

BEECO 6

BEECO 6U

SIZE

Model 6 - 1 1/2", 2", 2 1/2" 3", 4", 6", 8", 10"

Model 6U - 4", 6", 8", 10"

DESCRIPTION

The Model 6 is no longer in production. The assembly was produced from approximately 1948 to 1978. The assembly cannot be repaired in line and must be removed to be repaired. The assembly is flanged on both ends for removal. Special tools are needed to disassemble the unit and field repairs are not recommended. The 6U model is simply the same as the Model 6 except the U means it has been examined by Underwriters Laboratories. The original units were produced under the name E.C. Service Co. instead of Beeco. The bodies were made of galvanized cast iron. All seats were replaceable. The internal hardware was made mostly of bronze. The checks were an in-line modular design. The check springs were contained when the assembly was removed from the piping for repair. On all of the springs, tension had to be released for repair. The relief spring was also contained when the R.V. cover was removed. The assembly had an external R.V. sensing line.

BASIC REPAIR KIT

Repair kit contains all rubber discs, diaphragms, and gaskets.

<u>SIZE</u>	<u>KIT NO</u>
1 1/2"-2"	61235 ♦
2 1/2"	61236 ♦
3"	61237 ♦
4"	61238 ♦
6"	61239 ♦
8"	61240 ♦
10"	61241 ♦

IMPORTANT FEATURES

~Body is galvanized cast iron

~External R.V. sensing line

~All seats are replaceable

~All springs are contained

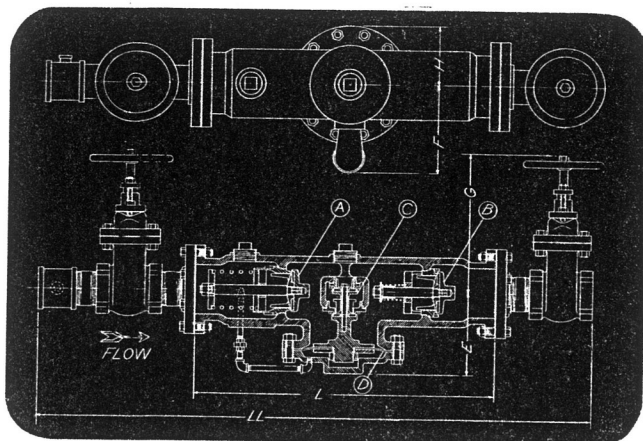
~Special tools are needed for repair

~Factory repair information available

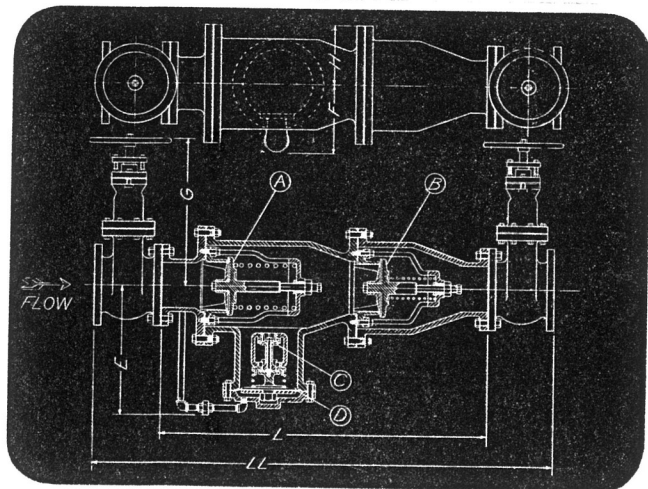


PIPE SIZES

	1½"	2"	2½"	3"	4"	6"	8"	10"	16"
L	24½"	24½"	24½"	30"	39½"	50¾"	56½"	62½"	74"
LL	41"	43"	51"	56"	72"	85"	80"	89"	106"
H	6"	6"	6"	6"	8"	8"	10½"	12½"	17½"
E	8½"	8½"	8½"	8½"	13"	13"	24"	25"	29"
F	10"	10"	10"	10"	12"	12"	12"	15"	20"
G	7"	8"	14"	15"	18½"	24"	27½"	33"	46"
*APPROX. SHIPPING WT.	300 Lbs.	310 Lbs.	360 Lbs.	490 Lbs.	900 Lbs.	1390 Lbs.	2440 Lbs.	3650 Lbs.	8500 Lbs.



1½"—2"—2½"—3"—4"—6" BEECO BACKFLOW PREVENTERS



8"—10"—16" BEECO BACKFLOW PREVENTERS

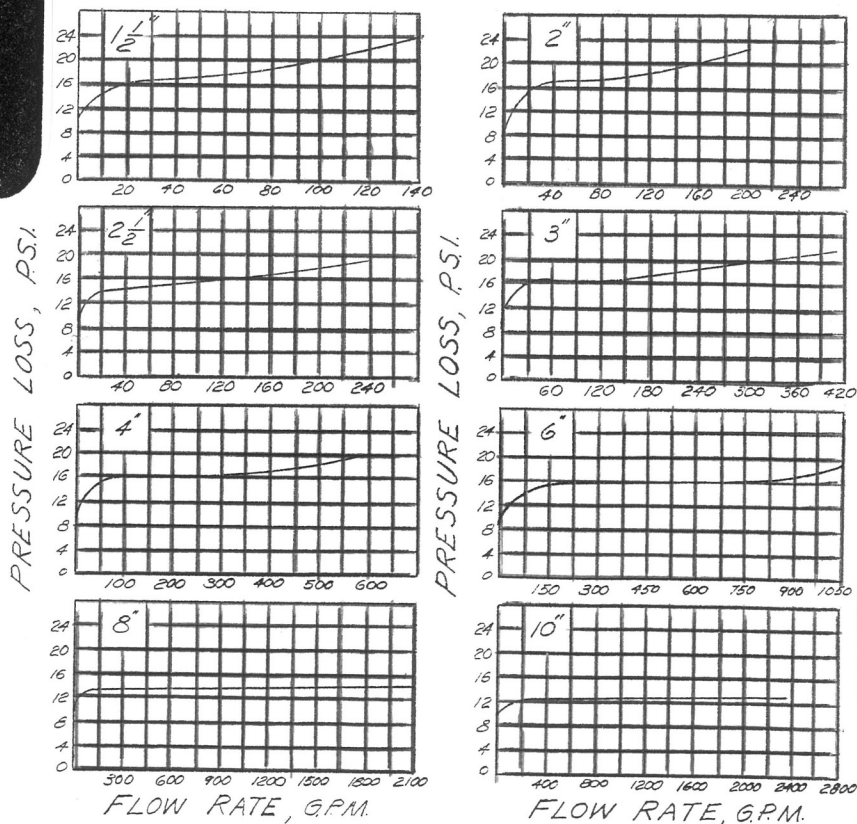
- A - Main Valve
- B - Check Valve
- C - Relief Valve
- D - RV Diaphragm

SPECIFICATIONS

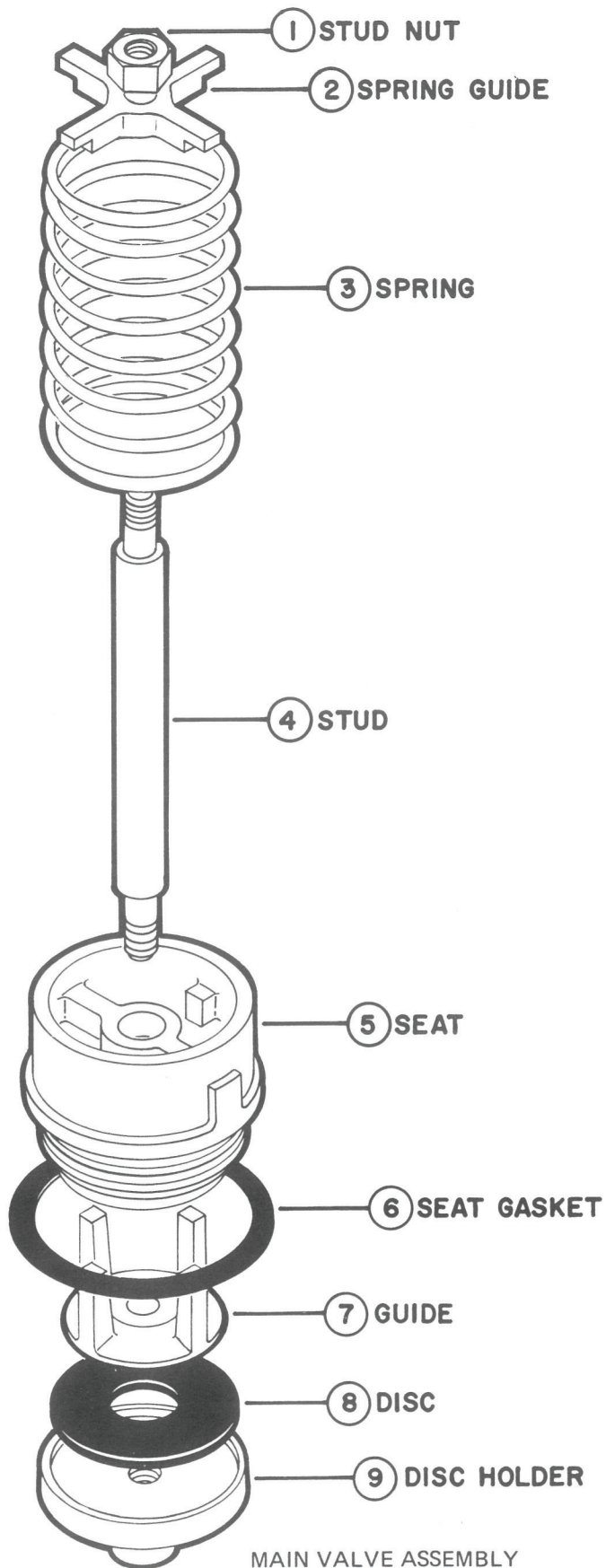
BODY GALVANIZED CAST IRON
WORKING PARTS BRONZE
VALVE DISCS NEOPRENE
DIAPHRAGMS NEOPRENE COATED COTTON DUCK

MAXIMUM WORKING PRESSURE 175 PSI
HYDROSTATIC TEST PRESSURE 350 PSI
TEMPERATURE RANGE 32°F - 145°F

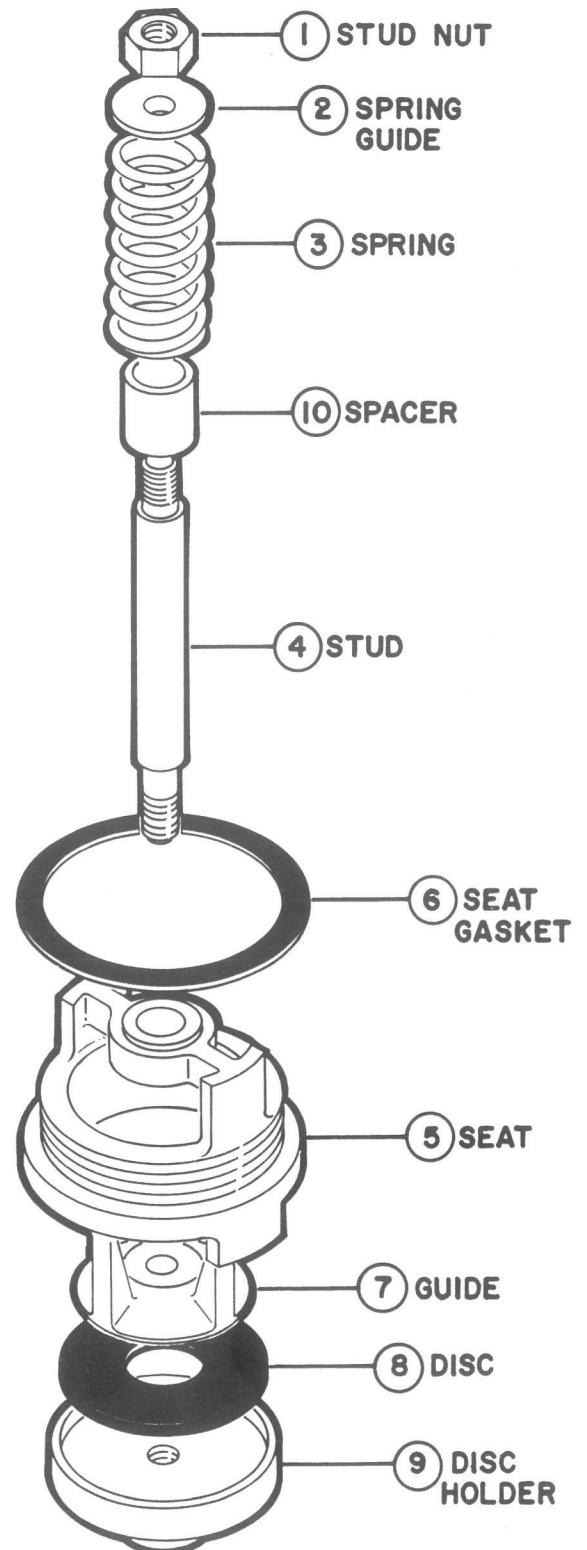
FLOW CHARTS



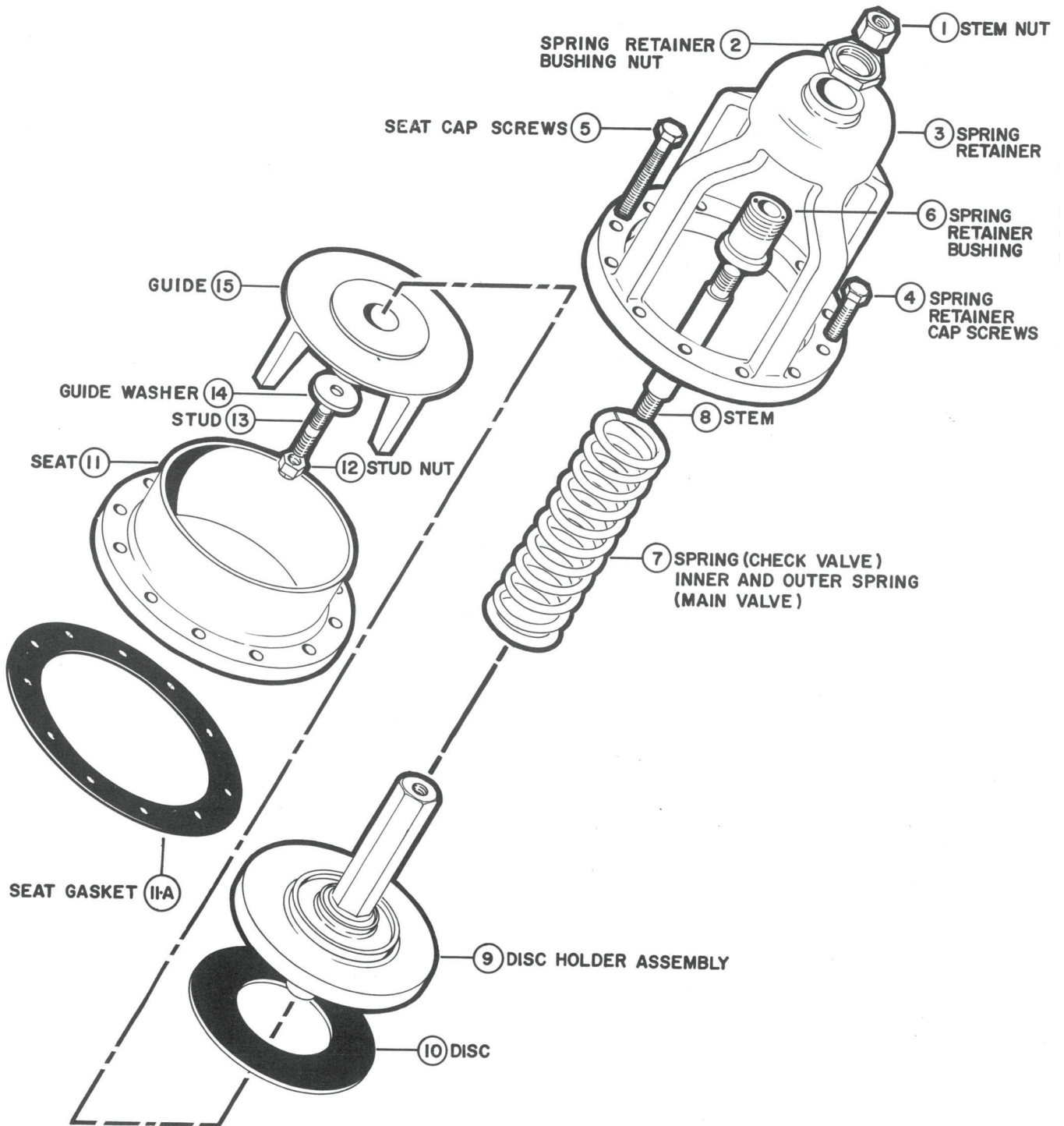
ALL BEECO REDUCED PRESSURE BACKFLOW PREVENTERS HAVE IDENTICAL OPERATING CHARACTERISTICS.
LARGER SIZES HAVE DIFFERENT EXTERNAL APPEARANCE.

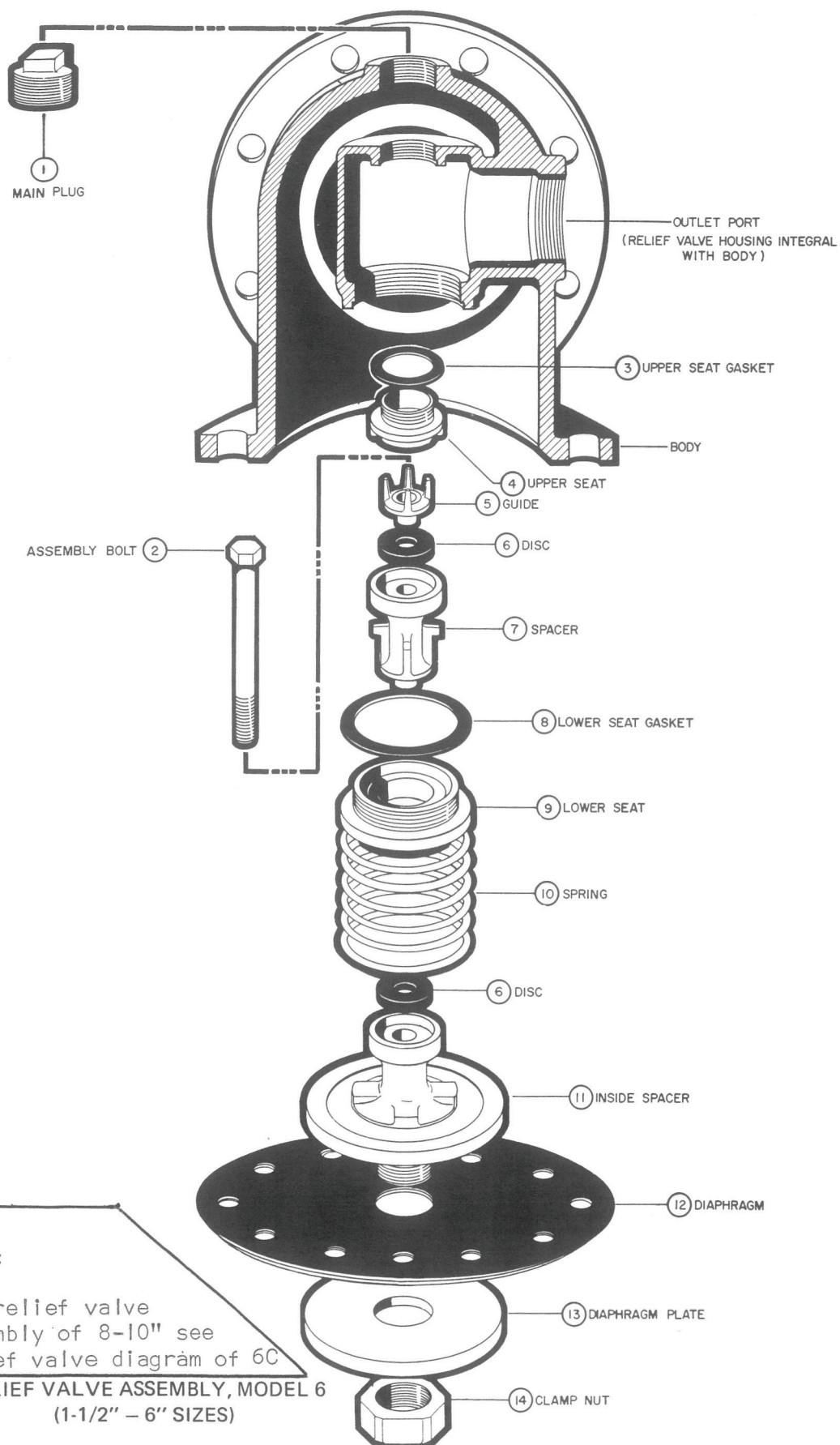


CHECK VALVE ASSEMBLY
BEECO MODEL 6 (1-1/2" – 6" SIZES)



MAIN AND CHECK VALVE ASSEMBLIES
BEECO MODEL 6 (8" AND 10" SIZES)





BEECO 6C

SIZE

Model 6C - 1", 1 1/2", 2", 2 1/2", 3", 4", 6", 8", 10"

DESCRIPTION

This is a reduced pressure assembly. The Beeco Model 6C was produced from approximately 1965 to 1978. Sizes 1"-4" are all bronze body construction. In the 1"-4" size the check seats were cast into the body and are not replaceable. The 6" size was produced in both bronze body and galvanized cast iron body. Be sure to specify which you have because repair kits are not interchangeable. The 6" cast iron unit had replaceable check seats, the 6" bronze did not. The 8" and 10" body are constructed of galvanized cast iron and had replaceable check seats. All sizes 1"-10" had replaceable R.V. seats. There is a hot water (140° - 210° F) repair kit available for sizes 1"-4". On the 1"-2" size some check covers were screwed onto the body and some were bolted. The internal hardware was made mostly of bronze. The first check spring was contained on the 1 1/2"-10" size when the first check cover was removed. The second check on the 2 1/2", 6", 8", and 10" had a contained spring design when the cover was removed. The R.V. spring on all sizes was contained when the cover was removed. The relief spring tension had to be released for proper repair. The relief valve had an internal sensing line. The relief valve required a very precise adjustment of the relief valve seats. Read the repair section to understand this important adjustment procedure.

BASIC REPAIR KIT

Repair kit contains all rubber discs, diaphragms, and gaskets.

<u>SIZE</u>	<u>KIT NO</u>
1"	61225
1 1/2"	61226
2"	61227
2 1/2"	61228
3"	61229
4"	61230
6" Cast iron	61231
6" Bronze	61232
8"	61233
10"	61234

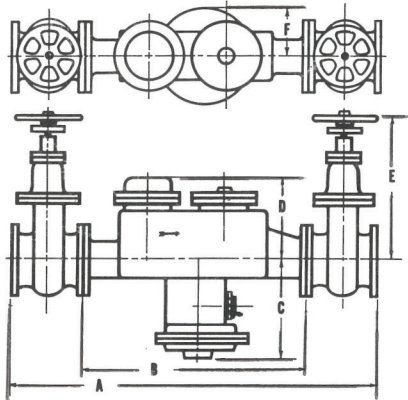
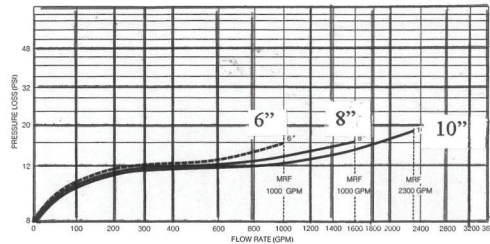
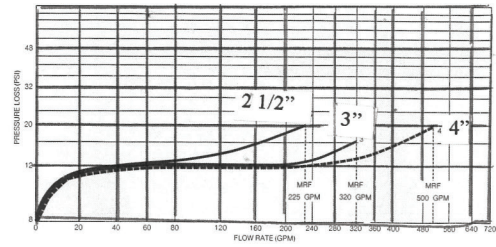
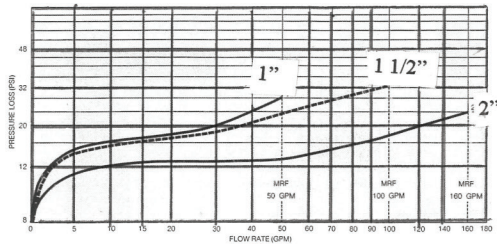
IMPORTANT FEATURES

- ~Bronze body 1"-6"
- ~Cast iron body 6"-10"
- ~Internal R.V. sensing line
- ~R.V. springs are contained
- ~R.V. seats are replaceable
- ~Some sizes of check springs are not contained
- ~Bronze body units check seats are not replaceable
- ~Cast iron body check seats are replaceable
- ~Factory repair information enclosed



Aergap™ REDUCED PRESSURE BACKFLOW PREVENTERS

by BEECO® Model 6C



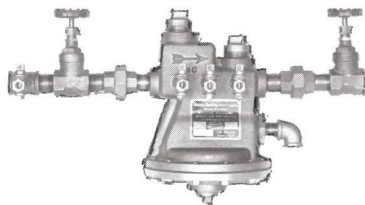
Dimensions and Weights														
Size	*1	*1 1/2	*2	2 1/2	3	4	6 CI	6 BR	8	10	1	1 1/2	2	
End Detail	SCR	SCR	SCR	FLG	FLG	FLG	FLG	FLG	FLG	FLG	FLG	FLG	FLG	FLG
GPM	50	100	160	225	320	500	1000	1000	1600	2300	50	100	160	
A	12 5/8"	18"	18 3/8"	35 1/8"	40 1/8"	46 5/8"	62 1/8"	59 5/8"	90 3/4"	100 1/4"	18 1/4"	25 1/2"	31"	
B	8 1/4"	12 1/4"	12"	20"	24"	28 1/2"	41"	38 1/2"	67 3/4"	74 1/4"	11 1/8"	16 3/8"	16 7/8"	
C	8 1/4"	8 1/2"	11 1/4"	11"	11"	12"	14 1/2"	13 3/8"	21"	22"	8 1/4"	8 1/2"	11"	
D	5"	6 1/4"	9 7/8"	7 1/4"	8 1/2"	10"	15 1/2"	13 13/16"	21"	22"	5"	6 1/4"	10"	
E	5 3/16"	7 1/16"	8 5/8"	13 3/4"	15 1/2"	18 3/4"	21 1/4"	24"	27 1/2"	33"	5 3/4"	7 1/4"	13"	
F	4 1/2"	4 1/2"	5 1/4"	5 1/4"	5 1/4"	5 1/2"	10"	10 1/16"	13"	13"	4 1/2"	4 1/2"	5 1/4"	
Relief Valve Opening	3/4"	3/4"	1 1/4"	1 1/4"	1 1/4"	2"	2"	2"	3"	3"	3/4"	3/4"	1 1/4"	
Size of Test Cocks	1/4"	1/4"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	1/4"	1/4"	1/4"	
Net Wt. No Valves Lbs.	47	70	105	130	170	260	730	485	1750	2450	50	80	115	
Net Wt. With Valves Lbs.	50	75	115	235	315	480	1100	825	2350	3400	65	95	200	
Gross Wt. No Valves Lbs.	50	80	130	160	200	300	840	575	2000	2800	60	90	140	
Gross Wt. With Valves Lbs.	55	100	140	280	360	540	1230	925	2700	3800	90	120	230	

*Maximum Rated Flows AWWA Standard C506-69 — Backflow Preventers.

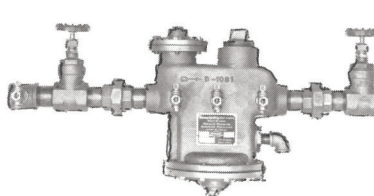
*May be longer depending on type and model gate valves available.

