

## SERIES 40-700 Reduced Pressure Detector Assembly 3" & 4"

### FEATURES

- Maximum protection against backpressure/backsiphonage
- Removable bronze seats, replaceable discs
- Internal sensing passage
- Easy inline maintenance & testing
- Corrosion resistant
- Maximum working pressure 175 psi
- Operating temperature range 33°F-140°F

### DESCRIPTION

Series 40-700 Reduced Pressure Detector Assembly is designed to provide reduced pressure protection against cross connections presenting a health hazard, and at the same time detect leakage or unauthorized water use in fire or sprinkler systems.

The unit consists of two independent spring-loaded, poppet type check valves with a diaphragm actuated and spring-loaded, relief valve assembly located between the checks. Two resilient wedge gate valves and four test cocks complete the mainline unit.

The bypass assembly consists of an approved reduced pressure assembly, four test cocks, two shut-off valves and a water meter.

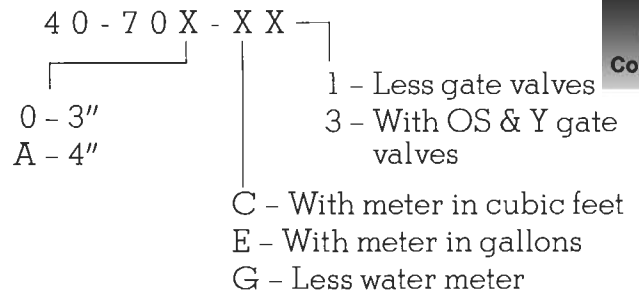
### APPROVALS

ASSE 1047, USC FCCC & HR, FM, UL  
\*UL & FM require OS&Y gate valves.

### MATERIALS

Body -mainline	Epoxy Coated Ductile Iron
Bypass components	Bronze
Springs (both)	Stainless Steel
Discs - Mainline	Silicon rubber
- Bypass	RPDM
Seats (both)	Bronze
Fasteners (both)	Stainless Steel
R.V. body (mainline)	Bronze
Diaphragm (both)	Buna N & Nylon

### ORDERING INFO



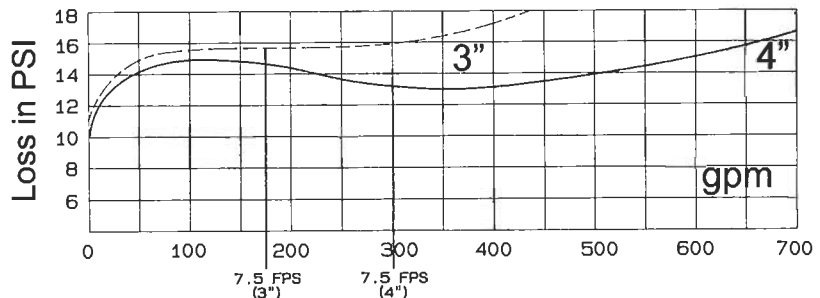
### OPERATION

During zero flow, the mainline and by-pass checks remain closed. If a low flow demands downstream (up to a minimum of 3 gpm), which may be caused by a system leak or unauthorized use, the flow is routed through the water meter to monitor consumption. Higher flow opens the mainline checks and water continues to flow at the by-pass at a rate below capacity. In flow reversal, both mainline and by-pass checks close to prevent backflow. If the second by-pass or mainline check cannot close tightly, leakage in the reduced pressure zone increases pressure, causing the relief valves to open. If supply pressure drops to atmosphere or lower than reduced pressure zone, relief valves open creating an internal air gap in both assemblies.

