

SERIES 40-200 Reduced Pressure Principle 1/4" to 2"

OPERATION

During normal flow conditions, the two check valves supply water downstream. The relief valve is held shut by supply pressure in the internal sensing passage, on the relief valve diaphragm. The zone (area between the check valves) maintains pressure at approximately 7 psi lower than supply pressure. Should a back-pressure or back-siphonage condition occur, the second check valve will seal, prohibiting the backflow of water. Should the second check valve become fouled, the zone pressure will increase opening the differential relief valve to atmosphere. This will maintain the pressure in the zone at least 2 psi lower than supply pressure.



FEATURES

- Maximum protection against backpressure/ backsiphonage
- Removable discs, replaceable seats
- Internal sensing passage
- Low head loss
- Easy to maintain, corrosion resistant
- Standard with Apollo® full port ball valves
- Maximum working pressure 175 psi
- Operating temperature range 33°F-180°F

DESCRIPTION

Series 40-200 Reduced Pressure Principle is designed to give maximum protection against backflow caused by either back-pressure or back-siphonage. The durable, but economical, device is easily maintained in the line without any special tools. It consists of two independently acting spring-loaded check valves with an automatic differential relief valve located between the check valves. The diaphragm and the sensing passage are built into the all bronze body to eliminate possible damage.

APPROVALS

ASSE 1013, AWWA, IAPMO, CSA B64.4, USC FCCC & HR

OPTIONS (Suffix)

Less ball valves (-01), with ball valves (-02), with union end ball valves (-03)

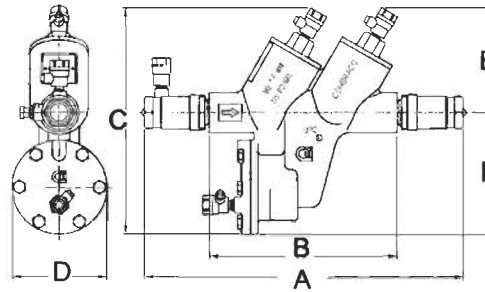
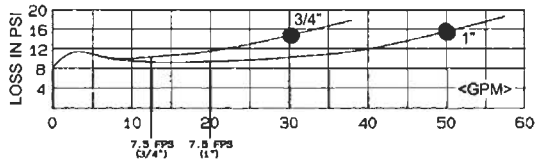
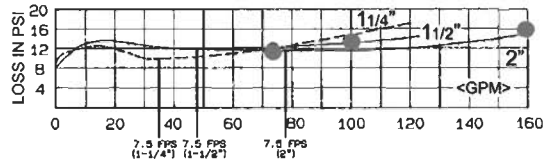
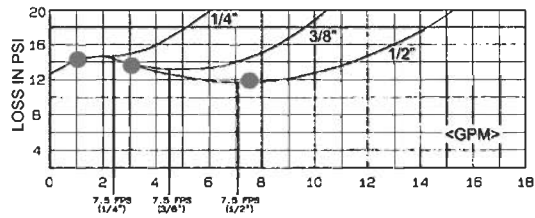
MODELS

1/4"	40-201
3/8"	40-202
1/2"	40-203
3/4"	40-204
1"	40-205
1-1/4"	40-206
1-1/2"	40-207
2"	40-208

MATERIALS

Body and covers	Bronze
Springs	Stainless Steel
Poppets	Glass-Filled Celcon
Seat discs	Silicone Rubber
Diaphragm	Buna N & Nylon
Fasteners	Stainless Steel
Relief valve stem	Noryl

