

# RP-501 / RP-500

## Reduced Pressure Assembly

Modular Design Nylon Composite Materials

**Lead Free-No Corrosion-Theft Deterrent-Top Access**

## Backflow Solutions

Next Generation Begins

### Description

The Backflow Preventer Series: RP-500, RP-501 are designed to supply maximum protection against Backflow caused by Back-siphonage or Back-Pressure. Backflow may cause infiltration of chemicals, fertilizers and/or other pollutants into potable water systems. The Backflow Preventer is reliable and easily maintained, without the need for special tools.

It is built with two independent, easily replaceable encapsulated spring-loaded Check Valve Modules. A revolutionary, internal Reduced Pressure Zone, located between the Check Modules, ensures protection and reliable performance of the Relief Valve.



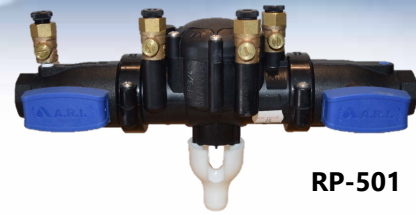
**RP-501**

Nylon Composite Shut-Off Valves



**RP-500**

Lead Free Bronze Shut-Off Valves



**RP-501**

**Design Innovation**  
Composite Backflow Technology



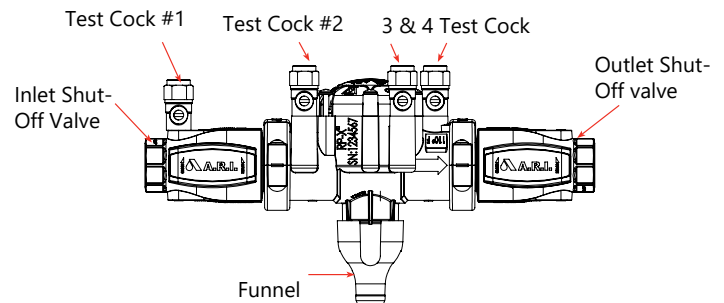
### Main Features

- Sizes: 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"
- 2 Size platforms: Use the same Internal Components
- Small [1/2", 3/4" & 1"] & Large [1 1/4", 1 1/2" & 2"]
- 10 Year Warranty on Body made of Nylon Composite materials
- Working Pressure: 150 psi & 350 psi High Pressure test
- Temp: 33° to 110° F.
- 501 Shut-Off Valves made of Nylon Composite
- Corrosion and Scale resistant
- Internal control system ensures reliability and safety
- Easy and Quick Service & Repair
- Economical & Low Cost Repair Parts
- Lightweight - UV resistant
- Lead Free
- Very Low Friction Loss
- Variety of installation options with Union Modular Design

### Authority Approval Standards:

Approved by the following Standards Authorities:

ASSE 1013, AWWA C511, NSF61, Watermark (Australia)  
AS2845.1 Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California.







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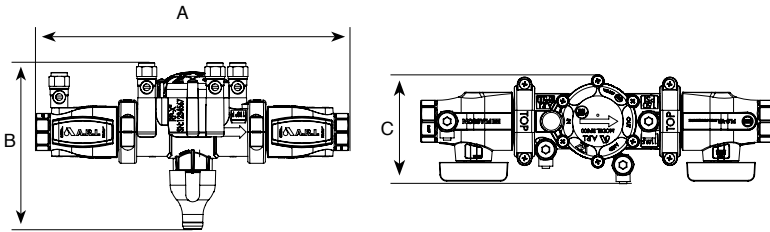


## Dimensions & Weights

By Models	Dimensions Inch			Weight Lbs.
	A	B	C	
<b>RP-501</b> Nylon Shut-Off Valve				
¾"	12.60	6.69	3.94	2.60
1"	14.17	6.69	3.94	3.21
1¼"	18.27	9.57	5.91	8.55
1½"	20.47	9.57	5.91	8.94
2"	22.83	9.57	5.91	9.04

## Shut-Off Valve Table

RP Model	#1 Inlet Shut-Off Valve	#2 Outlet Shut-Off Valve
<b>RP-501</b> Composite Shut-Off Valve		
<b>RP-500</b> Bronze Shut-Off Valve Lead Free		



**RP-501**  
Composite Shut-Off Valve



**RP-500**  
Bronze Shut-Off Valve

## Materials

- Body..... Polyamide 6.50% Glass Reinforced Nylon
- Cover.....Polyamide 6.50% Glass Reinforced Nylon
- Polymers..... Noryl, NSF Listed
- Elastomers.....EPDM, Buna N, Silicone
- Springs.....Stainless Steel
- Valves.....Nylon Composite UV Mold in Place Ball Valve