# FLOW CURVES

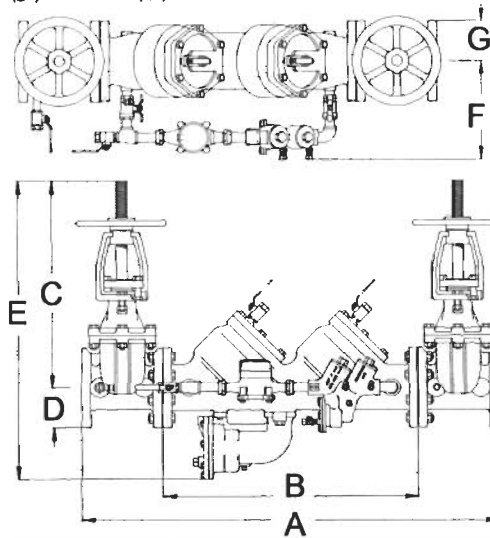
## 40-700

## 3" & 4"



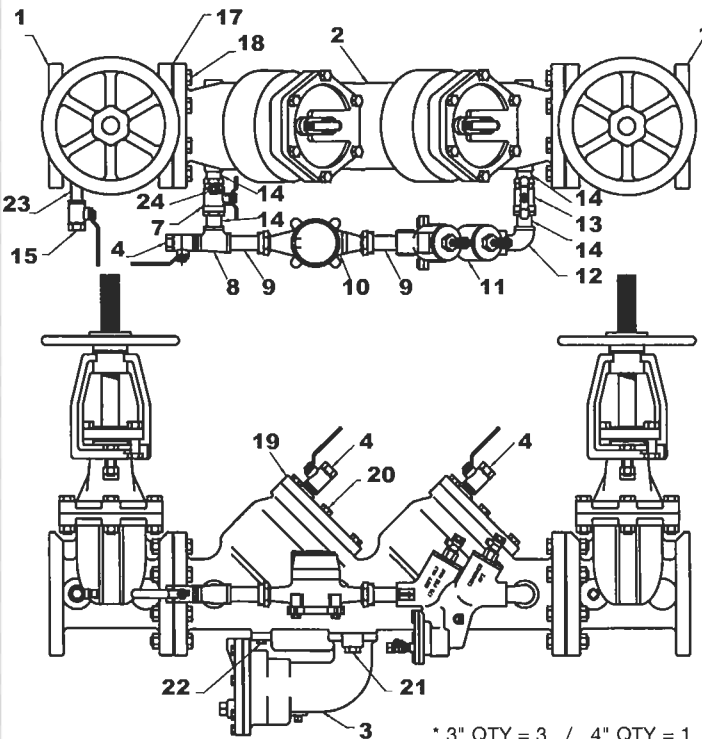
# DIMENSIONS & WEIGHTS

Size	3"	4"
A	38-1/16	46-3/4
B	22-1/16	28-3/4
C (OS & Y) OPEN	22-1/16	23-3/16
D	3-3/4	4-1/2
E (OS & Y) OPEN	31-9/16	33-5/8
F	9-1/4	10-1/2
G	3-3/4	4-1/2
Test cocks (line)	1/2" NPT	1/2" NPT
Test cocks (by-pass)	1/4" NPT	1/4" NPT
Net Wt. (less gate valves)	145	217
Net Wt. (with OS&Y valves)	282	423
Shipping Wt. (less gate valves)	209	281
Shipping Wt. (with OS&Y valves)	346	487



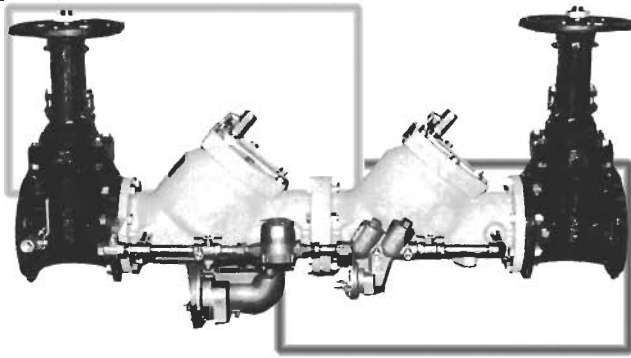
# REPAIR PARTS (3" & 4")

