

# CONBRACO

## 40-100/DC-40/ DC-40LF SERIES

<u>SIZE</u>	<u>MODEL NO</u>	<u>SIZE</u>	<u>MODEL NO</u>
1/2"	40-103	2 1/2"	40-109
3/4"	40-104	3"	40-100
1"	40-105	4"	40-10A
1 1/4"	40-106	6"	40-10C
1 1/2"	40-107	8"	40-10E
2"	40-108	10"	40-10G

### DESCRIPTION

This is a double check assembly. Production was begun approximately in 1989. The 1/2"-2" were discontinued in 2013. The 2 1/2"-10" sizes were discontinued in 2013. The 3/4"-2" sizes utilize a bronze body with a plastic poppet style check. In 2010 the DC 40LF was introduced which utilized lead free bronze. The check covers are screwed into the body. There are two body styles available either the wye pattern or top entry design. The wye pattern style was discontinued in 2002. From 1989-1994 the 3/4"-2" sizes of the assembly were produced with replaceable check seats as an option. In 1994 replaceable seats became standard. The replaceable seat version has an "A" in the second to last digit in the model number: e.g. 40-108-A2. A seat removal tool is needed to replace the seats. The check springs are not contained on these sizes when the covers are removed. The 2 1/2"-10" sizes utilize a ductile iron body that is fused epoxy coated. Most internal hardware parts are made of bronze. The 2 1/2"-4" sizes use a single body while the 6"-10" sizes have a split 2 piece body design. Check seats are replaceable on these sizes. A seat removal tool is needed to replace the check seats. Check springs on the 2 1/2"-10" sizes are contained when the covers are removed. Note each size has a different model number, but they are all in the 40-100 series.

### BASIC REPAIR KIT

Repair kit contains all rubber discs and O-rings.

<u>SIZE</u>	<u>KIT NO</u>	<u>SIZE</u>	<u>KIT NO</u>
1/2"	40-300-01 ♦	2 1/2"	40-009-04
3/4"	40-004-A6	3"	40-009-04
1"	40-004-A6	4"	40-00A-04
1 1/4"	40-007-A6	6"	40-00C-04
1 1/2"	40-007-A6	8"	40-00E-04
2"	40-007-A6	10"	40-00G-04

### IMPORTANT FEATURES

- ~3/4"-2" have a bronze body
- ~3/4"-2" check springs are not contained
- ~3/4"-2" replaceable check seat option available
- ~2 1/2"-10" fused epoxy coated ductile iron body
- ~Springs are contained on the 2 1/2"-10" sizes
- ~Seats are replaceable on the 2 1/2"-10" sizes
- ~Factory repair information enclosed



## **SPECIFICATIONS**

### **GENERAL SPECIFICATIONS**

The backflow preventer shall be a Double Check Valve type including four (4) resilient-seated test cocks and two (2) resilient-seated shut-off valves.

The two (2) check valves shall be independently acting and internally loaded. Each check valve shall maintain a minimum of 1 psid in the normal direction of flow, under static conditions.

The backflow preventer shall be suitable for **supply pressure up to 175 psi and water temperatures from 33 to 180° F.**

The backflow preventer shall meet the requirements of the following standards: **USC's FCCC & HR Manual, Sec. 10, ASSE 1015, AWWA C-510, IAPMO, and CSA B64.5.**

### **CONBRACO SPECIFICATIONS**

A Double Check Valve backflow preventer shall prevent backflow by either back-pressure or back-siphonage from a cross-connection between potable water lines and substances that are objectionable, but not a health hazard.

It shall consist of two (2) independent, spring loaded, poppet type check valves set in an integral cast bronze wye pattern body. The assembly shall have four (4) test cocks and two (2) shut-off valves which are quarter-turn, full-port, resilient-seated and ball type.

All parts shall be made of corrosion resistant materials and shall be **100% made in the USA.**

**The seat of each check valve shall be replaceable.** The loading of each poppet assembly shall be accomplished by a stainless steel compression spring retained in position by a threaded bronze cover. The cover shall serve as an access for easy repair and maintenance without removing the assembly from the line. Poppet assemblies, springs, and covers shall be interchangeable.

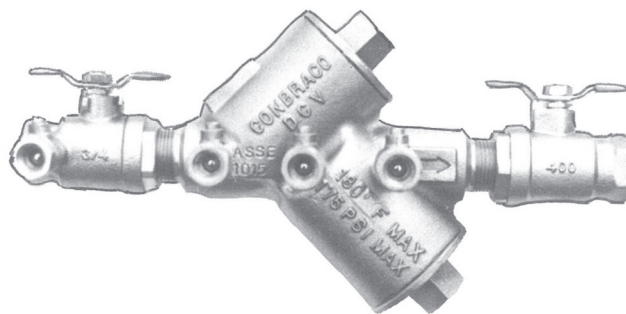
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The assembly shall be listed or approved under the following standards: **USC's FCCC & HR Manual, Sec. 10, ASSE 1015, AWWA C-510, IAPMO, and CSA B64.5.**

The manufacturing facility shall be **ISO 9001 REGISTERED.**

The backflow preventer shall be manufactured by **CONBRACO INDUSTRIES, INC.,** Matthews, North Carolina.

