

Model 2006 I

Battery Operated Irrigation Controller with Actuator to Convert 3/4 in. and 1 in. Manual Anti-Siphon Valve

Features

- Converts 3/4 in. and 1 in. plastic or brass manual anti-siphon valve to automatic operation
- All adapters and seat washers included
- Weekly (specific days of the week) or cyclical (once ever so many days) programming
- Four start times per day in weekly program
- Irrigation duration – from 1 minute to 11 hours and 59 minutes in 1 minute increments
- Irrigation frequency
 - ° Weekly program: four start times per day
 - ° Cyclical program: from eight times per day (every 3 hours) to just once per month
- Simple, four-button programming
- Perform manual runs via the controller
- Powered by one 9-volt alkaline battery
- Low battery indicator
- Weather resistant



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INTRODUCTION

Thank you for purchasing DIG's battery operated controller to convert a 3/4 in. or 1 in. plastic or brass manual anti-siphon valve to automatic operation. Please take the time to read through the enclosed instructions before installation. If you have any questions, please call our customer service line at 1-800-344-2281.

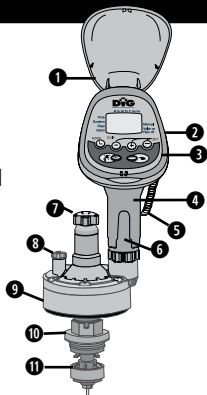
The battery operated controller model 2006I converts a 3/4 in. or 1 in. plastic or brass manual anti-siphon valve to automatic operation. The Controller has a wide range of features offering a reliable cost effective solution for residential and commercial uses. This instruction manual is designed to help set up and operate the battery operated controller. After reading the manual and getting familiarized with the basic functionality of the device, use the manual as a reference for less common tasks in the future.

1. BOX CONTENTS

- Controller with 24 in. cable connected to the 3/4 in. actuator
- 3/4 in. and 1 in. adapters for Champion, Orbit and Rain Bird valves
- 3/4 in. and 1 in. seat washers for Champion, Orbit and Rain Bird valves
- Owner's Manual

2. PARTS IDENTIFICATION

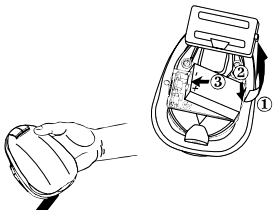
- 1) Top cover
- 2) Controller
- 3) 6 buttons for programming with LCD display
- 4) Mounting collar
- 5) 24 in. extension wire from the controller to the solenoid
- 6) 9V DC solenoid
- 7) Flow control knob
- 8) External Bleed Screw
- 9) Actuator
- 10) Adapter
- 11) Seat washer assembly



3. BATTERY INSTALLATION AND REMOVAL

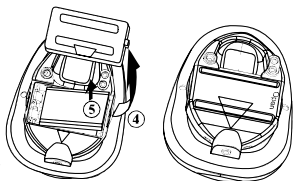
3.1 BATTERY INSTALLATION

1. Holding the upper section of the controller above the mechanical handle, use a firm upward twist to release the controller from the skirt.
2. Invert the controller and use firm pressure to lift the battery compartment cover (1).
3. First, align the + (positive) battery terminal with the + contact in the battery compartment, then insert the bottom end of the 9-volt alkaline battery (2) and press on the top end (3) to ensure the battery is firmly in place.



3.2 BATTERY REMOVAL

1. Remove the battery compartment cover (4).
 2. First, lift the lower end of the battery (5).
If necessary, use the flat end of a small screwdriver.
- Removing the battery from the top end may damage the connections.
 - Use alkaline batteries only.
 - Replace battery compartment cover in its proper place, ensuring a triangle is formed on the underside of the controller.



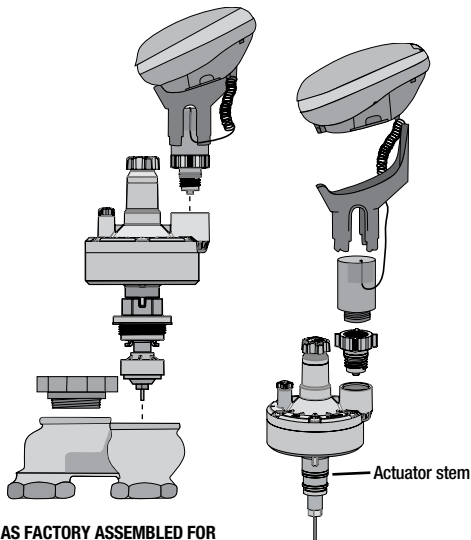
NOTE: Battery polarity is marked in the battery compartment.

