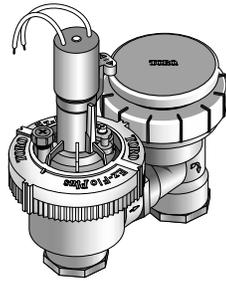




# EZ-Flo™ Plus Automatic Anti-Siphon Valve Models EZF-29-03 & EZF-29-04 Installation and Operating Instructions

## Specifications

- Body Style:
  - AVB, 3/4" Female NPT (EZF-29-03)
  - AVB, 1" Female NPT (EZF-29-04)
- Flow range (3/4"): 0.25–20 GPM
- Flow range (1"): 0.25–30 GPM
- Operating pressure: 10–150 PSI
- Solenoid:
  - 24 V a.c., 60Hz (nominal)
  - 19 V a.c., 60Hz (minimum)
  - Inrush: 0.40 amps, 11.50 VA @ 24 V a.c.
  - Holding: 0.20 amps, 5.75 VA @ 24 V a.c.



### Friction Loss:

GPM Flow	0.25	5	10	15	20	30
PSI Loss (3/4")	2.0	4.2	4.2	4.8	7.6	–
(1")	2.0	2.1	3.1	2.3	3.8	8.1

## Valve Installation Guidelines

Ensure the following requirements, in addition to all local code requirements, are met when installing the EZ-Flo Plus Anti-Siphon Valve:

- The installed height, measured from the valve base, must not be less than 6" above the highest downstream outlet controlled by the valve.
- The anti-siphon valve must not be subject to standing water which can rise to less than 6" from the base of the valve.
- The anti-siphon valve must not be installed indoors (some spillage may occur) or in a valve box below ground level.
- The installation site must be accessible to allow inspection and servicing.
- Additional control valves must **not** be installed downstream of the anti-siphon valve.
- The anti-siphon valve must be installed vertically with the top of the anti-siphon cap level.
- The valve must not be operated continuously for more than 12 hours in any 24-hour period.
- Installing a manual shut-off valve between the main water supply and automatic valve or valve manifold is recommended for ease of valve maintenance and sprinkler system winterization.

## Installation Procedure

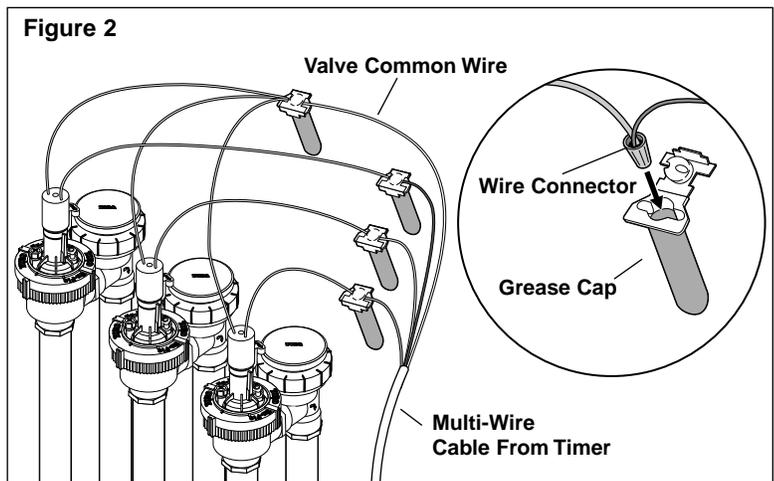
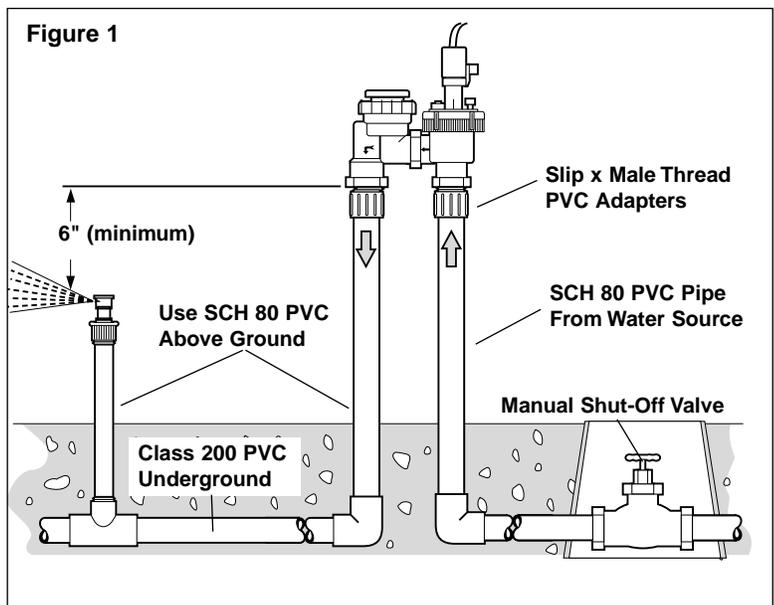
1. From the shut-off valve, route a supply pipe to the valve installation site. For UV protection, use dark gray Schedule 80 PVC on the inlet (pressurized) side of the valve and all PVC pipe installed above ground. Use Class 200 PVC on the underground sprinkler lines.
2. Flush the supply line thoroughly to remove all traces of dirt and debris.
3. Prepare two 1" slip/male thread adapters with three to five complete wraps of teflon tape, evenly covering the threads.