Performance Charts available on request

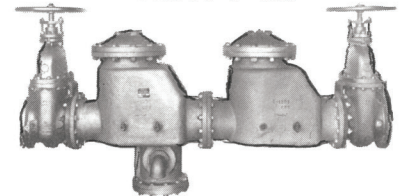
MODEL 6-C 1" SIZE



MODEL 6-C 1 1/2" SIZE



MODEL 6-C 8" SIZE

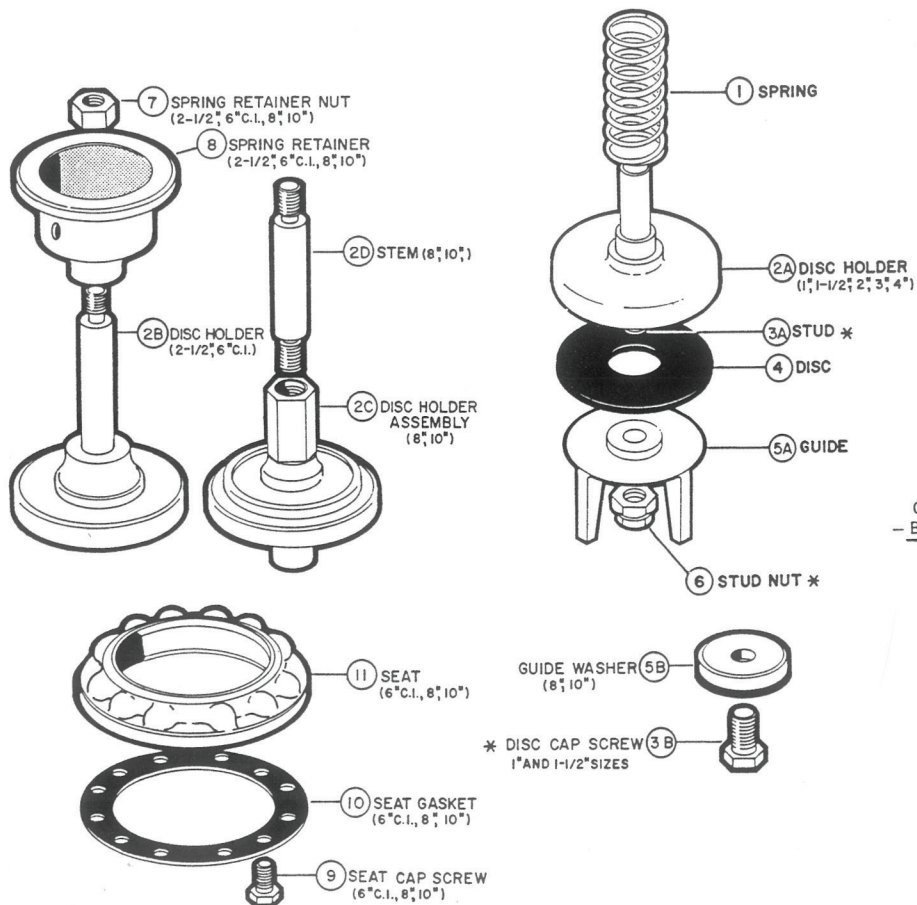
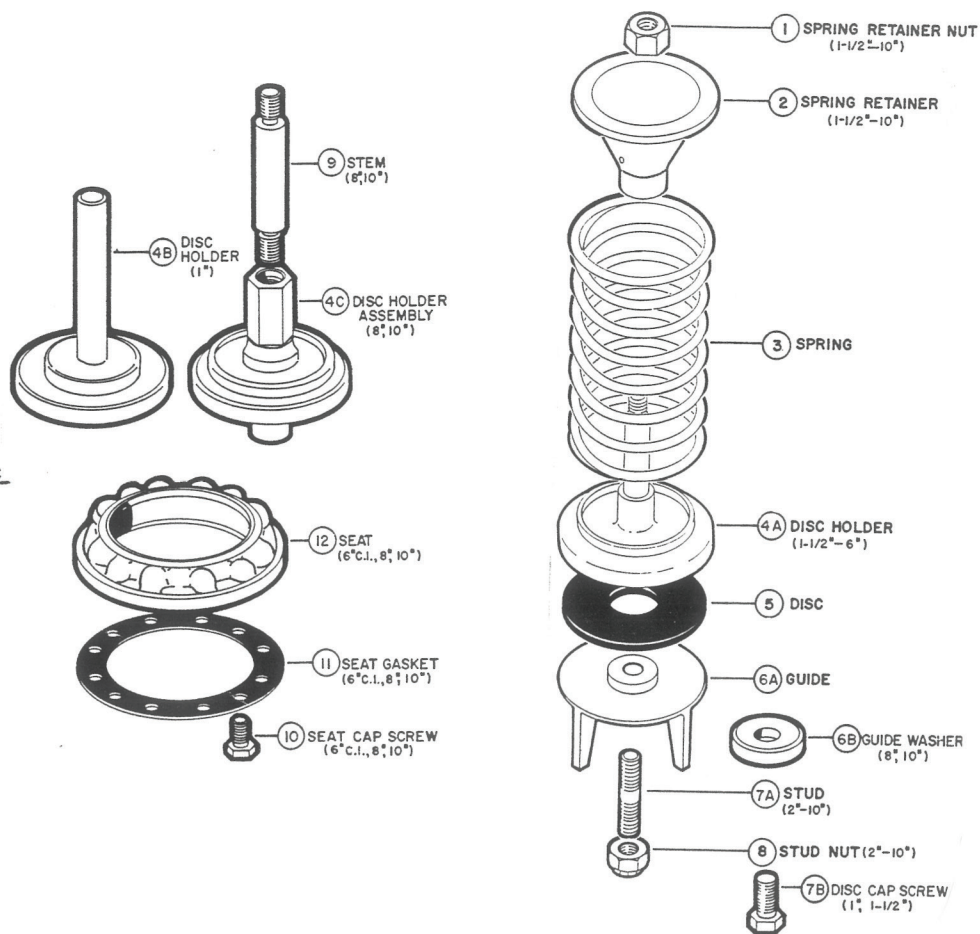


SPECIFICATIONS

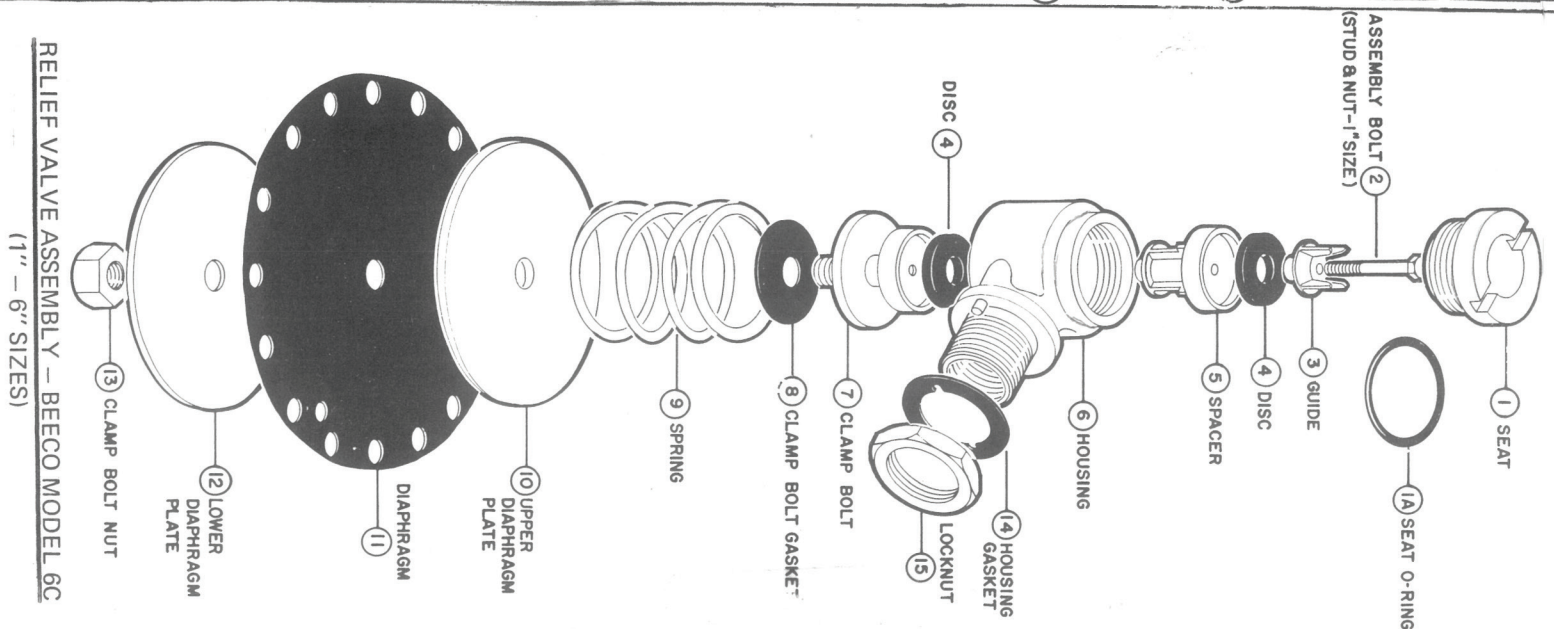
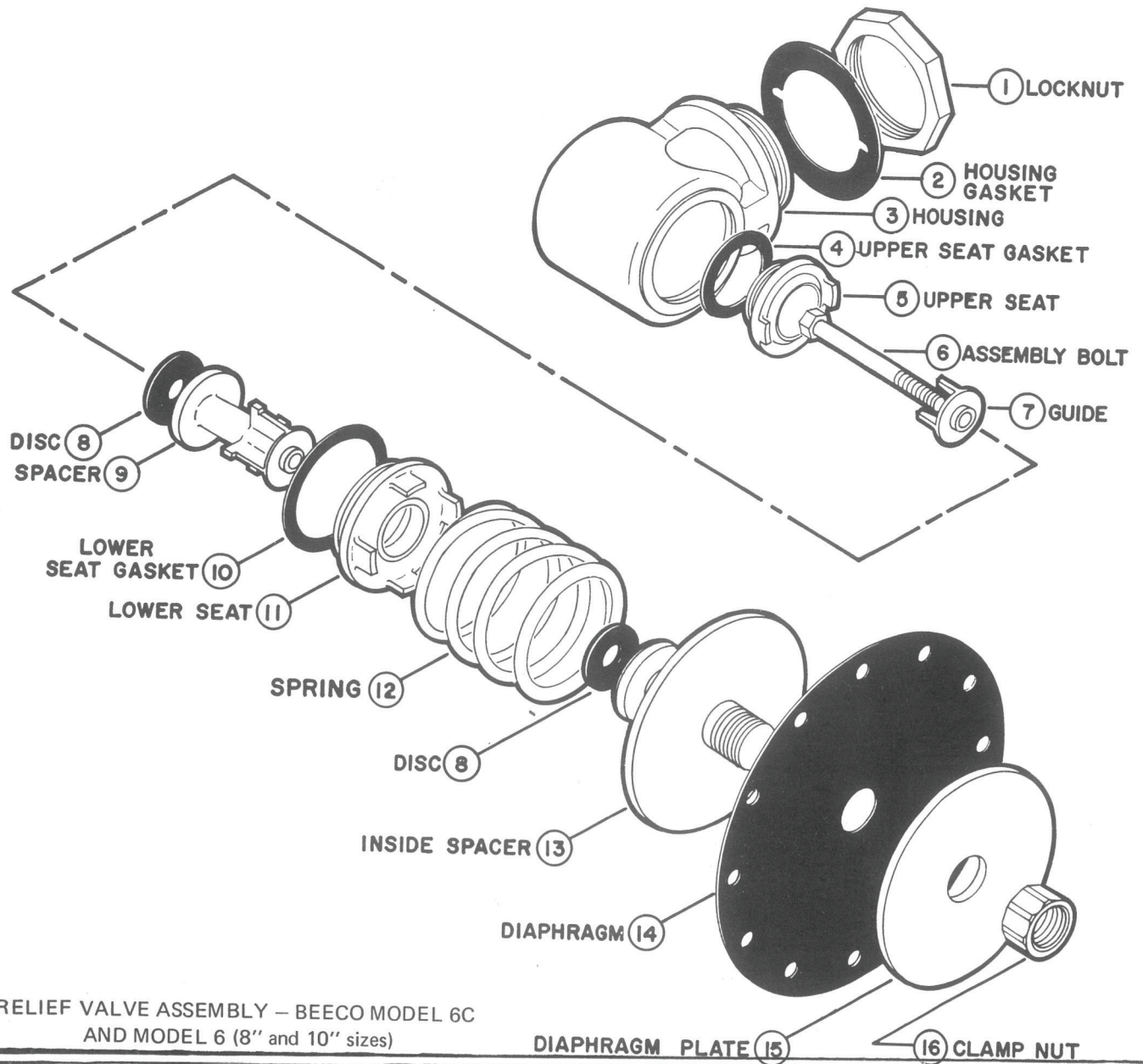
Body:	1" - 4" Bronze (6" optional) 6" - 10" Galvanized cast iron	
Working Parts:	Bronze	
Springs:	Stainless Steel	Plastic-Coated Carbon Steel
1" - 3"	All	
4"	Second check valve Relief valve	First check valve
6"	Second check valve Relief valve	First check valve
8" - 10"	All	

Valve Discs:	Neoprene
Diaphragm:	Neoprene coated cotton duck
Maximum working pressure:	175 psi
Hydrostatic test pressure:	350 psi
Temperature Range:	32° F. - 145° F.

MAIN VALVE ASSEMBLY — BEECO MODEL 6C



CHECK VALVE ASSEMBLY — BEECO MODEL 6C



HERSEY 6CM

SIZE

2 1/2", 3", 4", 6", 8", 10"

DESCRIPTION

This is a reduced pressure assembly. Production began approximately in 1977 and was discontinued in 2004. The bodies are constructed of both bronze and cast iron in the 2 1/2"-6" size. Be sure to specify which you have as the repair kits are different. The bronze body assemblies were discontinued in 2001. The 8"-10" body only come in cast iron. From 1977-1993 the cast iron bodies were galvanized coated. From 1991-1992 the HP painted epoxy was available as an option to the galvanized. In 1993 a fused epoxy coating became the standard. For temperatures from 140° -180° F there is a hot water repair kit available for the 2 1/2"-6". In 1988 the end to end body dimension on the cast iron bodies in sizes 2 1/2" and 4" were changed. The earlier model in the 2 1/2" cast iron body valve was 1 1/2" shorter than shown in the dimension chart. The 4" cast iron valve was 1" shorter. The repair parts are the same. The internal hardware parts are mostly bronze. The check and relief seats are replaceable on all sizes. A seat removal tool is needed to replace the check seats. The check and relief springs are contained on all sizes when the covers are removed. The RV spring tension has to be released to perform a proper repair. The relief valve sensing line is internal. From 1990-1992 the galvanized cast iron version adopted a plastic sleeve inside the RV sensing line, this was to eliminate rusting that occurred in the cast iron version which could plug up the sensing line. In 1993 the design of the check cover was changed. Before 1993 a gasket was used to seal the check covers to the body. After 1993 an O-ring seal was used on the check covers.

BASIC REPAIR KIT

Repair kit contains all rubber discs, diaphragm, gaskets, and O-rings.

<u>SIZE</u>	<u>KIT NO</u>	<u>AIR GAP DRAIN</u>
2 1/2" bronze	63550	63358
2 1/2" cast iron	63543	63358
3" cast iron	63350	63358
4" bronze	63443	63358
4" cast iron	63450	63358
6" bronze	63643	63358
6" cast iron	63650	63358
8"	63850	63858
10"	63950	63858

IMPORTANT FEATURES

- ~2 1/2 "-6" bronze body unit option
- ~2 1/2 "-10" galvanized cast iron body
- ~All springs are contained
- ~All seats are replaceable
- ~RV sensing line is internal
- ~Factory repair information enclosed



Reduced Pressure Backflow Prevention Assembly Sizes 2½" – 3" – 4" – 6" – 8" – 10"

FEATURES

Exclusive Aergap[®] system protection.

Hot-dipped galvanized, epoxy-coated cast iron, or bronze body.*

Replaceable seats and springs.

Rugged one piece body construction for long, dependable service.

Can be specified with OS&Y or NRS gate valves.

In-line maintenance.

Test cocks for in-line field testing.

Internal sensing passage.

Hot water approval to 140° F.

*Bronze available in 2½"–6" only.

Approvals by: USC, CSA B64.6, ASSE 1013, AWWA, FM; IAMPPO listed; UL, ULC classified, U.S. Navy, U.S. Army.

Classified by  as to friction loss and body strength

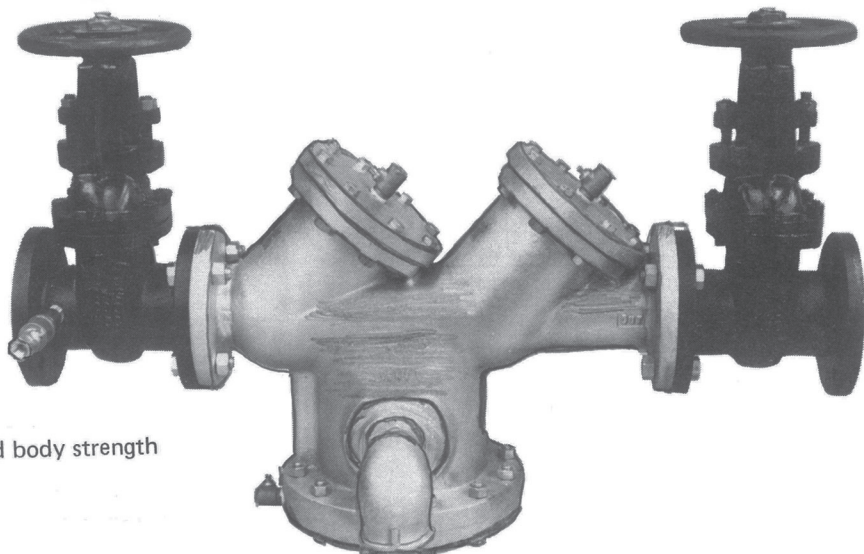
DESCRIPTION

The Hersey Model 6CM Reduced Pressure Backflow Prevention Assembly features the exclusive Hersey Aergap[®] system. This design provides the highest level of protection against backflow.

The unit consists of two independent spring loaded poppet-type check valve assemblies, and a relief valve, all mounted in a common body. The relief valve is a diaphragm actuated, spring loaded, double seated valve assembly. Two gate valves (either NRS or OS&Y) and four test cocks for field testing complete the basic features. The valve assemblies are of modular design and easily removed from the top of the device for in-line servicing.

APPLICATION

For use at cross-connections when the danger from backflow presents a health-hazard.



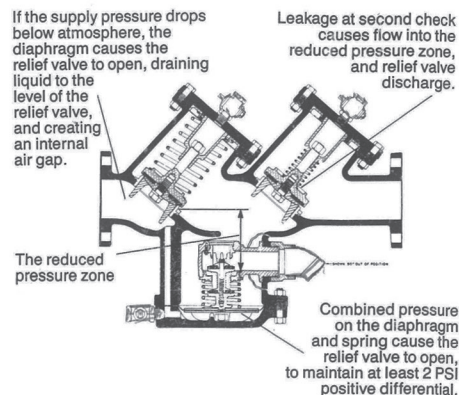
OPERATION

Normal operation – The independent, spring loaded check valves remain closed until there is a demand for water. The relief valve remains closed because of the differential between the supply pressure and the reduced pressure in the zone between the check valves.

Backpressure – In the event pressure increases downstream, tending to reverse direction of flow, both check valves are closed to prevent backflow. If the second check valve is prevented from closing tightly, leakage into the reduced pressure zone increases the zone pressure to within a few pounds of the supply pressure. This causes the relief valve to open, and backflow is discharged.

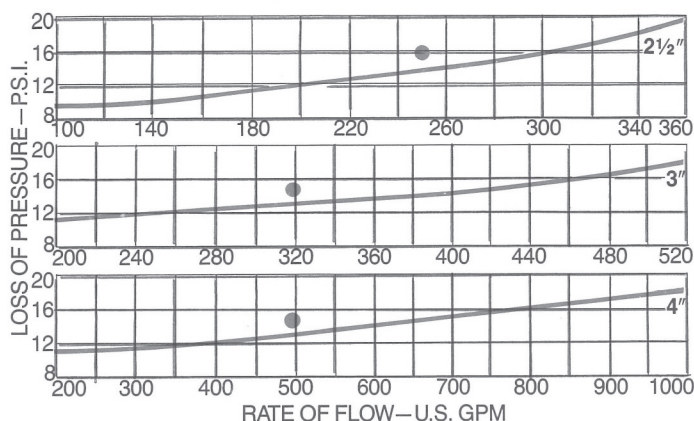
Backsiphonage – If the supply pressure drops to atmosphere or lower than the reduced pressure zone, the relief valve will open, creating an internal air gap at least twice the diameter of the inlet pipe. This air gap is maintained between the first check valve and the second check valve as all the water in the reduced pressure zone is released to the atmosphere.

The Aergap[®] Principle

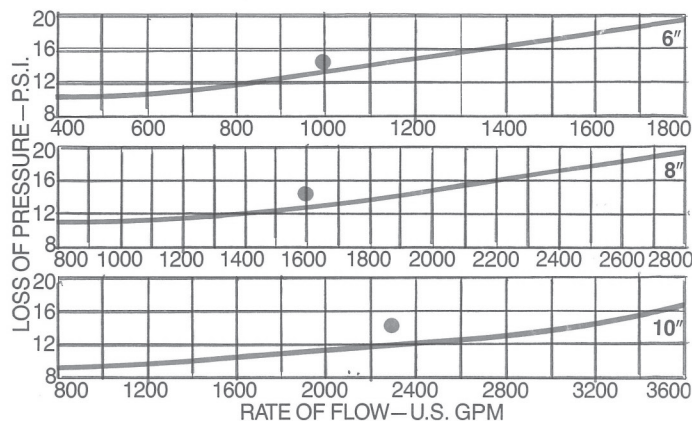


PERFORMANCE (Performance curves are typical only and not a guarantee of performance)

Head Loss – 2½", 3" and 4"



Head Loss – 6", 8" and 10"



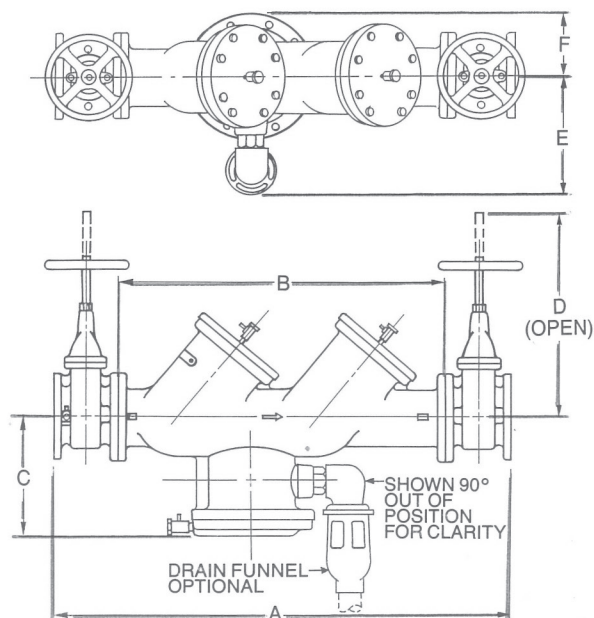
NOTE: ● Maximum Allowable Pressure Loss allowed by USC at indicated flow.

DIMENSIONS on 2½" & 4" see description

DIMENSIONS	2½"	3"	4"	6"	8"	10"
A (bronze)	35"	40"	46½"	62"	—	—
A (iron)	36½"	40"	47½"	62"	75½"	88"
B (bronze)	20"	24"	28½"	41"	—	—
B (iron)	21½"	24"	29½"	41"	52½"	62"
C (bronze)	9¾"	10"	10¾"	12"	—	—
C (iron)	9¼"	10"	10¾"	12"	21¼"	22¾"
D (NRS)	12½"	13½"	15¼"	19¾"	24½"	29¾"
D (OS+Y**)	17¾"	22½"	25"	32¾"	41½"	48½"
E (bronze & iron)	10½"	10½"	10½"	10½"	17¾"	17¾"
F (bronze)	4½"	4½"	4¾"	6¾"	—	—
F (iron)	5¼"	5¼"	5¼"	6¾"	8¾"	10¾"
Size of Test Cocks	½"	½"	½"	¾"	¾"	¾"
Relief Valve Opening	2"	2"	2"	2"	3"	3"

*8" and 10" available in cast iron only

**OS+Y gate valve "D" dimension valve open.



WEIGHTS

SIZE (BRONZE)	2½"	3"	4"	6"
Net Wt. No Valves, Lbs.	130	194	250	548
Net Wt. W/NRS Valves, Lbs.	258	330	430	788
Net Wt. W/OS+Y Valves, Lbs.	218	306	490	875
Gross Wt. No Valves, Lbs.	160	224	280	630
Gross Wt. W/NRS Valves, Lbs.	288	360	470	870
Gross Wt. W/OS+Y Valves, Lbs.	260	362	530	905

SIZE (IRON)	2½"	3"	4"	6"	8"	10"
Net Wt. No Valves, Lbs.	160	206	293	532	1266	1955
Net Wt. W/NRS Valves, Lbs.	264	330	476	874	1876	2769
Net Wt. W/OS+Y Valves, Lbs.	270	340	490	876	1926	2966
Gross Wt. No Valves, Lbs.	190	236	328	622	1370	2100
Gross W/NRS Valves, Lbs.	294	360	526	964	1980	3084
Gross W/OS+Y Valves, Lbs.	300	370	540	966	2030	3136

MATERIALS AND SPECIFICATIONS

Body hot-dipped galvanized or epoxy coated cast iron; 2½"-10"

Body bronze; 2½"-6"

Working parts bronze and stainless steel

Springs stainless steel*

Diaphragms reinforced elastomer

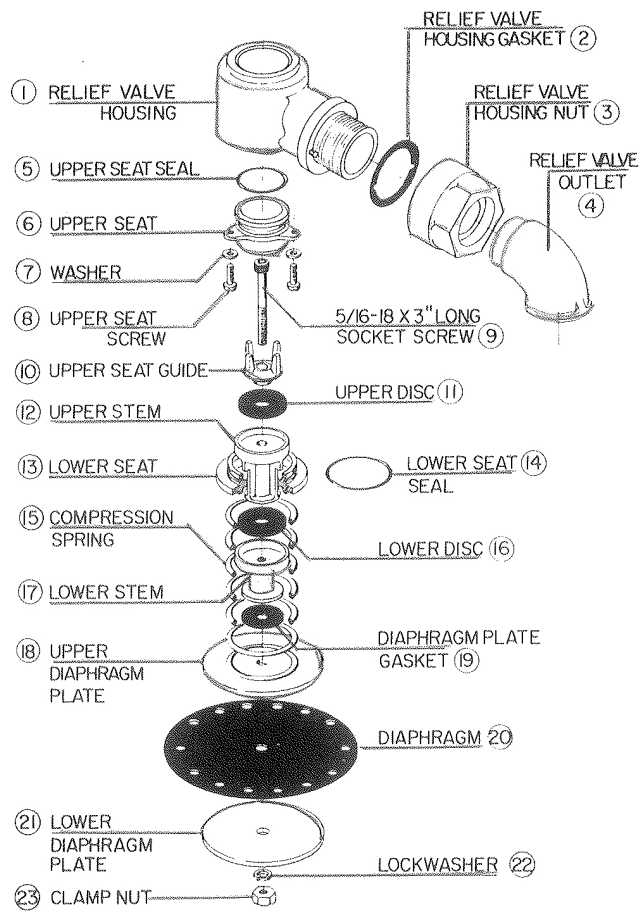
Valve discs silicone rubber

Maximum rated working pressure 175 psi

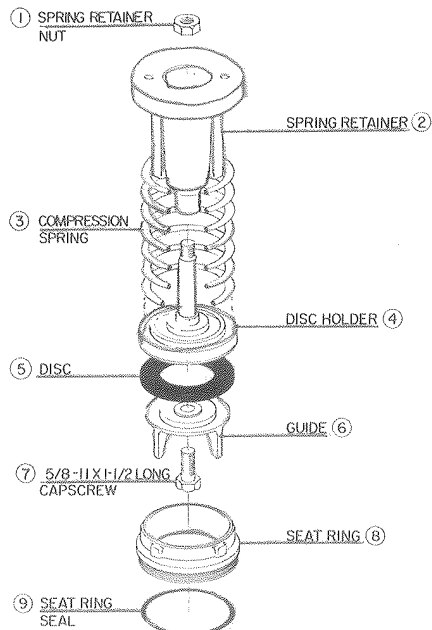
Hydrostatic test pressure 350 psi

Temperature range 33°-140°F
(Available up to 180°)

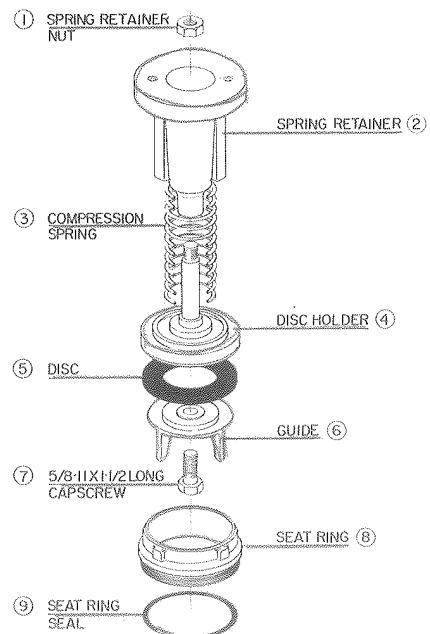
*8" and 10" first check springs are carbon steel vinyl-coated.