## **Double Check Valve Assembly SIZES 1/2"-3/4"-1"-1-1/4"-1-1/2"-2"**



## **FEATURES**

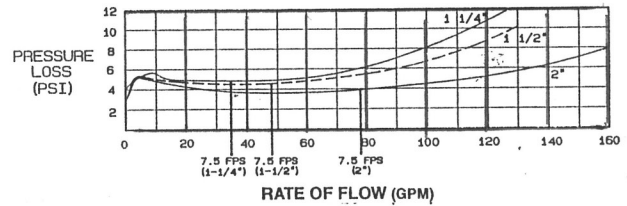
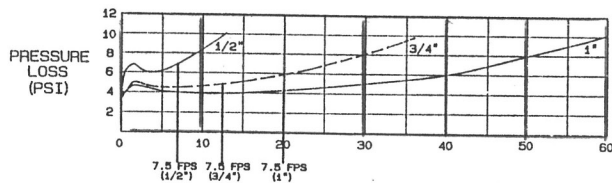
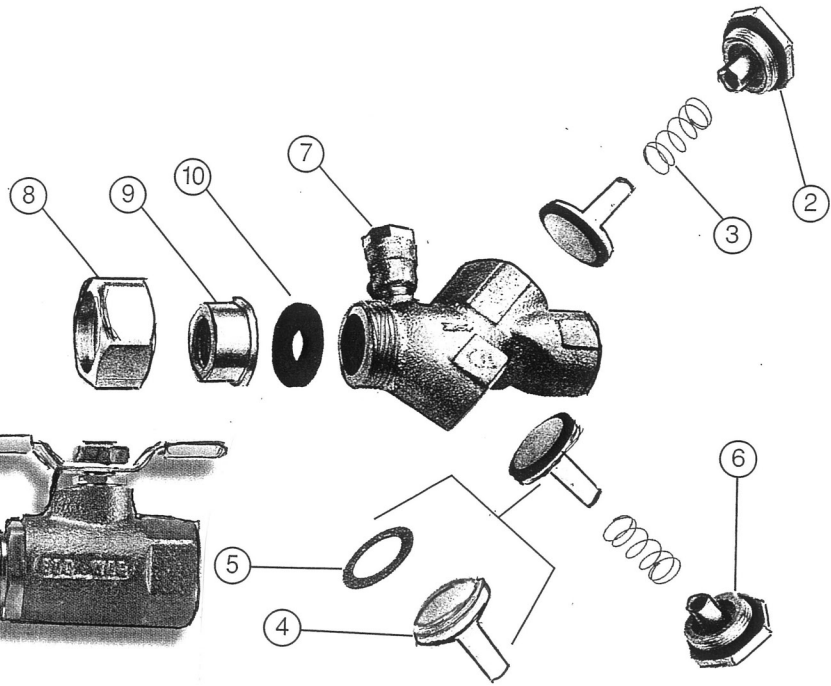
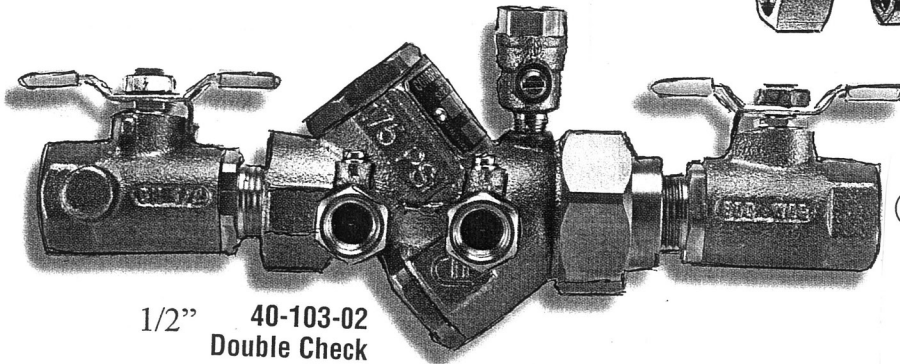
- Corrosion Resistant
- Economical
- Durable
- Ease of Repair
- Ease of Installation
- Low Head Loss
- Comes Standard with "Apollo" Full Port Ball Valves
- Maximum Working Pressure 175 PSI
- Operating Temperature Range 33-180° F

## **APPROVALS**

The Series 40-100 is approved under USC's FCCC & HR Manual, Sec. 10, ASSE 1015, AWWA C-510, IAPMO, and CSA B64.5.

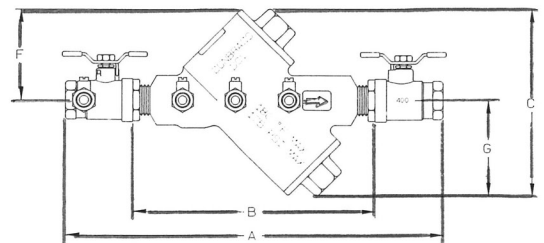
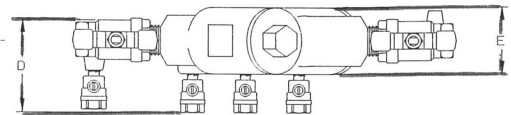