4. CHOOSING THE PROPER ADAPTER

The 2006i irrigation controller comes factory assembled to fit 3/4 in. Champion and Orbit manual brass valves. Included in the package are adapters to fit 1 in. Champion, Orbit manual brass valves, 3/4 in. and 1 in. RAIN BIRD and RAINJET manual plastic valves.

NOTE: Please select proper adapter.

4. CHOOSING THE PROPER ADAPTER...continued



AS FACTORY ASSEMBLED FOR 3/4 IN. BRASS VALVES ONLY

CHAMPION, RAIN BIRD & ORBIT
3/4 in. brass adapter
3/4 in. brass washer
Retainer clip
3/4 in. seat washer body
3/4 in. seat washer for
3/4 in. brass valve
Main screw for seat washer
assembly

ASSEMBLY FOR ALL PLASTIC VALVES & 1 IN. BRASS VALVES

CHAMPION & ORBIT adapter for 1
in. brass & RAINJET, RAIN BIRD &
ORBIT 3/4 in. & 1 in. plastic
1 in. brass washer
Retainer clip
1 in. 3/4 in. seat washer body
1 in. Seat washer for 3/4 in.
and 1 in. plastic valves & 1 in.
brass valves
Main screw for seat washer
assembly

Seat washer assemblies

5. COLLAR ASSEMBLY

1. Hold the collar by the round shaped sides (see Figures 1 and 2).
2. Invert the controller assembly and use firm pressure to insert the lower side of the collar into the controller's center nub (see Figure 3).
3. Lower the collar and snap it to the groove at the lower part of the Controller assembly (see Figure 4).
4. Insert the controller assembly with the collar on the top of the solenoid and make sure the wire fits through the larger slot (see Figure 5).

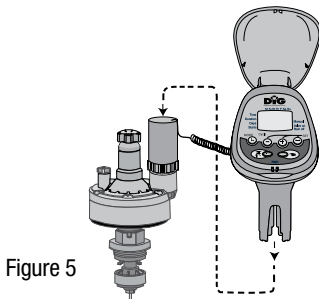
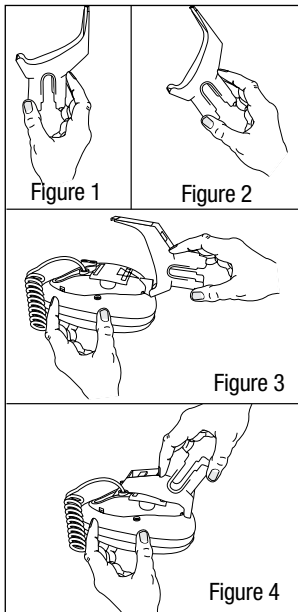


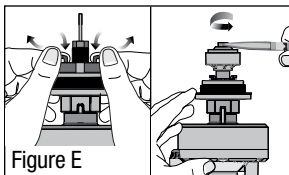
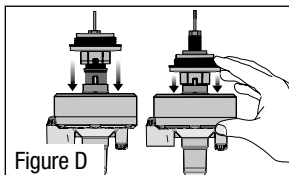
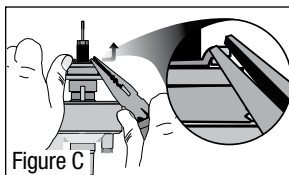
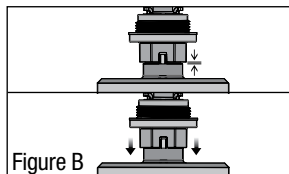
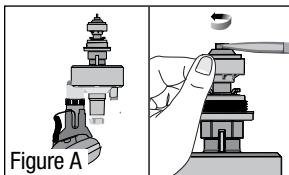
Figure 5

6. ADAPTER/SEAT WASHER INSTALLATION

The actuator is factory setup to fit 3/4 in. brass manual anti-siphon valves. To install the actuator on 1 in. brass anti-siphon valves and all other manual plastic valves, the 3/4 in. seat washer and adapters must be removed and replaced with the 1 in. adapter and seat washer which are included in this box.