ITEM	DESCRIPTION	QUANTITY	3"	4"
1	Gate Valve (OS&Y)	2	W679000	W682400
2	RPDA Body	1	Q493419	Q480719
3	Relief Valve Ass'y	1	W672905	W672905
4	Test Cock	3	7080301	7080301
N/S	1st Chk Poppet Ass'y	1	W671705	W673005
N/S	2nd Chk Poppet Ass'y	1	W728905	W710005
7	By-Pass Shut-Off Valve	1	7B10401	7B10401
8	Tee, Reducing	1	K350600	K350600
9	Coupling, Water Meter	2	K350500	K350500
10	Water Meter in Cubic Feet	1	W706200	W706200
10	Water Meter in Gallons	1	W709400	W709400
11	3/4" RPZ	1	W739005	W739005
12	Elbow, Street	*	K350200	K350200
13	By-Pass Shut-Off Valve	1	7B10431	7B10431
14	Nipple, Close	4	K337000	K337000
15	Test Cock	1	7010301	7010301
N/S	Flange Nut	**	C143800	C143800
17	Flange Gasket	2	D258400	D258200
18	Flange Bolt	**	B180400	B182800
19	Cap	2	Q453019	Q453319
20	Cap Bolt	12	B179700	B180100
21	Relief Valve Flange Bolt (Lg.)	2	B180000	B180000
22	Relief Valve Flange Bolt (Sm.)	2	B179200	B179200
23	Nipple	1	K340600	K340600
24	Test Cock	1	7825701	7825701
N/S	Nipple, 3/4" x 4-1/2" (Lg.)	1	K360500	N/A
N/S	Elbow, 3/4" - 90°	1	K350100	N/A
N/S	Cap O-Ring	2	D256600	D257400
N/S	Seat O-Ring	2	D256700	D257300
N/S	Relief Valve O-Ring (Sm.)	1	D257000	D257000
N/S	Relief Valve O-Ring (Lg.)	1	D257100	D257100
N/S	Nameplate	1	I499100	I499100
N/S	Nameplate Tack	2	I529400	I529400
N/S	Instruction Booklet	1	I503600	I503600
N/S	Check Valve Seat	2	L463705	L464005



\* 3" QTY = 3 / 4" QTY = 1  
 \*\* 3" QTY = 8 / 4" QTY = 16

**American Backflow Specialties**



## SERIES 40-700 Reduced Pressure Detector Assembly 6" to 10"

### FEATURES

- Maximum protection against backpressure/backsiphonage
- Removable bronze seats, replaceable discs
- Internal sensing passage
- Easy inline maintenance & testing
- Corrosion resistant
- Maximum working pressure 175 psi
- Operating temperature range 33°F-140°F

### DESCRIPTION

Series 40-700 Reduced Pressure Detector Assembly is designed to provide reduced pressure protection against cross connections presenting a health hazard, and at the same time detect leakage or unauthorized water use in fire or sprinkler systems.

The unit consists of two independent spring-loaded, poppet type check valves with a diaphragm actuated and spring-loaded, relief valve assembly located between the checks. Two resilient wedge gate valves and four test cocks complete the mainline unit.

The bypass assembly consists of an approved reduced pressure assembly, four test cocks, two shut-off valves and a water meter.

### APPROVALS

ASSE 1047, USC FCCC & HR, FM, UL  
\*UL & FM require OS&Y gate valves.

### OPERATION

During zero flow, the mainline and by-pass checks remain closed. If a low flow demands downstream (up to a minimum of 3 gpm), which may be caused by a system leak or unauthorized use, the flow is routed through the water meter to monitor consumption. Higher flow opens the mainline checks and water continues to flow at the by-pass at a rate below capacity. In flow reversal, both mainline and by-pass checks close to prevent backflow. If the second by-pass or mainline check cannot close tightly, leakage in the reduced pressure zone increases pressure, causing the relief valves to open. If supply pressure drops to atmosphere or lower than reduced pressure zone, relief valves open creating an internal air gap in both assemblies.

