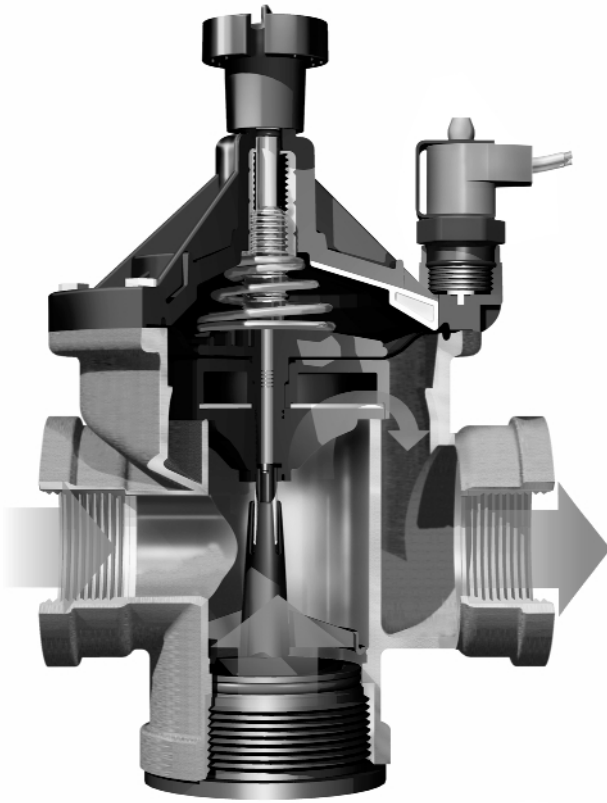




## **300BPE and 300BPES Valves Installation and Operation Guide**





## T2 Pressure Loss

<i>(psi)</i>		
<b>Flow GPM</b>	<b>Globe</b>	<b>Angle</b>
60	7.5	6.8
80	7.4	7.1
100	7.3	6.8
120	5.8	5.2
160	1.8	1.8
200	2.2	1.9
250	3.3	2.6
300	4.9	3.5

<i>(Bars)</i>		<i>METRIC</i>	
<b>Flow m<sup>3</sup>/h</b>	<b>Flow l/s</b>	<b>Globe</b>	<b>Angle</b>
14	3,89	0,52	0,47
20	5,56	0,51	0,48
30	8,33	0,32	0,29
40	11,11	0,14	0,13
50	13,89	0,18	0,15
60	16,67	0,26	0,20
68	18,89	0,34	0,24

- Notes**
1. Loss values are with flow control fully open.
  2. PRS-D recommended for use in all flow ranges.

# English 300BPE and 300BPES Valves

Thank you for purchasing a Rain Bird 300BPE or 300BPES valve for your irrigation system. This rugged valve combines a robust GFN bonnet with a strong red-brass body to provide a high quality product at a value price.

To use this guide, fold out the back page for visual reference then turn to the appropriate language. Follow the alphanumeric references for installation, adjustment, troubleshooting and replacement parts. Specifications can be found on the back of the foldout page.

## NOTES

1. Product is shipped configured for globe installation. For angle installation, use a closed-end wrench to remove the bottom plug **H** (avoid stripping the plastic bolt). Thread plug into the side inlet, which is opposite the side with the solenoid.
2. Replacement solenoids. Do not install black solenoid with top label icon depicting not for use with 3" BPE/BPES. This solenoid has been replaced with a more durable, green solenoid assembly (part number B31800). Refer to the replacement parts section for assistance.

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## Installation

 Refer to F1.

1. Apply two wraps of Teflon tape as a lubricant along the full length of the inlet and outlet pipe threads. Never apply pipe thread or pipe dope compound.
2. Thread main line into globe or angle valve inlet **A** and lateral line into valve outlet **B** until hand tight. Reference directional flow arrows located on the bonnet and body. Solenoid **C** is always above the outlet.
3. Connect one solenoid wire **D** to the controller common wire and the other solenoid wire **D** to the controller power wire. Tighten and protect using only approved watertight connectors.
4. Before system pressurization, open external bleed **E** to properly vent debris from clogging internal ports. Slowly open water supply to prevent water hammer. After one minute, close external bleed.

