

Ames Model 2000 CIV

Double Check Valve Assemblies

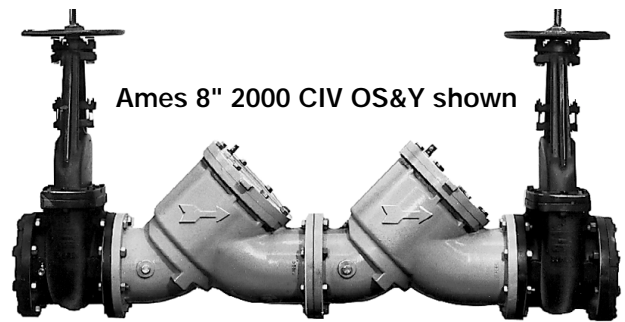
Sizes: 2½" to 10"

Ames Model 3000 CIV

Double Check Detector Assemblies

Sizes: 3" to 10"

RP/IS-2000/3000CIV



- Installation
- Service
- Repair Kits
- Maintenance

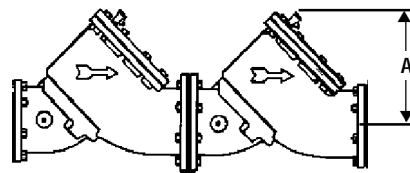
Basic Installation Instructions

Ames Model 2000 CIV and 3000 CIV backflow preventers may be installed in either a vertical or horizontal position.

Install valve in the line with arrow on valve body pointing in the direction of flow.

They should always be installed in an accessible location to facilitate testing and servicing.

Pipe lines should be thoroughly flushed to remove foreign material before installing the unit. A strainer should be installed as shown, ahead of backflow preventers to prevent discs from unnecessary fouling.



Clearance Required for Servicing

Valve Size	A
2½" to 3"	10"
4"	15"
6"	15"
8"	23"
10"	25"

IMPORTANT: Inquire with governing authorities for local installation requirements.

CAUTION: Do not install with strainer when backflow preventer is used on seldom-used water lines which are called upon during emergencies, such as fire sprinkler lines, etc.

For technical assistance, contact your local Ames representative.

It's important that this device be tested periodically in compliance with local codes, but at least once per year or more as service conditions warrant. If installed on a fire sprinkler system, all mechanical checks, such as alarm checks and backflow preventers, should be flow tested and inspected internally in accordance with NFPA 13 and NFPA 25.

Limited Warranty (Full description of limited warranty is found in Ames Product catalogue.)

This Ames warranty is expressly in lieu of any other warranties, expressed or implied including without limitation, warranties of MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Ames shall not be responsible for any incidental or consequential damages including without limitation, damages or other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemicals, or any other circumstances over which Ames has no control.

No statement, representation, agreement or understanding, oral or written, made by agent, by an authorized Ames dealer, an Ames representative or employee which is not contained in this limited warranty will be recognized or enforceable or binding upon Ames Company, Inc. Only a written statement signed by and officer of Ames may modify this limited warranty.

Any action for breach of any Ames Warranty must be commenced within one (1) year after date on which cause of action occurred.

CALIFORNIA PROPOSITION 65 WARNING

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
(Installer: California law requires that this warning be given to the consumer.)

AMES^{CO.}

FLUID CONTROL SYSTEMS

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Basic Installation Instructions cont'd

Indoor Installations

For indoor installations, it is important that the valve be easily accessible to facilitate testing and servicing.

Outdoor Installations

In area where freezing conditions do not occur, Model 2000 CIV / 3000 CIV can be installed outside of a building. The most satisfactory installation is above ground and should be installed in this manner whenever possible.

It is generally recommended that back-flow preventers never be placed in pits unless absolutely necessary and then only when approved by local codes. In such cases, a modified pit installation is preferred or an insulated above ground insulated enclosure.

Parallel Installations

Two or more Model 2000 CIV / 3000 CIV devices may be piped in parallel (where approved) to serve a large supply pipe main. This type of installation is employed whenever it is vital to maintain a continuous supply of water where interruptions for testing and servicing would be unacceptable. It also has the advantage of providing increased capacity where needed beyond that provided by a single valve.