2. Cap
3. Spring
4. Poppet
5. Ck Disc
6. Cap O'Ring
7. Test Cock
8. Union Nut
9. Tail Piece
10. Gasket



## DIMENSIONS (IN.)—WEIGHTS (LBS.)

Body Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	9-3/16	12	12-3/4	16-3/4	18	18-5/8
B (w/o Ball Valves)	4-3/8	7	7	10-1/4	10-1/4	10-1/4
C	3-5/8	6-1/4	6-1/4	9	9	9
D	2-1/4	3-5/8	3-5/8	4-1/4	4-1/4	4-1/4
E	1-1/2	2-7/16	2-7/16	3-13/16	3-13/16	3-13/16
F	2-3/32	3-1/8	3-1/8	4-3/4	4-3/4	4-3/4
G	1-17/32	3-1/8	3-1/8	4-1/4	4-1/4	4-1/4
Test Cocks	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/4 x 1/4 NPT	1/4 x 1/4 NPT	1/4 x 1/4 NPT
Net Wt. (w/o Ball Valves)	2-1/4	5-1/2	6	17-1/2	15	15
Net Wt. (with Ball Valves)	3-3/4	8-1/2	9-1/2	23	24	27
Shpg. Wt. (w/o Ball Valves)	2-1/2	6-1/2	7	19	16-1/2	17
Shpg. Wt. (with Ball Valves)	4-1/4	9-1/2	10-1/2	24-1/2	25-1/2	29



## MATERIALS

1. Body ———— Bronze
2. Springs ———— Stainless Steel
3. Poppets ———— Glass Filled Celcon
4. Discs ———— Silicone Rubber
5. Fasteners ———— Stainless Steel
6. Seats ———— Noryl

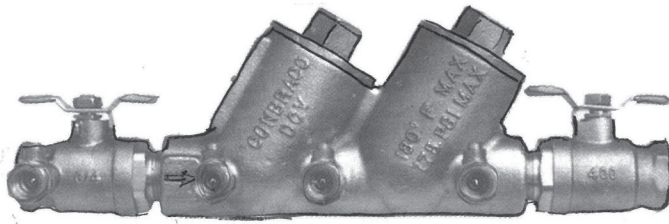
## ORDERING NUMBERS

- |                 |                       |
|-----------------|-----------------------|
| 3/4" — 40-104   | <b>SUFFIX NUMBERS</b> |
| 1" — 40-105     | —A1 less ball valves  |
| 1-1/4" — 40-106 | —A2 with ball valves  |
| 1-1/2" — 40-107 | —A4 with union-end    |
| 2" — 40-108     | ball valves           |

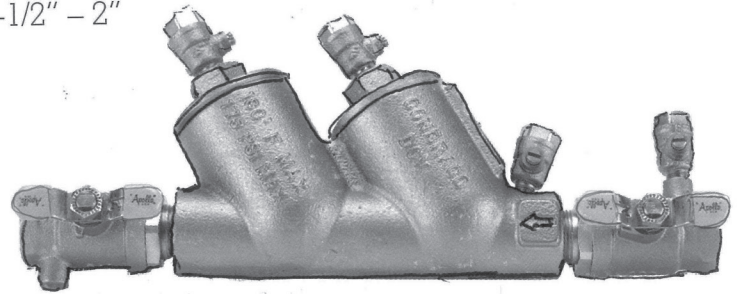


# TOP ENTRY Double Check Valve Assembly

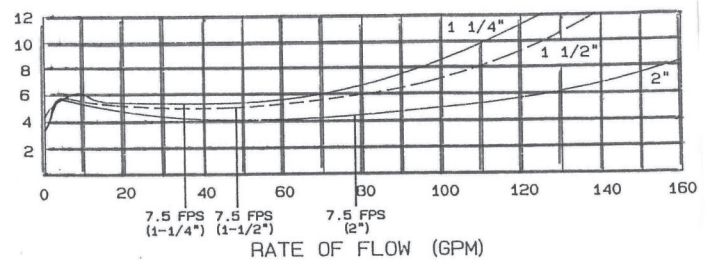
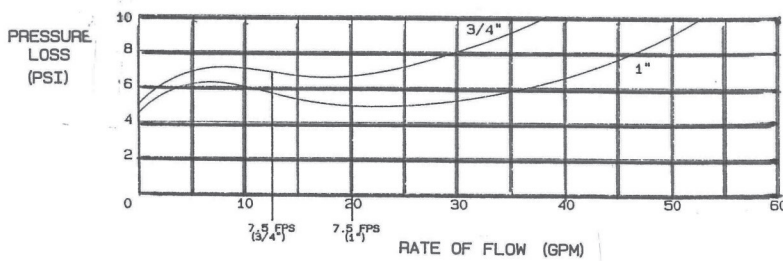
Sizes 3/4" - 1" - 1-1/4" - 1-1/2" - 2"



AT - SERIES

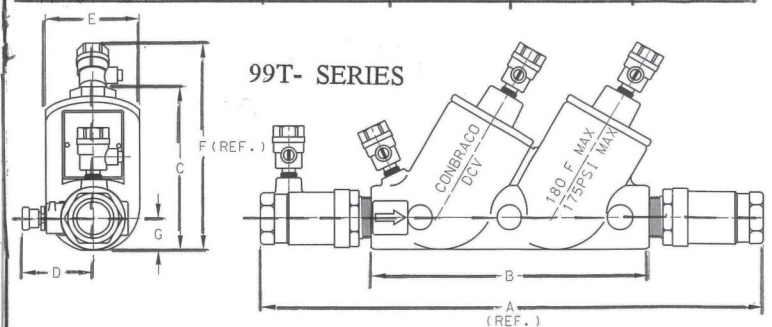
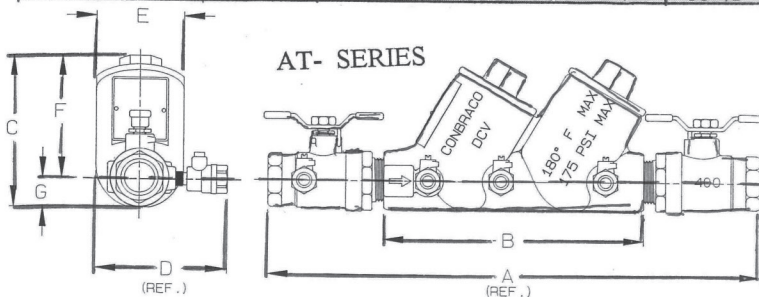