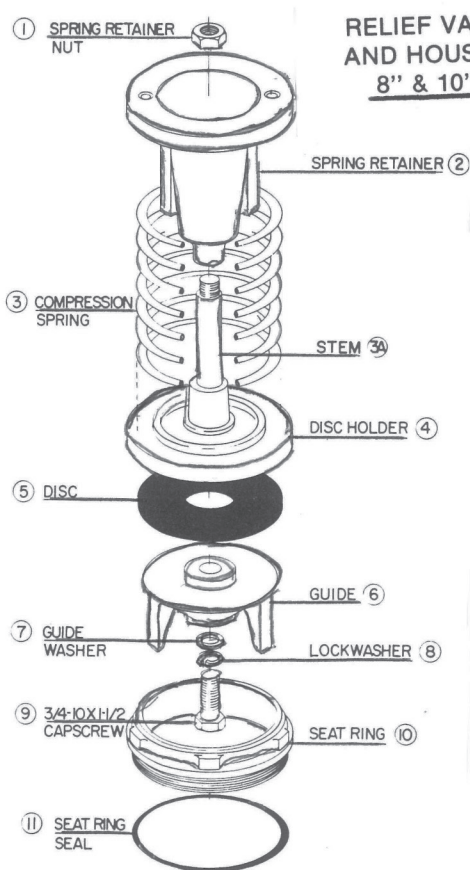
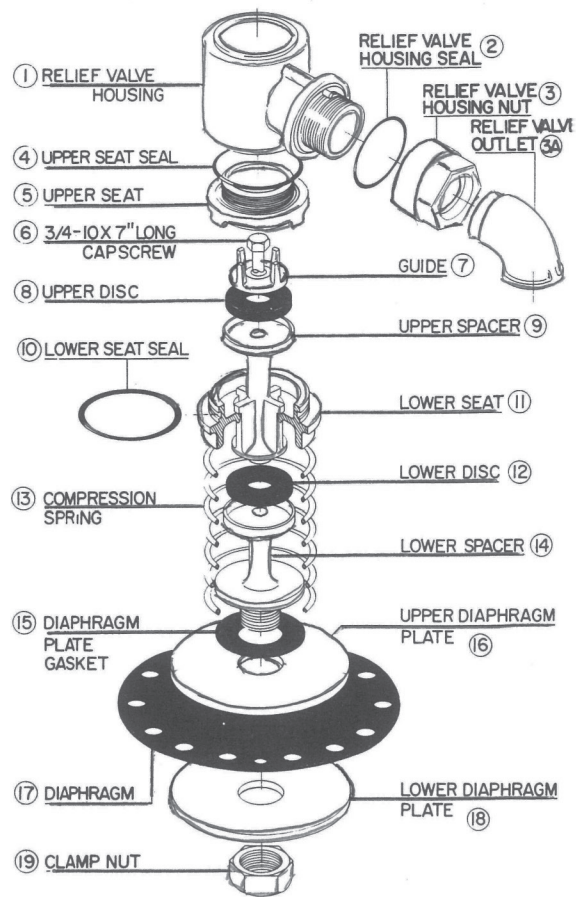
**RELIEF VALVE ASSEMBLY
AND HOUSING ASSEMBLY
2 1/2"-6" MODEL 6CM**



**MAIN VALVE ASSEMBLY
2 1/2"-6" MODEL 6CM**

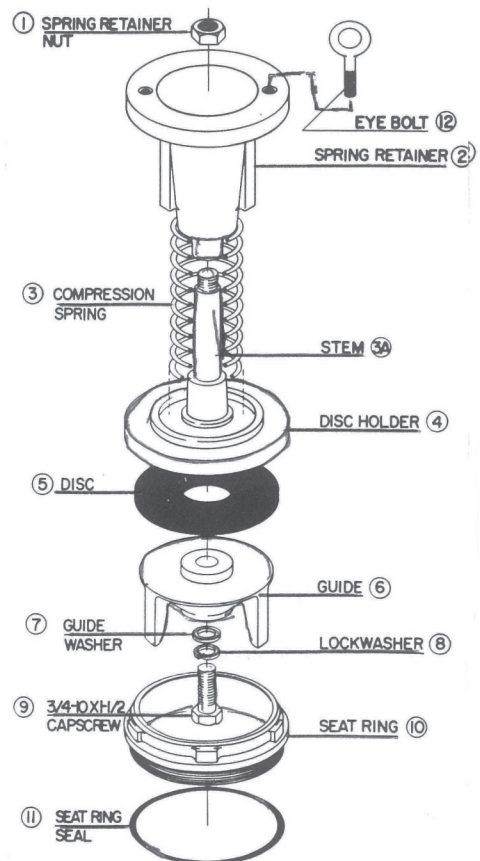


**CHECK VALVE ASSEMBLY
2 1/2"-6" MODEL 6CM**

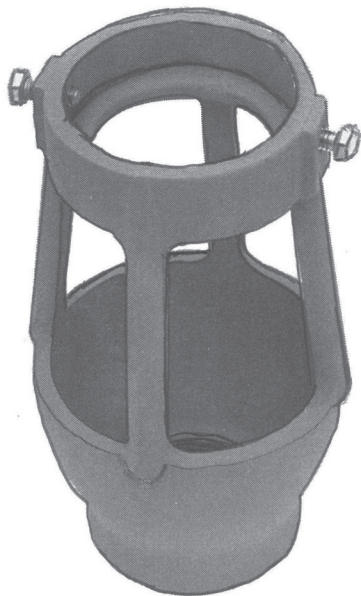


**MAIN VALVE ASSEMBLY
8" & 10" MODEL 6CM**

**RELIEF VALVE ASSEMBLY
AND HOUSING ASSEMBLY
8" & 10" MODEL 6CM**



**CHECK VALVE ASSEMBLY
8" & 10" MODEL 6CM**

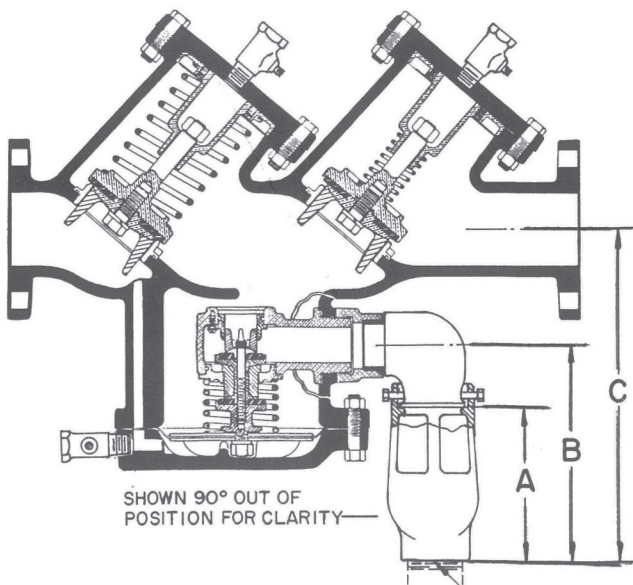


AIR GAP DRAIN FUNNEL

For installation with Hersey Model 6CM
2½", 3", 4", 6", 8" and 10"

DESCRIPTION: Easily installed air gap funnel to plumb discharge from relief valve vent of 6CM reduced pressure principle device. Should plumbed drainage system become clogged, backflow will spill out through the fixed air gap between funnel and 6CM unit. Two bolts allow simple field installation to the standard cast iron relief valve outlet as furnished with the device. The bottom of the air gap drain funnel is threaded to allow easy installation of drainage pipe. The device is constructed of cast iron and is designed in accordance with the National Plumbing code for Drain Funnel Air Gaps.

FUNCTION: Provides protection of the Model 6CM from contamination due to backflow in the drain line when installed between the relief valve outlet and the plumbing drainage system. When installed to a 6CM, the air gap drain funnel will prevent contamination from cross connection between the potable water supply and the fixture that handles the draining of the waste.



Weights and Dimensions

SIZE	PART NUMBER	A	B	C	D THREAD SIZE	WGT. LBS.
2½"	63358	8½"	10¼"	15"	2-11½ NPT	6
3"	63358	8½"	10¼"	15¾"	2-11½ NPT	6
4"	63358	8½"	10¼"	16¾"	2-11½ NPT	6
6"	63358	8½"	10¼"	17¾"	2-11½ NPT	6
8"	63858	14½"	18¾"	28¾"	4-8 NPT	11½
10"	63858	14½"	18¾"	30"	4-8 NPT	11½

HERSEY 6 CM RPDA

SIZE

4", 6", 8", 10"

DESCRIPTION

This is a reduced pressure detector assembly. Production began in 1991 and was discontinued in 2004. It utilizes an assembly similar in construction to the 6CM on the main unit. The bypass is a 1 1/2" FRP II assembly.

BASIC REPAIR KIT

Mainline repair kit contains all rubber discs, diaphragm, gaskets, and O-rings.

<u>SIZE</u>	<u>KIT NO</u>	<u>AIR GAP DRAINS</u>
4"	63450	63358
6"	63650	63358
8"	63850	63858
10"	63950	63858

Bypass unit repair kit contains all rubber discs, diaphragms, gaskets, O-rings, and mounting screws

<u>SIZE</u>	<u>KIT NO</u>	<u>AIR GAP DRAINS</u>
FRPII 1 1/2"	65669	65640

IMPORTANT FEATURES

~Mainline unit see 6CM

~Bypass unit see FRP II 1 1/2"

~Factory repair information enclosed

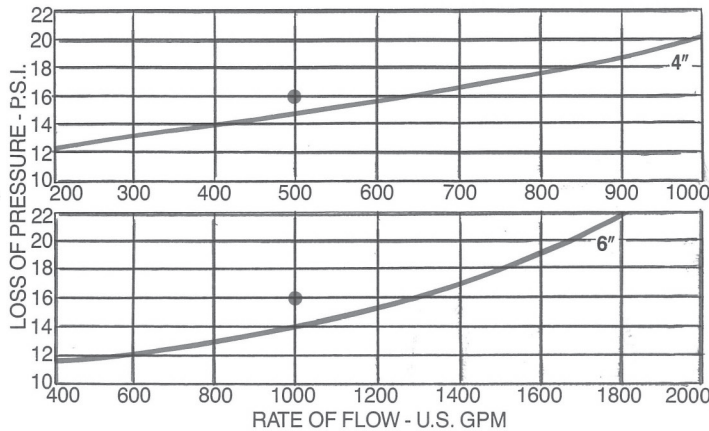


Model 6CM-RPDA

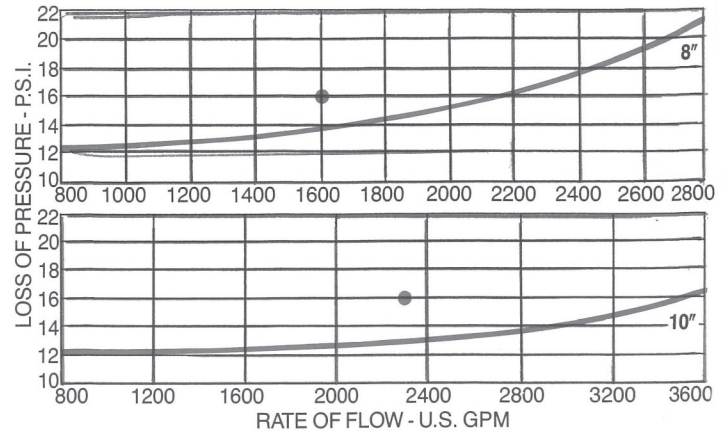
Reduced Pressure Detector Assembly

PERFORMANCE (Performance curves are typical only and not a guarantee of performance)

Head Loss - 4" and 6"



Head Loss - 8" and 10"



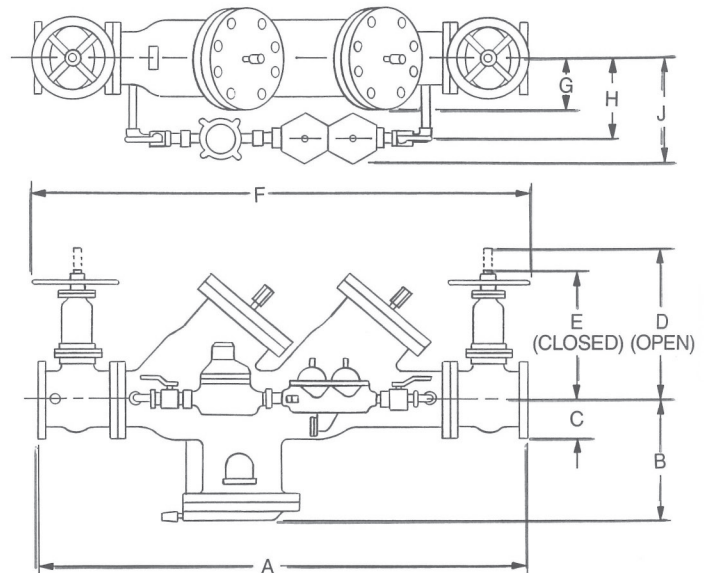
Note: • Maximum Allowable Pressure Loss allowed by USC at indicated flow.

DIMENSIONS

SIZE	4"	6"	8"	10"
A	47 1/2"	62"	75 1/2"	88"
B	10 3/4"	12"	21 1/4"	22 3/8"
C	4 1/2"	5 1/2"	7"	8 1/2"
D	25"	32 3/4"	41 1/2"	48 1/2"
E	20 3/4"	26 1/2"	32 1/2"	38"
F	48 3/4"	63 7/8"	78 1/4"	91 1/4"
G	5 1/4"	6 1/4"	8 1/2"	10 1/4"
H	10 5/8"	9 1/2"	11"	13"
J	13 3/8"	12 1/2"	13 3/4"	15 3/4"

WEIGHT

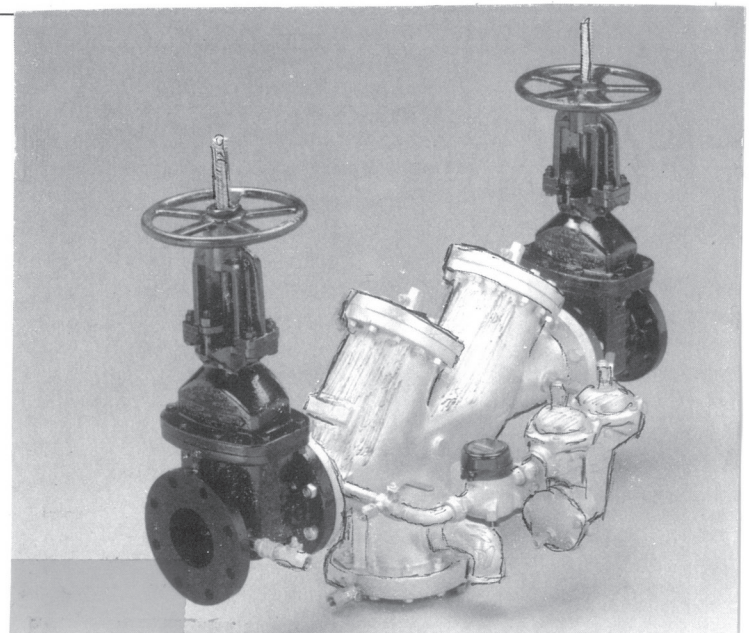
SIZE	4"	6"	8"	10"
Net Wt.	510	920	1850	2880
Gross Wt.	580	1075	2050	3200



MATERIALS AND SPECIFICATIONS

- Mainline body hot-dipped galvanized or epoxy-coated cast iron.
- Bypass body (FRP II) bronze
- Bypass meter Hersey Positive Displacement Meter
- Working parts (mainline) bronze and stainless steel
- Springs (mainline) stainless steel*
- Diaphragms (mainline) reinforced elastomer
- Check and relief valve discs (mainline) silicone rubber
- Maximum rated working pressure 175 psi
- Hydrostatic test pressure 350 psi
- Temperature range 33° - 100° F

*8" and 10" mainline, springs are carbon steel vinyl-coated.



BEECO 10

SIZE

1", 1 1/4", 2", 3", 4"

DESCRIPTION

The Model 10 is no longer in production. It was a reduced pressure assembly produced from approximately 1958 to 1970. The Model 10 was introduced when Beeco only had the Model 6 in sizes 1 1/2"-10". The Model 10 was introduced to offer a complete size range in conjunction with the Model 12 and Model 6. Later on the 2", 3", and 4" sizes were introduced but only for a limited time. The Model 10 is different from the rest of Beeco reduced pressure assemblies in that the first check is diaphragm assisted instead of a poppet check. The 3" and 4" size had 3 different styles of second checks. The first was a single 3" or 4" VC check bolted on the end. The second was a single 3" or 4" Hersey Model 1 check bolted on the end. The third one was a specially designed check which was a swing check similar to the Hersey Model 1. The second check on all versions was detached from the main body. The first check spring is contained on all sizes when the cover is removed. The second check spring was not contained on the 1"-2" sizes only. Check seats were not replaceable on the 1"-2" sizes. On the 3"-4" sizes the first check and some of the second check seats were replaceable depending on which second check design was used. Special tools were needed to change these check seats. The internal parts are mostly made of bronze. This design utilized an internal relief valve sensing line. The relief valve seats were replaceable on all sizes and the relief spring was contained when the cover was removed. The relief valve design was the same one as used in the Beeco 6C Model. See Model 6C for relief valve breakdown. All spring tension had to be released to perform a proper repair.

BASIC REPAIR KIT

Repair kit contains all rubber discs, diaphragms, gaskets, and O-rings.

SIZE

1-1 1/4"

2"

3"

4"

KIT NO

61242◆

61247◆

61248◆

61249◆

IMPORTANT FEATURES

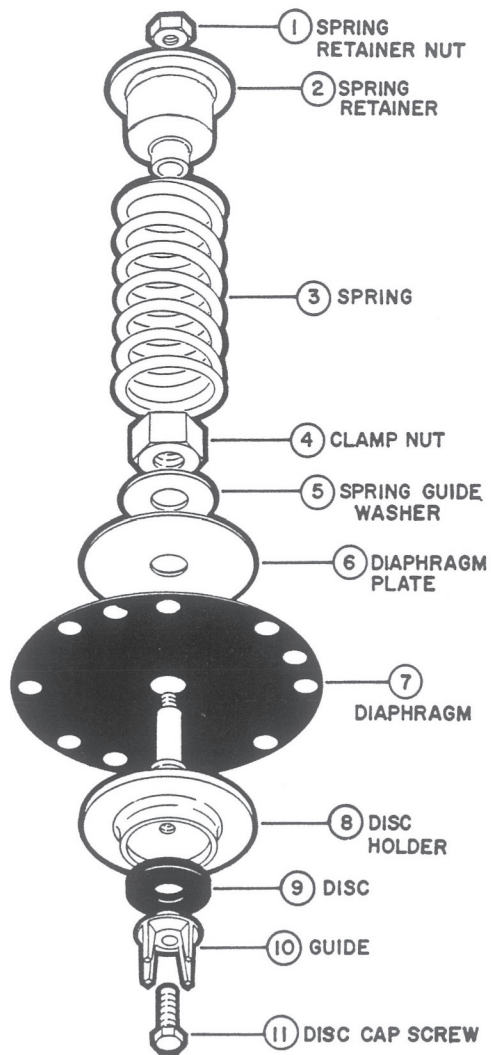
~Body material were galvanized cast iron or bronze depending on size and version

~Not all seats were replaceable

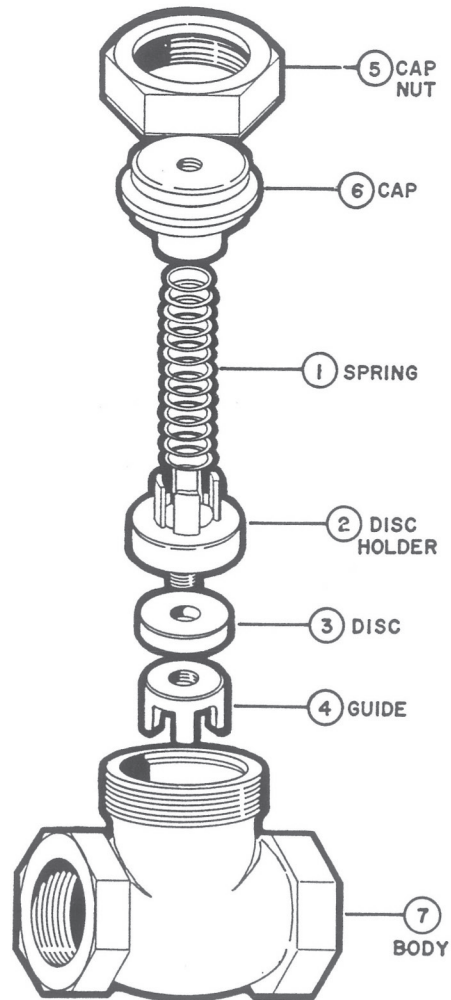
~First check and relief valve springs are contained

~Factory repair information enclosed





MAIN VALVE ASSEMBLY
BEECO MODEL 10 (1" AND 1-1/4" SIZES)

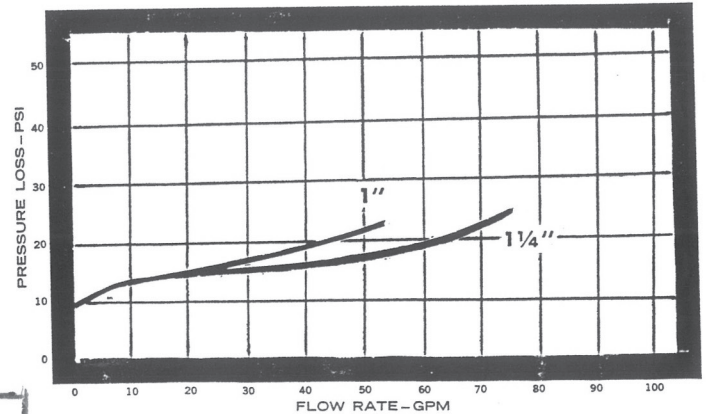


CHECK VALVE ASSEMBLY, BEECO MODEL 10
(1" AND 1-1/4" SIZES)

For relief valve assembly see Beeco model 6C

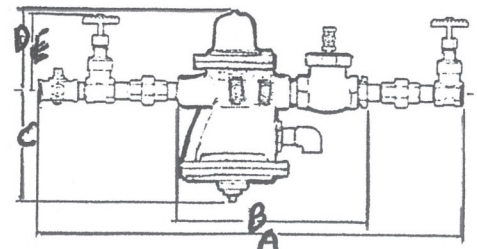
FLOW CHART

SPECIFICATIONS	BODY	BRONZE
	WORKING PARTS	BRONZE
	SPRINGS	STAINLESS STEEL
	VALVE DISCS	NEOPRENE
	DIAPHRAGMS	NEOPRENE COATED COTTON DUCK
MAXIMUM WORKING PRESSURE		175 PSI
HYDROSTATIC TEST PRESSURE		350 PSI
TEMPERATURE RANGE		32°F—145°F



DIMENSIONS

SIZE	1	1 1/4	1	1 1/4
END DETAIL	SCR	SCR	FLG	FLG
GPM*	53	75	53	75
A	33	37	26	28
B	16	16	19	20
C	9	9	9	9
D	7	7	7	7
E	5	6	6	6
RELIEF VALVE OPENING	3/4	3/4	3/4	3/4
SIZE OF TEST COCKS	1/4	1/4	1/4	1/4
NET WT. NO VALVES	64	66	67	70
WITH VALVES	73	77	83	88
GROSS WT. NO VALVES	69	83	72	75
WITH VALVES	78	95	88	93



BEECO 12

SIZE

3/4"

DESCRIPTION

The Model 12 is a reduced pressure assembly produced from approximately 1960-1975. The unit has to be removed from the line to be repaired. Unions were provided on each end for this purpose when the assembly was manufactured. There is a hot water kit available for 140° -210° F. The body was made of bronze. The design of the body had an offset in the body it was not a straight horizontal design. The relief and second check seats are cast in the body and are not replaceable. The check springs are not contained when the body is disassembled. Internal hardware parts are mostly made of bronze.

BASIC REPAIR KIT

Repair kit contains all rubber discs, diaphragm, and gaskets.