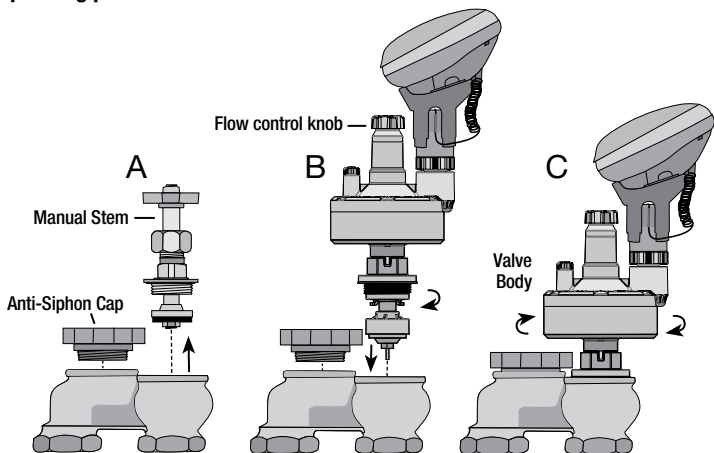
1. Turn the actuator so that the seat washer and the 3/4 in. threaded adapter facing up.
2. Using pliers, remove the seat washer screw by turning counter clockwise and pull off the 3/4 in. seat washer assembly (see Figure A).
3. Push the 3/4 in. threaded adapter down (see Figure B).
4. Place your thumb on one side of the retainer clip and with a pair of pliers grip the other side of the retainer clip and pull outwards then upwards, removing it from the base of the 3/4 in. adapter threaded. Next, pull off the 3/4 in. threaded adapter from the actuator stem (see Figure C).
5. Install the 1 in. threaded adapter by pushing it onto the actuator stem and making sure the notch on the adapter lines up with the notch on the stem of the actuator (see Figure D).
6. Spread the retainer clip with your thumbs and push the retainer into the adapter until it clicks (see Figure E).
7. Install the 1 in. seat washer assembly making sure the plastic is on top and the rubber is facing down. Insert the seat washer screw into the bottom of the actuator stem and tighten with pliers by turning clockwise (see Figure E).



NOTE: Do not over-tighten.






7. INSTALLATION OF VALVE ADAPTER WITH CONTROLLER

Operating pressure: 25-125 PSI



1. Shut off main water supply.
2. Remove the manual stem from the existing valve and temporarily remove the anti-siphon cap (see A).
3. Replace any existing worn washers with the new ones provided.
4. Install the actuator with the controller into the manual anti-siphon valve body by turning actuator clockwise. Tighten firmly, but do not over tighten (see B).
5. Turn on main water supply.
6. Program the controller, or if the controller is programmed, make sure the current time, a duration, days of operation and start time are displayed.
7. Press **MANUAL** to test the controller. A click will be heard indicating the valve is open (The  and  symbols will appear on the lower right side).
8. Turn flow control knob clockwise to decrease flow, counter-clockwise to increase flow.

9. Push  and verify that the valve closes. (The manual  and  symbols will disappear.)

8. IRRIGATION PROGRAMMING

The controller is programmed with the aid of 4 buttons.

Programming mode: Use to accept and/or select the desired programming mode.

Data Increment (increase): Use to raise the value of the selected program feature (e.g. increase the minute and hour).

Data Decrement (decrease): Use to lower the value of the selected program feature (e.g. decrease the minute and hour).



Flash button: used to select the parameter to be changed (e.g. hour, minute, etc.) To implement the change, the selected parameter must be flashing.



If no changes are implemented, the Controller display will always revert to the main screen (clock).



NOTE: Display digits will stop flashing after 10 seconds. If the last parameter stops flashing before programming is complete press to continue the process.



NOTE: After programming the controller, test the controller via the manual program button (see section 8.5).

8.1 PROGRAMMING METHOD





There are two options for setting irrigation frequency: Weekly Schedule Mode (see 8.3) where watering occurs on specific days of the week (up to four start times per day in this mode) or Cyclical Mode (see 8.4), where watering occurs at a pre-set interval (one start time per day in this mode). You must select one mode or the other, not both.