99T - SERIES



Body Size	3/4"	1"	1 1/4"	1 1/2"	2"
A	13	14-1/4	20-3/4	21-3/8	23-1/8
B (w/o Ball Valves)	7-1/4	7-1/4	12-3/8	12-3/8	12-3/8
C	4	4	6	6	6
D	3-5/8	3-5/8	5-1/16	5-1/16	5-1/16
E	2-7/16	2-7/16	3-13/16	3-13/16	3-13/16
F	3-3/16	3-3/16	4-5/8	4-5/8	4-5/8
G	13/16	13/16	1-3/8	1-3/8	1-3/8
Test Cocks	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/4 x 1/4 NPT	1/4 x 1/4 NPT	1/4 x 1/4 NPT
Net Wt. (w/o Ball Valves)	6	5-3/4	17-1/2	17	16-1/2
Net Wt. (with Ball Valves)	8-7/8	9-1/2	23-1/4	25-3/4	31-1/2
Shpg. Wt. (w/o Ball Valves)	7-1/4	7	19	18-1/2	18-1/2
Shpg. Wt. (with Ball Valves)	10-1/8	11	24-3/4	27-1/4	33-1/2

Body Size	3/4"	1"	1 1/4"	1 1/2"	2"
A	13	14-1/4	20-3/4	21-3/8	23-1/8
B	7-1/4	7-1/4	12-3/8	12-3/8	12-3/8
C	4	4	6	6	6
D	1-5/8	1-7/8	2-3/16	2-5/8	3
E	2-7/16	2-7/16	3-13/16	3-13/16	3-13/16
F	5-7/16	5-7/16	6-3/8	6-3/8	6-3/8
G	13/16	13/16	1-3/8	1-3/8	1-3/8
Test Cocks	1/8 x 1/4 NPT	1/8 x 1/4 NPT	1/4 x 1/4 NPT	1/4 x 1/4 NPT	1/4 x 1/4 NPT
Net Weight	8-7/8	9-1/2	23-1/4	25-3/4	31-1/2
Shipping Weight	10-1/8	11	24-3/4	27-1/4	33-1/2



## MATERIALS

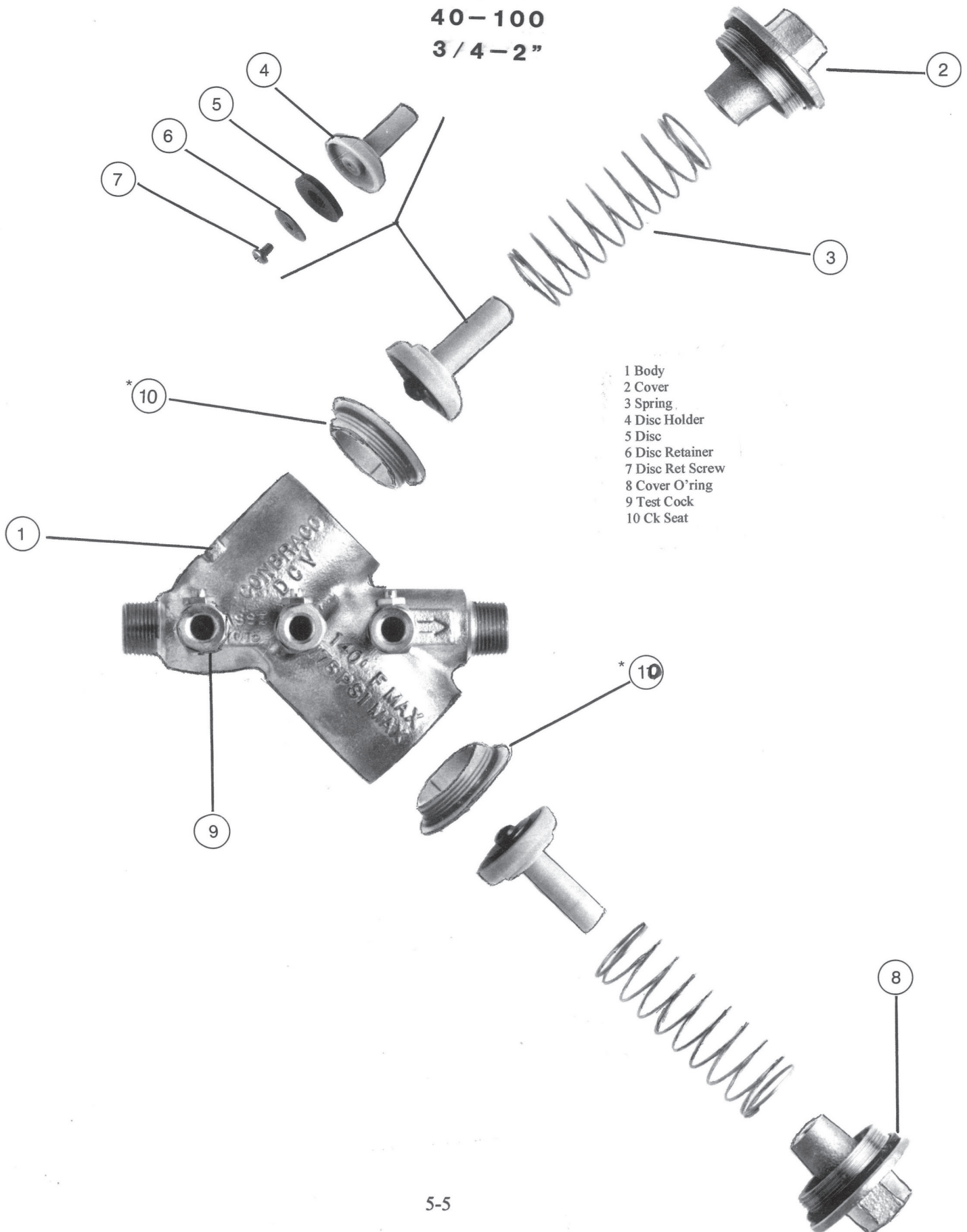
1. Body and covers - Bronze
2. Springs - Stainless Steel
3. Poppets - Glass-filled Celcon
4. Seat discs - Silicone rubber
5. Replaceable seats - Glass-filled Noryl
6. Fasteners - Stainless Steel