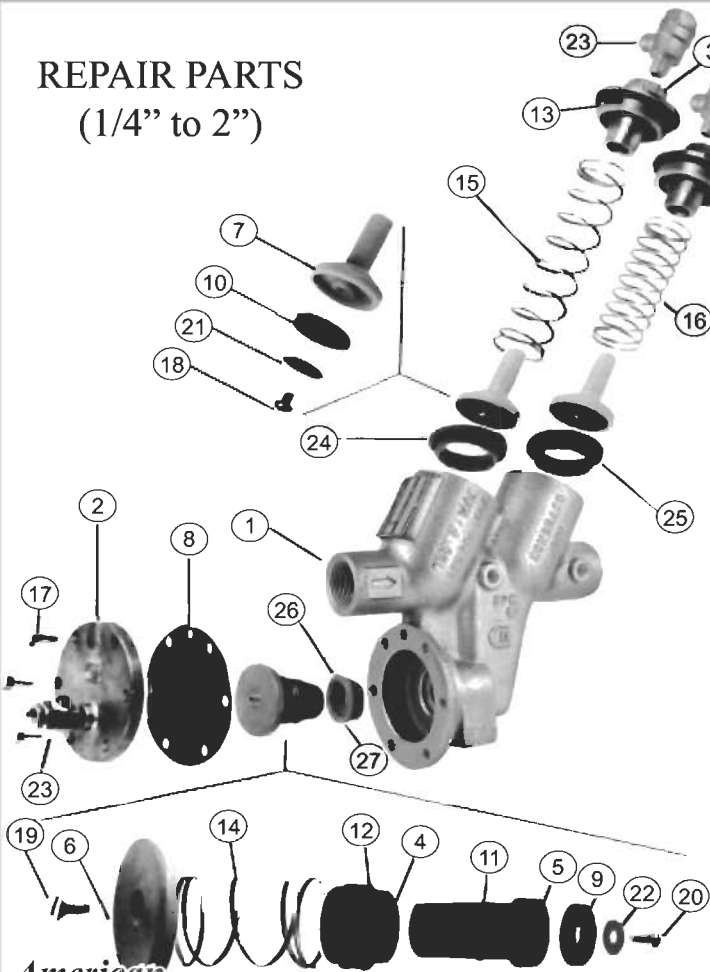
FLOW CURVES



DIMENSIONS & WEIGHTS

Dimensions (in.) – Weights (lbs.)	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
Body Size								
A	10-3/16	10-1/4	10-3/4	13-3/4	15-3/8	17-1/2	19-1/2	21-1/2
B (w/o Ball Valves)	5-3/4	5-3/4	5-3/4	8	8	11	11	11
C	6-7/8	6-7/8	6-7/8	9-3/4	9-3/4	12-5/8	12-5/8	12-5/8
D	2-5/8	2-5/8	2-5/8	4-1/16	4-1/16	5-3/8	5-3/8	5-3/8
E	3-1/8	3-1/8	3-1/8	4-1/2	4-1/2	5-11/16	5-11/16	5-11/16
F	3-3/4	3-3/4	3-3/4	5-1/8	5-1/8	7-1/8	7-1/8	7-1/8
Test Cocks	1/8x1/4NPT	1/8x1/4NPT	1/8x1/4NPT	1/8x1/4NPT	1/8x1/4NPT	1/4x1/4NPT	1/4x1/4NPT	1/4x1/4NPT
Net Wt. (w/o Ball Valves)	5.7	5.7	5.1	11-1/2	11	30-1/2	27-1/2	27
Net Wt. (w/ Ball Valves)	7	7	7.4	14	14-1/2	35-1/2	37	39-1/2
Shpg. Wt. (w/o Ball Valves)	6.6	6.6	6	12-1/2	12	32-1/2	29	29
Shpg. Wt. (w/ Ball Valves)	7.9	7.9	8.3	15	15-1/2	38	39	41

REPAIR PARTS (1/4" to 2")

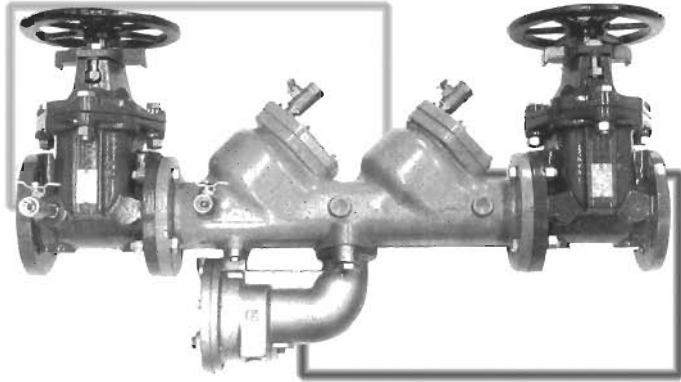


ITEM	DESCRIPTION	QUANTITY	PART NO.		
R E P A I R	Major Repair Kit	1/4", 3/8", 1/2"	3/4" & 1"	1 1/4", 1 1/2", 2"	
	4, 5, 6, 7 (2), 8, 9, 10 (2), 11, 12, 13 (2), 14, 18 (2), 19, 20, 21 (2), 22, 24 (2), 25 (2), 26, 27	40-003-A1	40-004-A1	40-007-A1	
K I T S	Check Valve Repair Kit	7, 10, 13, 18, 21, 24, 25	40-003-A2	40-004-A2	40-007-A2
	Relief Valve Repair Kit	4, 5, 6, 8, 9, 11, 12, 14, 19, 20, 22, 26, 27	40-003-A3	40-004-A3	40-007-A3
R E P A I R	Rubber Repair Kit	8, 9, 10 (2), 11, 12, 13 (2), 25 (2), 27	40-003-A4	40-004-A4	40-007-A4
	Replaceable Seat Kit	24 (2), 25 (2), 26, 27	40-003-A7	40-004-A7	40-007-A7