SIZE

3/4"

KIT NO

61243 ♦

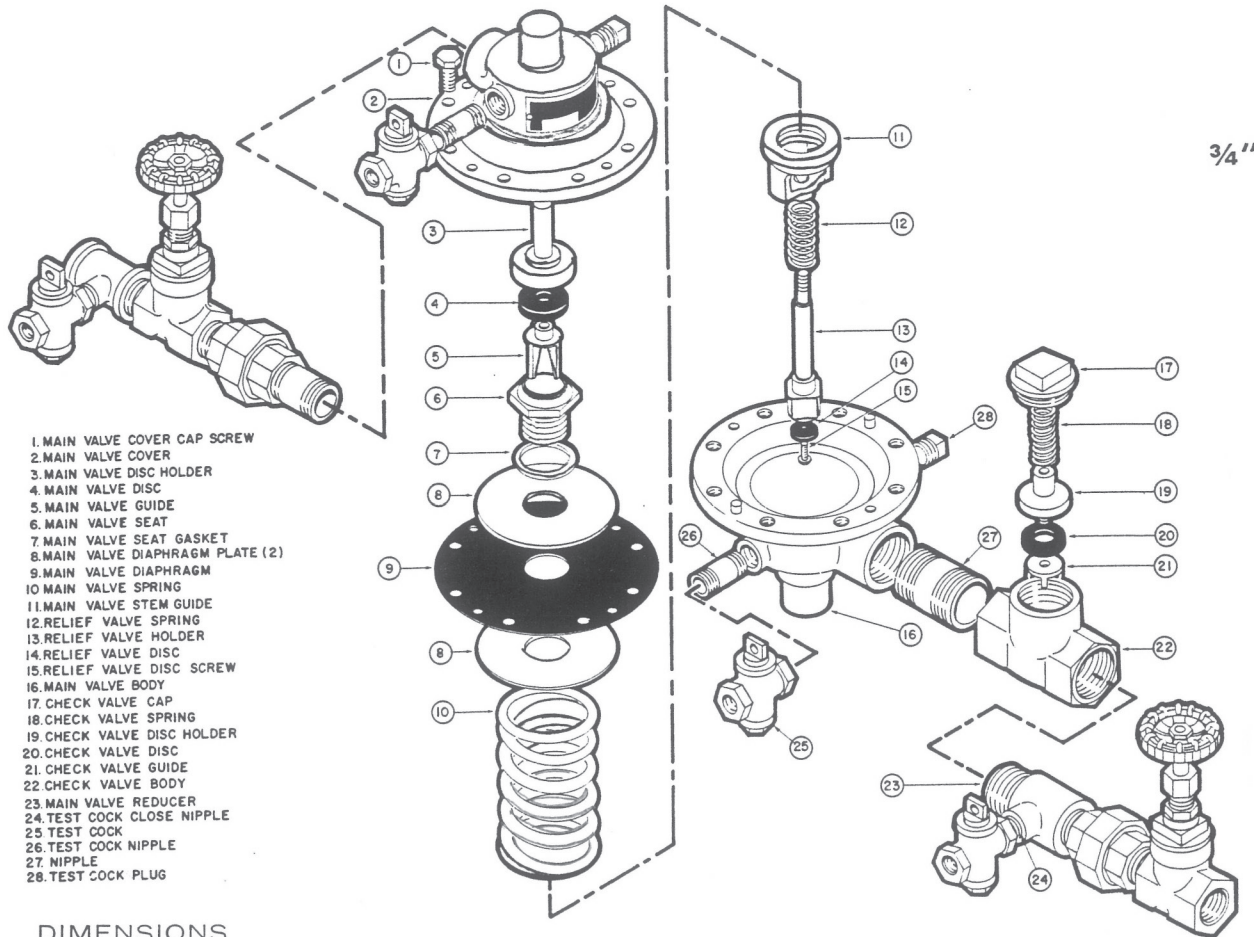
IMPORTANT FEATURES

~Bronze body

~Check springs are not contained

~Not in line repairable





DIMENSIONS

Net Weight		Gross Weight	
With Valves	No Valves	With Valves	No Valves
19 lbs.	16 lbs.	23 lbs.	19 lbs.

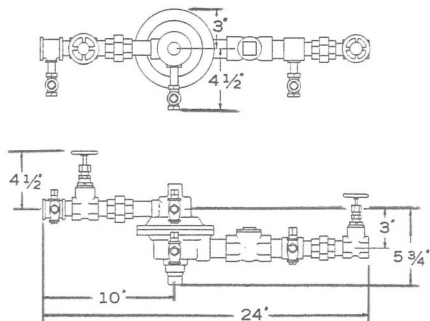
End Detail	3/4" IPS
Relief Valve Opening	1/2"
Size of Test Cocks	1/4"
Maximum recommended flow	34 gpm

Pressure loss at 0 gpm — 6 psi / at 34 gpm — 33 psi

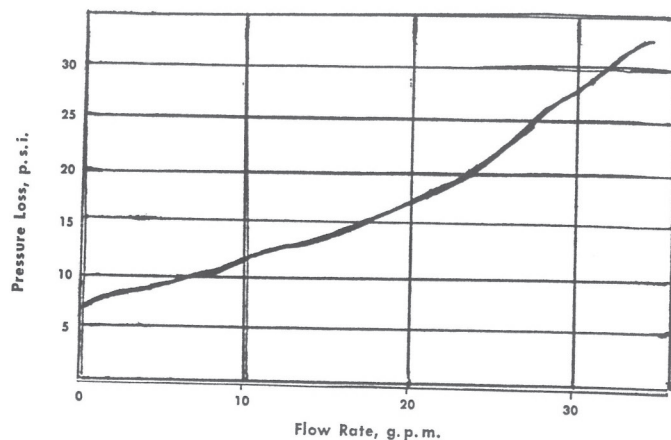
SPECIFICATIONS

Body	Bronze
Working Parts	Bronze
Springs	Stainless Steel
Valve Discs	Neoprene
Diaphragm	Neoprene coated cotton duck

Maximum working pressure	125 psi
Hydrostatic test pressure	350 psi
Temperature range	32 F - 145 F



FLOW CHARTS



BEECO 14

SIZE

3/4", 1", 1 1/2", 2", 2 1/2", 3", 4", 6"

DESCRIPTION

The Model 14 is a reduced pressure assembly produced from approximately 1968-1975. The sizes 3/4"-4" were bronze body construction. The 6" body was made of galvanized cast iron. The checks were bronze in construction and modular in design and utilized a cam operated mechanism. All springs were contained when the covers are removed. Spring tension had to be released to perform a proper repair. All seats were replaceable. It had an internal relief valve sensing line. The relief valve had a contained spring when the cover was removed. The relief valve was very similar to the 6CM design. Internal hardware parts are mostly bronze.

BASIC REPAIR KIT

Repair kit contains all rubber discs, diaphragm, gaskets, and O-rings.

<u>SIZE</u>	<u>KIT NO</u>
3/4"-1"	60080 ♦
1 1/2"	60150 ♦
2"	60250 ♦
2 1/2"	60550 ♦
3"	60350 ♦
4"	60450 ♦
6"	60650 ♦

IMPORTANT FEATURES

~3/4"-4" bronze body

~6" galvanized cast iron

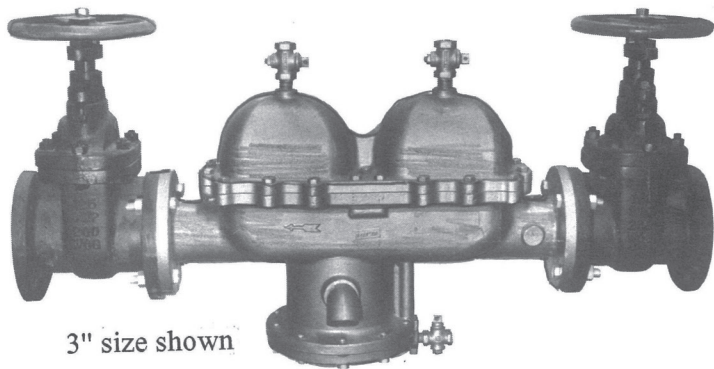
~Modularized check assembly

~All seats are replaceable

~All springs are contained

~Internal R.V. sensing line





Hersey
PRODUCTS INC.

BEECO[®] MODEL 14 REDUCED PRESSURE BACK FLOW PREVENTER

SIZES 3/4", 1", 1½", 2", 2½", 3", 4" and 6"

DESCRIPTION

The Hersey Model 14 Reduced Pressure Backflow Preventer operates on the principle that water will not flow from a zone of lower pressure to one of higher pressure.

The device consists of two spring-loaded check valves and a spring-loaded, diaphragm actuated, differential pressure relief valve located in the zone between the check valves. Note that the pressure relief valve is located below the first check to provide maximum protection against hazardous backflow.

OPERATION

Normal: The check valves remain closed until there is a demand for water. In opening and crossing the first check valve, water is reduced in pressure by a predetermined amount. The differential pressure relief valve remains in a closed position because of the differential between the supply pressure and the reduced pressure within the zone. The second check valve is lightly loaded and remains open as water flows through the device in the normal direction.

Backpressure: In the event pressure increases downstream of the device, tending to reverse the direction of flow, both check valves are closed and operating to prevent backflow.

Because any check valve may leak as a result of wear or obstruction, the protection provided by check valves alone is not sufficient where there is a health hazard. If the second check valve is prevented from closing tightly, leakage back into the zone increases the zone pressure to within a few pounds of the supply pressure, the relief valve opens, and water is discharged to atmosphere. The relief valve operates automatically to maintain pressure within the zone lower than the supply pressure.

When supply pressure drops, the relief valve opens automatically and drains enough water to atmosphere to maintain pressure in the zone lower than the supply pressure.

Backsiphonage: When the supply pressure drops below atmospheric, the pressure in the zone will be atmospheric and the relief valve will remain fully open, providing, in effect, an air gap between the two check valves.

FEATURES

- **MODULAR CHECK VALVES**
- **REPLACEABLE SEATS**
- **LOW HEADLOSS**
- **CORROSION RESISTANT MATERIALS**
- **BALANCED RELIEF VALVE DESIGN**
- **COMPACT**

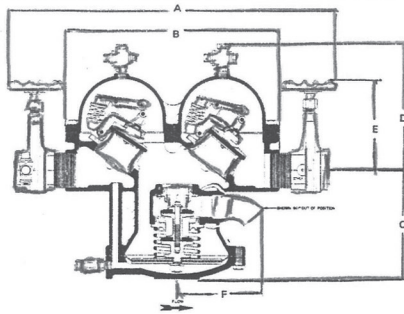
SPECIFICATIONS

Body:	Bronze, 6" Cast Iron
Working Parts:	Bronze & Stainless Steel
Springs:	Stainless Steel
Check Valve Discs:	Silicone Rubber
Diaphragm:	Neoprene Coated Cotton Duck
Maximum Working Pressure:	175 Psi
Hydrostatic Test Pressure:	350 Psi
Temperature Range:	33°F — 110°F

MEETS THE REQUIREMENTS OF: AWWA Standard C506-69 Backflow Preventers. ASSE Standard No. 1013. Foundation For Cross-Connection Control & Hydraulic Research, University of Southern California.

ORDERING INFORMATION

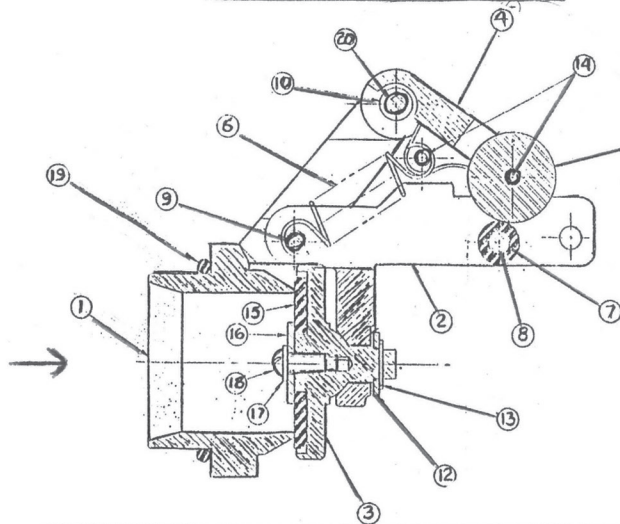
Specify End Detail & Backflow Preventer with or without gate valves. (If Backflow Preventer is ordered complete with gate valves, the inlet side of the inlet gate valve will be fitted with the necessary test cock and fittings.)



DIMENSIONS

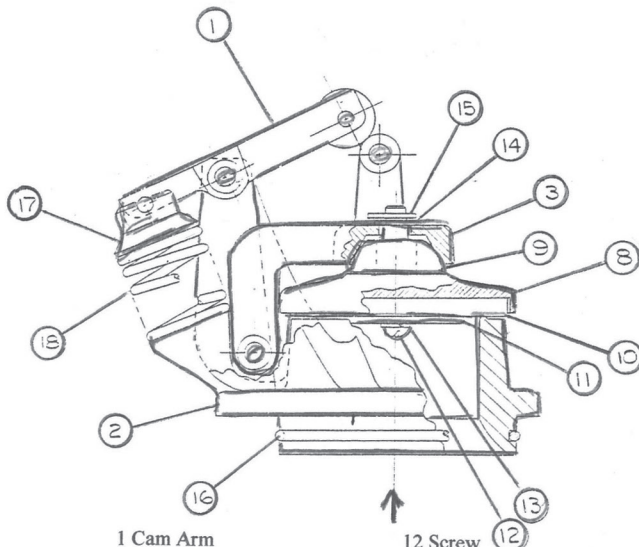
SIZE	3/4"	1"	1"	1 1/2"	1 1/2"	2"	2"	2 1/2"	3"	4"	6"
END DETAIL RATED GPM*	SCR. 30	SCR. 50	FLG. 50	SCR. 100	FLG. 100	SCR. 160	FLG. 160	FLG. 225	FLG. 320	FLG. 500	FLG. 1000
A	17-3/8	16-3/4	22-5/8	18-7/8	25-1/8	20-5/8	32	35-1/8	40-1/8	45-3/8	61-1/8
B	13-1/4	12-3/8	14-5/8	13-1/8	16-1/4	14-1/4	20	24	27-3/8	30	40
C	5-1/4	5-1/4	5-1/4	6-5/16	6-5/16	7-1/2	7-1/2	7-9/16	7-3/4	8-3/8	11
D	7-1/2	7-1/2	7-1/2	7-9/16	7-9/16	8-11/16	8-11/16	9-1/2	10-5/8	10-11/16	15
E	4-1/16	5-3/16	6	7-1/16	10-1/2	8-5/8	11-3/16	12-1/2	13-1/8	15-1/4	19-3/4
F	4-7/8	4-7/8	4-7/8	4-7/8	4-7/8	5-11/16	5-11/16	5-13/16	6-1/16	6-1/8	8-3/4
RELIEF VALVE OPENING	1/2	1/2	1/2	1	1	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
SIZE OF TEST COCKS	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/2	1/2	3/4	1
NET WT. NO VALVES	34	34	37	65	71	87	97	125	150	213	555
NET WGT. VALVES	36	37	50	70	95	95	163	217	262	381	855
GROSS WGT. NO VALVES	37	37	40	88	99	112	127	160	191	285.5	695
GROSS WGT. VALVES	41	42	45	101	135	137	177	272	324	491	1065

3/4"-1" check assembly

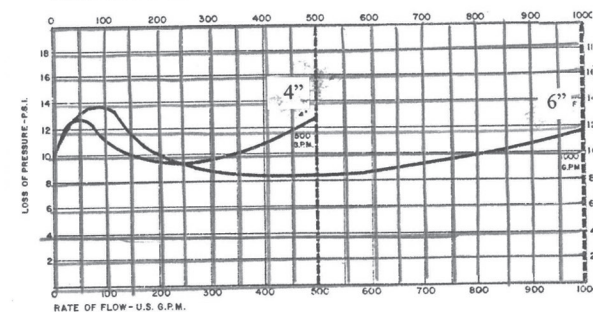
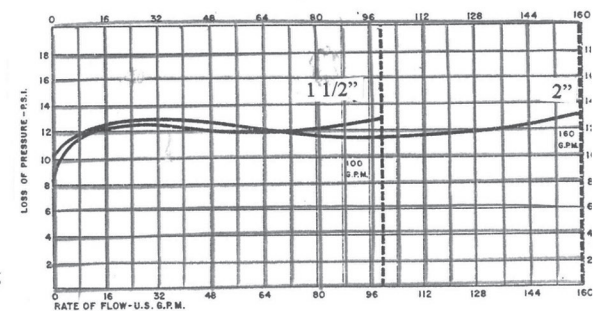
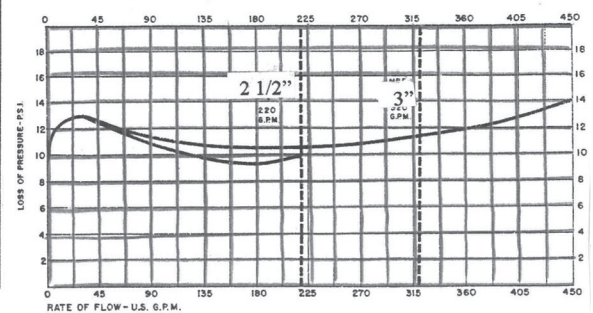
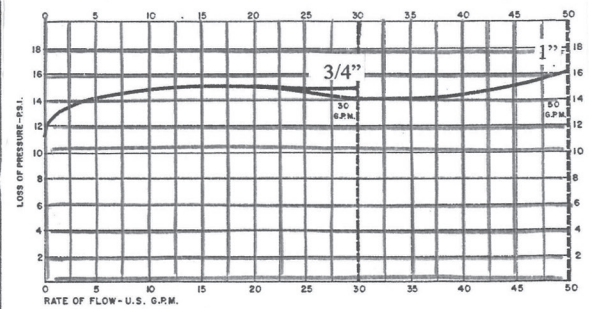


- 1 Ck Seat
- 2 Clapper Arm
- 3 Disc Holder
- 4 Cam Assy
- 5 Cam Disc
- 6 Spring
- 7 Cam Roller
- 8 Cam Roller Shaft
- 9 Clapper Arm Shaft
- 10 Cam Shaft Bushing
- 12 Washer
- 13 Ret Ring
- 14 Roller
- 15 Disc
- 16 Disc Ret
- 17 Washer
- 18 Screw
- 19 Ck O'Ring
- 20 Cam Arm Shaft

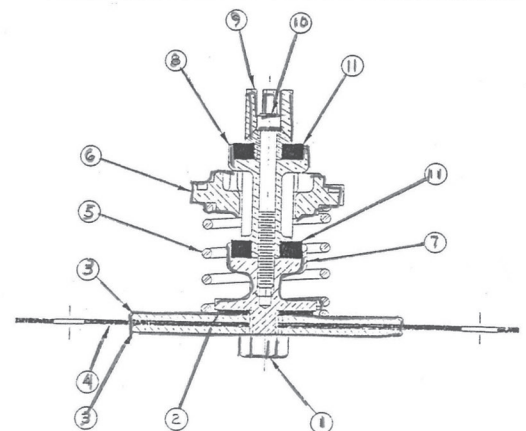
1 1/2"-6" check assembly



- 1 Cam Arm
- 2 Ck Seat
- 3 Clapper Arm
- 8 Disc Holder
- 9 Clapper Bearing
- 10 Disc
- 11 Disc Retainer
- 12 Screw
- 13 Washer
- 14 Washer
- 15 Spring Clip
- 16 O'Ring
- 17 Spring Bearing
- 18 Spring



3/4"-6" relief valve assembly



- 1 Clamp
- 2 Clamp Bolt Gskt
- 3 Diaph Plate
- 4 Diaphragm
- 5 R V Spring
- 6 Lower R V Seat
- 7 Clamp Bolt
- 8 R V Spacer
- 9 R V Guide
- 10 Assy Bolt
- 17 R V Disc

HERSEY

FRP/ FRP II

SIZE

Model FRP 3/4"-1"

Model FRP II 3/4", 1", 1 1/4", 1 1/2", 2"

DESCRIPTION

This model is a reduced pressure assembly. Production was begun approximately in 1975 and was discontinued in 2004. You will notice there is a FRP & FRP II in the 3/4" and 1" sizes. The model FRP was the first introduction of this model and revisions were made which lead to the FRP II series and expansion of the sizes from 3/4"-2". The body is made of bronze. The check valve modules in both models are the same. The only difference in the FRP II is the shape of the relief valve component. The model FRP has a rectangular shape diaphragm with the relief valve section on the bottom pointing downward. The FRP II has a circular shape diaphragm pointing outward in line with the piping. All internal hardware parts are made mostly of glass filled noryl plastic. The checks are modular in construction. All seats are replaceable. A relief valve seat tool is needed to change the relief valve seat. All springs are contained when the covers are removed. The relief valve utilizes an internal sensing line.

BASIC REPAIR KIT

Rubber repair kit contains all rubber discs, O-rings, quad ring, diaphragm, mounting screws, and gasket

<u>SIZE</u>	<u>KIT NO</u>	<u>AIR GAP DRAIN</u>
FRP 3/4"-1"	65554 ♦	N/A
FRP II 3/4"-1"	65668	65639
1 1/4"-1 1/2"	65669	65640
2"	65670	65640

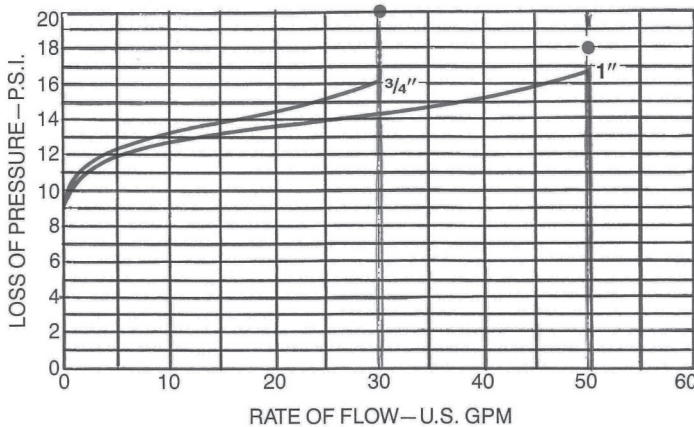
IMPORTANT FEATURES

- ~Bronze body
- ~Modularized checks
- ~Contained springs
- ~Replaceable seats

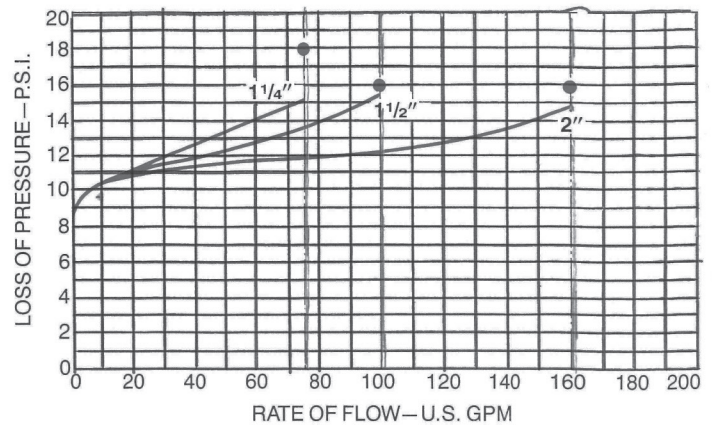


PERFORMANCE (Performance curves are typical only and not a guarantee of performance)

Head Loss — 3/4" and 1"



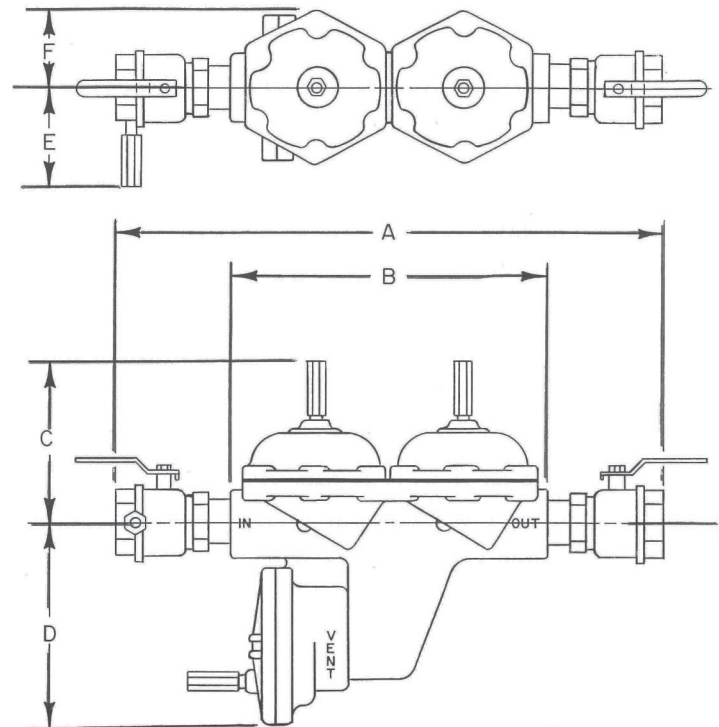
Head Loss — 1 1/4", 1 1/2" and 2"



NOTE: ● Maximum Allowable Pressure Loss allowed by USC at indicated flow.