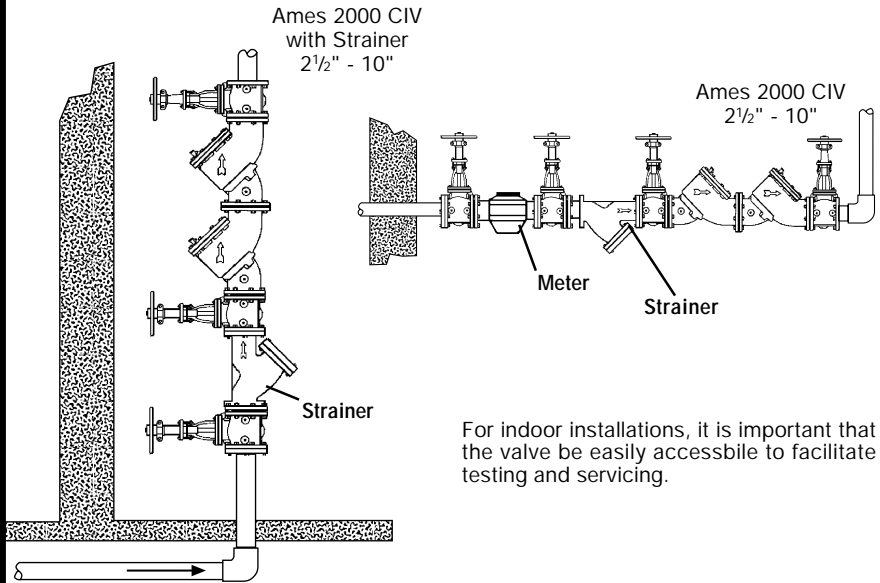
For two valve installations the total capacity of the devices should equal or exceed that required by the system. The capacity table below shows the size of the Model 2000CIV / 3000CIV devices required to meet a certain capacity. The quantity of devices used in parallel should be determined by the engineer's judgement based on the operating conditions of a specific installation.

Capacity Required for Parallel System

1000 GPM	Two 4" Devices
2000 GPM	Two 6" Devices
3000 GPM	Two 8" Devices
5000 GPM	Two 10" Devices

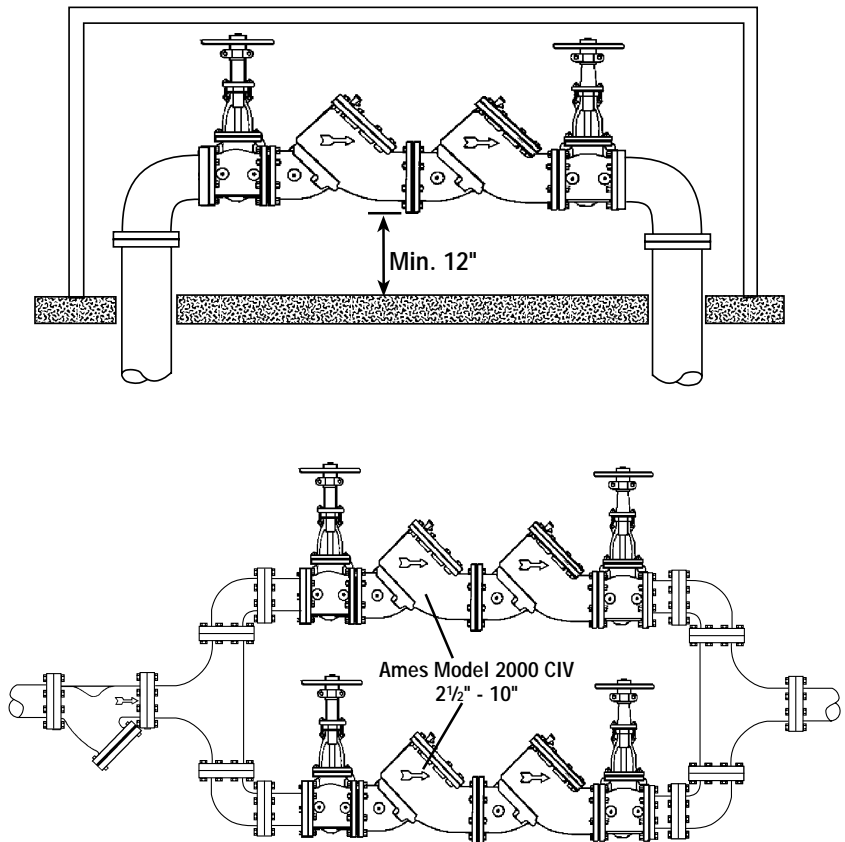
Table shows total capacity provided with dual valve installations of various sizes.

Indoor Installations



For indoor installations, it is important that the valve be easily accessible to facilitate testing and servicing.