PARTS					
1	Body	1	Consult	Consult	Consult
2	R.V. Cover	1	Factory	Factory	Factory
3	Cap	2	F-3017	F-2982	F-2985
4	R.V. Bushing	1	F-3231	F-3108	F-3115
5	R.V. Stem	1	I-4507	I-4240	I-4257
6	Diaphragm Plate	1	G-3296	G-3212	G-3213
7	Poppet	1	E-2222	D-2506	D-2516
8	R.V. Diaphragm	2	K-3409	K-3362	K-3367
9	R.V. Seat Disc	1	D-2632	D-2505	D-2515
10	Check Seat Disc	1	D-2631	D-2829	D-2514
11	Stem O-Ring	2	D-2630	D-2503	D-2508
12	Bushing O-Ring	1	D-2628	D-2502	D-2513
13	Check Cap O-Ring	1	D-2629	D-2501	D-2512
14	R.V. Spring	2	D-2046	D-2500	D-2510
15	1st Check Spring	1	A-1795	A-1698	A-1702
16	2nd Check Spring	1	A-1797	A-1699	A-1703
17	Hex Head Bolt	6(4) (**7)	A-1794	A-1700	A-1701
18	Screw	2	B-1793	B-1751	B-1754
19	Screw	1	B-1837	B-1750	B-1750
20	Screw	1	B-1749	B-1749	B-1753
21	Retaining Washer	2	B-1837	B-1748	B-1753
22	Retaining Washer	1	E-2223	D-2499	D-2509
23	Test Cock	3	E-2224	D-2498	D-2499
24	Check Seat	2	78-257-01	78-257-01	78-258-01
25	Check O-Ring	2	L-5152	L-4864	L-4866
26	R.V. Seat	1	D-3086	D-2274	D-2565
27	R.V. O-Ring	1	L-5153	L-4863	L-4867
			D-3087	D-2168	D-2274

Accessories				
	Air Gap Drain	40-200-XA	40-200-X1	40-200-X1
	Reduced Pressure Backflow Preventer Test Kit	40-200-TKRC (All Sizes)		

* 1/4", 3/8" & 1/2" SIZES ONLY ** 1-1/4", 1-1/2" & 2" SIZES ONLY



SERIES 40-200 **Reduced Pressure Principle** **2-1/2" to 4"**

OPERATION

During normal flow conditions, the two check valves supply water downstream. The relief valve is held shut by supply pressure in the internal sensing passage, on the relief valve diaphragm. The zone (area between the check valves) maintains pressure at approximately 7 psi lower than supply pressure. Should a back-pressure or back-siphonage condition occur, the second check valve will seal, prohibiting the backflow of water. Should the second check valve become fouled, the zone pressure will increase opening the differential relief valve to atmosphere. This maintains zone pressure at least 2 psi lower than supply.



FEATURES

- Maximum protection against backpressure/ backsiphonage
- Removable bronze seats, replaceable discs
- Internal sensing passage
- Low head loss
- Easy to maintain, corrosion resistant
- Standard with Apollo® full port ball valves
- Maximum working pressure 175 psi
- Operating temperature range 33°F-140°F

DESCRIPTION

Series 40-200 Reduced Pressure Principle is designed to give maximum protection against backflow caused by either back-pressure or back-siphonage. The durable, but economical, device is easily maintained in the line without any special tools. It consists of two independently acting spring-loaded check valves with an automatic differential relief valve located between the check valves. Pressure sensing passages are built into the all bronze body to eliminate possible damage. Four test cocks complete the assembly.

APPROVALS

ASSE 1013, AWWA, IAPMO, CSA B64.4, USC FCCC & HR, FM*, UL* (3" & 4").

*UL & FM require OS&Y gate valves.

MODELS

2-1/2"	40-209
3"	40-200
4"	40-20A

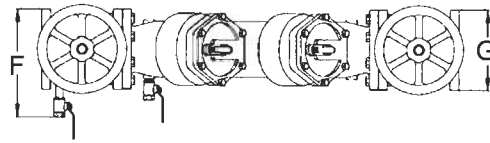
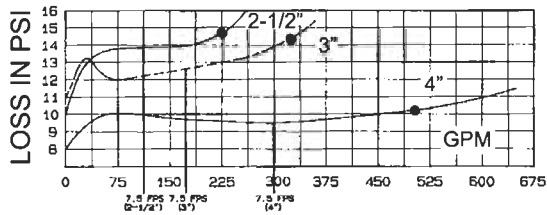
OPTIONS (Suffix)