**CAUTION: Use only Teflon™ tape on threaded valve connections. Pipe dope will damage plastic threads.**

4. Install the threaded adapters into the valve and tighten securely. Using PVC primer and cement, install the valve to the PVC pipe as shown in **Figure 1**.
5. Route a multi-wire, direct-burial sprinkler valve cable from the sprinkler timer to the valve location. If the cable run is less than 800', 18-gauge wire is sufficient. For distances from 800'–2000', 14-gauge wire is recommended.
6. Using wire splice connectors, attach either wire from each valve solenoid to the white cable wire. This wire is designated as the valve common wire. Connect the remaining wire from the solenoid to one of the color-coded cable wires. Ensure all wire connections are secure and waterproof.

**CAUTION: Use grease caps or waterproof connectors on all wire splice connections to prevent corrosion, connection failure and short circuit.**

7. At the sprinkler timer, connect the white common wire to the output terminal labeled "C" or "COM." Connect each color-coded valve wire to the numbered output terminals in the order you wish the valves to operate during the automatic watering cycle.
8. Open the shut-off valve from the water source. Test valve operation using the timer or manually at the valve.



## Manual Operation

**Note:** The valve can be manually operated using the external or internal bleed controls. Refer to **Figure 3**.

**Bleed Screw (external bleed):** Turn the bleed screw counterclockwise one full turn or until water begins discharging past the bleed screw threads.

**Note:** Removing the bleed screw is not required for manual operation, but can be removed to help flush debris from the upper diaphragm area.

To close the valve, turn the bleed screw clockwise until it stops. Do not over-tighten!

**Bleed Handle (internal bleed):** To open the valve, move the bleed handle counterclockwise to the stop. The valve will open as discharge water is routed internally downstream. To close the valve, move the handle clockwise until resistance is felt. Do not over-tighten!

## Flow Control Adjustment

The valve is set for maximum flow at the factory. If flow adjustment is required, use the following procedure:

1. While the valve is operating, use a small screwdriver to turn the flow control screw clockwise to decrease flow or counterclockwise to increase flow.

