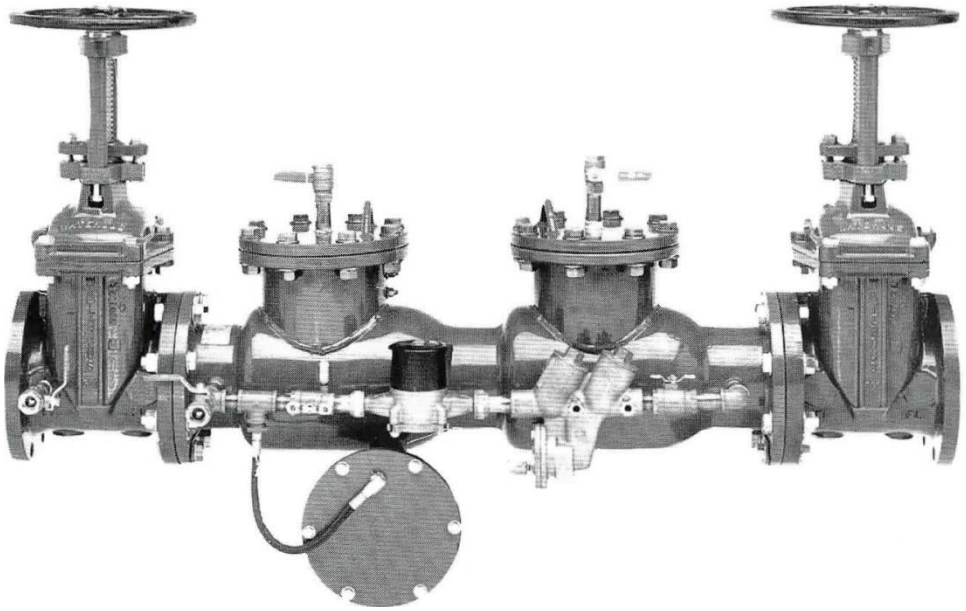
5000 RPDA
4”-10”



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Modification Overview

Production of the 5000 RPDA began in 1989 and was discontinued in 2005.

The bypass assembly used was:

¾” Watts 909 or ¾” Conbraco 40-200

Check Cover Removal

Check covers are secured by bolts/nuts and sealed by a gasket.

There is no spring load on the cover.

First Check Valve Removal

Check valves are knuckle joint assemblies that are ***turret mounted***.

The knuckle joint is secured with four mounting bolts/studs located on the exterior of the valve body.

First Check Valve Removal

A ***tong tool*** is needed to remove the knuckle joint.

Secure the pivot arm of the tong tool to a bolt hole in the port flange.

Locate the drop down arm of the tong tool onto the link pin of the spring assembly.

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First Check Valve Removal

Remove the two rear mounting nuts from the exterior of the body.

While depressing the tong tool handle, work rear mounting linkage away from body.

** There is considerable tension on the tong tool, slowly release pressure until all spring tension is released.

First Check Valve Removal

Remove tong tool from device.

Remove the two front mounting bolts from the exterior of body.

The knuckle joint can be removed from the body.

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Second Check Valve Removal

Check valves are knuckle joint assemblies that are ***side mounted***.

The knuckle joint is secured with two mounting bolts that are located on the exterior of the valve body.

A retainer clip tool is needed to remove the second check.

Second Check Valve Removal

Push retainer clip into the linkage holes on the knuckle joint.

** The retainer clip will hold the springs under tension. (do not remove)

Loosen and remove the two mounting bolts located on the exterior of the body.

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Second Check Valve Removal

The spring tension and retaining clip must be removed to service the second check.

Secure the knuckle joint to the outside of the valve body with mounting bolts.

Push on clapper while removing the retaining clip.

Slowly release spring tension.

Check Disc Replacement

Both the *turret mount* and *side mount* knuckle joints utilize a vulcanized clapper plate.

The knuckle joints must be disassembled to replace the clapper plate.

** Before disassembly, mark the holes used on the original clapper plate bracket.

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Check Disc Replacement

Remove the small retaining clips and springs from the knuckle joint.

** Be careful not to lose the small retaining clips.

Check Disc Replacement

Remove the small retaining clips and two hinge pins located on the back of the clapper plate and the hinge point of the clapper plate.

Replace clapper plate.

** Be aware of which set of holes were used on the original clapper plate bracket.

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Check Seat Removal

The brass check seats are pressed into the body and sealed by an o-ring.

A special tool is needed to remove and install the seat.

The seat tool will mount inside the body based on which check is being serviced.

Check Valve Reassembly Notes

Reassemble in reverse order.

Be sure to replace the rubber faced washers for each of the exterior mounted bolts or nuts.

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Relief Valve Service

The complete RV must be removed from the elbow flange for service.

Remove the 4 mounting bolts.

The seat disc is free once the RV has been removed.

RV Cover Removal

RV Cover is sealed by the diaphragm and secured by 6 bolts.

Be aware of spring load when removing cover and bolts.

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RV Piston Removal

The RV piston assembly and spring are free once the cover is removed.

RV Piston Disassembly

Disassemble the piston assembly by unscrewing the top diaphragm plate from the seat tube.

**Note: Do not place wrench on the polished section of the seat tube.

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RV Piston Disassembly

The diaphragm, top plate, bottom plate and seat tube are free once fully disassembled.

RV Piston Disassembly

Take care not to damage seating surface of the seat tube during service.

The piston o-ring is located in stainless insert of the housing.

** Simply remove and replace the o-ring from the groove and apply lubricant.

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RV Reassembly

The diaphragm is positioned so that the “top hat” is between the diaphragm plates.

The bottom plate should be positioned so the spring shoulder is away from diaphragm.

**Note: Place a small amount of lubricant on the top plate threads.

RV Reassembly

Be sure to first hand tighten seat tube onto plate threads.

** Take care not to cross thread.

Finish tightening until diaphragm is secured between plates.

** Note: Do not place wrench on polished section of the seat tube.

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RV Reassembly

Place spring in body and piston assembly in position on the spring.

Line up bolt holes and replace bolts.

** Be aware of spring tension on cover.

RV Reassembly

Replace seat disc on the back of the housing.

** Note: the seat disc also seals the RV housing to the elbow flange.

The seat disc should be positioned with bead side facing out.

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