Less gate valves (-01), with NRS gate valves (-02), with OS&Y gate valves (-03)

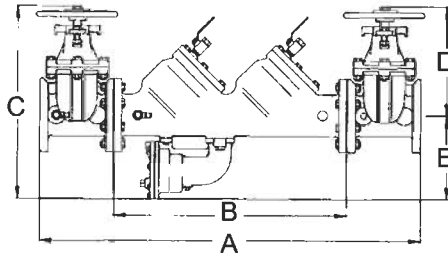
MATERIALS

Body	Epoxy Coated Ductile Iron
Springs	Stainless Steel
CV Discs	EPDM
RV Disc	Silicone
Seats	Bronze
RV Diaphragm	Buna N & Nylon
Fasteners	Stainless Steel
RV Body	Bronze

FLOW CURVES



DIMENSIONS & WEIGHTS



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	28-1/2
C NRS	20-7/8	21-7/8	25-3/16
C OS&Y (OPEN)	25-7/8	28-3/8	33-3/16
D NRS	11-3/8	12-3/8	14-3/4
D OS&Y (OPEN)	16-3/8	18-7/8	22-3/4
E	9-1/2	9-1/2	10-7/16
F	9-5/8	10-3/8	11-7/8
G	7	7-1/2	9
Test Cocks	1/2 x 1/2 NPT	1/2 x 1/2 NPT	1/2 x 1/2 NPT
Net Wt. (Less Gate Valves)	120	122	196
Net Wt. (With NRS Valves)	219	252	388
Net Wt. (With OS&Y Valves)	229	259	402
Net Wt. (With Ball Valves)	188	198	312
Shpg. Wt. (Less gate Valves)	184	186	260
Shpg. Wt. (With NRS Valves)	283	316	452
Shpg. Wt. (With OS&Y Valves)	293	323	466
Shpg. Wt. (With Ball Valves)	252	262	376

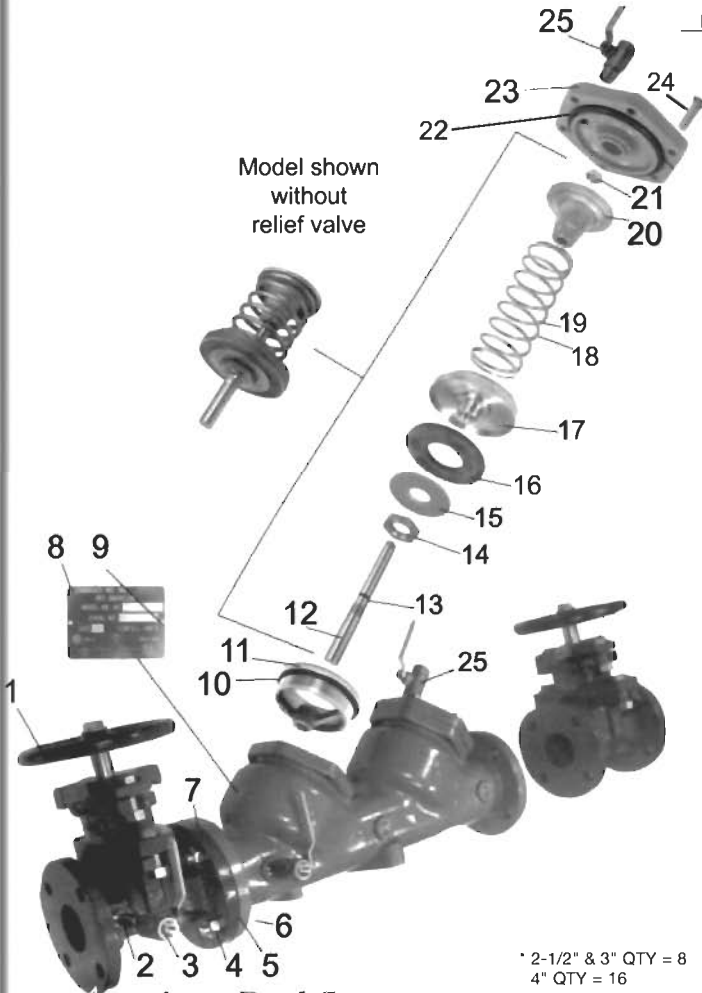
REPAIR KITS (2-1/2" to 4")

Repair Kits

Kit	2-1/2", 3"	4"
1st Check Valve Repair Kit	2-1/2", 3"	4"
12, 13, 14, 15, 16, 17, 18, 20, 21, 22	40-009-01	40-00A-01
2nd Check Valve Repair Kit		
12, 13, 14, 15, 16, 17, 19, 20, 21, 22	40-009-02	40-00A-02
Seat Repair Kit		
10, 11, 22	40-009-03	40-00A-03