8.2 SETTING CURRENT TIME & DAY OF THE WEEK




To enable the irrigation controller to operate the irrigation system at the required times, the current time and day of the week must be set as shown:



Setting the Clock

To enable the controller to operate the irrigation system at the desired intervals or times, the current time and day of the week must be set as shown:

1. Press  until the main screen appears.
2. Press  and the hour digits start blinking. Set the current hour with the aid of  and .






(Note the AM or PM designation)

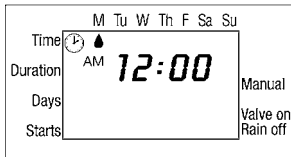
3. Press  and the minute digits start blinking. Set the current minute with the aid of  and .

* For 24-hour clock display (military time): Once the hour/minute digits are not blinking or stop blinking, press concurrently  and  and the time will switch from AM/PM to military time. Pressing these buttons simultaneously again will revert the display back to AM/PM hour display.

Setting the Current Day of the Week

After the current time has been entered set the days of the week to irrigate.



1. Press  until a blinking appears at the top of the display.
2. Set the water droplet  on the current day of the week by pressing  or . Press  to review

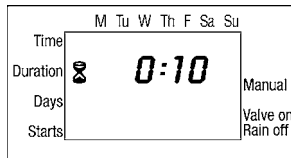


8.3 PROGRAMMING A WEEKLY IRRIGATION SCHEDULE (Specific days of the week)

This section illustrates an example of weekly irrigation programming. Simply alter the data in the example and change the program to meet your irrigation requirements. Let's assume that we want to program the irrigation controller to water three times a day at 8:00 AM, 1:30 PM and 7:00 PM for 10 minutes each time on Tuesdays and Fridays, only.






First, program the watering duration

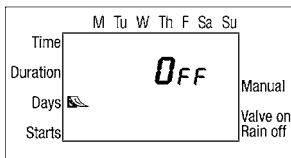
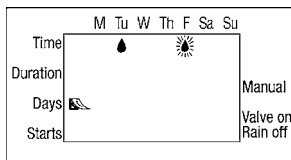
1. Press  until  appears opposite the word DURATION with the hour digits blinking 0:05, which means 5 minutes (It may show another time if programmed).
2. Per our example, set it to 10 minutes, or




0:10. To set the duration for 10 minutes, press \leftrightarrow to skip the hour digits, the minute digit is blinking. Press \oplus or \ominus until the minute digit reaches 10 minutes.

Second, schedule the days of the week

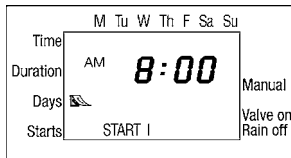
1. Press the main button and a Icon appears opposite the word DAYS with OFF blinking.
2. Press \leftrightarrow and a flashing  appears under Monday in the upper section of the display. Using \leftrightarrow position the flashing marker under Tuesday. Press \oplus and the  under Tuesday will stop flashing, become solid, and a new drop appears flashing under Wednesday. Press \leftrightarrow twice more until the flashing  reaches Friday. Press \oplus to select. The  under Friday will stop flashing and Friday is selected as a day to irrigate and at the same time a  will appear blinking under Saturday.
3. Press \rightarrow and the Icon opposite the word DAYS and START I on the lower side of the display appears with OFF blinking.



Last, program irrigation start time

The  icon opposite the word DAYS and START I with OFF is blinking from the previous steps.

1. To set the three starts times per our example, begin by pressing \oplus ; the word OFF changes to 12:00 AM with the digit 12 blinking. Press \oplus , and change the hour to 8:00 AM (note the AM/PM indicator).
2. To set the second start time, press \rightarrow and START II will appear with OFF blinking. Press \oplus , and OFF will change to 12:00 AM with the hour digit 12 blinking. Press \oplus again and change the hour to 1:00 PM. Press \leftrightarrow to access




the minute digit, which will start blinking. Press \oplus or \ominus and set to 30 minutes. To set the third start time, repeat the steps for START III, setting the start time at 7:00 PM. Up to 4 start times can be programmed by repeating the steps above. Press \rightarrow to exit.

- To cancel one of the start times, select the start time by pressing \leftrightarrow until the desired start time is reached. The hour digit flashes automatically. Press \oplus or \ominus until the word OFF appears, which is between 11:00 PM and 12:00 AM.