DIMENSIONS with ball valves

SIZE	3/4"	1"	1 1/4"	1 1/2"	2"
A	14 1/4"	15 1/4"	19 3/4"	20 1/4"	23 1/4"
B	8"	8"	11"	11"	12 3/8"
C	3 5/8"	3 5/8"	5"	5"	5 3/4"
D	4 15/16"	4 15/16"	6 13/16"	6 13/16"	7 1/16"
E	3 1/2"	3 1/2"	3 3/4"	3 3/4"	3 3/4"
F	1 9/16"	1 9/16"	2 13/16"	2 13/16"	2 7/8"
Size of Test Cocks	1/4"	1/4"	1/4"	1/4"	1/4"



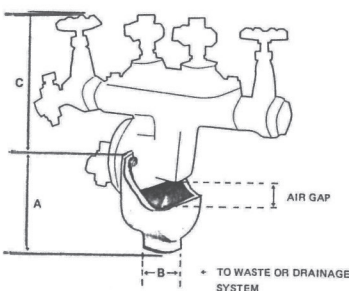
WEIGHTS

SIZE	3/4"	1"	1 1/4"	1 1/2"	2"
Net Wt. Lbs.	8	9	23	24	29
Net Wt. W/Valves, Lbs.	11	13	28	31	41
Gross Wt. No Valves, Lbs.	10	11	25	26	31
Gross Wt. W/Valves, Lbs.	13	15	30	33	43

MATERIALS AND SPECIFICATIONS

Mainline case bronze
 Working parts bronze and stainless steel
 Springs stainless steel
 Diaphragms Buna N and nylon
 Valve discs rubber
 O Ring Buna N
 Check Valve Enclosures glass reinforced plastic
 Maximum rated working pressure 150 psi
 Temperature range 33°-210°F

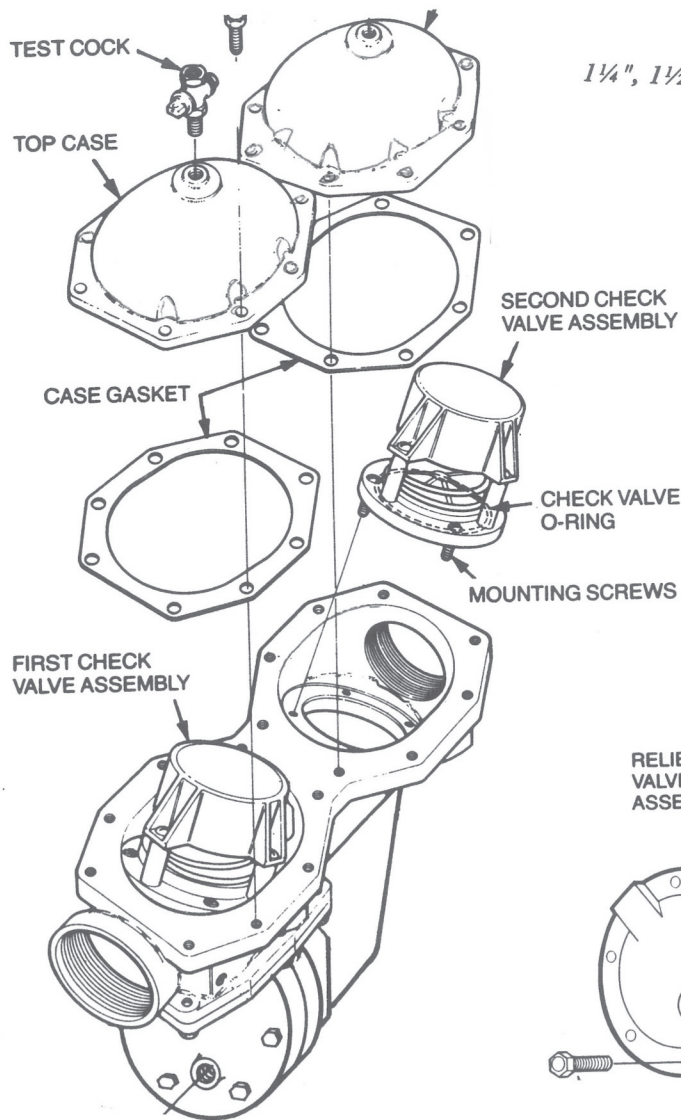
air gap funnel



WEIGHTS and DIMENSIONS

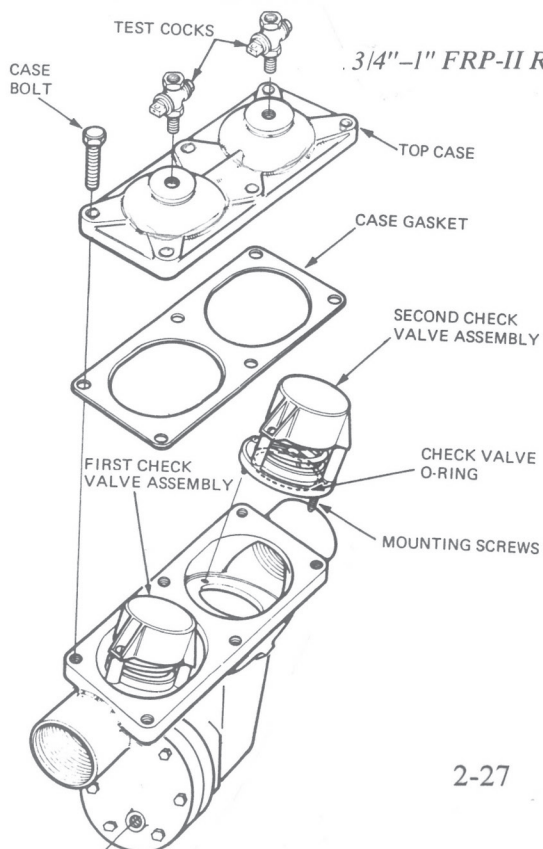
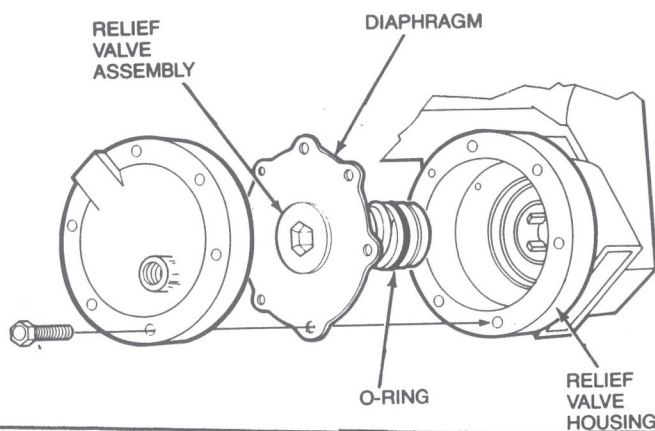
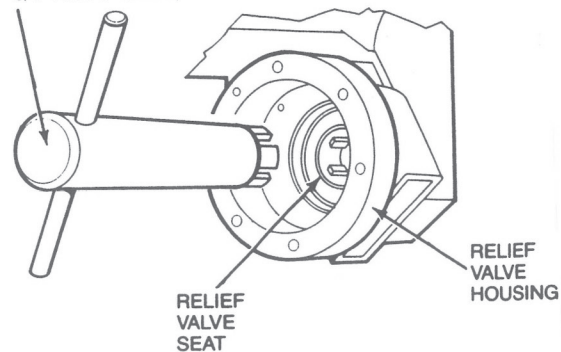
SIZE	Part Number	A	B	C open	Wgt. Lbs.	Thread Size
3/4"	65639	5"	1-15/16"	4-1/16"	3.1	1"-11/16" NPT
1"	65639	5"	1-15/16"	5-3/16"	3.1	1"-11/16" NPT
1 1/2"	65640	5-7/8"	1-15/16"	7-1/16"	5.3	1 1/2"-11/16" NPT
2"	65640	5-7/8"	1-15/16"	8-5/8"	5.3	1 1/2"-11/16" NPT

Dimensions and Weights w/ Gates					
Size	3/4"	1"	1 1/4"	1 1/2"	2"
A	12-5/8"	13-1/8"	17-1/2"	16-3/4"	19-1/4"
B	8"	8"	12"	11"	12-3/8"
C	3-3/4"	4-1/2"	5-3/4"	5-3/4"	6-1/2"
D	4-15/16"	4-15/16"	6-13/16"	6-13/16"	7-1/16"
E (Open)	4-1/16"	5-3/16"	6-1/16"	7-1/16"	8-5/8"
F	1-9/16"	1-9/16"	2-13/16"	2-13/16"	2-7/8"
G	3-1/2"	3-1/2"	3-3/4"	3-3/4"	3-3/4"
Size Test Cocks	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Net Wgt. L/Valves	9-1/2 lbs.	10-1/2 lbs.	25 lbs.	24-1/2 lbs.	32-1/2 lbs.
Net Wgt. W/R.S. Valves	11-1/2 lbs.	13-1/4 lbs.	28-3/4 lbs.	30 lbs.	40-1/2 lbs.
Gross Wgt. L/Valves	11-1/4 lbs.	12-1/4 lbs.	27-3/4 lbs.	27-1/4 lbs.	35-3/4 lbs.
Gross Wgt. W/R.S. Valves	13-3/4 lbs.	15-1/2 lbs.	32-1/4 lbs.	33-1/2 lbs.	44 lbs.



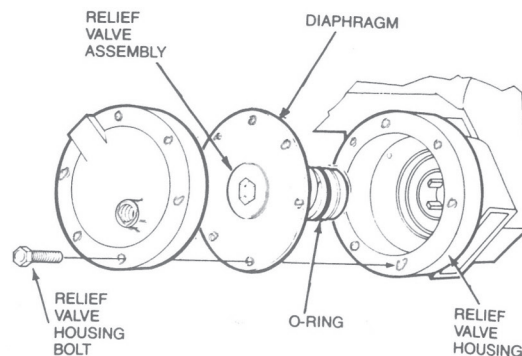
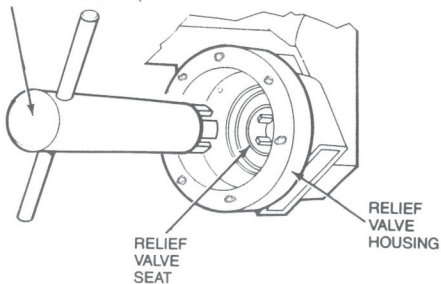
1 1/4", 1 1/2" AND 2" FRP II REPLACEMENT PARTS

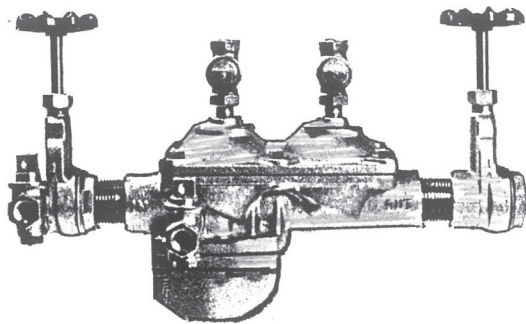
RELIEF VALVE SEAT WRENCH (INCLUDES HANDLE, 3/4" AND 1" SIZES)



3/4"-1" FRP-II REPLACEMENT PARTS

RELIEF VALVE SEAT WRENCH (INCLUDES HANDLE, 3/4" AND 1" SIZES)





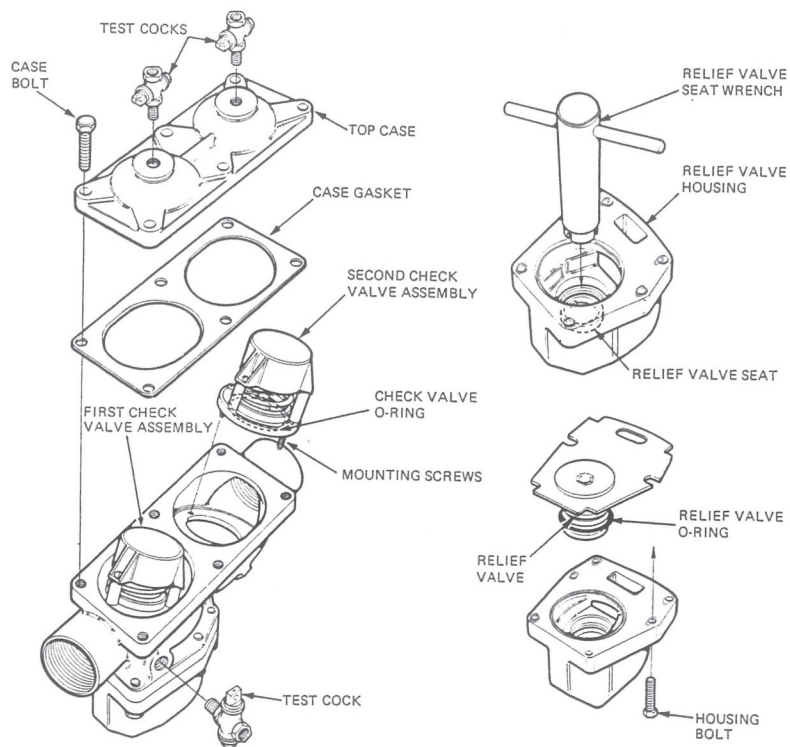
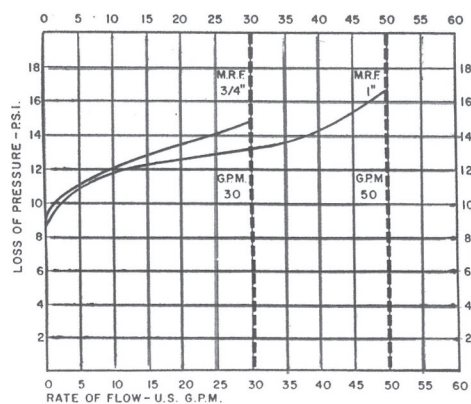
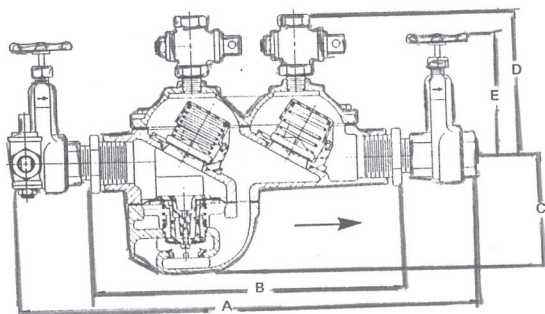
Hersey
PRODUCTS INC.

BEECO[®] MODEL FRP

SIZES 3/4" and 1"

Dimensions and Weights

Size	3/4"	1"
End Detail	Screwed	Screwed
Rated GPM*	30	50
A	12-7/8	12-3/4
B	8-3/4	8-1/8
C	7-1/2	7-7/8
D	4-13/16	5-3/16
E	4-1/16	4-13/16
Width	5"	5"
Size of test cocks	1/4	1/4
Net Wt. no Valves	9-3/4 lbs.	9-1/4 lbs.
Net Wt. with Valves	11-3/4 lbs.	12 lbs.
Gross Wt. no Valves	10-1/2 lbs.	10 lbs.
Gross Wt. with Valves	13 lbs.	13-3/4 lbs.



3/4" AND 1" REPLACEMENT PARTS

HERSEY 1

SIZE

2", 3", 4", 6", 8", 10", 10 x 12"

DESCRIPTION

The Hersey Model 1 is a double check assembly. It was produced from approximately 1950-1978. The 2" size is of a bronze body construction. The 3 - 10x12" bodies are made of galvanized cast iron. There was a modification in 1972 on the 3" and 4" size. To be sure which style you have, the serial number is needed to order some repair parts. If the serial number is after 5231063 you have the new style. This design utilizes a lead weight loaded swing check design. Seats are replaceable and a seat removal tool is needed to replace the seats. Internal hardware parts are mostly made of bronze.

BASIC REPAIR KIT

Repair kit contains all rubber discs, gaskets, and O-rings.

<u>SIZE</u>	<u>KIT NO</u>
2"	53955 ♦
3" old style	54455
3" new style	54456
4" old style	55655
4" new style	55656
6"	56455
8"	57455
10"	58455 ♦
10 x 12"	58455 ♦

IMPORTANT FEATURES

~2" bronze body

~3"-10" size are galvanize cast iron body

~Replaceable seats

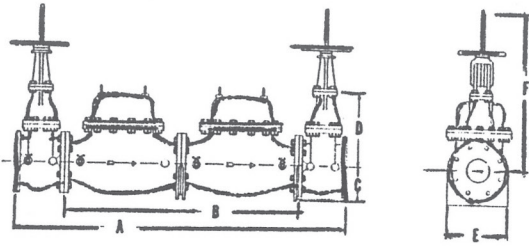
~Lead weight loaded check

~3" & 4" serial number needed to order repair parts

~Factory repair information enclosed



SPECIFICATIONS

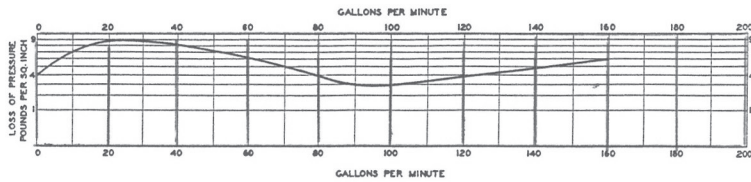


M A T E R I A L S		
BODY	2"	BRONZE
	3" - 10"	GALV. CAST IRON
WORKING PARTS		BRONZE
VALVE SEATS		BRONZE
VALVE DISCS		NEOPRENE

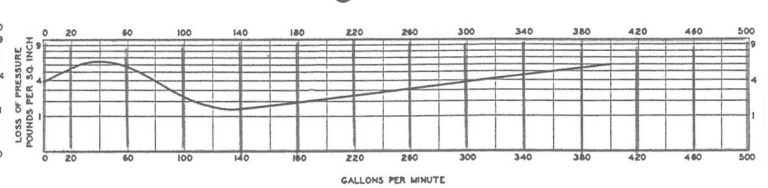
DIMENSIONS

Size	2"	2"	3"	4"	6"	8"	10"
End Detail	SCR	FLG	FLG	FLG	FLG	FLG	FLG
Max. GPM	FULL CAPACITY OF PIPE						
A	49 1/4	53 1/4	49	51	66	76	98
B	36	34	33	33	45	53	72
C	2 1/4	2 1/4	4	5	6	7 1/2	9 3/4
D	5 3/4	5 3/4	15 1/8	16 5/8	22 3/4	20 3/8	22 1/2
E	8 1/16	8 1/16	9 13/16	11 3/4	14 1/16	17	20 13/16
(OS&Y Gates) F	12	12	19 1/2	24 3/4	30	38 1/2	46 1/2
(NRS Gates) F	10 1/4	10 1/4	12 3/4	15 1/16	20 1/4	24 1/2	29
Size of Test Cocks	1/4	1/4	1/2	1/2	3/4	3/4	3/4
Net Weight—No Gates	86	91	318	400	930	2000	3140
with OS&Y Gates	120	125	330	600	1280	2500	4000
with NRS Gates	120	125	330	600	1280	2500	4000
Gross Weight—No Gates	105	110	240	460	980	2075	3240
with OS&Y Gates	140	145	360	675	1350	2600	4125
with NRS Gates	140	145	360	675	1350	2600	4125

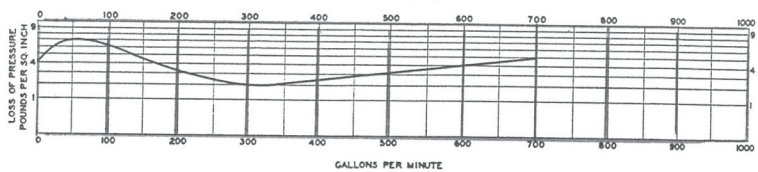
2"



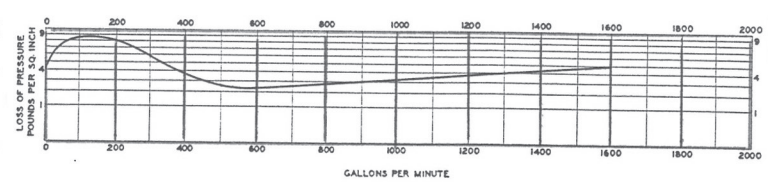
3"



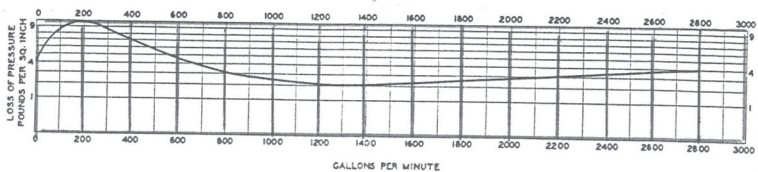
4"



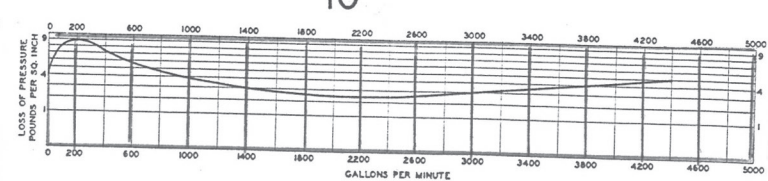
6"



8"



10"



HERSEY 2

SIZE

3", 4", 6", 8", 10"

DESCRIPTION

The Hersey model 2 is a double check assembly. Production of this unit was begun approximately in 1975 and was discontinued in 2004. It has a cast iron body. From 1977-1993 the cast iron bodies were galvanized coated. From 1992-1993 the HP painted epoxy was available as an option to the galvanizing. In 1993 a fused epoxy coating became the standard. Check seats are replaceable. A seat removal tool is needed to replace the check seats. Check springs are contained when the cover is removed. In 1988 the end to end body dimension on sizes 3" and 4" were changed. The earlier model of the 3" was 5/8" shorter. The earlier model of the 4" was 1" shorter. The repair kits are the same. The checks are a similar design as used in the 6CM assembly. Most internal hardware parts are made of bronze. In 1993 the design of the check cover was changed. Before 1993 a gasket was used to seal the check covers to the body. After 1993 an O-ring seal was used on the check covers.

BASIC REPAIR KIT

Repair kit contains all rubber discs, gaskets, and O-ring

<u>SIZE</u>	<u>KIT NO</u>
3"	63351
4"	63451
6"	63651
8"	63851
10"	63951

IMPORTANT FEATURES

- ~Galvanized cast iron body
- ~Replaceable seats
- ~Contained springs
- ~Factory repair information enclosed

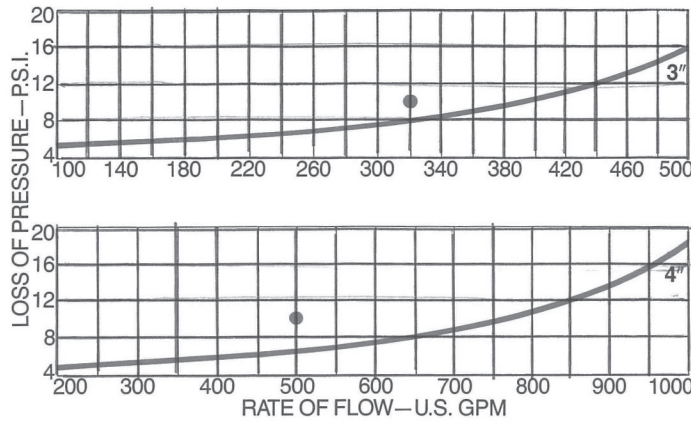


Model No. 2

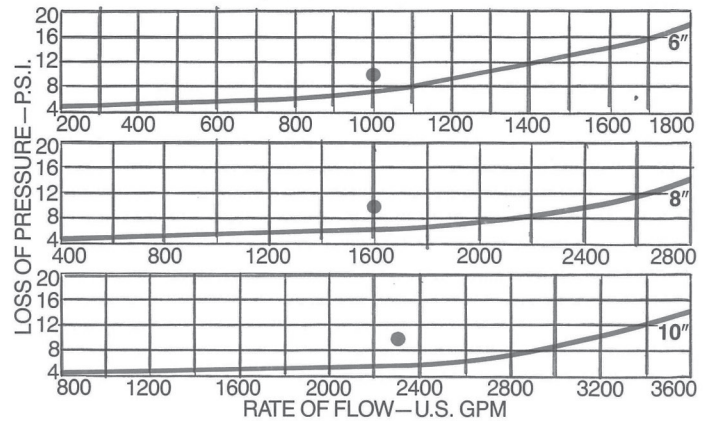
Double Check Valve Assembly

PERFORMANCE (Performance curves are typical only and not a guarantee of performance)

Head Loss – 3" and 4"



Head Loss – 6", 8" and 10"



NOTE: ● Maximum Allowable Pressure Loss allowed by USC at indicated flow.

DIMENSIONS on 3" and 4" see description

SIZE	3"	4"	6"	8"	10"
A	40 ⁵ / ₈ "	47 ¹ / ₂ "	62"	75 ¹ / ₂ "	88"
B	24 ⁵ / ₈ "	29 ¹ / ₂ "	41"	52 ¹ / ₂ "	62"
C	4"	4 ¹ / ₁₆ "	5 ³ / ₄ "	7"	8 ¹ / ₂ "
D (NRS)	13 ⁵ / ₈ "	15 ¹ / ₄ "	19 ⁷ / ₈ "	24 ¹ / ₂ "	29 ³ / ₄ "
D (OS + Y*)	22 ¹ / ₁₆ "	25"	32 ³ / ₄ "	41 ¹ / ₂ "	48 ¹ / ₂ "
Max. Width	8 ¹ / ₄ "	9 ¹ / ₂ "	12 ³ / ₈ "	16 ³ / ₄ "	20 ³ / ₈ "
Size of Test Cocks	1/2"	1/2"	3/4"	3/4"	3/4"

* OS + Y gate valve: "D" dimension open.

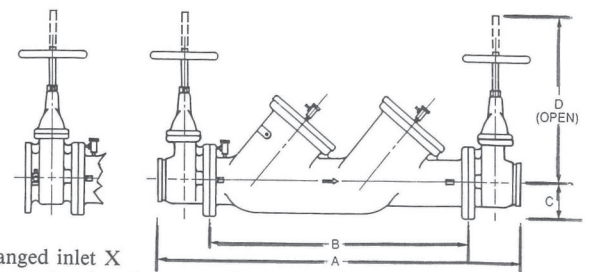
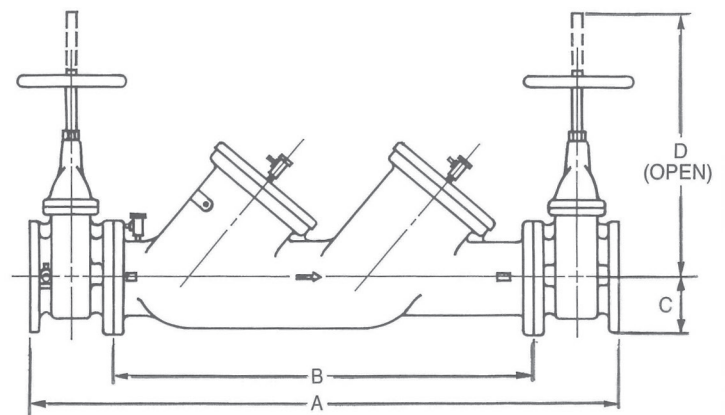
WEIGHTS

SIZE	3"	4"	6"	8"	10"
Net Wt. No Valves, Lbs.	136	240	448	922	1715
Net Wt. W/NRS Valves, Lbs.	250	430	786	1412	2655
Net Wt. W/OS + Y Valves, Lbs.	270	450	848	1522	2665
Gross Wt. No Valves, Lbs.	166	270	530	1027	1880
Gross Wt. W/NRS Valves, Lbs.	280	460	906	1637	2830
Gross Wt. W/OS + Y Valves, Lbs.	300	480	930	1747	2840

MATERIALS AND SPECIFICATIONS

Mainline case hot-dipped galvanized or epoxy-coated cast iron
 Working parts bronze and stainless steel
 Springs stainless steel
 Valve discs silicone rubber

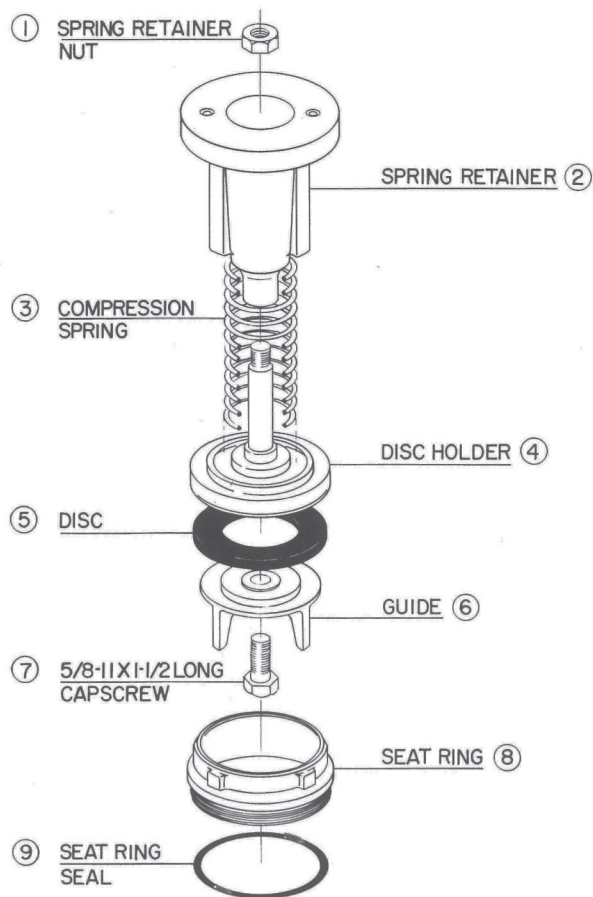
Maximum rated working pressure 175 psi
 Hydrostatic test pressure 350 psi
 Temperature range 33°–140° F
 (Available up to 180° F)



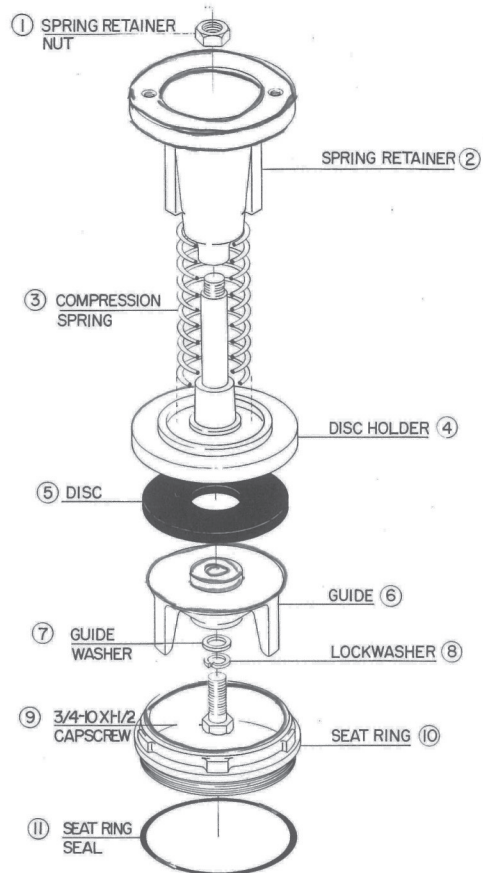
Flanged inlet X Grooved-end outlet Grooved-end both ends

SIZE	4"	6"
A	47 1/2"	62"
B	29 1/2"	41"
C	4 1/16"	5 3/4"
D (OS+Y*)	25"	32 3/4"
Max. Width	9 1/2"	12 3/8"
Size of Test Cocks	1/2"	3/4"

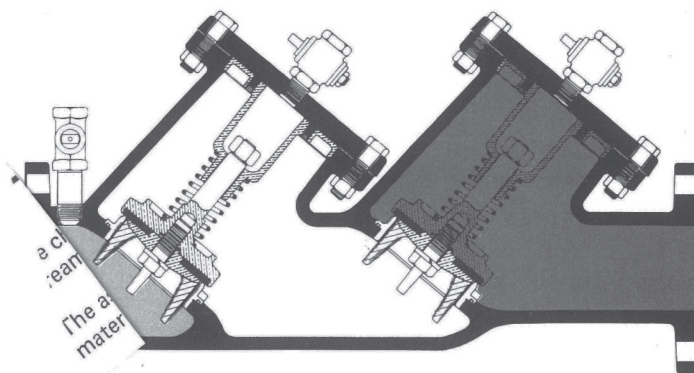
*OS+Y gate valve: "D" dimension open.