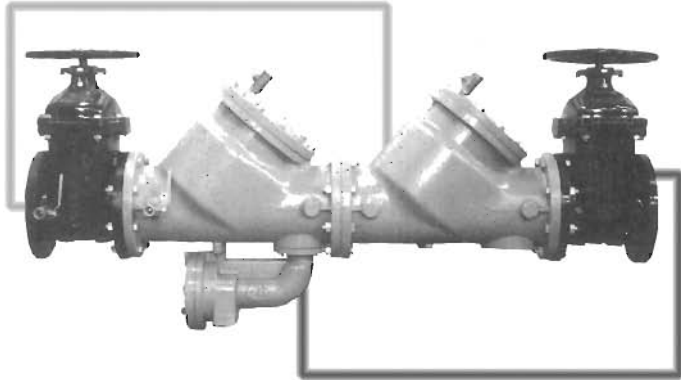
Kit	2-1/2", 3"	4"
Rubber Repair Kit		
10, 13, 16, 22	40-009-04	40-00A-04
Relief Valve Repair Kit		
29, 30, 31, 33, 34, 38, 39, 40, 41, 42, 43, 44, 45, 46, (47, 48)*	40-009-05	40-00A-05
Relief Valve Rubber Repair Kit		
29, 31, 33, 34, 40, 42, 43, (47)*	40-009-06	40-00A-06

ITEM	DESCRIPTION	QUANTITY	2-1/2"	3"	4"
1	Shut-Off Valve (OS&Y)	2	W-6789-00	W-6790-00	W-6824-00
1	Shut-Off Valve (NRS)	2	W-6785-00	W-6786-00	W-6743-00
2	Brass Nipple	1	K-3406-00	K-3406-00	K-3406-00
3	Test Cock	1	70-103-01	70-103-01	70-103-01
4	Flange Nut	*	C-1691-00	C-1691-00	C-1691-00
5	Ring Gasket	2	D-2583-00	D-2584-00	D-2582-00
6	Flange Bolt	*	B-1804-00	B-1804-00	B-1828-00
7	Body	1	Q-4528-19	Q-4529-19	Q-4532-19
8	Nameplate	1	I-4406-00	I-4406-00	I-4406-00
9	Drive Screw	2	I-2613-00	I-2613-00	I-2613-00
10	C.V. Seat O-Ring	2	D-2567-00	D-2567-00	D-2573-00
11	C.V. Seat	2	L-4637-05	L-4637-05	L-4640-05
12	C.V. Stem	2	G-3239-06	G-3239-06	G-3242-06
13	C.V. Stem O-Ring	2	D-2561-00	D-2561-00	D-2561-00
14	Retainer Nut	2	C-1756-00	C-1756-00	C-1756-00
15	Retainer Washer	2	E-2199-00	E-2199-00	E-2204-00
16	C.V. Seat Disc	2	D-2560-00	D-2560-00	D-2572-00
17	Seat Disc Holder	2	F-3000-05	F-3000-05	F-3001-05
18	1st Check Spring	1	A-1740-00	A-1740-00	A-1743-00
19	2nd Check Spring	1	A-1741-00	A-1741-00	A-1744-00
20	Spring Retainer	2	E-2198-05	E-2198-05	E-2202-05
21	Jam Nut	2	C-1589-05	C-1589-05	C-1589-05
22	Cap O-Ring	2	D-2566-00	D-2566-00	D-2574-00
23	C.V. Cap	2	Q-4530-19	Q-4530-19	Q-4533-19
24	Cap Bolt	12	B-1797-00	B-1797-00	B-1801-00
25	Test Cock	3	70-803-01	70-803-01	70-803-01



* 2-1/2" & 3" QTY = 8
4" QTY = 16

Repair Parts



SERIES 40-200 Reduced Pressure Principle 6" to 10"

OPERATION

During normal flow conditions, the two check valves supply water downstream. The relief valve is held shut by supply pressure in the internal sensing passage, on the relief valve diaphragm. The zone (area between the check valves) maintains pressure at approximately 7 psi lower than supply pressure. Should a back-pressure or back-siphonage condition occur, the second check valve will seal, prohibiting the backflow of water. Should the second check valve become fouled, the zone pressure will increase opening the differential relief valve to atmosphere. This maintains zone pressure at least 2 psi lower than supply.