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## Adjustment

 Refer to F1.

1. Using a 1½" or adjustable wrench, open the internal bleed feature by counter-clockwise loosening the solenoid adapter **F** one turn.
2. To optimize performance, use the flow control handle **G** to adjust the amount of water flowing through the valve. Counter-clockwise fully open the flow control. Clockwise turn the handle to decrease flow until resistance is felt, then counter-clockwise open one turn.
3. Close internal bleed by clockwise tightening the solenoid adapter. **F**
4. Refer to the controller operating instruction when programming the controller to automatically open and close the valve.

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## Troubleshooting

### Valve will not open

1. Ensure main water supply is on. Ensure upstream valves are open. Ensure flow control stem **G** is not closed.
2. If valve only opens with manual bleed, ensure controller is programmed to activate the proper zone valve. Test controller power output and service if necessary. Test solenoid **C** power input.

## Troubleshooting (cont.)

- a) If controller and solenoid power are detected, there may be debris in the solenoid assembly. Remove orange rubber retainer by twisting and pulling upward. Lift off the U-frame and solenoid. Use solenoid wrench (part number B33003) to counter-clockwise remove the post assembly, being careful as internal parts could fall out.
- b) Remove plunger assembly and clean debris on parts and solenoid bowl. Replace plunger ensuring black surface faces outward. Clockwise reinstall the post assembly, solenoid, U-frame and rubber retainer.
- c) Persistent problem may be an obstruction lodged in main pipe.
- d) If power is detected at the controller and not the solenoid, inspect and repair damaged lead wires.

### Valve will not close

1. Ensure controller is not operating the valve automatically. Ensure manual internal bleed is off by clockwise tightening the solenoid adapter. **F** Ensure manual external bleed is off by clockwise tightening the bleed screw. **E**
2. Turn off water supply and swap solenoid **C** from an operational valve; replace solenoid if necessary.
3. Turn off water supply and verify that the solenoid adapter **F** o-ring is not

damaged; replace if necessary. Check for debris in solenoid bowl preventing plunger from creating a positive seal.

4. Check overall system water-pressure requirements and ensure that multiple zone valves are not operating simultaneously. Disallowing one zone valve to close before another opens can reduce the amount of backpressure needed to close the diaphragm.
5. Turn off water supply and remove bonnet **I** for possible debris or damage causing the diaphragm to stick open.

### Leakage

1. Disassemble parts and inspect o-rings/sealing surfaces for damage. Check replacement parts exploded view for missing or replacement parts.

### Accessories or persistent problems

1. Refer to the appropriate installation and operation manual for specific troubleshooting procedures
2. Inside the US, please call the Rain Bird Spec Hotline at (800) 458-3005.
3. Outside the US, please refer to the back page for contact information.
4. Always visit us at [www.rainbird.com](http://www.rainbird.com).

## Replacement Parts Refer to F2.

	300BPE	300BPES
<b>Bonnet Assembly</b>		
1 Bleed screw with o-ring	204152	204152
2 Handle, flow control	231546	231546
NP Handle (sold separately)	240134	240134
3 Bolts (10 each)	231530	231530
4 Stern with o-ring, flow control	232063	232063
5 Solenoid seal	208629	208629
6 Bonnet with solenoid seal	231306	231306
7 Bonnet assembly	231548	231548

<b>Solenoid Assembly</b>		
8 U-Frame	210914	210914
9 Rubber retainer	627167	627167
10 Coil	602118	602118
11 Base nut (plastic)	602606	602606
12 Tube, welded	630028	630028

	300BPE	300BPES
13 Plunger/spring assembly	629453	629453
14 O-ring	202882	202882
15 Adapter assembly	231985	231985
16 Solenoid assembly (A)	B31800	B31800
B Solenoid wrench	B33003	B33003