8.4 Setting a Cyclical Irrigation Program


This section illustrates an example of cyclical irrigation programming. Alter the data in the example to meet the requirements of the project being installed. Let's assume that we want to program the irrigation controller to open the valve at 10:45 am for a duration of 1 hour and 30 minutes, once every three days, starting on Monday.



Setting Irrigation Duration


- Press the main button and  appears opposite the word Duration with the hour digits blinking 0:05, which mean 5 minutes (It may show another time if programmed).
- Per our example set it to 1 hour and 30 minutes, or 1:30. To set the duration for 1 hour and 30 minutes, press \oplus , and select one hour, then press the \leftrightarrow , and the minute digits are blinking. Press \oplus or \ominus until the minute digits reach 30 minutes.

Setting Irrigation Cycle

- Press \rightarrow and the  appears opposite the word DAYS with OFF blinking. If any droplets can be found under any day of the week, press \leftrightarrow , and  under M starts flashing. Press \ominus until only  is flashing.
- Press \rightarrow and  appears opposite the word START with OFF blinking. Press \oplus , and 3 hours appears, continue to press the \oplus until the hours change to days. Select 3 days and press \rightarrow ; START

	M	Tu	W	Th	F	Sa	Su
Time							
Duration	3						
Days	DAYS						
Starts							
	Manual Valve on Rain off						

will appear with 12:00 AM blinking. Press the \oplus and change the hour to 10:00 AM. Press \leftrightarrow to access the minute digit, which will start blinking. Press \oplus or \ominus and set to 30 minutes. Press \leftrightarrow again to set the start day (MONDAY) and a flashing  will appear. Press \oplus or \ominus to move the flashing  under MONDAY. Press \rightarrow to exit.

- To get out of cyclical mode press \rightarrow until  appears opposite the word DAYS with 3 DAYS is blinking. Press the \ominus until OFF appears on the display. Press \rightarrow to return to current time screen.

NOTE: In a cyclical program, days of irrigation will vary from week to week due of cyclical cycle setting (unless a 7 day cycle is selected).




8.5 MANUAL RUN

This manual option operates the controller for a defined irrigation period that has been programmed. The controller will close automatically at the end of the irrigation period.

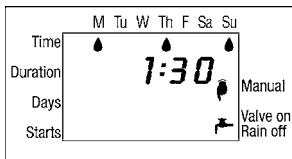
Note: The originally programmed irrigation schedule will continue to function at the set times.

This setting cannot be implemented when the display is flashing.

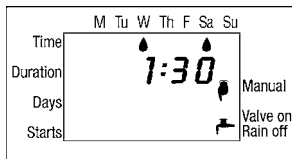
Manual Operation:

Press \rightarrow until current time is displayed. Press  and the  will appear next to the word MANUAL. The  symbol will appear underneath it and the valve will open.

The days of the week and the irrigation duration that was set in the program will appear on the display.





Week 1



Week 2

Canceling Operation:


Press **MANUAL** again and the  and  symbols will disappear from the display.

NOTE: If the irrigation duration is set at zero (0:00) in automatic mode, irrigation will not occur and **noPr** will appear on the display.


8.6 SUSPEND IRRIGATION (Rain Off)

This option is used to temporarily suspend irrigation controller operation, for example, while it is raining. Programmed schedules remain in the controller memory but are not implemented until the suspension is cancelled.

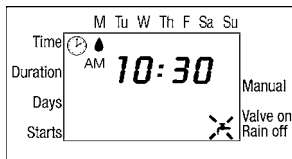
Suspension:

Press **RAIN OFF** for 5 consecutive seconds until the  appears.

Cancel Suspension:

Press **RAIN OFF** for 5 consecutive seconds to restart the programs in the controller. The  symbol will disappear.

NOTE: During suspension the **MANUAL** button will not function.



9. ADDITIONAL DISPLAYS

9.1 BLINKING LOW BATTERY WARNING

A flashing battery icon appears on the display when the batteries are weak. At this point, the battery still contains a limited amount of energy for valve operation. The battery should be replaced promptly.

If the battery is not replaced, the irrigation controller will continue to open the valve 8 additional times according to the program. It will then suspend the program and OFF will appear on the screen.