CHECK VALVE ASSEMBLY
2 1/2" - 6" HERSEY NO. 2



CHECK VALVE ASSEMBLY
8" - 10" HERSEY NO. 2



HERSEY DDC II

SIZE

3", 4", 6", 8", 10"

DESCRIPTION

This is a double check detector assembly. Production was begun approximately in 1975 and was discontinued in 2004. It utilizes an assembly similar to the Hersey model 2 for the main unit. The model FDC 3/4" is used on the bypass. In 1988 the end to end dimension of the main body on the 3" and 4" sizes were changed. The earlier model of the 3" was 5/8" shorter. The earlier model of the 4" was 1" shorter. The rubber repair parts are the same.

BASIC REPAIR KIT

Main valve repair kit contains all rubber discs, gaskets, and O-rings

<u>SIZE</u>	<u>KIT NO</u>
3"	63351
4"	63451
6"	63651
8"	63851
10"	63951

The bypass repair kit contains all rubber discs, O-rings, gasket and mounting screws

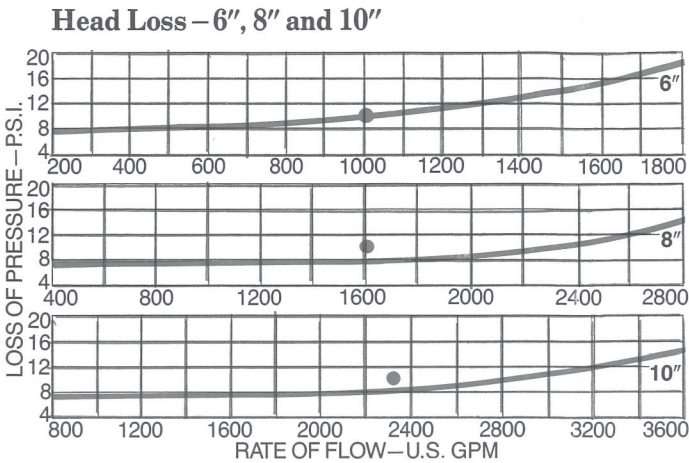
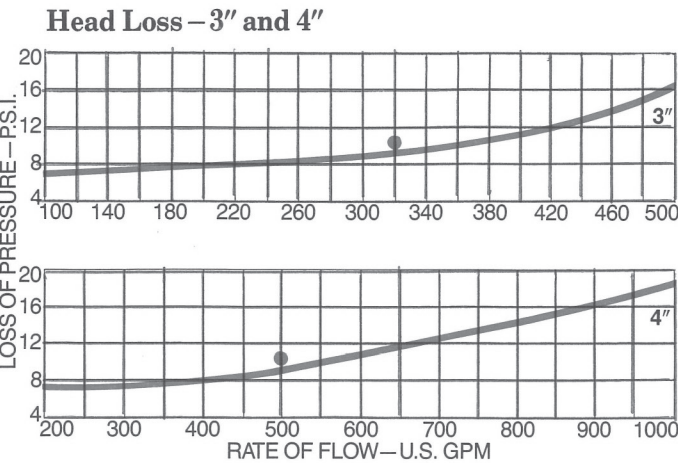
<u>SIZE</u>	<u>KIT NO</u>
3/4"	65671

IMPORTANT FEATURES

- ~Main valve see model 2
- ~Bypass unit see model FDC 3/4"
- ~Factory repair information enclosed



PERFORMANCE (Performance curves are typical only and not a guarantee of performance)



NOTE: ● Maximum Allowable Pressure Loss allowed by USC at indicated flow.

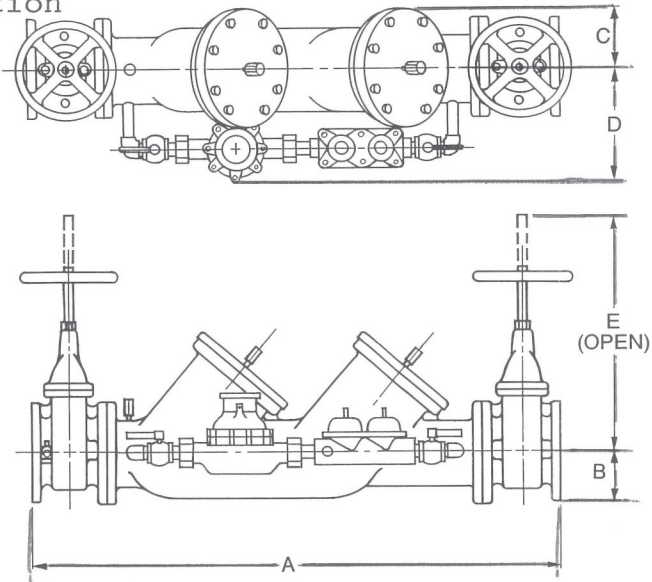
DIMENSIONS on 3" and 4" see description

SIZE	3"x3/4"	4"x3/4"	6"x3/4"	8"x3/4"	10"x3/4"
A	405/8"	471/2"	62"	751/2"	88"
B	4"	411/16"	53/4"	7"	81/2"
C	41/8"	411/16"	63/16"	83/8"	103/16"
D	95/8"	13"	141/4"	151/4"	161/4"
E (NRS)	135/8"	151/4"	197/8"	241/2"	293/4"
E (OS+Y)*	221/16"	25"	323/4"	411/2"	481/2"
Size of Test Cocks	1/2"	1/2"	3/4"	3/4"	3/4"

*OS+Y gate valve: "E" dimension open.

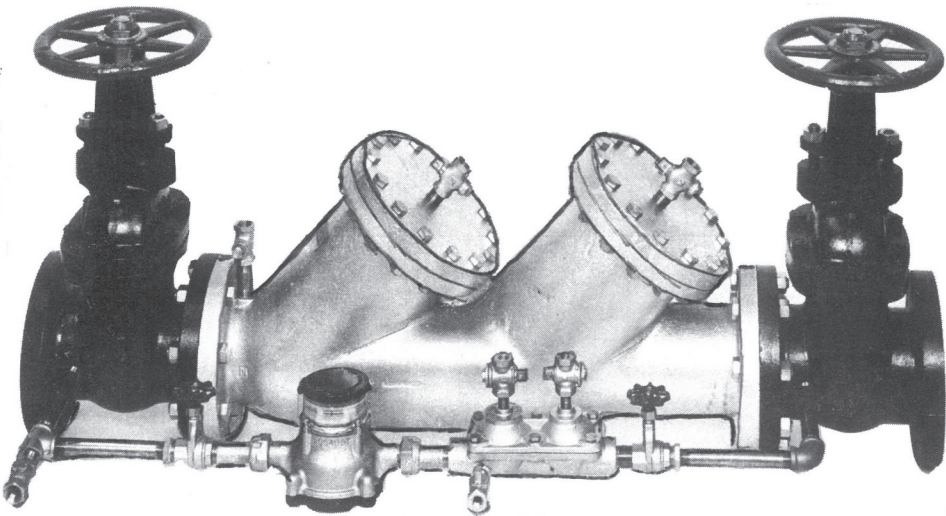
WEIGHTS

SIZE	3"x3/4"	4"x3/4"	6"x3/4"	8"x3/4"	10"x3/4"
Net Wt. No Valves, Lbs.	270	276	440	1010	1735
Net Wt. W/OS+Y Valves, Lbs.	300	494	815	1634	2685
Gross Wt. No Valves, Lbs.	290	316	530	1114	1900
Gross Wt. W/OS+Y Valves, Lbs.	330	576	905	1738	2860



MATERIALS AND SPECIFICATIONS

- Mainline case hot-dipped galvanized or epoxy-coated cast iron
- Bypass case bronze
- Bypass meter Hersey positive displacement or turbine meter
- Working parts (mainline) bronze and stainless steel
- Springs (mainline) stainless steel
- Valve discs (mainline) silicone rubber
- Maximum rated working pressure 175 psi
- Hydrostatic test pressure 350 psi
- Temperature range 33°-100° F



HERSEY E1

SIZE

4", 6", 8", 10"

DESCRIPTION

This valve is a double check assembly. It was produced from approximately 1975 to 1978. It is a lead weight loaded swing check. The body was made of galvanized cast iron. The check seats are replaceable. A seat removal tool is needed to replace the seats. Internal hardware parts are made mostly of bronze.

BASIC REPAIR KIT

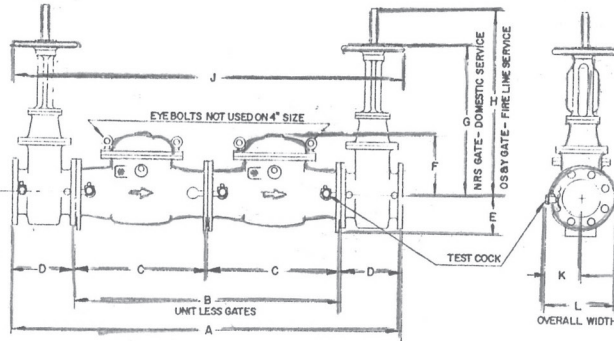
Repair kit contains all rubber discs and cover gaskets

SIZE

4"
6"
8"
10"

KIT NO

E1400 * ♦
E1600 * ♦
E1800 * ♦
E1001 * ♦



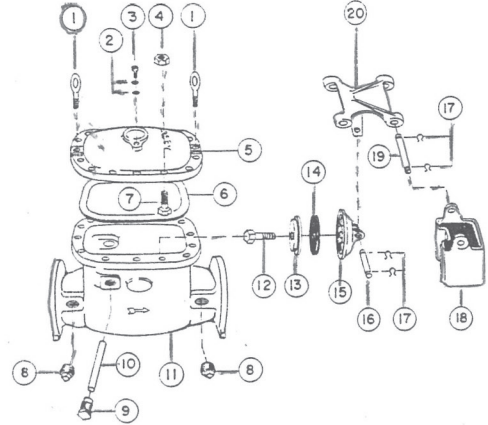
DIMENSIONS (INCHES)

	4"	6"	8"	10"
A	51-3/16	66-3/16	76-3/16	98-3/16
B	33-1/16	45-1/16	53-1/16	72-1/16
C	16-1/2	22-1/2	26-1/2	36
D	9	10-1/2	11-1/2	13
E	5	6	7-1/2	9-3/4
F	8-1/2	11-3/4	14-7/8	16-3/4
G	18	22-5/16	27-9/16	32-1/4
H (open)	23-1/8	31-11/16	40-3/8	49
J	52-3/16	67-11/16	78-11/16	101-3/16
K	7-1/16	8-1/8	10-1/8	10-5/16
L	12-5/16	14-9/16	18	19-11/16

WEIGHTS (APPROX.)

Gate Valve Type	N.R.S.	O.S.&Y.	N.R.S.	O.S.&Y.	N.R.S.	O.S.&Y.	N.R.S.	O.S.&Y.
Net Wgt. Lbs.	438	472	840	880	1440	1516	2422	2550
Gross Wgt. Lbs.	513	547	910	950	1540	1616	2372	2700

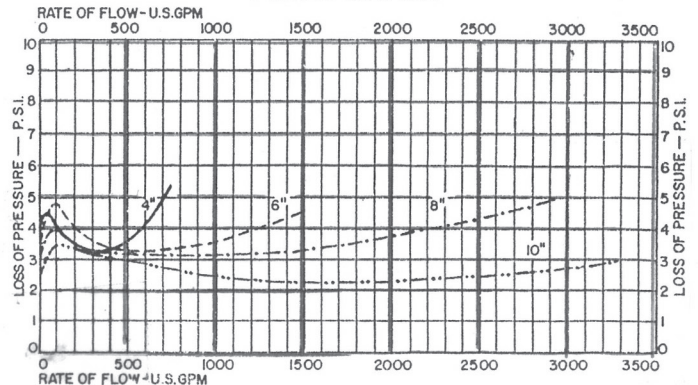
- 1 Eye Bolt
- 2 Air Screw Wshr
- 3 Air Screw
- 4 Nut
- 5 Cover
- 6 Cvr Gskt
- 7 Bolt
- 8 Plug
- 9 Plug
- 10 Pin
- 11 Body
- 12 Bolt
- 13 Disc Ret
- 14 Disc
- 15 Disc Holder
- 16 Pin
- 17 Pin Clip
- 18 Weight
- 19 Pin
- 20 Cross Arm



SPECIFICATIONS

BODY	HOT DIPPED GALVANIZED CAST IRON
CLAPPER ARM	BRONZE
SHAFTS	STAINLESS STEEL
SEATS	BRONZE, TIN PLATED
MAXIMUM WORKING PRESSURE	175 P.S.I.
TEMPERATURE RANGE	33°-180°F

FLOW CHART



HERSEY FDC

SIZE

3/4", 1", 1 1/2", 2"

DESCRIPTION

This assembly is a double check. Production began approximately 1975 and was discontinued in 2004. The body is of bronze construction and the checks are of modular glass filled noryl plastic construction similar to the FRP II. All springs are contained when the cover is removed. All seats are replaceable.

BASIC REPAIR KIT

Rubber repair kits contain all rubber discs, O-rings, gasket, and mounting screws

SIZE

3/4"-1"

1 1/2"

2"

KIT NO

65671

65672

65673

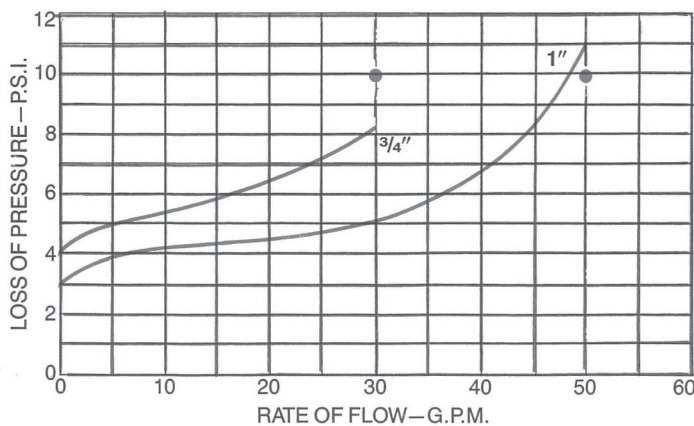
IMPORTANT FEATURES

- ~Bronze body
- ~Replaceable check seats
- ~Contained springs
- ~Modularized check assemblies

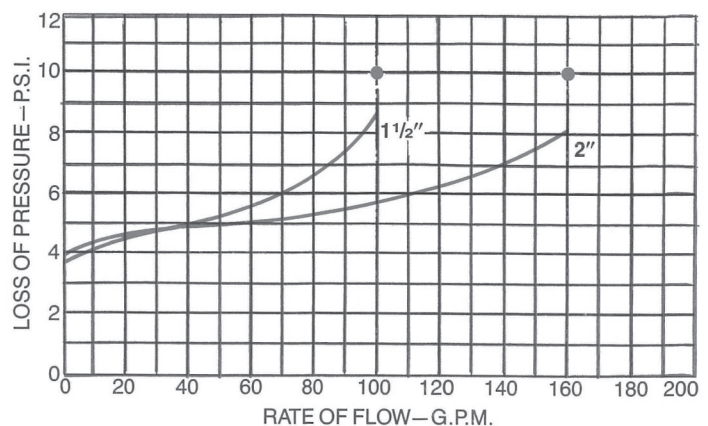


PERFORMANCE (Performance curves are typical only and not a guarantee of performance)

Head Loss – 3/4" and 1"



Head Loss – 1 1/2" and 2"

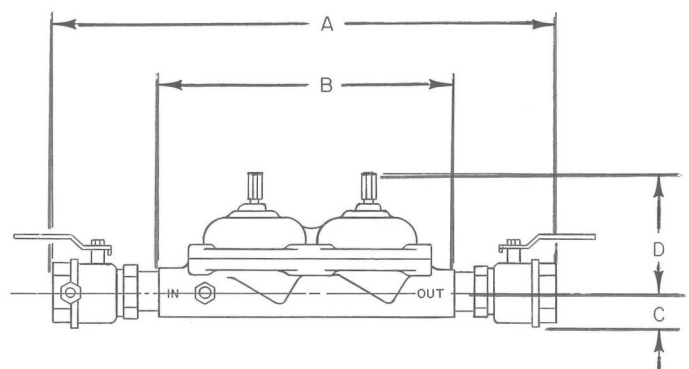


NOTE: ● Maximum Allowable Pressure Loss allowed by USC at indicated flow.

DIMENSIONS

W/Ball Valves

SIZE	3/4"	1"	1 1/2"	2"
A	14 1/4"	15 1/4"	20 1/4"	23 1/4"
B	8"	8"	11"	12 3/8"
C	7/8"	7/8"	1 1/4"	1 1/2"
D	4 1/16"	5"	6"	7 1/4"
Max. Width	5"	5"	6 5/8"	6 5/8"
Size Test Cocks	1/4"	1/4"	1/4"	1/4"



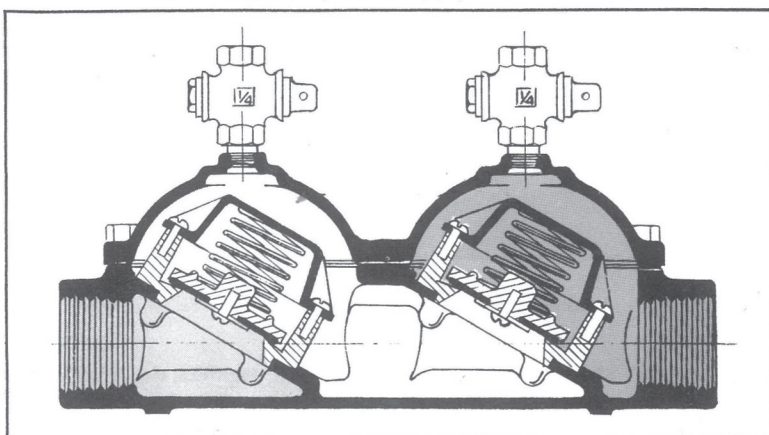
WEIGHTS

SIZE	3/4"	1"	1 1/2"	2"
Net Wt. No Valves, Lbs.	6	7	20	28
Net Wt. W/Valves, Lbs.	7	9	21	30
Gross Wt. No Valves, Lbs.	8	9	22	30
Gross Wt. W/Valves, Lbs.	9	11	23	32

MATERIALS AND SPECIFICATIONS

Mainline case bronze
 Check valve enclosures glass reinforced plastic
 Springs stainless steel
 Valve discs silicone

Maximum rated working pressure 150 psi
 Temperature range 33°-210°F



Dimensions and Weights			W/Gates	
Size	3/4"	1"	1-1/2"	2"
A	12-5/8"	13-1/8"	16-3/4"	19-1/4"
B	8"	8"	11"	12-3/8"
C	7/8"	7/8"	1-1/4"	1-1/2"
D	4-1/16"	5-3/16"	7-1/16"	8-5/8"
Max. Width	5"	5"	6-5/8"	6-5/8"
Size Test Cocks	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT
Net Wgt. — No Valves	6-1/4 #	6-1/4 #	15-1/2 #	20-1/2#
Net Wgt. w/RS Valves	8-1/4#	9-3/4 #	20-1/2#	28-1/2#
Gross Wgt. — No Valves	8 #	8 #	18-1/4#	23-3/4#
Gross Wgt. w/RS Valves	10-1/2#	13 #	24#	32#

BEECO F72

SIZE

2", 3", 4", 6"

DESCRIPTION

This was a double check assembly. It was produced from approximately 1968 to 1975. The checks were modular in design and utilized a cam operated mechanism similar to the Model 14. The 2"-4" size has a bronze body. The 6" size had a galvanized cast iron body. Seats were replaceable and springs are contained when the covers are removed. Spring tension had to be released for a proper repair. Most internal hardware parts are made of bronze.

BASIC REPAIR KIT

The repair kit contains all rubber discs, gaskets, and O-rings.

<u>SIZE</u>	<u>KIT NO</u>
2"	60251 ♦
3"	60351 ♦
4"	60451 ♦
6"	60651 ♦

IMPORTANT FEATURES

~2"-4" bronze

~6" galvanized cast iron body

~Modularized check assembly

~Replaceable check seats

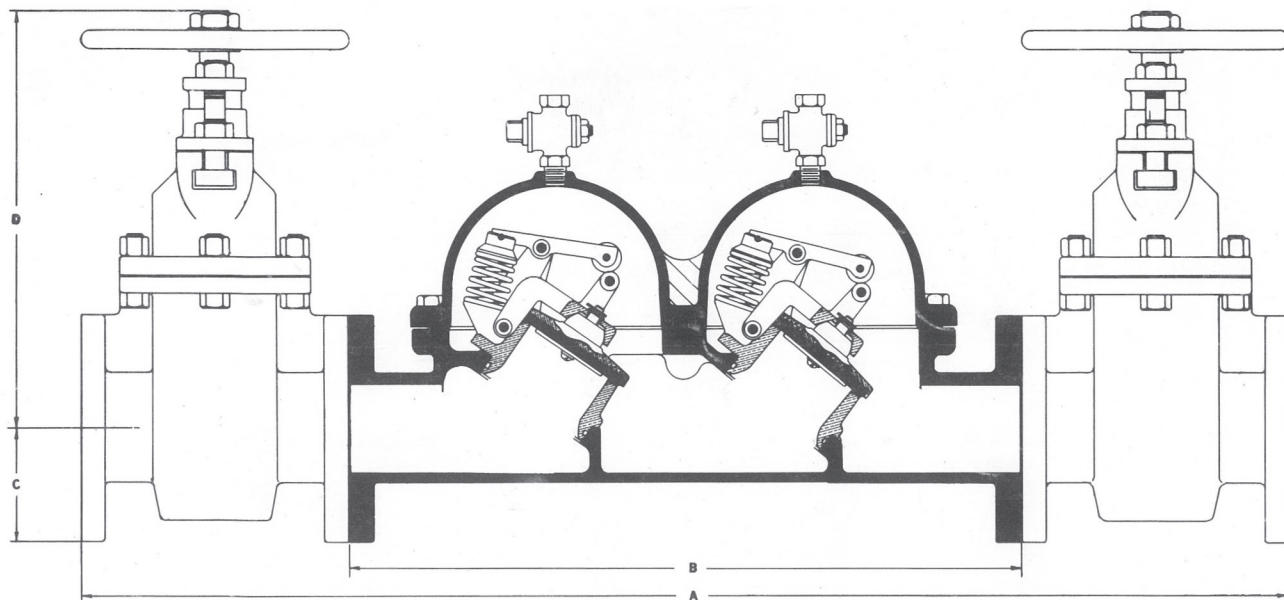
~Contained springs



Hersey

PRODUCTS INC.

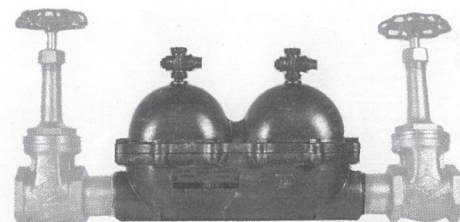
BEECO® MODEL F-72



DIMENSIONS

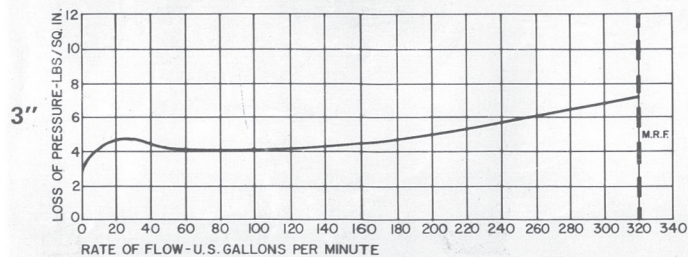
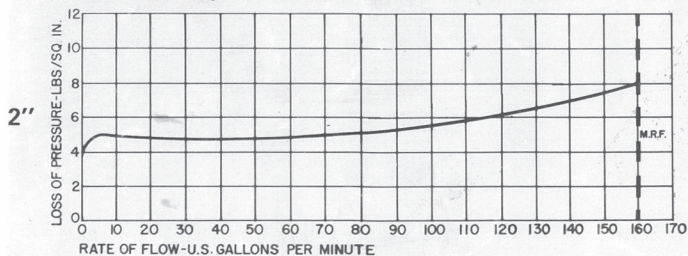
SIZE	2"	2"	3"	4"	6"
END DETAIL	Screwed	Flanged	Flanged	Flanged	Flanged
*MAX. GPM	160	160	320	500	1000
A	34-9/16	32	40-1/8	45-3/8	61-1/8
B	14-1/4	17-13/16	24	27-3/8	40
C	1-1/2	3-1/2	4	4-1/2	5-1/2
D	7-9/16	11-3/16	13-1/8	15-1/4	19-3/4
SIZE OF TEST COCKS	1/4	1/4	1/2	1/2	3/4
NET WT. LESS GATES	55	65	125	176	485
W/GATES	75	130	237	344	785
GROSS WT. LESS GATES	80	90	155	243.5	607.5
W/GATES	120	160	282	444	970

*Based on AWWA Standards for Double Check Valve Assemblies. Ordering Information - Specify End Detail and Assembly with or without Gate Valves.

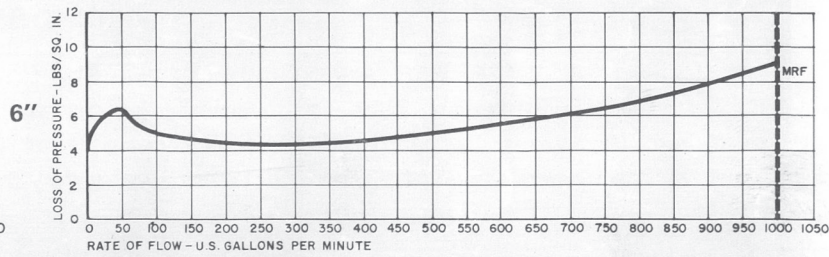
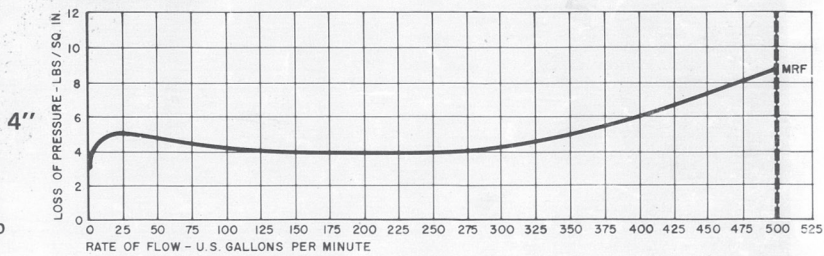


2" F-72 WITH SCREWED ENDS

MEETS THE REQUIREMENTS OF: AWWA Standard C506-69 Backflow Preventers. ASSE Standard No. 1013. Foundation For Cross-Connection Control & Hydraulic Research, University of Southern California.



