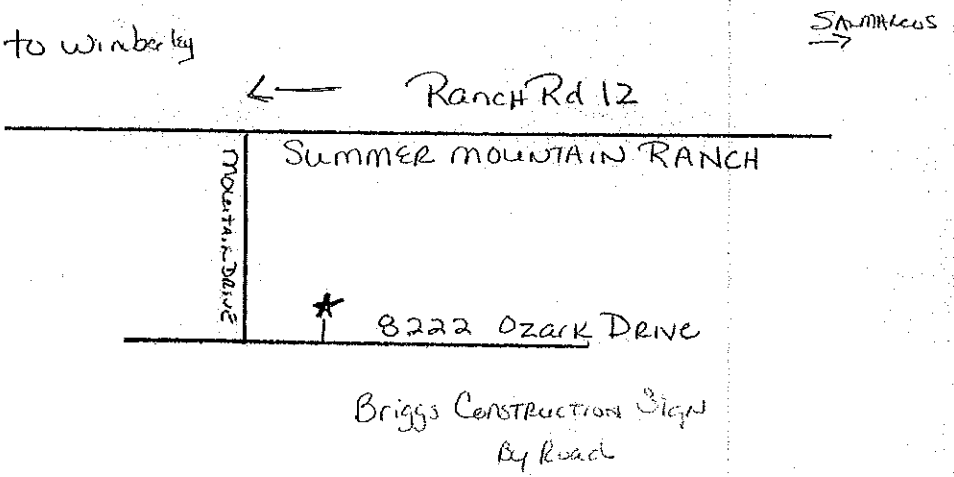
STANDARD NOZZLE PERFORMANCE CHART

Nozzle	PSI	Radius	GPM
#1	30	33'	1.0
	40	35	1.3
	50	38	1.4
	60	38'	1.5
#2	30	38'	2.1
	40	39'	2.5
	50	40'	3.0
	60	41'	3.1
#3	30	41'	2.8
	40	42'	3.3
	50	45'	3.6
	60	46'	4.2
#4	30	43'	3.9
	40	45'	4.5
	50	47'	5.4
	60	52'	5.8
#6	40	49'	6.2
	50	51'	7.0
	60	54'	7.9
	70	55'	8.1
#8	40	47'	8.0
	50	51'	8.9
	60	53'	9.6
	70	55'	10.6

LOW ANGLE NOZZLE PERFORMANCE CHART

Nozzle	PSI	Radius	GPM
#1	30	22'	1.5
	40	24'	1.7
	50	26'	1.8
	60	28'	2.0
#3	30	29'	3.0
	40	32'	3.1
	50	35'	3.5
	60	37'	3.8
#4	30	31'	3.4
	40	34'	3.9
	50	37'	4.4
	60	38'	4.7
#6	40	38'	6.5
	50	40'	7.3
	60	42'	8.0
	70	44'	8.6

DATA REPRESENTS TEST RESULTS IN ZERO WIND. ADJUST FOR LOCAL CONDITIONS. RADIUS MAY BE REDUCED WITH NOZZLE RETENTION SCREW.



Briggs Construction Sign
By Road

Mike + Dawna Snow
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San Marcos, TX 78666