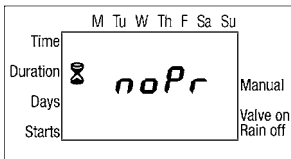
Program data will be retained for 30 seconds during battery changing.

An irrigation controller without a battery will not operate the valve.



9.2 MISSING DEFINITION IN IRRIGATION PROGRAM

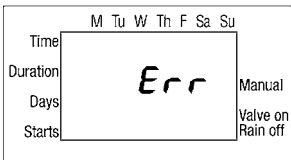
noPr will appear if irrigation duration is set at zero (0:00) (see **NOTE:** in Section 8.5). In this case, the valve cannot be opened for automatic or manual operation via the controller.



9.3 PROGRAMMING ERROR

In the cyclical program (see section 8.4) if the irrigation duration programmed is equal to or longer than the irrigation cycle, the word **Err** will appear.

To cancel the error, press \oplus or \ominus to increase the irrigation cycle.



10. HELPFUL HINTS AND ADDITIONAL INFORMATION

1. Manual runs can be initiated at any time when current time is displayed by pressing the manual button once. The valve will operate one time for the length of time programmed and then proceed back to the normal programming.
2. All DIG controllers can be programmed first and installed at a later date. No water pressure is required.
3. Always make sure that the battery compartment is clean and dry. If water should get on the battery, immediately remove and wipe clean.
4. We strongly recommend brand name alkaline batteries. Rechargeable batteries are not recommended.
5. Under normal usage, batteries (alkaline) will last for a minimum of 1 year, maximum of 2 years.
6. It is good operating practice to replace old batteries with new ones at the start of the irrigation season.
7. The valve actuator can be opened and closed manually by turning the external bleed screw to the left and right.

11. MAINTENANCE

If the controller is not going to be use for an extended period of time, remove batteries and replace cover securely. After an extended time without batteries the controller will need to be reprogrammed.

KEEP BATTERY COMPARTMENT SECURELY CLOSED AT ALL TIMES.

Remove controller and store indoors when temperature drops below 32° F (0° C) for a prolonged period of time.

Be sure to shut off water supply before removal.

12. TROUBLESHOOTING AND REPAIRS

PROBLEM: Valve does not open during automatic operation or during “manual” operation via irrigation controller.

CAUSE: Weak battery.

SOLUTION: Replace battery.

PROBLEM: No display.

CAUSE: Weak battery.

SOLUTION: Replace battery.

PROBLEM: Valve does not close despite clicks heard during activation.

CAUSE: Outlet flow may be too low (minimum flow .5 GPM).

SOLUTION: Increase flow rate by adding drip emitters, micro sprinklers or sprinklers.

CAUSE: Valve is installed backwards.

SOLUTION: Reverse valve.

CAUSE: Plunger is installed upside down.

SOLUTION: Unscrew solenoid. Remove plunger and re-install with rubber tip exposed.

PROBLEM: Valve does not fully close.

CAUSE: Worn or damaged seat washer

SOLUTION: Replace or invert seat washer

CAUSE: Wrong seat washer is installed or seat washer is upside down.

SOLUTION: Use larger seat washer or flip seat washer over.

PROBLEM: Water discharges from anti-siphon cap.

CAUSE: Heads are above valve.

SOLUTION: Raise valve or use angle valve.

CAUSE: Anti-siphon float is missing or damaged.

SOLUTION: Check or replace float.

PROBLEM: Valve does not close completely.

CAUSE: Static pressure is above 125 PSI.

SOLUTION: Install a mainline pressure regulator.