FLOW CHART



*Maximum Recommended Flows: AWWA C506-69 Backflow Preventers

HERSEY HDC

SIZE

3/4", 1", 1 1/2", 2"

DESCRIPTION

This is a double check assembly. It was produced from 1986-1994. This is a wye pattern bronze bodied spring loaded plastic poppet style double check assembly. Check covers are screwed into the body. Check seats are cast into the body and are not replaceable. Check springs are not contained when the covers are removed.

BASIC REPAIR KIT

Repair kit contains all rubber discs and cover O-rings

<u>SIZE</u>	<u>KIT NO</u>
3/4"	65812 ♦
1"	65812 ♦
1 1/2"	65814 ♦
2"	65814 ♦

IMPORTANT FEATURES

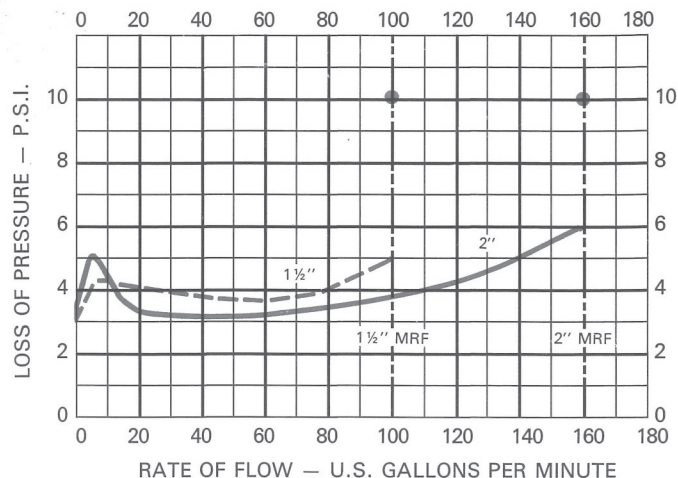
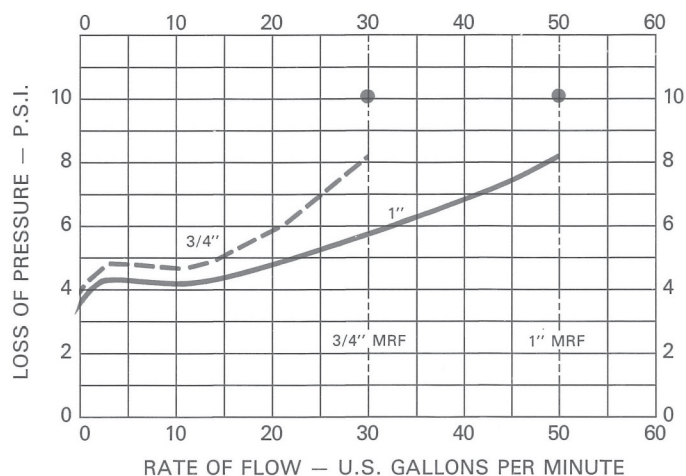
- ~Bronze body
- ~Modularized checks
- ~Contained springs
- ~Replaceable seats



MODEL HDC

Double Check Valve Assembly

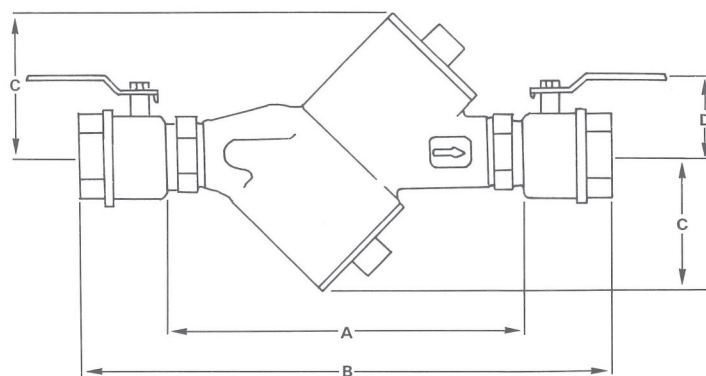
PERFORMANCE



NOTE: ● Maximum allowable pressure loss allowed by USC at indicated flow.

DIMENSIONS

SIZE	3/4"	1"	1 1/2"	2"
A No Valves	7 3/16"	7 3/16"	10 1/4"	10 1/4"
B W/Valves	10 15/16"	11 1/2"	16 7/8"	17 7/8"
C No Valves	3"	3"	4 3/8"	4 3/8"
D W/Valves	2"	2"	3 3/8"	3 3/8"
Max Width	3 7/8"	3 7/8"	5 5/8"	5 5/8"
Testcocks	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT



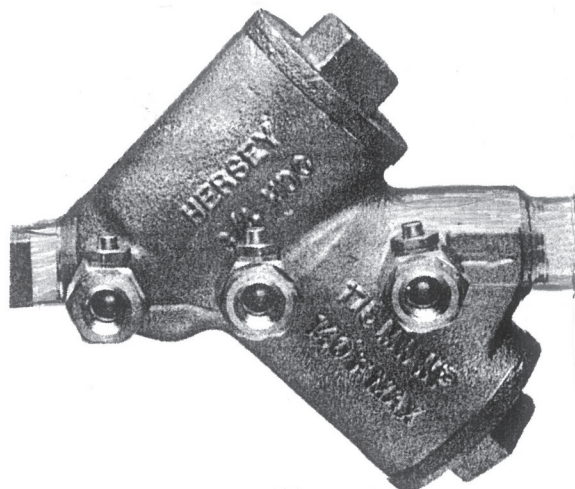
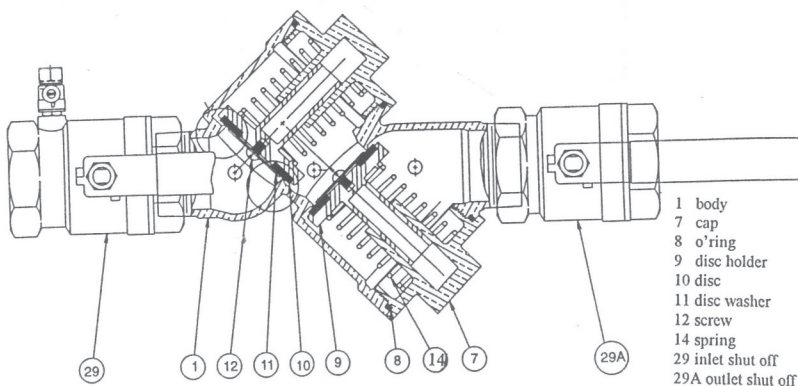
WEIGHTS

SIZE	3/4"	1"	1 1/2"	2"
Net Wgt.-No Valves, Lbs.	5 1/4	6 1/4	17	19 1/2
Net Wgt.-W/Valves, Lbs.	6 3/4	9	23	28
Gross Wgt.-No Valves, Lbs.	5 3/4	6 3/4	17 1/2	20
Gross Wgt.-W/Valves, Lbs.	7 1/4	9 1/2	23 1/2	28 1/2

MATERIALS AND SPECIFICATIONS

Body Bronze
 Check Valve Poppets Glass-Reinforced Plastic
 Valve Disc Silicone Rubber
 "O" Ring Buna-N
 Springs Stainless Steel

Screws Stainless Steel
 Check Valve Washer Stainless Steel
 Maximum Working Pressure 175 PSI
 Temperature Range 33° - 140°F



BEECO VC

SIZE

2", 3", 4"

DESCRIPTION

This is a double check assembly. It was produced from 1958 to 1975. This assembly cannot be repaired in line and must be removed from the piping for repairs. All sizes are of bronze body construction. The 2" size had two versions produced. The first was a screwed type body requiring the three piece bronze body to be screwed together. The second type was a flanged type body where the three bronze sections are bolted together. The 2" size has unions on both ends for removal and repairs. The 3" and 4" sizes are a two piece bronze body design in which the check assemblies screw into the body. The ends of both the 3" and 4" are flanged for removal and repairs. Check seats are not replaceable. Check springs are not contained on the 2" size when the body was split for repair. Most internal hardware parts are made of bronze. There was a version of the VC unit that utilized an SMR 714 air inlet head. This combination made this unit a two check pressure vacuum breaker. Repair parts for the checks were the same as in the VC series. For air inlet head repair parts see SMR 714.

BASIC REPAIR KIT

The repair kit contains all rubber discs, gaskets, and flange gaskets.

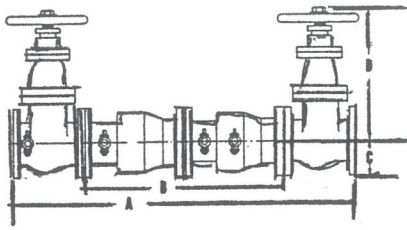
<u>SIZE</u>	<u>KIT NO</u>
2"	61244
3"	61245
4"	61246

IMPORTANT FEATURES

- ~ *Bronze body*
- ~ *2" size springs are not contained*
- ~ *Check seats are not replaceable*
- ~ *Factory repair information enclosed*



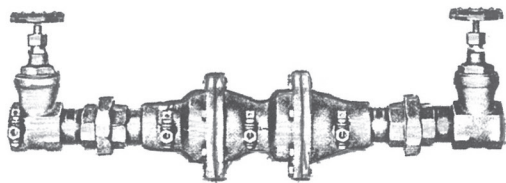
SPECIFICATIONS



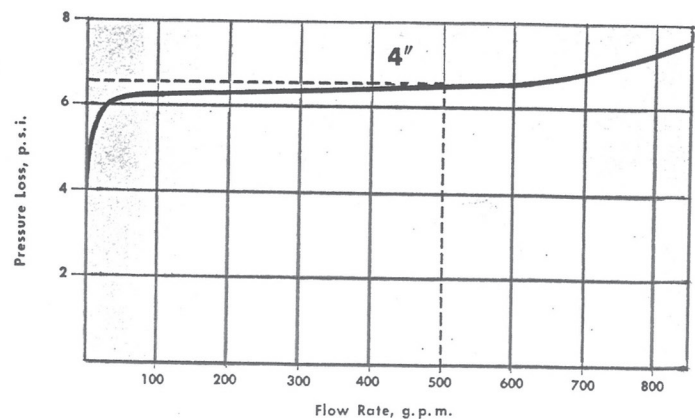
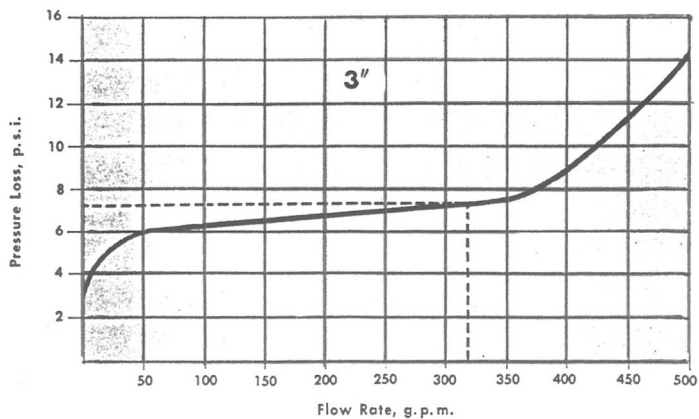
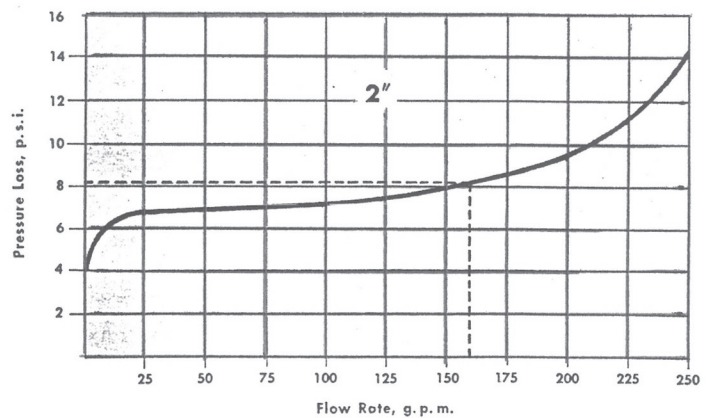
M A T E R I A L S	
BODY	BRONZE
WORKING PARTS	BRONZE
SPRINGS	STAINLESS STEEL
VALVE DISCS	NEOPRENE

DIMENSIONS

Size	2"	2"	3"	4"
End Detail	SCR	FLG	FLG	FLG
Max. GPM*	160	160	320	500
A	33 $\frac{1}{4}$	31 $\frac{1}{2}$	38 $\frac{1}{4}$	48 $\frac{1}{4}$
B	14 $\frac{1}{2}$	17 $\frac{1}{2}$	22	30
C	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{3}{4}$	4 $\frac{1}{2}$
D	7 $\frac{1}{2}$	7 $\frac{1}{2}$	15 $\frac{1}{2}$	18 $\frac{5}{8}$
Size of Test Cocks	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$
Net Weight—No Gates	38	48	101	182
with NRS Gates	59	88	240	384
Gross Weight—No Gates	46	58	121	212
with NRS Gates	72	103	268	426



2" BEECO MODEL VC Double Check Valve Assembly



BEECO MODEL VC DOUBLE CHECK VALVE ASSEMBLIES EQUIPPED FOR PRESSURE VACUUM BREAKER INSTALLATION

DESCRIPTION

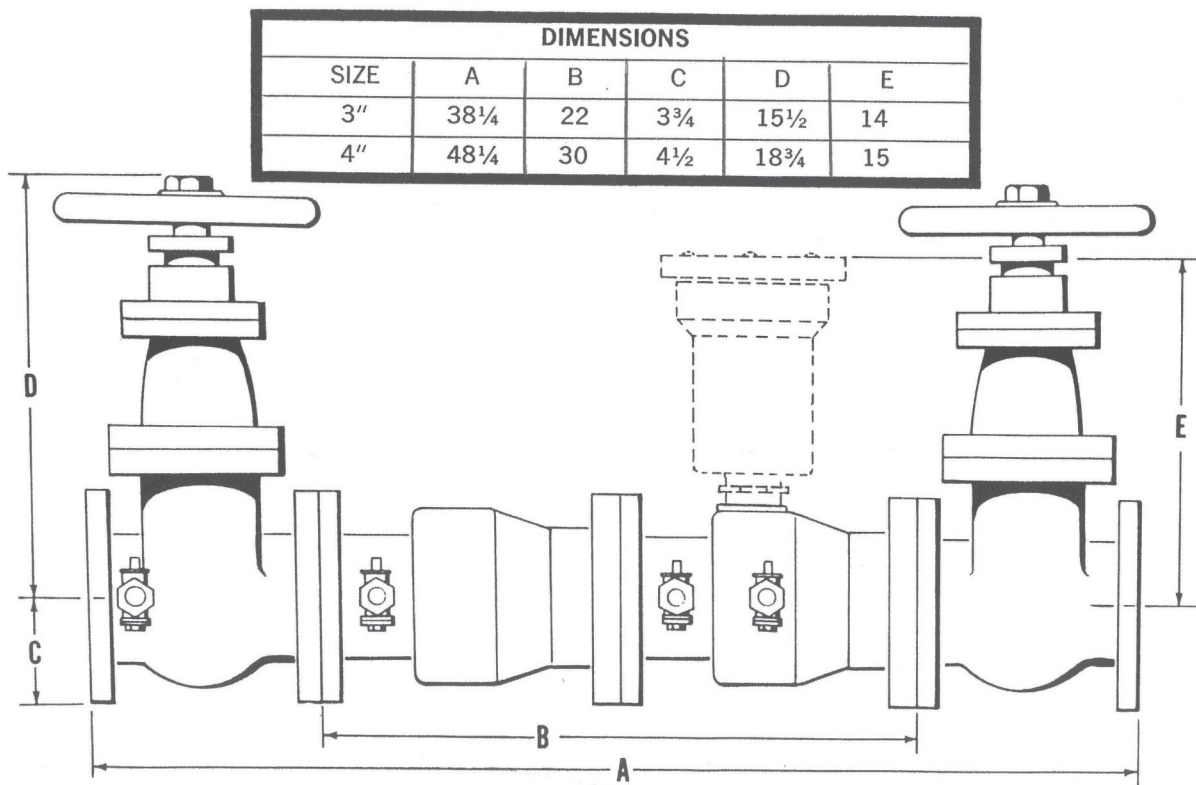
The BEECO Model VC Double Check Valve Assembly is approved for use with pressure vacuum breakers for 2½", 3" and 4" services. The assembly includes two spring-loaded check valves, two gate valves, and four test cocks. Provisions are made for installing a Pressure-Type Vacuum Breaker Head. If specified, an SMR No. P-714 Pressure-Type Vacuum Breaker Head can be factory-installed.

APPROVALS

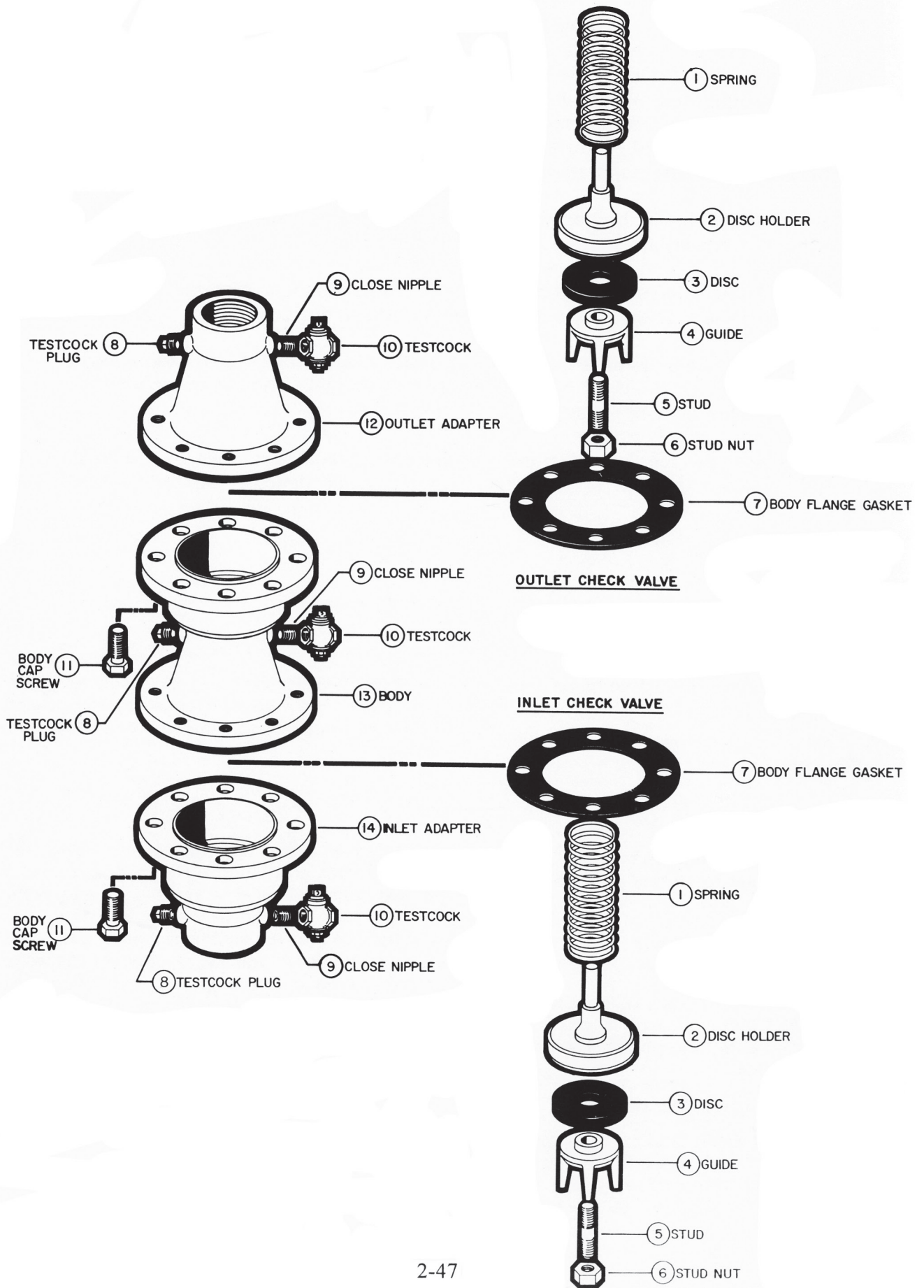
When equipped with an approved air inlet device, the entire assembly meets the requirements for a pressure vacuum breaker installation and is approved by the City of Los Angeles Department of Building & Safety and the Los Angeles County Health Department.

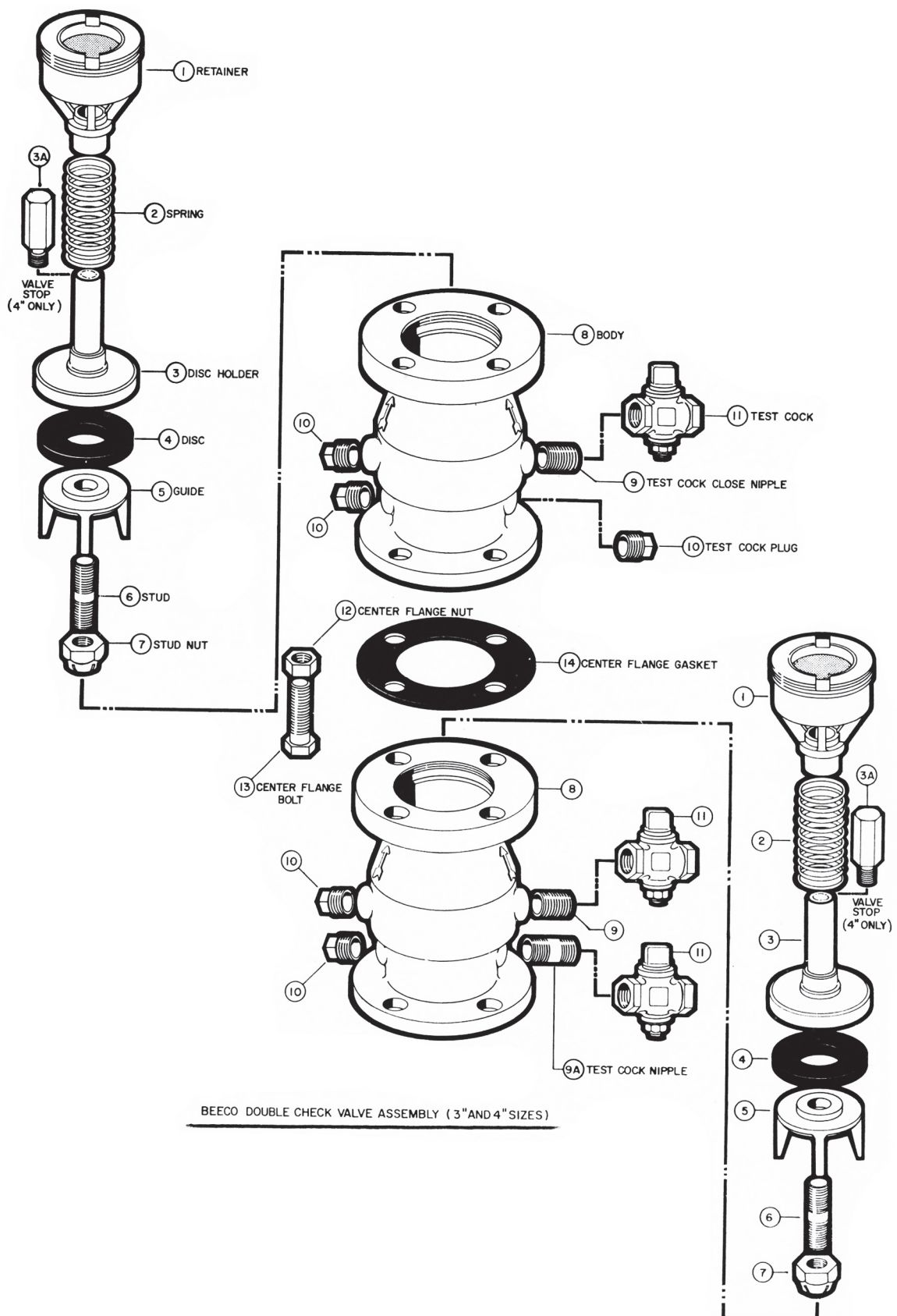
INSTALLATION

The BEECO Model VC must be installed in conformance with local plumbing authority codes.



BEECO DOUBLE CHECK VALVE ASSEMBLY (2" SIZE)





BEECO/HERSEY FACTORY REPAIR INFORMATION

The following pages are excerpts from literature the manufacturers print to help repair their assemblies. This information is provided to assist in repairing their assemblies but should not be considered all the information needed to repair all situations.

MODELS FOR WHICH FACTORY REPAIR INFORMATION IS PROVIDED

MODEL 1 pg 2-71

MODEL 6CM RPDA pg 2-72

MODEL 2 pg 2-72

MODEL 10 pg 2-83

MODEL 6C pg 2-76

MODEL DDCII pg 2-72

MODEL 6CM pg 2-72

MODEL VC pg 2-85

**PAGES 2-49 THROUGH 2-69 HAVE INTENTIONALLY BEEN
OMITTED**



REPAIRS — HERSEY NO. 1 CHECK VALVE ASSEMBLY

DISASSEMBLY

1. Remove top case.
2. Check lever valve mechanism, on smaller sizes, by lifting weight (18) as far as it will go. The swing arm (7) should be lifted until the roller (17) comes in contact with roller path on weight. Allow valve to close slowly to make sure it does not hang up at any point.
3. On larger sizes, lift weight alone. It should move freely and rest against roller at flat of roller path on weight.
4. Remove the weight.
 - a. Remove hinge spindle plugs (9).
 - b. Support weight, either with hands, or larger sizes, with a hoist.
 - c. With bronze driver (or using an old spindle), tap spindle (11) out from one side. When it extends from the bottom case, it can be pulled the rest of the way.

If corrosion deposits are present, remove with emery cloth to prevent jamming spindle in bushings (10).
5. Lift weight from case. Inspect the rubber bushings (8), bronze case bushings (10), and spindle (11) for wear.
6. On larger sizes, check operation of swing arm (7). It should move freely.
7. Remove swing arm, following procedure outlined above for weight.
8. Check rubber swing arm and roller bushings (8, 16) for wear, as well as the bronze case bushings and spindle.
9. To remove worn case bushings, insert a driver made of bronze or steel from outside case, and drive out of position.
10. Drive new bushings into place from inside case, using a lead hammer or a bronze driver inserted from opposite side.
11. Remove worn rubber weight, swing arm and roller bushings with a bronze driver. Use a plastic or lead hammer to install new bushings.
12. The clapper rubber (4) should be resilient and free of any indentation. Remove worn clapper rubbers by disassembling in order the clapper bolt cotter pin (1), clapper bolt nut (2), clapper disc (3), clapper (6), clapper rubber (4), and clapper bolt (13). If the rubber is still resilient and has not been deformed, it can be reversed to lengthen its useful life. Inspect rubber O-ring (5) in the clapper, and replace if defective. Assemble parts in reverse order.
13. To disassemble roller (17), remove pin clips (12) and slide pin (14) to one side. This releases roller and two roller washers (15).
14. To assemble roller, place roller and washers in position, pass pin through washers and roller bushing, and replace pin clips.
15. Check screw seat (19) for looseness, dents and corrosion. If screw seat has been dented or corroded, remove by turning counterclockwise, with chain wrench. Do not use a "prong" wrench, as it may distort the seat.
16. Place graphite grease on new seat gasket (20) and install gasket on threaded end.
17. Screw seat in place and tighten firmly with chain wrench.