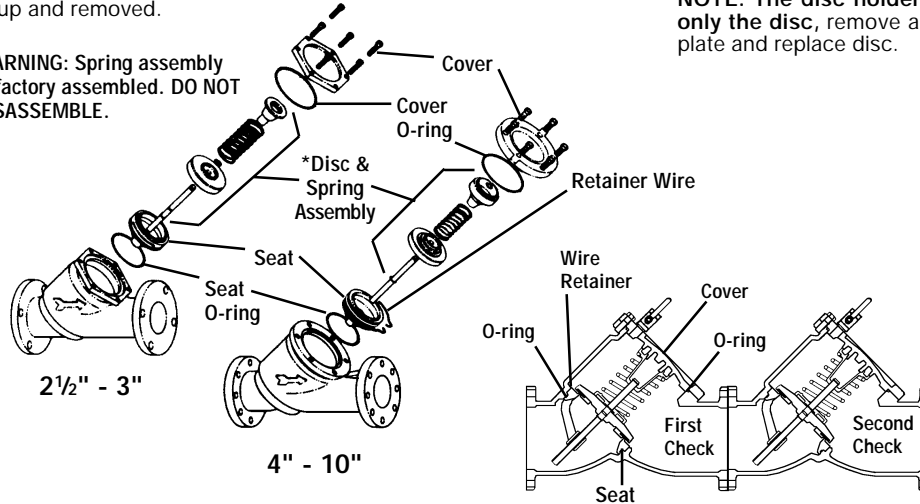
Outdoor Installations Above Ground in Insulated Enclosure



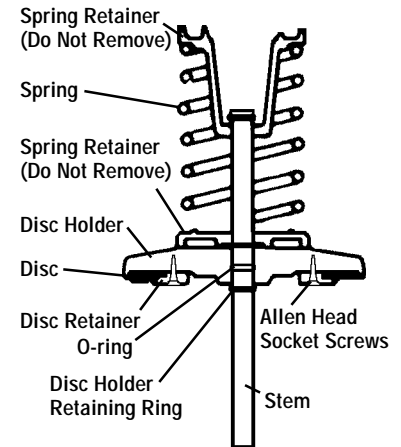
Service, Replacement Parts and Maintenance 2½" - 10"

1. Remove hatch cover bolts. NOTE: The 2000 CIV and 3000 CIV are designed so that, when the bolts are backed off ½", all the spring load is released from the cover and retained by the check module. CAUTION: Be sure to verify this before removing all the bolts.
2. Lift check valve module straight out, taking care not to hit and damage seat ring.
3. The seat ring may be removed and replaced by pulling out the two wire retainers. The wire retainers are 10" long. One is drawn out clockwise and the other is drawn out counterclockwise.
4. With the retainer wires removed, the seat ring can be lifted straight up and removed.

*WARNING: Spring assembly is factory assembled. DO NOT DISASSEMBLE.



CAUTION: The check valve disc and spring assembly are in compression. The spring load is captured by the two spring retainers and the stem. The spring retainers are not to be removed for servicing. If there is a need to replace the spring, spring retainer or stem, replace the disc and spring assembly. If the disc holder has been damaged by freezing or severe water hammer, it can be replaced in the field. Remove the disc holder retaining ring and slide the disc holder off the stem. Remove the o-ring from the stem and replace with a new one. Apply grease to the o-ring and slide the new disc holder into place. Re-install the retaining ring. NOTE: The disc holder should not be removed when servicing only the disc, remove allen head screws holding the disc retaining plate and replace disc.



2000 CIV 2½" - 10" Double Check Valve

Ordering No.	Kit No.	Size
First or Second Check Kits		
7016300	ARK 2000CIV CK4	2½" - 3"
7016301	ARK 2000CIV CK4	4"
7016302	ARK 2000CIV CK4	6"
7016303	ARK 2000CIV CK4	8"
7016304	ARK 2000CIV CK4	10"

Kit includes: Disc & spring assembly and Cover o-ring.

Rubber Parts (for one check)

7016305	ARK 2000CIV RC4	2½" - 3"
7016306	ARK 2000CIV RC4	4"
7016307	ARK 2000CIV RC4	6"
7016308	ARK 2000CIV RC4	8"
7016309	ARK 2000CIV RC4	10"

Kit includes: Disc and Cover o-ring.

Complete Rubber Parts

7016310	ARK 2000CIV RT	2½" - 3"
7016311	ARK 2000CIV RT	4"
7016312	ARK 2000CIV RT	6"
7016313	ARK 2000CIV RT	8"
7016314	ARK 2000CIV RT	10"

Kit includes: Two discs and Two cover o-rings.

Seat Kits

7016315	ARK 2000CIV S	2½" - 3"
7016316	ARK 2000CIV S	4"
7016317	ARK 2000CIV S	6"
7016318	ARK 2000CIV S	8"
7016319	ARK 2000CIV S	10"

Kit includes: Seat, Seat o-ring, Retainer Wire and Cover o-ring.

Cover Kits

7016320	ARK 2000CIV C	2½" - 3"
7016321	ARK 2000CIV C	4"
7016322	ARK 2000CIV C	6"
7016323	ARK 2000CIV C	8"
7016324	ARK 2000CIV C	10"

Kit includes: Cover and Cover o-ring.

3000 CIV 3" - 10" Double Check Detector

Order No.	Kit No.	Size
First Check Kits		
7016600	ARK 3000CIV CK1	3"
7016601	ARK 3000CIV CK1	4"
7016602	ARK 3000CIV CK1	6"
7016603	ARK 3000CIV CK1	8"
7016604	ARK 3000CIV CK1	10"

Kit includes: Disc assembly, Spring assembly and Cover o-ring.