### ORDERING INFO

40 - 70 X - X X

C - 6"

E - 8"

G - 10"

1 - Less gate valves  
3 - With OS & Y gate valves

C - With meter in cubic feet

E - With meter in gallons

G - Less water meter

### MATERIALS

Body -Mainline	Epoxy Coated Ductile Iron
Bypass components	Bronze
Springs (both)	Stainless Steel
CV Discs	EPDM (Main), Silicone rubber (Bp)
Seats (both)	Bronze
Fasteners (both)	Stainless Steel
RV body	Bronze (6") Epoxy Coated Ductile Iron (8,10")
Diaphragm (both)	Buna N & Nylon
RV discs - Mainline	Silicone rubber
- Bypass	EPDM

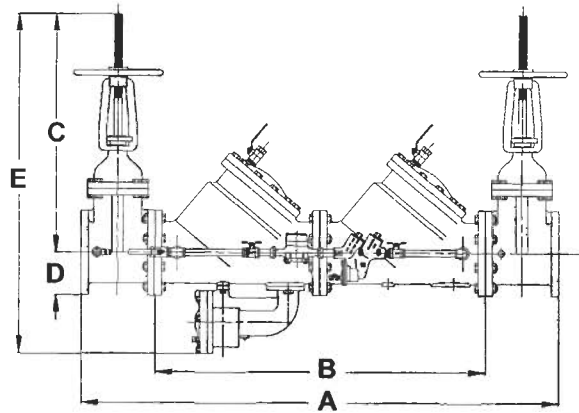
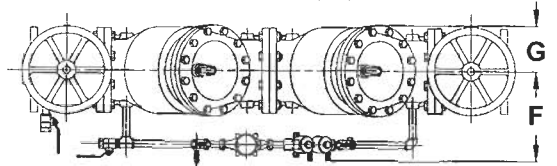
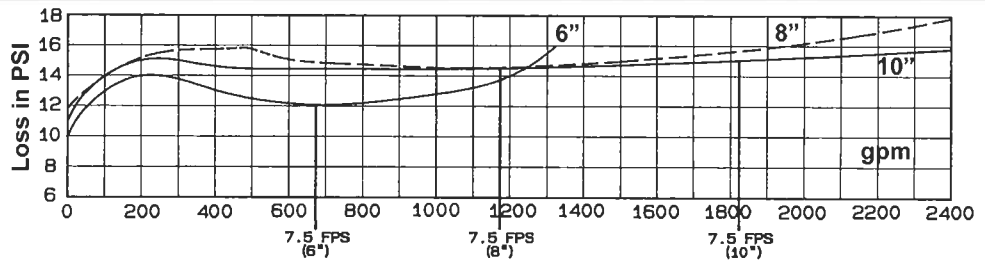


# FLOW CURVES

## 40-700

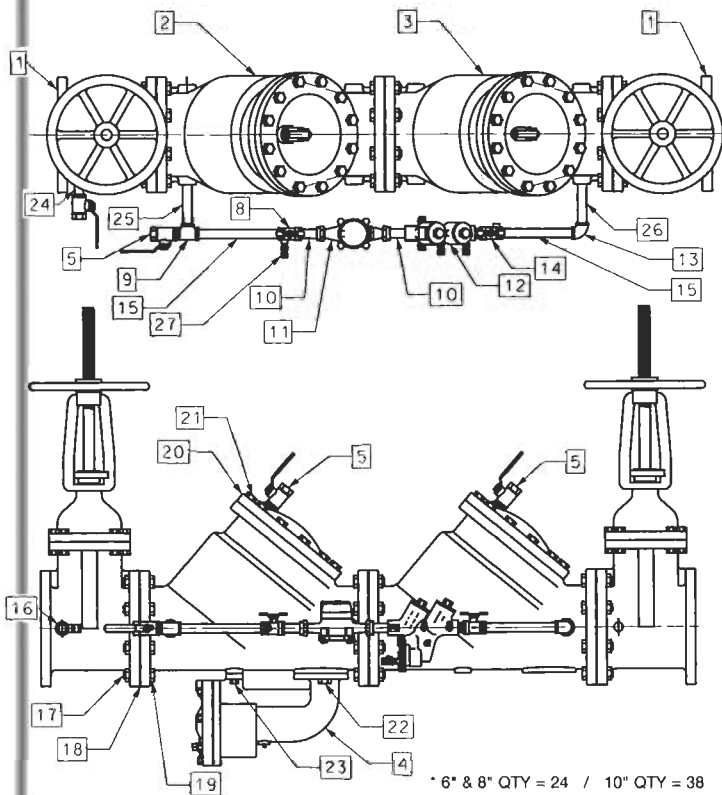
### 6" - 10"