FEATURES

- Maximum protection against backpressure/ backsiphonage
- Removable bronze seats, replaceable discs
- Internal sensing passage
- Low head loss
- Easy to maintain, corrosion resistant
- Standard with Apollo® full port ball valves
- Maximum working pressure 175 psi
- Operating temperature range 33°F-140°F

DESCRIPTION

Series 40-200 Reduced Pressure Principle is designed to give maximum protection against backflow caused by either back-pressure or back-siphonage. The durable, but economical, device is easily maintained in the line without any special tools. It consists of two independently acting spring-loaded check valves with an automatic differential relief valve located between the check valves. Pressure sensing passages are built into the all bronze body to eliminate possible damage. Four test cocks complete the assembly.

APPROVALS

ASSE 1013, AWWA, IAPMO, CSA B64.4, USC FCCC & HR, FM*, UL* (3" & 4").

*UL & FM require OS&Y gate valves.

MODELS

6"	40-20C
8"	40-20E
10"	40-20G

OPTIONS (Suffix)

Less gate valves (-01), with NRS gate valves (-02), with OS&Y gate valves (-03)

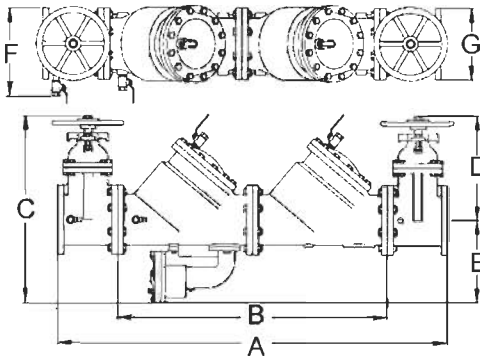
MATERIALS

Body	Epoxy Coated Ductile Iron
Springs	Stainless Steel
CV Discs	EPDM
RV Disc	Silicone
Seats	Bronze
RV Diaphragm	Buna N & Nylon
Fasteners	Stainless Steel
RV Body	Bronze (6"), Ductile Iron (8", 10")

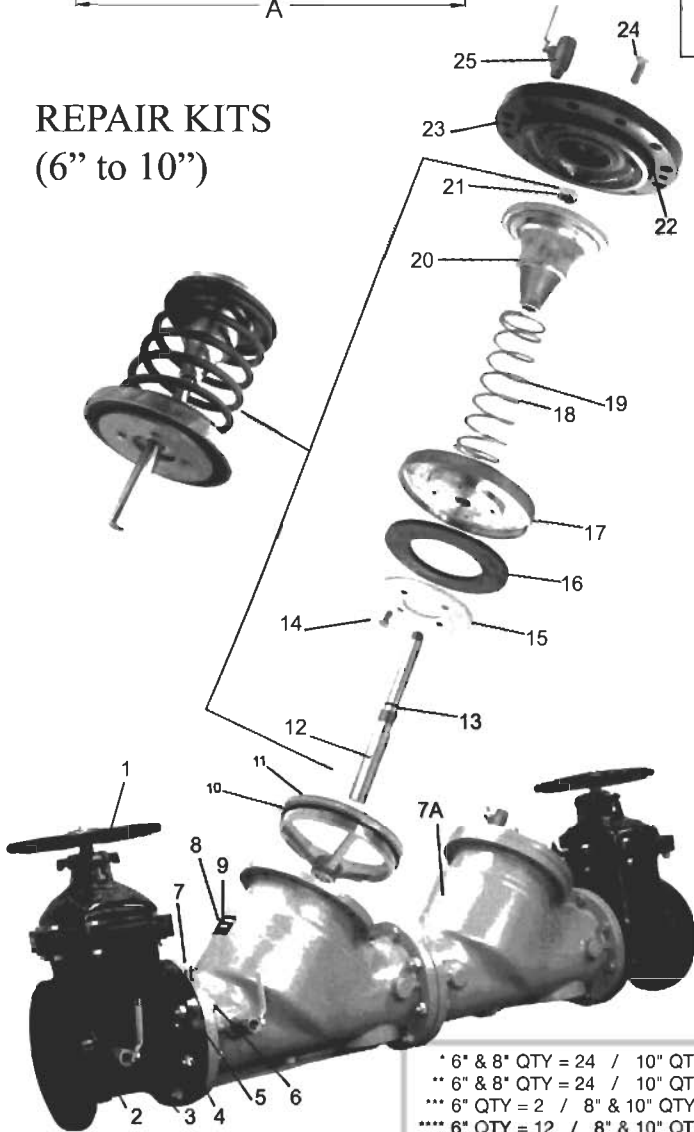
MODEL 40-200 (6" to 10")