Second Check Kits

7016605	ARK 3000CIV CK2	3"
7016606	ARK 3000CIV CK2	4"
7016607	ARK 3000CIV CK2	6"
7016608	ARK 3000CIV CK2	8"
7016609	ARK 3000CIV CK2	10"

Kit includes: Disc assembly, Spring assembly and Cover o-ring.

Rubber Parts (for one check)

7016610	ARK 3000CIV RC4	3"
7016611	ARK 3000CIV RC4	4"
7016612	ARK 3000CIV RC4	6"
7016613	ARK 3000CIV RC4	8"
7016614	ARK 3000CIV RC4	10"

Kit includes: Disc and Cover o-ring.

Seat Kits

7016615	ARK 3000CIV S	3"
7016616	ARK 3000CIV S	4"
7016617	ARK 3000CIV S	6"
7016618	ARK 3000CIV S	8"
7016619	ARK 3000CIV S	10"

Kit includes: Seat, Retainer Wire and cover o-ring.

Cover Kits

7016620	ARK 3000CIV C	3"
7016621	ARK 3000CIV C	4"
7016622	ARK 3000CIV C	6"
7016623	ARK 3000CIV C	8"
7016624	ARK 3000CIV C	10"

Kit includes: Cover and Cover o-ring.

Test Procedure for Double Check Valve Assemblies using Ames Test Kit

The following Test Procedure is one of several that is recognized throughout the United States for verification of the functioning of Backflow preventers and is not a specific recommendation. The Ames test kit is capable of performing any of the recognized Backflow test procedures.

TEST PROCEDURES

TESTING OF #1 CHECK VALVE

Step 1: Close #1 and #2 shut off valves.

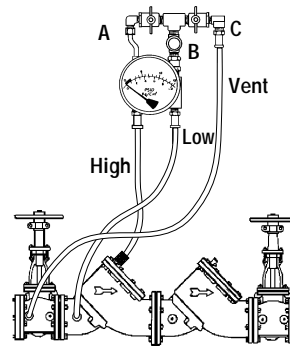
Step 2: Open test cocks No. 2, 3, and 4. Verify that No. 1 shut off valve is holding tight by observing that the discharge of water from test cock No. 2 stops.

Step 3: Attach test kit "Vent" hose to No. 1 test cock; "Low" hose to No. 2 test cock and "High" hose to No. 3 test cock. At this point valves (A) and (C) should be open and (B) should be closed.

Step 4: Close test cock No. 4.

Step 5: Open test cock No.1. The needle of the differential gauge will indicate a pressure in excess of 15 psi.

Step 6: Slowly open needle valve (B) until the differential gauge reads 10 psi. Then close (B). The gauge reading will not change if No. 1 check is holding tight. If No. 1 check is leaking, the gauge will drop to 0. Requirements: The check valve shall be tight against reverse flow under all pressure differentials.



TESTING OF #2 CHECK VALVE

Step 1: Close test cock No. 1.

Step 2: Open test cock No. 4.

Step 3: Change "Low" hose from test cock No. 2 to test cock No. 3. Change "High" hose from test cock No. 3 to test cock No. 4. On the test kit, valves (A) and (C) should be open and valve (B) should be closed.

Step 4: Open test cock No. 1. The pressure differential gauge will indicate a pressure in excess of 15 psi.

Step 5: Slowly open needle valve (B) until the gauge reads 10 psi, then close. If the gauge reading does not change, No. 2 check valve is holding tight. If No. 2 check is leaking, the gauge will drop to 0.

Note in the above testing: Minor leakage in shut off valve No. 2 will not affect the test results. However, in the testing the No. 1 check, leaking shut off valve No. 1 would cause a good first check to fail the test.

TROUBLE SHOOTING GUIDE

Symptom	Cause	Solution
1. Check valve fails to hold backpressure.	<ul style="list-style-type: none"> a. Debris on check disc sealing surface b. Leaking gate valve c. Damaged seat disc or seat o-ring d. Damaged guide holding check open e. Weak or broken spring 	<ul style="list-style-type: none"> Disassemble and clean Disassemble and clean or repair Disassemble and replace Disassemble clean or replace Disassemble and replace spring
2. Chatter during flow conditions	<ul style="list-style-type: none"> a. Worn, damaged or defective guide 	<ul style="list-style-type: none"> Disassemble and repair or replace guide
3. Low flows passing through mainline valve (3000 CIV only)	<ul style="list-style-type: none"> a. Mainline check fouled b. Meter strainer plugged c. Damaged mainline seat disc or seat d. Broken mainline spring 	<ul style="list-style-type: none"> Disassemble and clean Disassemble and clean Disassemble and replace Disassemble and replace