# DIMENSIONS & WEIGHTS



Size	6"	8"	10"
A	63	75	88-1/4
B	42	52	62-1/16
C OS&Y (OPEN)	30-1/8	37-3/4	48
D	5-1/2	6-3/4	8
E OS&Y (OPEN)	41-5/8	53-3/4	65-1/2
F	13-1/4	14-3/4	17-1/2
G	5-1/2	6-3/4	8
Test Cocks (line)	3/4" NPT	3/4" NPT	3/4" NPT
Test Cocks (by-pass)	1/2" NPT	1/4" NPT	1/4" NPT
Net Wgt. (Less Gate Valves)	452	738	1471
Net Wgt. (With OS&Y Valves)	776	1233	2314
Shipping Wgt. (Less Gate Valves)	550	908	1641
Shipping Wgt. (With OS&Y Valves)	874	1403	2484

# REPAIR PARTS (6" to 10")



ITEM	DESCRIPTION	QTY	6"	8"	10"
1	Gate Valve (OS&Y)	2	W682500	W682600	W685900
2	Body (1st Check)	1	Q453819	Q454319	Q457219
3	Body (2nd Check)	1	Q459119	Q459319	Q459519
4	Relief Valve Ass'y	1	W672905	W674805	W674805
5	Test Cock	3	7080401	7080401	7080401
N/S	1st Chk Poppet Ass'y	1	W674105	W674505	W685605
N/S	2nd Chk Poppet Ass'y	1	W720605	W720705	W724905
8	By-Pass Shut-Off Valve	1	7B10401	7B10401	7B10401
9	Tee, 3/4" NPT	1	K351100	K351100	K351100
10	Coupling, Water Meter	2	K350500	K350500	K350500
11	Water Meter in Cubic Feet	1	W706200	W706200	W706200
11	Water Meter in Gallons	1	W709400	W709400	W709400
12	3/4" RPZ	1	W739005	W739005	W739005
13	Elbow, 3/4" NPT	1	K350100	K350100	K350100
14	By-Pass Shut-Off Valve	1	7B80431	7B80431	7B80431
15	Nipple, 3/4" NPT	2	K350900	K352700	K356000
16	Test Cock	1	7010401	7010401	7010401
17	Flange Nut	*	C175900	C175900	C179300
18	Flange Gasket	3	D257900	D259000	D265300
19	Flange Bolt	**	B182900	B185700	B185800
20	Cap	2	Q453719	Q454519	Q457419
21	Cap Bolt	***	B180000	B169000	B188100
22	Relief Valve Flange Bolt (Lg.)	****	B180000	B166900	B166900
23	Relief Valve Flange Bolt (Sm.)	2	B179200	B166900	B166900
24	Nipple, 3/4" NPT	1	K341200	K341200	K341200
25	Nipple, 3/4" x 5-1/2" (Lg.)	1	K350900	K350900	K350900
26	Nipple, 3/4" NPT	1	K350900	K350900	K355900
27	Test Cock	1	7825701	7825701	7825701
N/S	Elbow, 3/4" - 90°	1	K350100	K350100	K350100
N/S	Cap O-Ring	2	D257700	D258800	D265100
N/S	Seat O-Ring	2	D257600	D258900	D258800
N/S	Relief Valve O-Ring (Sm.)	1	D257000	D218600	D218600
N/S	Relief Valve O-Ring (Lg.)	1	D257100	D230400	D230400
N/S	Nameplate	1	I499100	I499100	I499100
N/S	Nameplate Tack	2	I529400	I529400	I529400
N/S	Instruction Booklet	1	I503600	I503600	I503600
N/S	Check Valve Seat	2	L464405	L465305	L475905
N/S	Stud	2	N/A	N/A	B203600
N/S	Seat Bolt	12	N/A	N/A	B184900

\* 6" & 8" QTY = 24 / 10" QTY = 38  
 \*\* 6" & 8" QTY = 24 / 10" QTY = 34  
 \*\*\* 6" QTY = 12 / 8" & 10" QTY = 24  
 \*\*\*\* 6" QTY = 2 / 8" & 10" QTY = 4

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