DIMENSIONS & WEIGHTS

Dimensions (in.) – Weights (lbs.)			
Body Size	6"	8"	10"
A	63	75	88-1/4
B	42	52	62-1/16
C NRS	30-1/2	38-1/2	44
C OS&Y (OPEN)	41-5/8	53-3/4	63-1/4
D NRS	19	22-1/2	26-1/2
D OS&Y (OPEN)	30-1/8	37-3/4	45-3/4
E	11-1/2	16	17-1/2
F	14-5/8	16-3/4	19-1/4
G	11	13-1/2	16
Test Cocks	3/4 x 3/4 NPT	3/4 x 3/4 NPT	3/4 x 3/4 NPT
Net Wt. (Less Gate Valves)	430	715	1443
Net Wt. (With NRS Valves)	736	1155	2148
Net Wt. (With OS&Y Valves)	754	1210	2286
Net Wt. (With Ball Valves)	666	N/A	N/A
Shpg. Wt. (Less gate Valves)	528	885	1613
Shpg. Wt. (With NRS Valves)	872	1335	2364
Shpg. Wt. (With OS&Y Valves)	890	1390	2502
Shpg. Wt. (With Ball Valves)	836	N/A	N/A

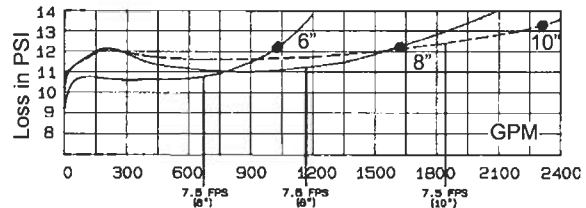


REPAIR KITS (6" to 10")



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

FLOW CURVES



REPAIR PARTS

ITEM	DESCRIPTION	QTY	6"	8"	10"
1	(OS&Y) Shut-Off	2	W-6825-00	W-6826-00	W-6859-00
1	(NRS) Shut-Off	2	W-6744-00	W-6827-00	W-6858-00
2	Brass Nipple	1	K-3412-40	K-3412-00	K-3412-00
3	Test Cock	1	70-104-01	70-104-01	70-104-01
4	Flange Nut	*	C-1759-00	C-1759-00	C-1793-00
5	Ring Gasket	3	D-2579-00	D-2590-00	D-2653-00
6	Flange Bolt	**	B-1829-00	B-1857-00	B-1858-00
6A	Stud	2	N/A	N/A	B-2036-00
7	Body	1	Q-4538-19	Q-4543-19	Q-4572-19
7A	Body	1	Q-4591-19	Q-4593-19	Q-4595-19
8	Nameplate	1	I-4406-00	I-4406-00	I-4406-00
9	Drive Screw	2	I-2613-00	I-2613-00	I-2613-00
10	C.V. Seat O-Ring	2	D-2567-00	D-2589-00	D-2588-00
11	C.V. Seat	2	L-4644-05	L-4653-05	L-4759-05
12	C.V. Stem	2	G-3246-00	G-3273-00	G-3305-00
13	C.V. Stem O-Ring	2	D-2578-00	D-2587-00	D-2587-00
14	Retainer Nut/Bolt	***	C-1760-00	C-1754-00	C-1754-00
15	Retainer Washer	2	E-2205-00	E-2208-00	E-2229-00
16	C.V. Seat Disc	2	D-2575-00	D-2586-00	D-2649-00
17	Seat Disc Holder	2	F-3002-05	F-3008-05	F-3019-05
18	1st Check Spring	1	A-1745-00	A-1747-00	A-1778-00
19	2nd Check Spring	1	A-1746-00	A-1748-00	A-1779-00
20	Spring Retainer	2	E-2203-05	E-2207-05	E-2228-05
21	Jam Nut	2	C-1706-00	*C-1763-05	*C-1763-05
22	Cap O-Ring	2	D-2577-00	D-2588-00	D-2651-00
23	C.V. Cap	2	Q-4537-19	Q-4545-19	Q-4574-19
24	Cap Bolt	****	B-1800-00	B-1690-00	B-1881-00
25	Test Cock	3	70-804-01	70-804-01	70-804-01
	Seat Bolt	12	N/A	N/A	B-1849-00

	6"	8"	10"
1st Check Valve Repair Kit			
12, 13, 14, 15, 16, 17, 18, 20, 21, 22	40-00C-01	40-00E-01	40-00G-01
2nd Check Valve Repair Kit			
12, 13, 14, 15, 16, 17, 19, 20, 21, 22	40-00C-02	40-00E-02	40-00G-02
Seat Repair Kit	10, 11, 22	40-00C-03	40-00G-03
Rubber Repair Kit	10, 13, 16, 22	40-00C-04	40-00G-04
Relief Valve Repair Kit			
29, 30, 31, 33, 34, 38, 39, 40, 41, 42, 43, 44, 45, 46, (47, 48)*	40-00C-05	40-00E-05	40-00G-05
Relief Valve Rubber Repair Kit			
29, 31, 33, 34, 40, 42, 43, (47)*	40-00C-06	40-00E-06	40-00G-06
*8" & 10" Only			