**Note:** The flow control screw requires approximately seven turns to adjust from maximum to minimum flow.

**▲ CAUTION: Do not use the flow control to shut off the valve. Do not force the flow control screw past the end of normal adjustment travel. Damage to the flow control components can occur.**

## Maintenance Procedure

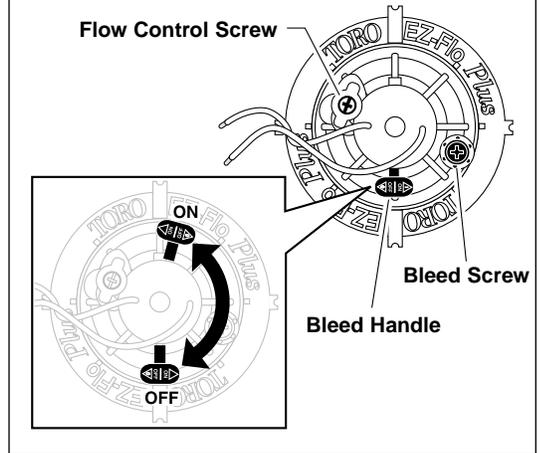
The EZ-Flo Plus valve series features a threaded cap nut which enables the valve to be easily disassembled for maintenance. See **Figure 4** for the following procedure.

1. Shut off the water supply and bleed pressure from the valve using the bleed screw.
2. Turn the cap nut (1) counterclockwise to remove.
3. Remove the cover assembly (2) by gripping the solenoid and gently rocking it back and forth until the assembly is loose and lifts off.
4. Remove the spring (3), diaphragm (4), and divider (5).
5. Turn the anti-siphon cap (7) counterclockwise to remove.
6. Remove the stem assembly (8).
7. Inspect the valve body and internal parts for wear and debris.
8. Clean and reinstall parts into the valve body in reverse order.

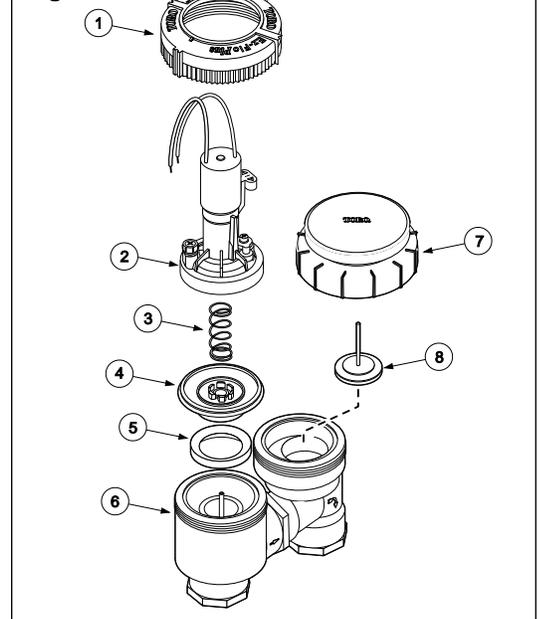
## Winterization

When winterizing the sprinkler system using compressed air, operate each valve manually from the timer or at the valve for a minimum of one minute, enabling each valve to be thoroughly drained.

**Figure 3**



**Figure 4**



## The Toro Promise — Limited Three-Year Warranty

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrants, to the owner, each new piece of equipment (featured in the current catalog at date of installation) against defects in material and workmanship for the period described below, provided they are used for irrigation purposes under manufacturer's recommended specifications. Product failures due to acts of God (i.e., lightning, flooding, etc.) are not covered by this warranty.

Neither Toro nor Toro Warranty Company is liable for failure of products not manufactured by them even though such products may be sold or used in conjunction with Toro products. During such warranty period, we will repair or replace, at our option, any part found to be defective. Your remedy is limited solely to the replacement or repair of defective parts.

Return the defective part to your local Toro distributor, who may be listed in your telephone directory Yellow Pages under "Irrigation Supplies" or "Sprinkler Systems," or contact The Toro Warranty Company P.O. Box 489, Riverside, California, 92502. Phone (800) 664-4740 for the location of your nearest Toro distributor or outside the U.S., call (909) 688-9221.

This warranty does not apply where equipment is used, or installation is performed, in any manner contrary to Toro's specifications and instructions, nor where equipment is altered or modified.

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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.

All implied warranties, including those of merchantability and fitness for use, are limited to the duration of this express warranty.

Some states do not allow limitations of how long an implied warranty lasts, so the above limitation may not apply to you.

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

The EZ-Flo Plus valve is covered by this warranty for a period of three years from the date of installation.