## ORDERING NUMBERS

- 3/4" - 40-104  
1" - 40-105  
1-1/4" - 40-106  
1-1/2" - 40-107  
2" - 40-108
- SUFFIX NUMBERS**  
- A1T less ball valves  
- A2T with ball valves



40-100  
3/4-2"



- 1 Body
- 2 Cover
- 3 Spring
- 4 Disc Holder
- 5 Disc
- 6 Disc Retainer
- 7 Disc Ret Screw
- 8 Cover O'ring
- 9 Test Cock
- 10 Ck Seat



## SERIES 40-100

### SPECIFICATIONS

#### GENERAL SPECIFICATIONS

The backflow preventer shall be a Double Check Valve type including four (4) resilient-seated test cocks and two (2) resilient-seated gate valves.

The two (2) check valves shall be independently acting and internally loaded. Each check valve shall maintain a minimum of 1 psid in the normal direction of flow, under static conditions.

The backflow preventer shall be suitable for **supply pressure up to 175 psi and water temperatures from 33 to 140° F.**

The backflow preventer shall meet the requirements of the following standards: **USC's FCCC & HR Manual, Sec. 10, ASSE 1015, AWWA C-510, IAPMO, CSA B64.5, UL and FM.**

#### CONBRACO SPECIFICATIONS

A Double Check Valve backflow preventer shall prevent backflow by either back-pressure or back-siphonage from a cross-connection between potable water lines and substances that are objectionable, but not a health hazard.

It shall consist of two (2) independent, spring loaded, poppet type check valves set in an epoxy-coated (FDA approved) ductile iron body. The assembly shall have four (4) quarter-turn, full-port, resilient-seated, ball type test cocks and two (2) resilient-wedge gate valves.

All parts shall be made of corrosion resistant materials and shall be **100% made in the USA.**

**The seat of each check valve shall be replaceable.**

The loading of each poppet assembly shall be accomplished by a stainless steel compression spring retained in position by a ductile iron cover bolted to the body. The cover shall serve as an access for easy repair and maintenance without removing the assembly from the line. Poppet assemblies, springs, and covers shall be interchangeable.

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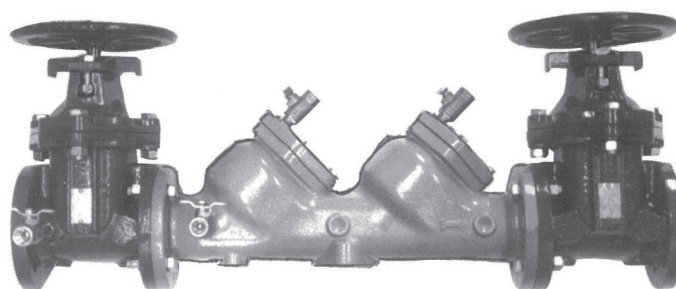
The assembly shall be listed or approved under the following standards: **USC's FCCC & HR Manual, Sec. 10, ASSE 1015, AWWA C-510, IAPMO, CSA B64.5, UL and FM.**

The manufacturing facility shall be **ISO 9001 REGISTERED.**

The backflow preventer shall be manufactured by **CONBRACO INDUSTRIES, INC.,** Matthews, North Carolina.

### Double Check Valve Assembly

Sizes 2 -1/2" -3" - 4"



### FEATURES

- Corrosion Resistant
- Removable Bronze Seats
- Replaceable Discs
- Low Head Loss
- Economical
- Designed For Easy Maintenance
- Check Valve Assemblies Interchangeable
- Maximum Working Pressure 175 PSI
- Operating Temperature Range 33-140° F