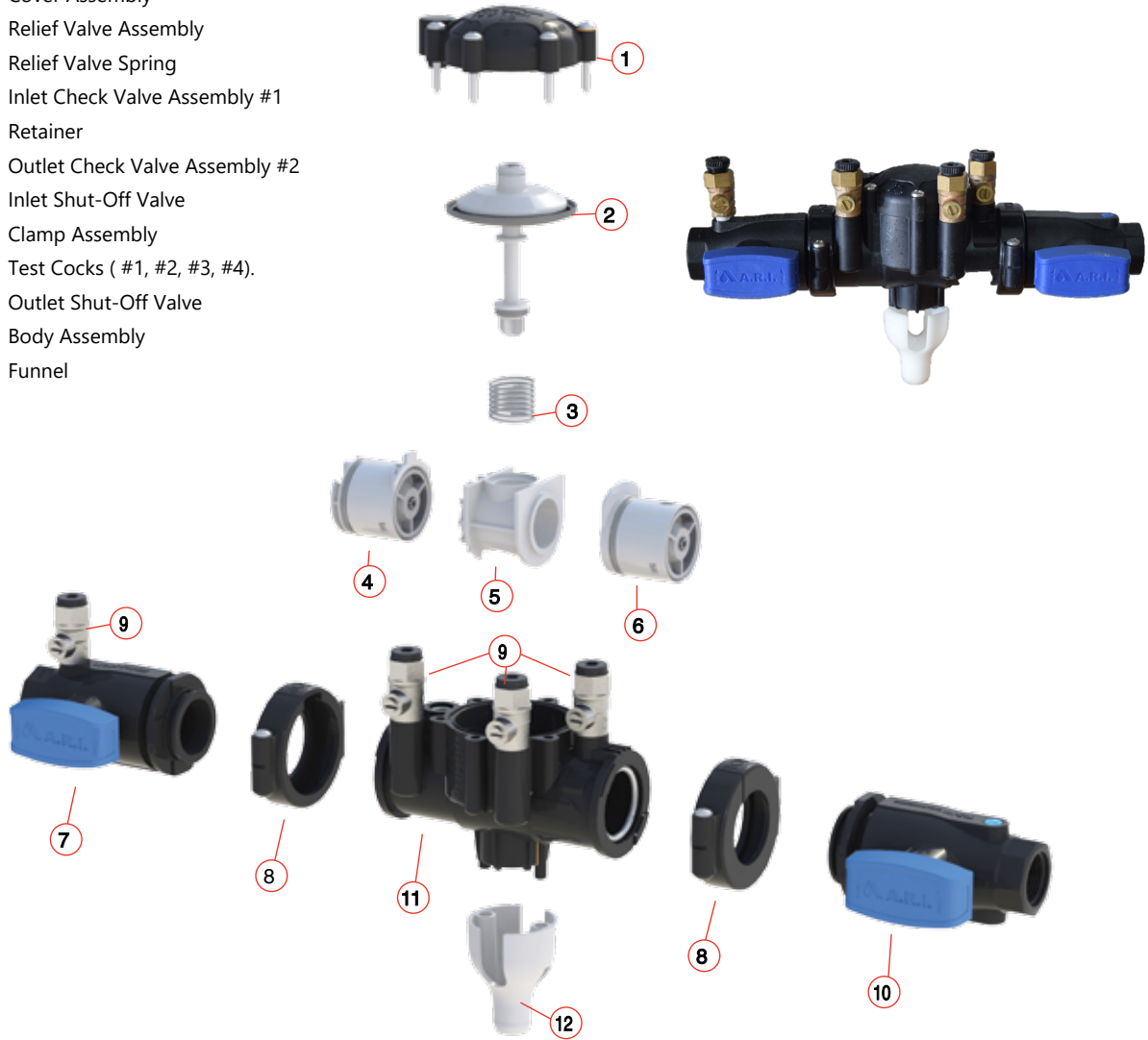
RP-500	Dimensions Inch			Weight Lbs.
	A	B	C	
Lead Free Bronze Shut-Off Valve				
½"	11.81	6.69	3.94	3.20
¾"	12.40	6.69	3.94	3.20
1"	12.99	6.69	3.94	3.35
1¼"	18.50	9.57	5.91	11.68
1½"	19.02	9.57	5.91	13.23
2"	20.28	9.57	5.91	14.07