Repair Kits

Model 40-200 Relief Valve

Relief Valve Repair Kit

29, 30, 31, 33, 34, 38, 39, 40, 41, 42, 43, 44, 45, 46, (47, 48)*

2-1/2", 3"

4"

6"

8"

10"

40-009-05

40-00A-05

40-00C-05

40-00E-05

40-00G-05

Relief Valve Rubber Repair Kit

29, 31, 33, 34, 40, 42, 43, (47)*

40-009-06

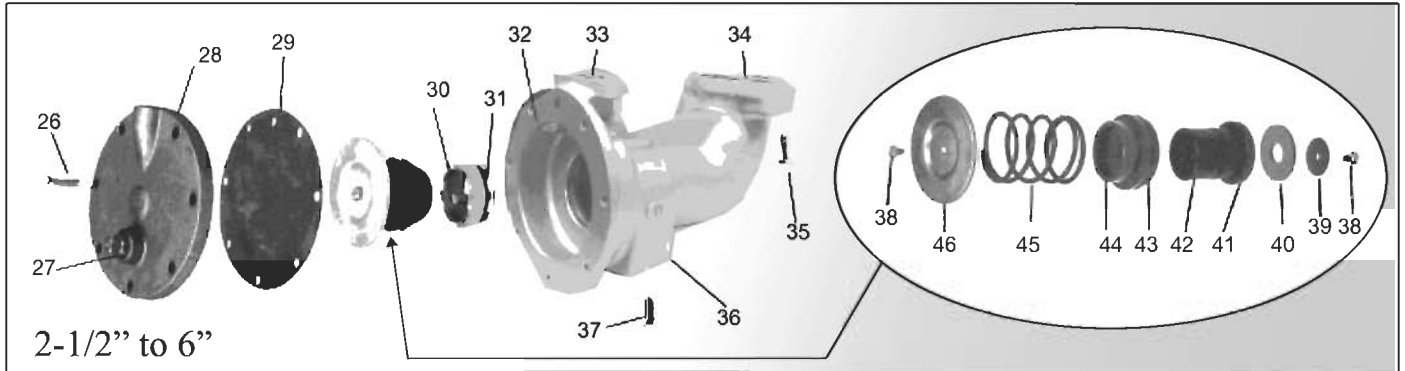
40-00A-06

40-00C-06

40-00E-06

40-00G-06

*8" & 10" Only



Relief Valve Parts

ITEM	DESCRIPTION	QTY	PART NO.	
			2-1/2" - 6"	8", 10"
26	Relief Valve Cover Bolt	7	B-1796-00	7 B-1703-00
27	1/2 NPT Plug	1	K-3008-00	N/A N/A
27	3/4 NPT Plug	N/A	N/A	1 K-3010-00
28	Relief Valve Cover	1	Q-4531-05	1 Q-4542-19
29	Relief Valve Diaphragm	1	D-2564-00	1 D-2591-00
30	Relief Valve Seat Ring	1	L-4638-05	1 L-4651-05
31	Relief Valve Seat Ring O-Ring	1	D-2568-00	1 D-2593-00
32	Relief Valve Body	1	Q-4535-05	1 Q-4541-19
33	Small Relief Valve O-Ring	1	D-2570-00	1 D-2186-00
34	Large Relief Valve O-Ring	1	D-2571-00	1 D-2304-00
35	Relief Valve Flange Bolt	2	B-1800-00	4 B-1669-00
36	1/4 NPT Plug	1	K-3019-00	1 K-3019-00
37	Relief Valve Flange Bolt	2	B-1792-00	2 B-1669-00
38	Pan Head Screw	2	B-1753-00	1 B-1856-00
39	Relief Valve Seat Washer	1	E-2200-00	1 E-2210-00
40	Relief Valve Seat Disc	1	D-2563-00	1 D-2595-00
41	Relief Valve Stem	1	G-3240-00	1 G-3274-05
42	Relief Valve Stem O-Ring	1	D-2565-00	1 D-2594-00
43	Relief Valve Bushing O-Ring	1	D-2565-00	1 D-2592-00
44	Relief Valve Bushing	1	L-4639-15	1 L-4652-15
45	Relief Valve Spring	1	A-1742-00	1 A-1749-00
46	Diaphragm Plate	1	E-2201-00	2 E-2209-05
47	Stem Face O-Ring	N/A	N/A	1 D-2106-00
48	Diaphragm Bolt	N/A	N/A	1 B-1800-00