### APPROVALS

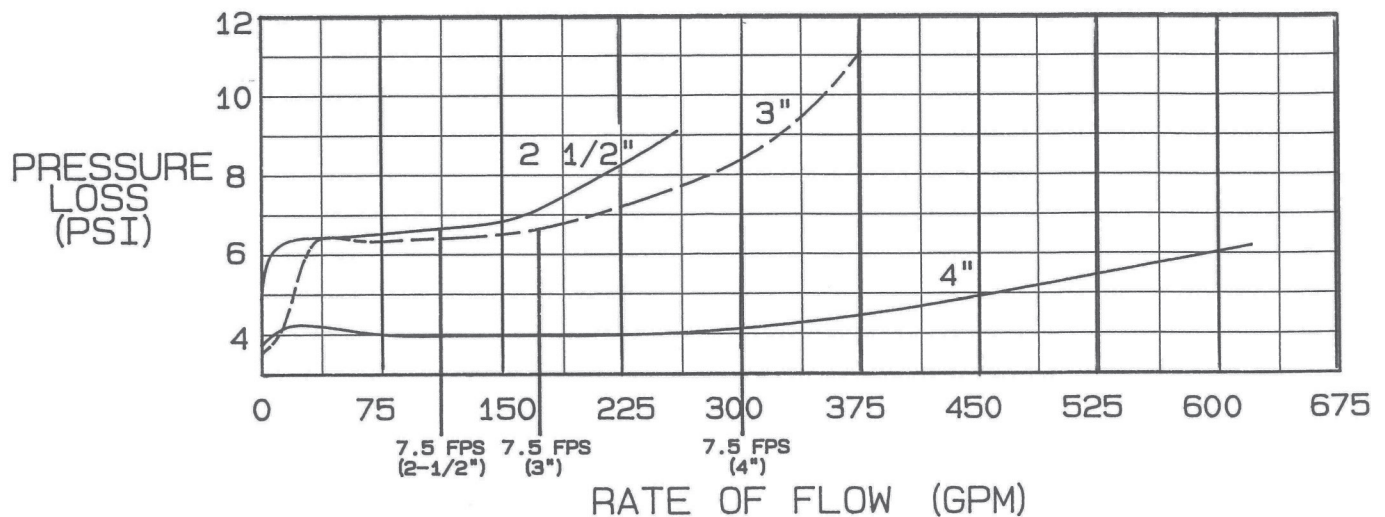
The Series 40-100 is approved under USC's FCCC & HR Manual, Sec. 10, ASSE 1015, AWWA C-510, IAPMO, CSA B64.5, UL Classified and FM.

UL, FM approved backflow preventers must include OS & Y gate valves.





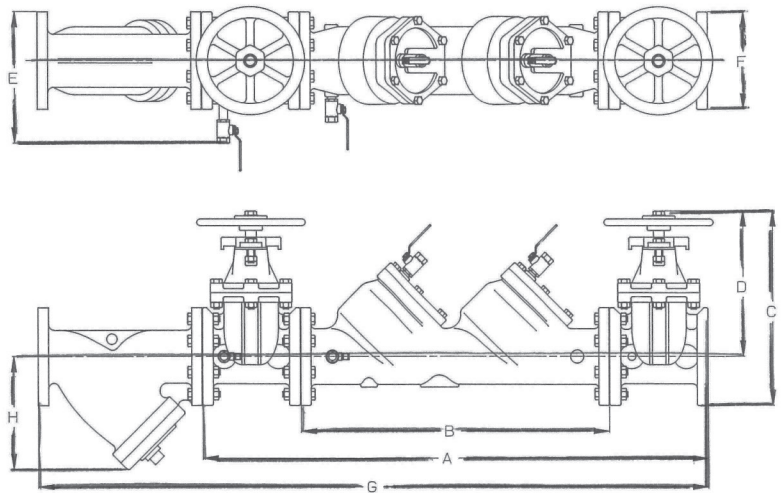
## FLOW CURVES



## DIMENSIONS (in.) – WEIGHTS (lbs.)

Body Size	2-1/2"	3"	4"
A	37 1/16	38 1/16	46 3/4
B	22 1/16	22 1/16	28 3/4
C NRS	12 3/4	15 13/16	17 7/8
C OS&Y (OPEN)	17 1/2	25 13/16	27 11/16
D NRS	9 1/4	12 1/16	13 3/8
D OS&Y (OPEN)	14	22 1/16	23 3/16
E	9 5/8	10 3/8	11 7/8
F	7	7 1/2	9
G	47 5/8	50 1/8	61 11/16
H	7	8	10 3/4
Test Cocks	1/2x1/2 NPT	1/2x1/2 NPT	1/2x1/2 NPT
Net. Wgt. (Less Gate Valves)	84	84	146
Net. Wgt. (with NRS Valves)	183	214	338
Net. Wgt. (w/OS&Y Valves)	193	221	352
Shipping Wgt. (Less Gate Valves)	148	148	210
Shipping Wgt. (w/NRS Valves)	247	278	402
Shipping Wgt. (w/OS&Y Valves)	257	285	416

NOTE: Weights do not include strainer.  
Strainer shipped loose.



## MATERIALS

- Body: Epoxy Coated (FDA Approved)  
Ductile Iron
- Springs: Stainless Steel
- Seats: Bronze
- C.V. Discs: EPDM
- Fasteners: Stainless Steel