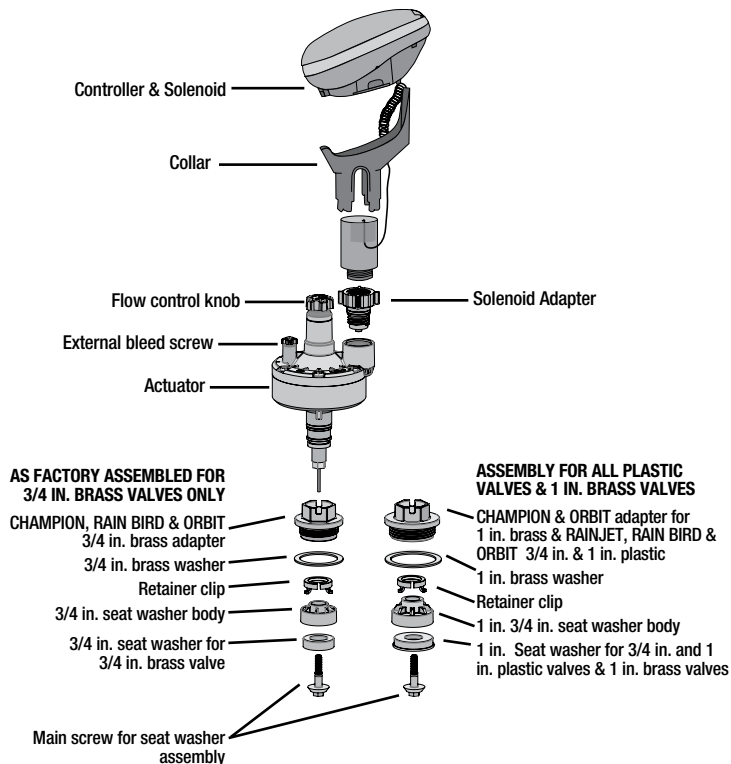
PROBLEM: Valve does not open.

CAUSE: Actuator ports are blocked.

SOLUTION: Shut off water supply, remove solenoid and solenoid adapter, open water supply momentarily and flush out solenoid ports. Reinstall solenoid. Open water supply and test manually.

To Order Replacement or Spare Parts: Please Order Online at www.digcorp.com/rparts

We at DIG Corporation understand that most dealers do not carry spare parts. For your convenience, if you need one of these parts, please order online at www.digcorp.com/rparts.



WARRANTY

DIG CORPORATION warrants these products to be free from defects in material and workmanship under normal use for a period of three years from date of purchase. This warranty does not cover damage resulting from accident, misuse, neglect, modification or improper installation. This warranty shall extend only to the original purchaser of the product for use by the purchaser. This warranty shall not cover batteries or any malfunction of the product due to battery failure. The obligation of DIG CORPORATION under this warranty is limited to repairing or replacing at its factory this product which shall be returned to the factory within three years after the original purchase and which on examination is found to contain defects in material and workmanship.

DIG CORPORATION SHALL IN NO EVENT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND; THE SOLE OBLIGATION OF DIG BEING LIMITED TO REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Unattended use for prolonged periods without inspection to verify proper operation is beyond the intended use of this product, and any damage resulting from such use shall not be the responsibility of DIG CORPORATION. There are no warranties which extend beyond the description on the face hereof. In the case of purchase of the product for use other than for irrigation purposes DIG CORPORATION hereby disclaims any implied warranties including any warranties of merchantability and fitness for a particular purpose. In the case of the purchase of the product for personal, family or household purposes, DIG CORPORATION disclaims any such warranties to the extent permitted by law. To the extent that any such disclaimer or implied warranties shall be ineffectual, then any implied warranties shall be limited in duration to a period of three years from the date of the original purchase for use by the purchaser. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

In order to obtain performance under this warranty, the unit must be returned to the factory, along with proof of purchase indicating original date of purchase, shipping prepaid, addressed as follows:

DIG CORPORATION, 1210 Activity Drive, Vista, CA 92081-8510. Repaired or replaced units will be shipped prepaid to the name and address supplied with the unit returned under warranty. Allow four weeks for repairs and shipping time. Repair of damaged units not otherwise within warranty may be refused or done at a reasonable cost or charge at the option of DIG CORPORATION.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

TECHNICAL ASSISTANCE

Should you encounter any problem(s) with this product or if you do not understand its many features, please refer to this instruction manual first. If further assistance is required, DIG offers the following customer support:

TECHNICAL SERVICE USA

- **DIG's Technical Service Team** is available to answer questions in English and Spanish from 8:00 AM to 5:00 PM (PST) Monday-Friday (except holidays) at 800-344-2281.
- **Questions** in English and Spanish can be e-mailed to questions@digcorp.com or faxed to 760-727-0282.
- Specification documents and manuals are available for downloading in English and Spanish at www.digcorp.com



1210 Activity Drive
Vista, CA 92081-8510, USA

Website:

www.digcorp.com

e-mail: dig@digcorp.com

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