## RP-501

### Parts List & Specification

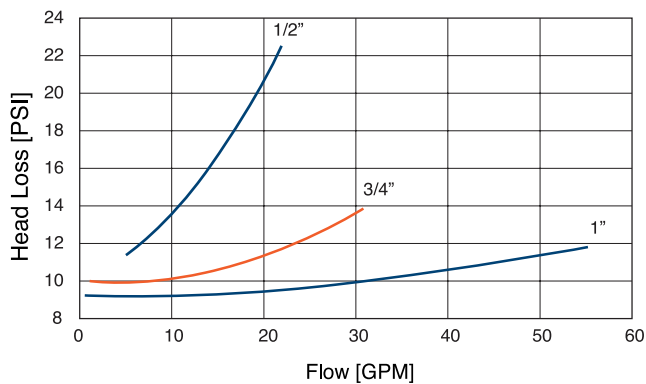
#### No. Part Description

1. Cover Assembly
2. Relief Valve Assembly
3. Relief Valve Spring
4. Inlet Check Valve Assembly #1
5. Retainer
6. Outlet Check Valve Assembly #2
7. Inlet Shut-Off Valve
8. Clamp Assembly
9. Test Cocks (#1, #2, #3, #4).
10. Outlet Shut-Off Valve
11. Body Assembly
12. Funnel



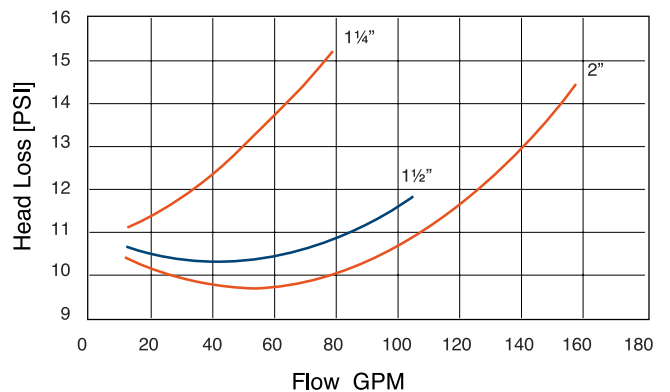
#### Pressure Loss

RP-500 1/2", 3/4", 1"



#### Pressure Loss

RP-500 1 1/4", 1 1/2", 2"



## Trouble Shooting Guide

Symptom	Cause	Corrective Action
1. Relief valve continuously discharges during no-flow conditions.	<p><b>a.</b> Check valve #2 clogged with debris.</p> <p><b>b.</b> Check valve #1 fouled with debris accompanied by a backpressure condition.</p>	<p><b>a.</b> Inspect and clean the seat and seal.</p> <p><b>b.</b> Inspect and clean the seat and seal.</p>
2. Relief valves discharge continuously during flow and no-flow conditions.	<p><b>a.</b> Relief valve fouled with debris.</p> <p><b>b.</b> Damaged diaphragm (allowing water to pass through, from inlet to zone).</p> <p><b>c.</b> Sensing passage to inlet side of diaphragm plugged.</p>	<p><b>a.</b> Inspect and clean relief valve seat disk and seat.</p> <p><b>b.</b> Replace the relief valve kit.</p> <p><b>c.</b> Inspect and clean passage in cover and body.</p>
3. Relief valve discharges intermittently in a "spitting" action during no-flow condition.	Pressure fluctuations (water hammer) from supply.	Eliminate or reduce pressure fluctuations.
4. Relief valve does not open during field test no.1	<p><b>a.</b> Outlet Shut-Off valve not closed completely.</p> <p><b>b.</b> Test equipment improperly installed.</p>	<p><b>a.</b> Close the Outlet Shut-off valve or inspect for possible through leakage.</p> <p><b>b.</b> Recheck test procedure.</p>
5. Check valve #2 fails to hold backpressure.	<p><b>a.</b> Outlet Shut-off valve not closed completely.</p> <p><b>b.</b> Check valve #1 clogged with debris.</p>	<p><b>a.</b> Close the Outlet Shutoff valve or inspect for possible through leakage.</p> <p><b>b.</b> Inspect and clean the seat and seal.</p>
6. Pressure differential across check valve #2 is low during field test no.3 a (does not meet 1psi bar minimum)	<p><b>a.</b> Check valve #1 clogged with debris.</p> <p><b>b.</b> Upstream pressure fluctuations causing inaccurate gauge reading.</p>	<p><b>a.</b> Inspect and clean the seat and seal.</p> <p><b>b.</b> Eliminate pressure fluctuation.</p>