## ORDERING NUMBERS

- 2-1/2" – 40-109
- 3" – 40-100
- 4" – 40-10A

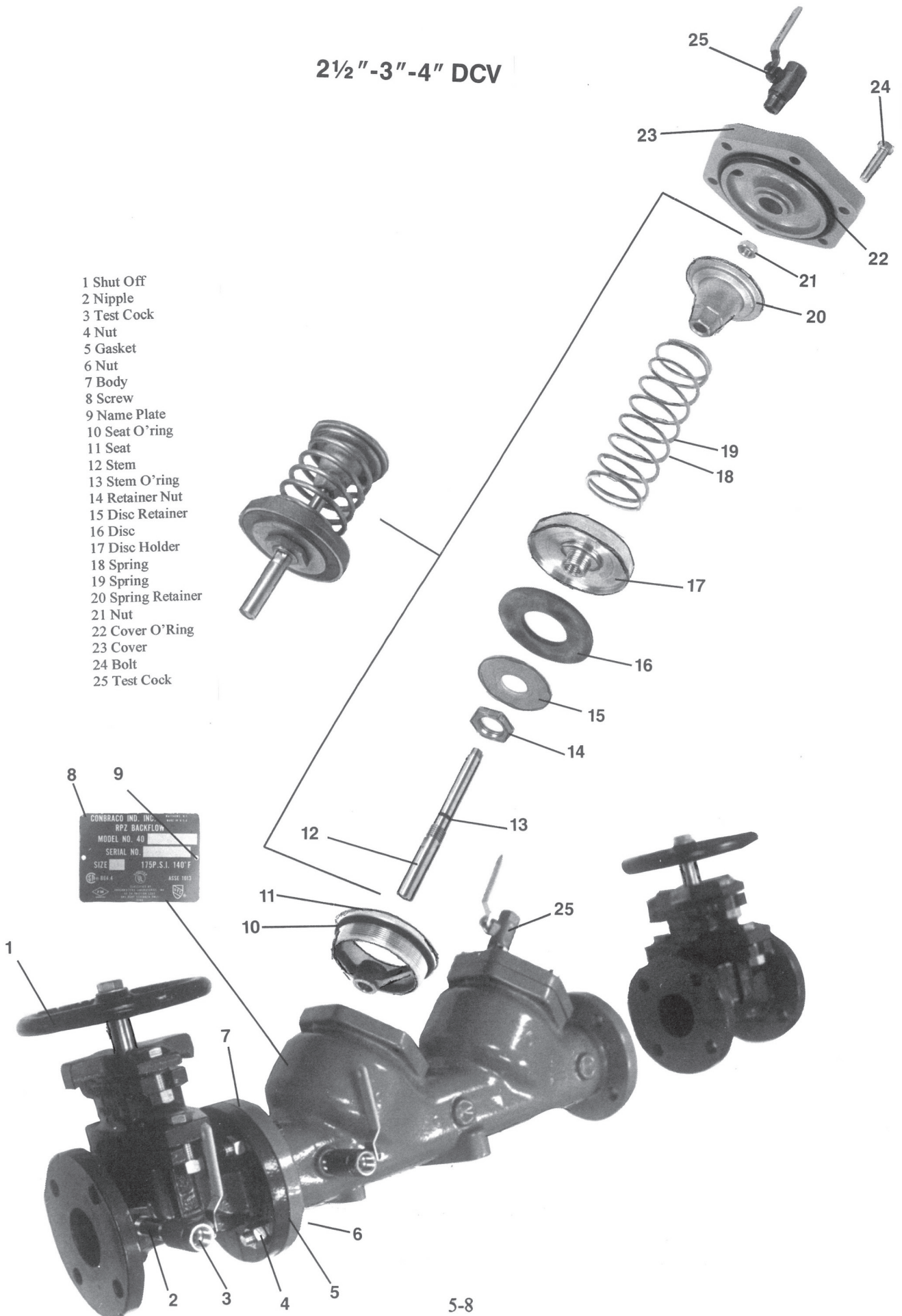
### SUFFIX NUMBERS

- 01 less gate valves
- 02 with NRS gate valves
- 03 with OS&Y gate valves



# 2½"-3"-4" DCV

- 1 Shut Off
- 2 Nipple
- 3 Test Cock
- 4 Nut
- 5 Gasket
- 6 Nut
- 7 Body
- 8 Screw
- 9 Name Plate
- 10 Seat O'ring
- 11 Seat
- 12 Stem
- 13 Stem O'ring
- 14 Retainer Nut
- 15 Disc Retainer
- 16 Disc
- 17 Disc Holder
- 18 Spring
- 19 Spring
- 20 Spring Retainer
- 21 Nut
- 22 Cover O'Ring
- 23 Cover
- 24 Bolt
- 25 Test Cock



## SPECIFICATIONS

### GENERAL SPECIFICATIONS

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All parts shall be made of corrosion resistant materials and shall be **100% made in the USA.**

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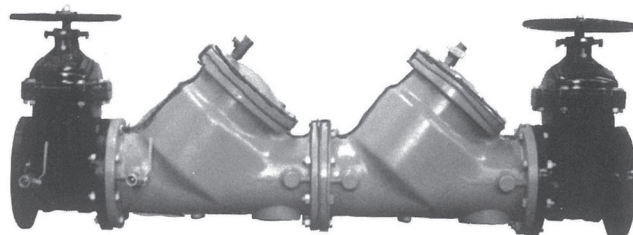
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The manufacturing facility shall be **ISO 9001 REGISTERED.**

The backflow preventer shall be manufactured by **CONBRACO INDUSTRIES, INC.,** Matthews, North Carolina.

## Double Check Valve Assembly

Sizes 6" – 8" – 10"



## FEATURES

- Corrosion Resistant
- Removal Bronze Seats
- Replaceable Discs
- Low Head Loss
- Economical
- Designed For Easy Maintenance
- Check Valve Assemblies Interchangeable
- Maximum Working Pressure 175 PSI
- Operating Temperature Range 33-140° F

## APPROVALS

The Series 40-100 is approved under the following standards: USC's FCCC & HR Manual, Sec. 10, ASSE 1015, AWWA C-510, IAPMO, CSA B64.5, UL Classified and FM.