<b>Lower Assembly</b>		
17 Diaphragm spring	321545	321545
18 Diaphragm assembly	231543	-
19 Diaphragm assembly	-	231542
20 Scrapper	-	231544
21 Plug and o-ring (NPT)	231547	231547
Plug and o-ring (BSP)	231307	231307

O-ring kit (1, 12, 13, 16, 17, 19) 231513 231513

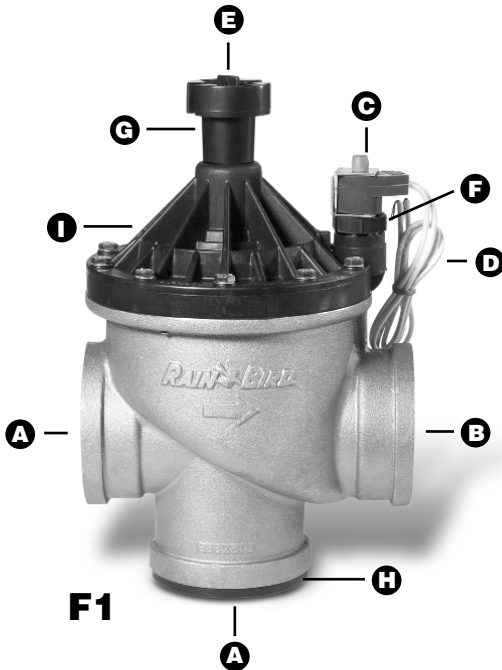
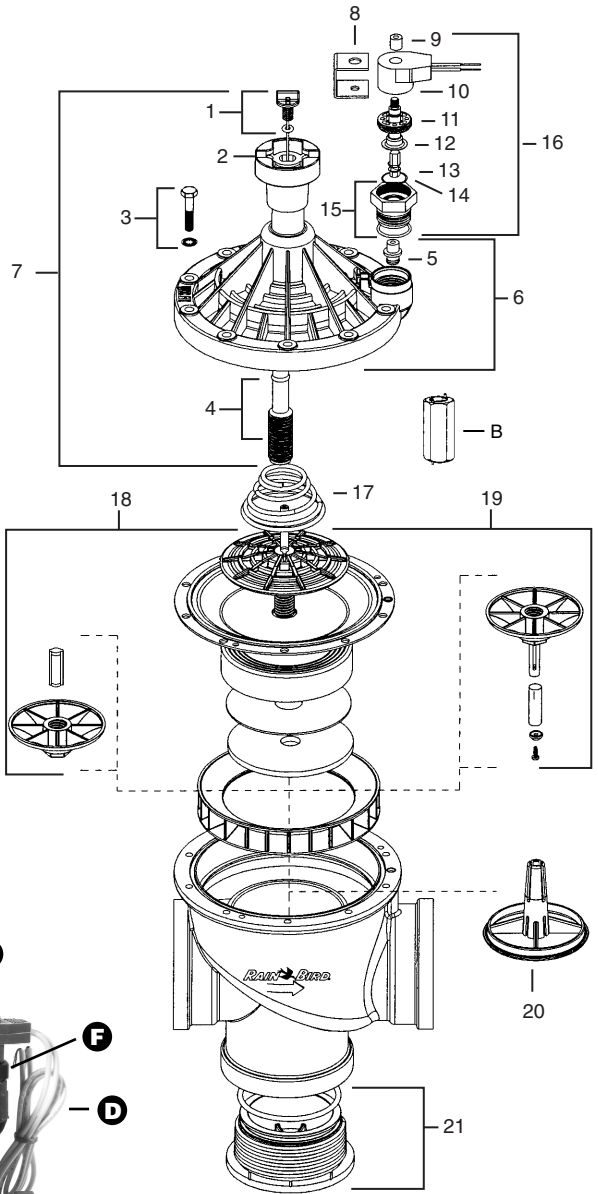
(A) This solenoid assembly supercedes all others.

# Accessories

PRS-Dial

TBOS™

DC Latching Solenoid



**F2**

**F1**



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