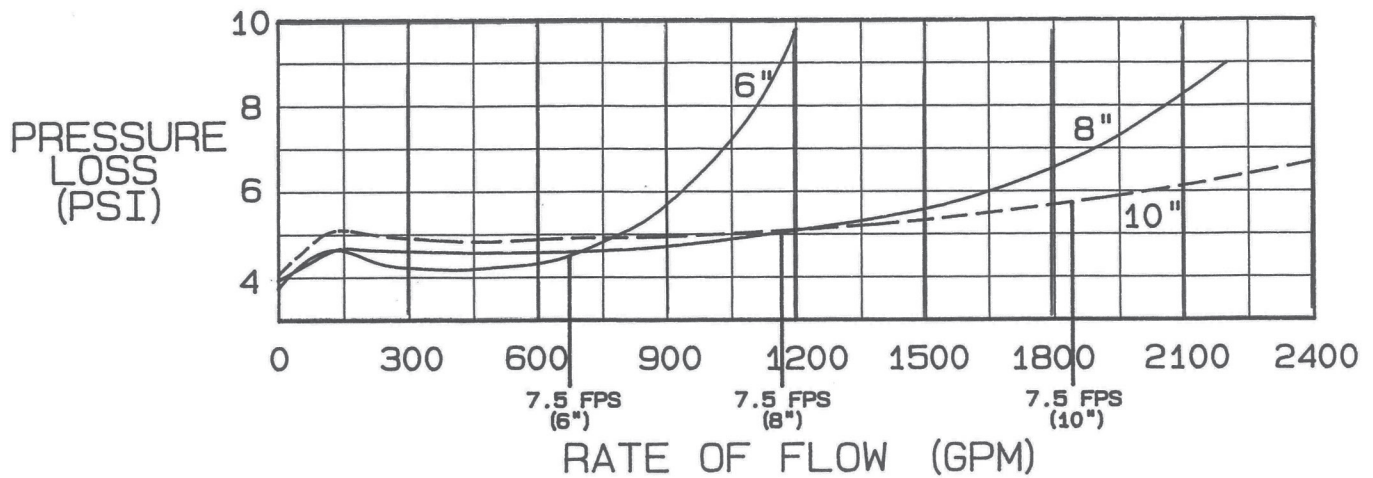
UL, FM approved backflow preventers must include OS&Y gate valves.



APPROVED



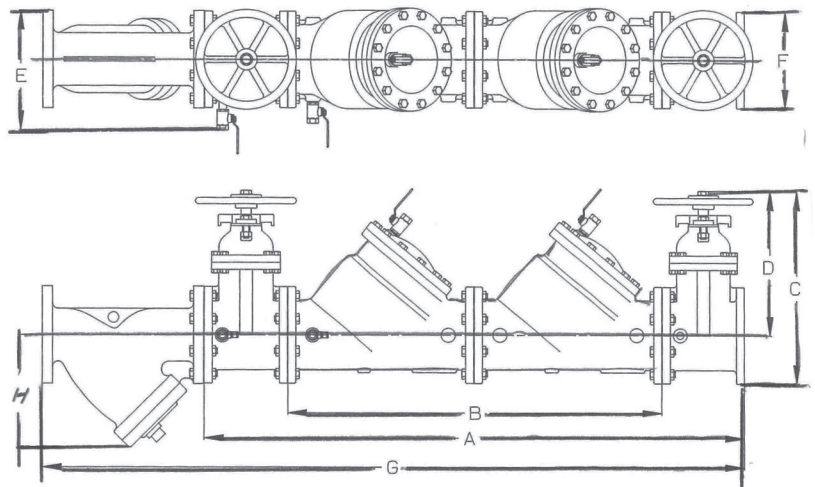
## FLOW CURVES



## DIMENSIONS (in.) – WEIGHTS (lbs.)

Body Size	6"	8"	10"
A	63	75	88 1/4
B	42	52	62 1/16
C NRS	22 1/4	26 15/16	32 1/8
C OS&Y (OPEN)	35 5/8	44 1/2	56
D NRS	16 3/4	20 3/16	24 1/8
D OS&Y (OPEN)	30 1/8	37 3/4	48
E	14 5/8	16 3/4	19 1/4
F	11	13 1/2	16
G	84 1/16	97 9/16	114 13/16
H	16 1/4	17	20 1/4
Test Cocks	3/4x3/4NPT	3/4x3/4NPT	3/4x3/4 NPT
Net. Wgt. (Less Gate Valves)	389	625	1339
Net. Wgt. (with NRS Valves)	695	1065	2044
Net. Wgt. (with OS&Y Valves)	713	1120	2182
Shipping Wgt. (Less Gate Valves)	487	795	1509
Shipping Wgt. (w/NRS Valves)	793	1235	2214
Shipping Wgt. (w/OS&Y Valves)	811	1290	2352

NOTE: Weights do not include strainer.  
Strainer shipped loose.



## MATERIALS

1. Body — Epoxy Coated (FDA Approved)  
Ductile Iron
2. Springs — Stainless Steel
3. Seats — Bronze
4. C.V. Discs - EPDM
5. Fasteners - Stainless Steel

## ORDERING NUMBERS

6" – 40-10C  
8" – 40-10E  
10" – 40-10G

### SUFFIX NUMBERS

-01 less gate valves  
-02 with NRS gate valves  
-03 with OS&Y gate valves



6" 8" & 10" DCV

Diagram illustrating the exploded view of a DCV (Direct Control Valve) assembly, showing the following components and their assembly sequence:

- 18: Spring (bottom)
- 19: Spring (top)
- 20: Conical valve body
- 21: O-ring
- 22: Flange plate
- 23: Flange plate (top)
- 24: Pin
- 25: Pin

- 
- 10
- 1
- 8
- 9
- 7
- 7A
- 2
- 3
- 4
- 5
- 6
- 5-11