REASSEMBLY

1. Hold swing arm in position.
2. Insert spindle through case and swing arm bushings.
3. Rest weight on swing arm and replace spindle in the same manner.
4. Apply pipe joint compound to spindle plugs, and tighten in place.
5. Install new top case gasket, and replace top case.

HERSEY 6CM / 2 REPAIR PROCEDURES

II. MAIN AND CHECK VALVES

A. MAIN OR CHECK VALVE ASSEMBLIES, DISCS, SEATS, & O-RINGS.

**2 1/2", 3", 4", & 6" MODEL 6C-M &
HERSEY NO. 2**

1. Close inlet and outlet shutoff valves.
2. Open testcocks 2, 3, & 4 to release pressure.
3. Remove main valve cover bolts and nuts (the 2 1/2" bronze 6C-M has hex cap screws only).
4. Remove the main valve cover and gasket.
5. Insert the proper eyebolts into the threaded holes on the top of the spring retainer, and lift the entire main valve assembly out of the body.
6. a) Remove the eye bolts and place the assembly so it rests on a flat surface with its guide fingers pointing up, to permit cleaning of the disc.
b) Remove the hex cap screw and guide to release the main valve disc, if it is to be replaced.
7. Replace the guide and tighten the hex cap screw. Replace the eyebolts in the spring retainer. Place the assembly aside.
8. Remove the main valve seat, unscrewing it counter-clockwise with the 6C-M seat removal tool (Be careful not to damage the seat face when seating the tool).
9. Replace the seat and the seat o-ring, if required. (Lubricate o-ring to hold it in place).
10. Tighten the seat (again being careful not to damage the seat face), until resistance is felt.
11. Carefully lower the main valve assembly into the body (being careful the the guide fingers do not damage the seat face).
12. Remove the eyebolts from the spring retainer; replace the cover gasket and cover.
13. Tighten the cover bolts and nuts and repeat steps 3 thru 13 for the check valve assembly.
14. Close testcocks.
15. Open inlet and outlet valves.

B. MAIN OR CHECK VALVE SPRING, SPRING RETAINER AND DISC HOLDER 2 1/2", 3", 4" & 6" MODEL 6C-M & HERSEY NO. 2

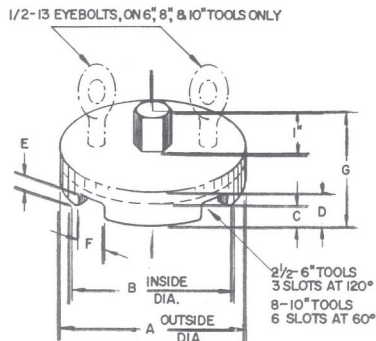
NOTE: This operation should not be performed unless replacement of one of the above parts is required. The spring exerts a strong force against the spring retainer and caution is advised when this operation is done.

1. Close inlet and outlet shutoff valves.
2. Open testcock 2, 3, & 4 to release pressure.
3. Remove main valve cover bolts and nuts (The 2 1/2" bronze 6C-M has hex cap screws only).
4. Remove the main valve cover and gasket. Leave the check valve assembly in the body.
5. a) Attach the two threaded rods of the spring removal tool to the main valve flange with the nuts and washers provided.
NOTE: The 2 1/2" bronze 6C-M has threaded holes on the main valve flange. The rods must be screwed in the flange of this type of unit.
b) Fully tighten the nuts on the top and bottom of the main valve flange.
6. Slide the spring removal plate down on the rods to rest on the nuts, and securely tighten the nuts and washers on the top of the plate.
7. Remove the spring retainer nut.
8. Gradually loosen the top rod nuts to allow the spring to relax. Caution! *Check rods to make sure they are not turning. Retighten flange nuts if necessary.*
9. When the spring is fully relaxed, remove the plate. The spring, spring retainer or the disc holder can now be replaced.
10. To reassemble, reverse steps 1 thru 9.
11. Repeat procedure for check valve.

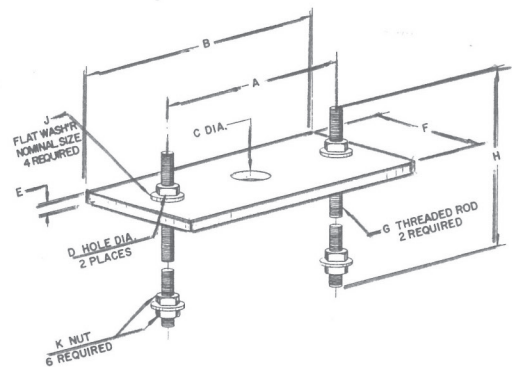
IV MAIN AND CHECK VALVE ASSEMBLIES AND SEATS 8" & 10" MODEL 6CM & HERSEY NO. 2

1. Close inlet and outlet shutoff valves.
2. Open testcocks 2, 3 and 4 to relieve pressure.
3. Remove valve cover bolts and nuts.
4. Remove valve cover and gasket, using eyebolt provided.
5. Insert eyebolts into the threaded holes on the top of the spring retainer, and lift the entire valve assembly out of the body (at this point, the valve seat may be replaced if necessary).
6. a) Remove the eyebolts and place the assembly so that it rests on a flat surface with its guide fingers pointing up, to permit cleaning of the disc.
b) Remove the hex cap screw and guide. The disc can now be replaced, if necessary.
7. Reassemble the guide to the disc holder.
8. To remove and replace spring, follow procedure below:
 - a) Place valve assembly back in body of device.
 - b) Attach the two threaded rods of the spring removal tool to the valve flange with the nuts and washers provided, and tighten the nuts fully.
 - c) Slide the spring removal plate down on the rods to rest on the hex nuts, and tighten the top nuts and washers against the plate.
 - d) Remove the spring retainer nut from the valve assembly.
 - e) Gradually loosen top rod nuts to allow spring to relax (use extreme caution until the spring is fully relaxed).
 - f) Remove the tool plate, spring retainer and spring.
 - g) Place new spring on disc holder. Place spring retainer on spring.
 - h) Reassemble tool plate, nuts and washers to threaded rods.
 - i) Tighten nuts until spring is compressed sufficiently to permit replacement of spring retainer nut.
- Loosen tool plate nuts and remove tool. Replace gasket and cover; close testcocks 2, 3, 4; and open shutoff valves.

MODEL 6CM MAIN & CHECK VALVE SEAT REMOVAL TOOLS



HERSEY PART NO.	SIZE DEVICE	A IN.	B IN.	C IN.	D IN.	E IN.	F IN.	G IN.
63553	2 1/2"	3 11/16	3 3/8	1 1/8	1 5/16	1/4	9/16	1 5/16
63353	3"	4 5/16	4	1 1/8	1 5/16	5/16	1 3/16	1 5/16
63453	4"	5 5/16	5	1 5/16	1 1/8	5/8	1 1/16	2 1/16
63653	6"	7 13/16	7 7/16	1 5/16	1 3/8	3/4	1 1/16	2 3/16
63853	8"	10 3/4	9 5/8	1 1/8	1 3/8	7/8	1 1/8	2 7/8
63953	10"	12 1/2	11 19/32	1 5/16	1 9/16	1"	1 5/8	2 9/16



HERSEY PART NO.	SIZE DEVICE	A IN.	B IN.	C IN.	D IN.	E IN.	F IN.	G IN.	H IN.	J IN.	K IN.
63560	2 1/2"	6	7 1/2	1 1/2	1 1/2	1/4	4	7/16-14	12 1/2	7/16	7/16-14
63360	3"	7	8 1/2	1 3/4	1 1/2	1/4	4	1/2-13	17	1/2	1/2-13
63460	4"	8 1/4	9 3/4	2	2	5/8	4	1/2-13	17	1/2	1/2-13
63660	6"	11	13	2	2	5/8	6	1/2-13	17	1/2	1/2-13
63860	8"	14 5/8	17	2	2	1 1/2	6	3/4-10	30	3/4	3/4-10
63960	10"	18	21	2 1/2	2 1/2	1 1/2	6	3/4-10	30	3/4	3/4-10

SPRING REMOVAL TOOLS

III RELIEF VALVE ASSEMBLY AND HOUSING ASSEMBLY

2 1/2", 3", 4" & 6" MODEL 6C-M

1. Close inlet and outlet shutoff valves.
2. Open testcocks 2, 3 and 4 to relieve pressure.
3. Remove all but two relief valve cover bolts and nut, loosen these.

Note: If cover adheres to body, strike cover at junction of body and cover to break it free. Should diaphragm adhere to body or cover separate it by running knife around flange between diaphragm and body of cover. At this point, relief valve assembly should drop on cover.

4. Support cover and remove remaining bolts to release cover and valve assembly from body.

Note: If relief valve did not drop on cover, remove cover. Grasp diaphragm on opposite sides and slowly pull down (adhesion of lower seat o-ring to relief valve housing may cause valve to remain in position).

5. To disassemble relief valve:

- a) Place the assembly on a flat surface, with the guide fingers pointing down.
- b) Press down on lower diaphragm plate to maintain spring in compression. At the same time, loosen the clamp nut (to facilitate this operation, it may be desirable to have one person hold the spring in compression and a second remove the nut). Release pressure on diaphragm plate. Plate should rise against nut. If it does not, tap upper diaphragm plate to release adhesion of diaphragm plate gasket. Press down on diaphragm plate and remove clamp nut.
- c) Slowly release pressure on the diaphragm plate until spring extends fully. Remove diaphragm plates, diaphragm, spring and diaphragm plate gasket from balance of assembly.
- d) Remove assembly screw and separate upper seat guide, upper disc, upper stem, lower disc, lower stem and lower seat. Discs and other parts may now be cleaned or replaced.

Note: Rubber discs may tend to stick to stems after assembly screw is removed.

6. To reassemble relief valve:

- a) Place discs on lower and upper stems, and assemble lower seat to upper stem, and upper stem to lower stem (projection on stem goes into hole in disc). Place guide on upper stem (projection on guide goes into hole on disc). Replace assembly screw.
- b) Rest assembly on flat surface, guide fingers pointing down. Place diaphragm plate gasket and spring on lower stem.
- c) Place diaphragm between diaphragm plates and rest upper plate on spring.
- d) Press on lower diaphragm plate until threaded end of lower stem appears in hole on plate. Replace lockwasher and clamp nut, and release plate.

Note: Apply vaseline to lower seat o-ring (seal) before assembling to seat. If original o-ring is left in place, apply vaseline to it.

7. To disassemble RV housing assembly, first unscrew housing nut (do not apply pressure to elbow). Then remove the assembly by sliding it in and down, out of the body. The RV housing gasket which fits over the two locating pins on the housing flange can now be replaced.
 8. Remove the three screws and lock washers that hold the upper seat in the housing. The o-ring (upper seat seal) or the seat itself can now be replaced. Note: Apply vaseline to o-ring before assembling to seat.
 9. To reassemble:
 - a) Press upper seat into place and fasten screws.
 - b) Place housing in body, being careful to align pins with holes on body. Attach housing nut. Be sure elbow points down. Reattach drain funnel assembly if device is so equipped.
 10. Rotate relief valve so that hole in diaphragm for internal passageway in body aligns with body opening. Lift RV assembly up into body, inserting upper seat guide fingers into upper seat opening. Note: Avoid contact of guide fingers with upper seat.
- Hold relief valve in position, and assemble RV cover and cover bolts to body.
11. Close testcocks 2, 3, and 4 and open shut off valves.

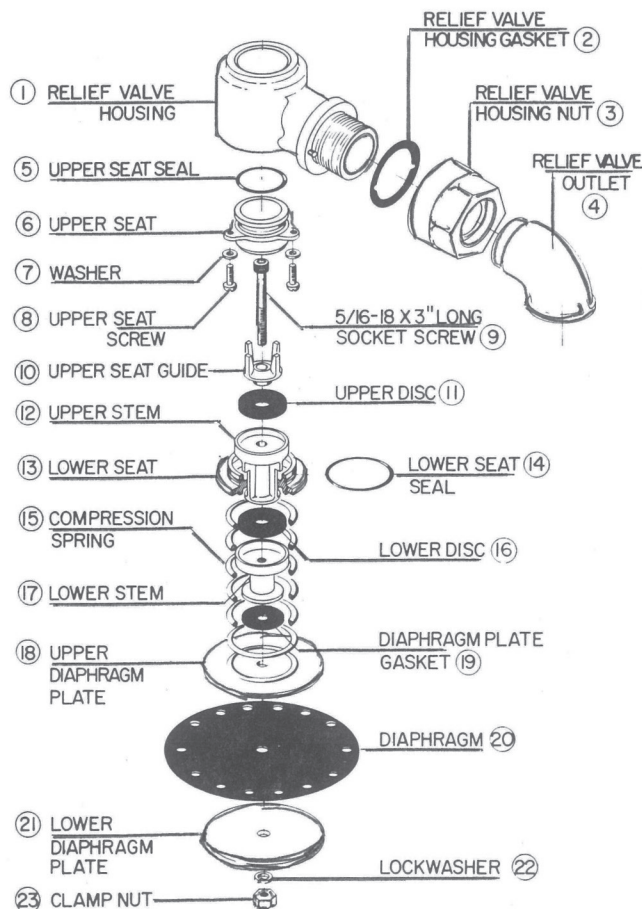


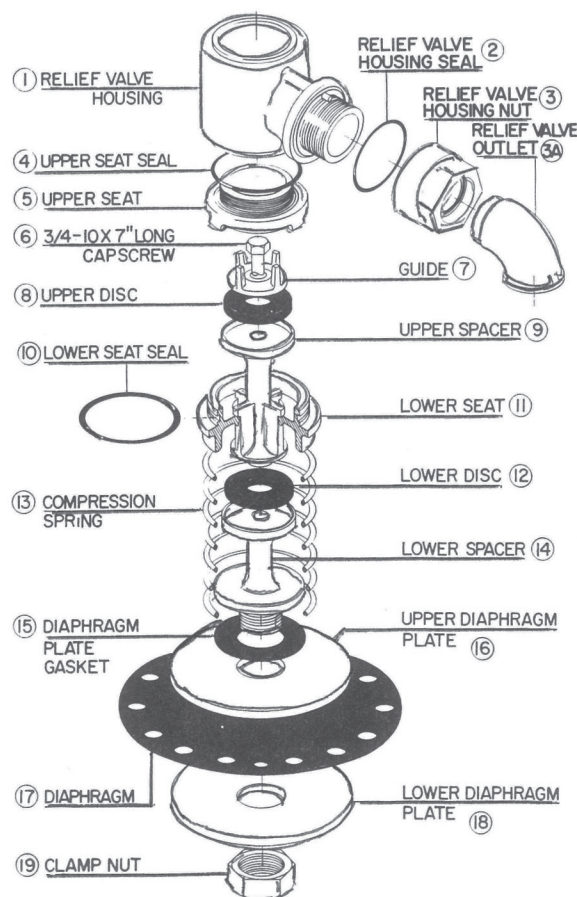
FIGURE 10
RELIEF VALVE ASSEMBLY
AND HOUSING ASSEMBLY
2 1/2"-6" MODEL 6CM

V RELIEF VALVE ASSEMBLY AND HOUSING ASSEMBLY 8" AND 10" MODEL 6C-M

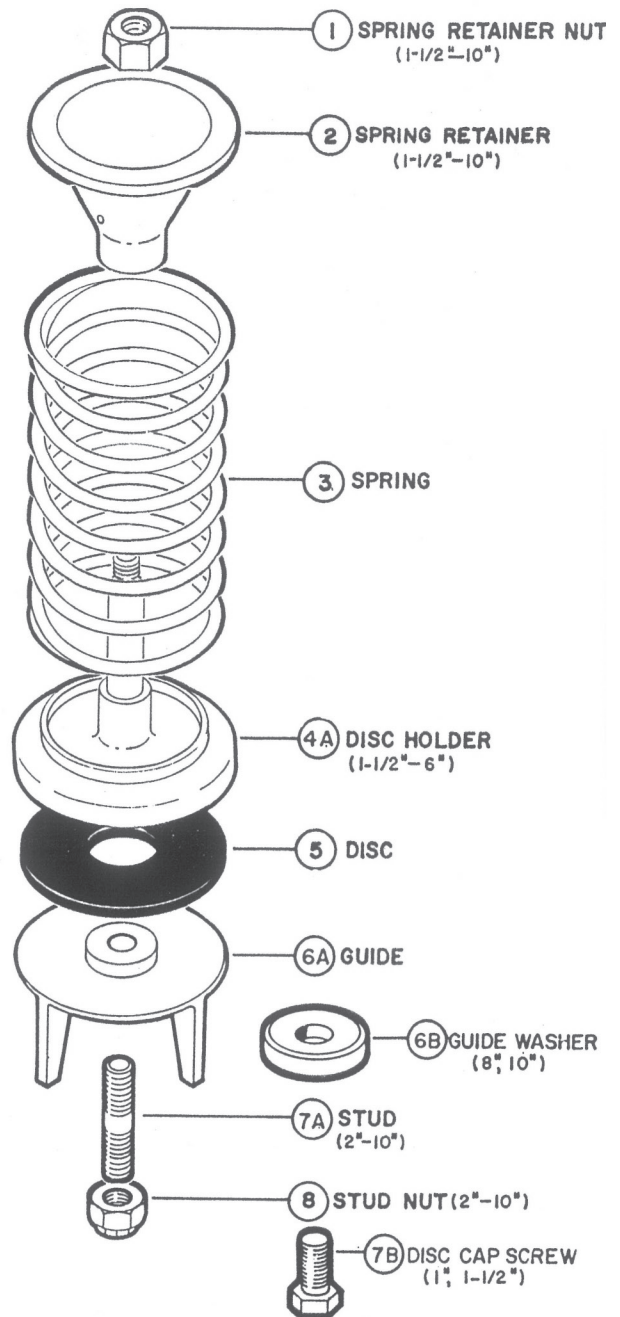
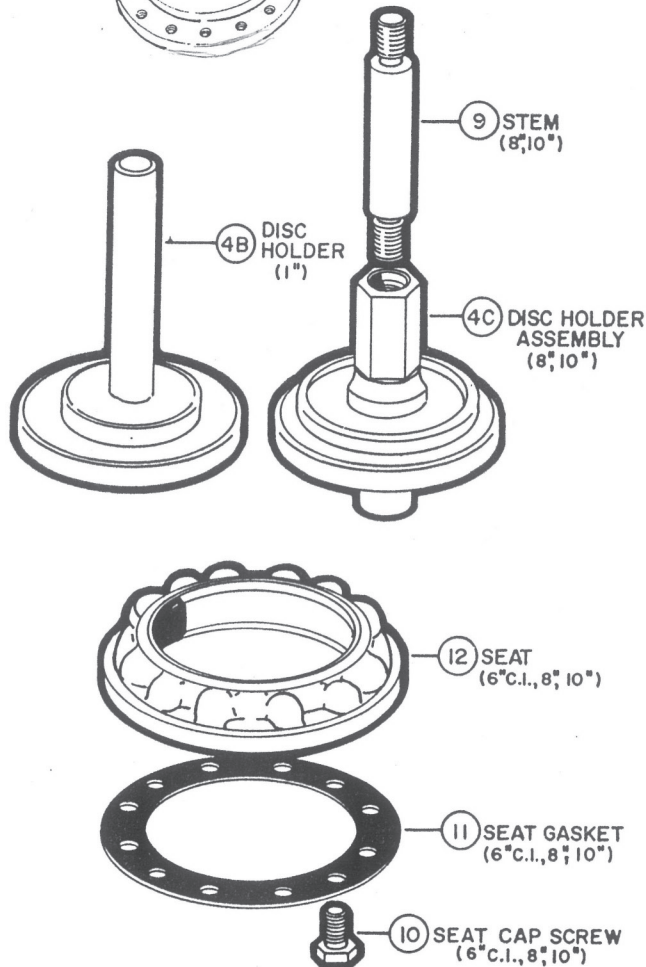
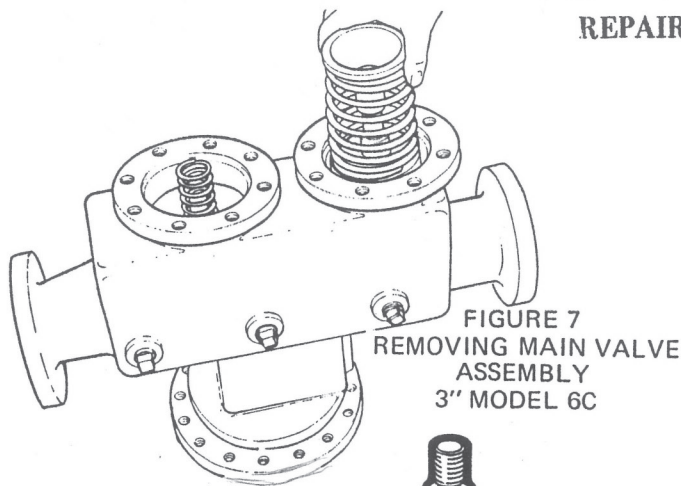
Relief valve assembly and housing assembly, 8" and 10" Model 6CM.

1. Close inlet and outlet shutoff valves.
2. Open testcocks 2, 3 and 4 to relieve pressure.
3. Remove all but two relief valve cover bolts and nuts, loosen these.
Note: If cover adheres to body, strike cover at junction of body and cover to break it free. Should diaphragm adhere to body or cover separate it by running knife around flange between diaphragm and body or cover. At this point, relief valve assembly should drop on cover.
4. Support cover and remove remaining bolts to release cover and valve assembly from body.
Note: If relief valve did not drop on cover, remove cover. Grasp diaphragm on opposite sides and slowly pull down (adhesion of lower seat o-ring to relief valve housing may cause valve to remain in position).
5. To disassemble relief valve:
 - a) Place assembly in an arbor press with the guide facing up.
Caution: Do not attempt to disassemble by compressing spring by hand. Substantial spring force could cause injury if spring compression is released suddenly.
 - b) Press on *lower seat*, compressing spring slightly to release tension on assembly screw.
 - c) Holding spring in compression, remove assembly screw.
 - d) Slowly release pressure until spring is fully extended. Remove guide, upper spacer, lower seat, discs and spring from the balance of the assembly. The discs and lower seat seal (o-ring) may now be replaced. (lubricate o-ring).
 - e) If diaphragm is to be replaced, remove clamp nut from lower spacer. Separate lower spacer, diaphragm plate gasket, diaphragm and diaphragm plates. If diaphragm or gasket sticks to other parts, insert knife between them to separate.
6. To reassemble relief valve:
 - a) Reassemble lower spacer, diaphragm, diaphragm plates, diaphragm plate gasket and nut as illustrated.
 - b) Place these parts in arbor press, lower spacer facing up.
 - c) Place lower disc on lower spacer.
 - d) Place spring and lower seat on upper diaphragm plate.
 - e) Insert upper spacer into lower seat, and rest seat on spring.
 - f) Place upper disc on upper spacer, and guide on upper disc (base of guide fits into hole in disc). Insert assembly screw in guide.
 - g) Apply pressure to lower seat until spring is sufficiently compressed to permit engagement of assembly screw threads. Tighten screw in place after checking that upper spacer is properly seated in hole in lower disc. Release pressure on spring.

7. To disassemble relief valve housing assembly:
 - a) Unscrew housing nut (do not apply wrench to elbow), and slide housing in and down, out of the body.
 - b) Unscrew upper seat from housing, if replacement of seat o-ring is indicated.
8. To reassemble relief valve housing assembly:
 - a) Apply vaseline to new or existing housing o-ring and place it on housing.
 - b) If seat was removed, also apply vaseline to o-ring prior to reassembly of seat.
 - c) Slide housing through hole in body, carefully aligning locating pins with holes in body. Replace nut and elbow. Be sure elbow faces downward. Reattach drain funnel assembly if device is so equipped.
9. Rotate relief valve so that hole in diaphragm for internal passageway in body aligns with body opening. Lift RV assembly up into body, inserting upper seat guide fingers into upper seat opening. Note: Avoid contact of guide fingers with upper seat.
10. Hold relief valve in position, and assemble RV cover and cover bolts to body.
11. Close testcocks, 2, 3, and 4 and open shut off valves.



REPAIR PROCEDURE – MODEL 6C



REPLACEMENT OF MAIN VALVE RUBBER DISC

1. Close inlet and outlet shutoff valves.
2. Open test cocks 2, 3, 4, to release pressure and drain the backflow preventer.
3. Remove cover cap screws or bolts and nuts,

valve cover and cover gasket or guide plug (1" size). Remove spring (1" size) (3). Caution! Valve spring exerts force directly against plug.

4. Remove main valve assembly (Fig. 7).
5. Remove disc cap screw (1" and 1-1/2" sizes) (7B) or stud nut (2" - 10" sizes) (8). This releases the guide (6A) and guide

washer (8" - 10" sizes) (6B) from disc holder (1" - 6") (4A, 4B), or from disc holder assembly (8", 10") (4C). Stem (8" and 10" sizes) (9) can also be replaced, if necessary

6. Replace disc (5) and reassemble valve guide (6A) to disc holder (4A, 4B) or disc holder assembly (4C).

7. To replace seat gasket (6" CI, 8", 10" sizes), remove seat cap screws (10), seat gasket (11), and seat (12). Install new gasket and replace seat and cap screws.
8. Place valve assembly in body.
9. Replace spring (1" size) (3).
10. Replace plug or cover, using new gasket (1-1/2" - 10" sizes).
11. Replace cap screws or bolts and nuts.

REPLACEMENT OF CHECK VALVE RUB- BER DISC (and Seat Gasket — 6" CI, 8", 10"

6 C

1. Remove guide plug (1", 1-1/2", 2" sizes) or cover (2-1/2" — 10" sizes). Caution! Valve spring (1", 1-1/2", 2", 3", 4" and 6" bronze case model) exerts force directly against plug or cover.
2. Remove spring (1) (1", 1-1/2", 2", 3", 4" sizes and 6" bronze case model) and valve assembly, or valve assembly including spring (2-1/2", 6" CI, 8", 10" sizes).
3. Remove disc cap screw (3B) (1", 1-1/2" sizes) or stud nut (6). This releases the

guide (5A) and guide washer (8", 10" sizes) (5B).

4. Replace disc (4) and reassemble guide to disc holder (2A, 2B, or 2C).
5. To replace seat gasket (6" CI, 8", 10" sizes) remove seat cap screws (9), seat gasket (10), and seat (11). Install new gasket and replace seat and cap screws.
6. Place valve assembly in body. Replace spring (1) if separate from valve assembly.
7. Replace guide plug or cover, using new cover gasket. Replace cap screws or bolts and nuts.

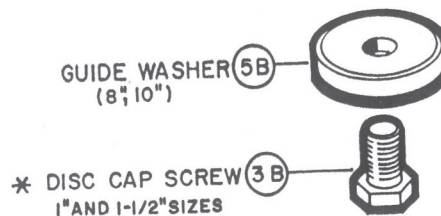
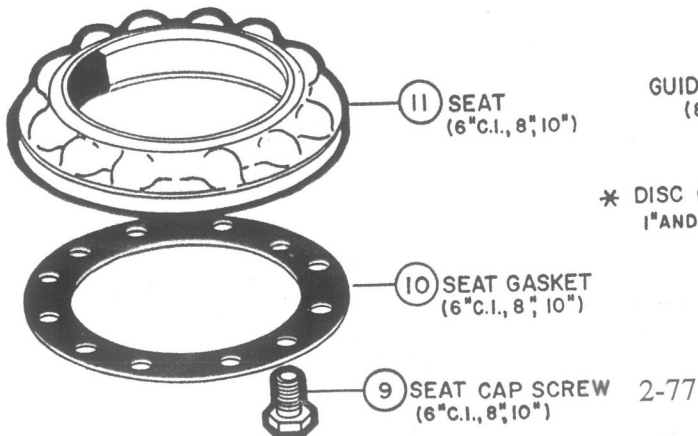
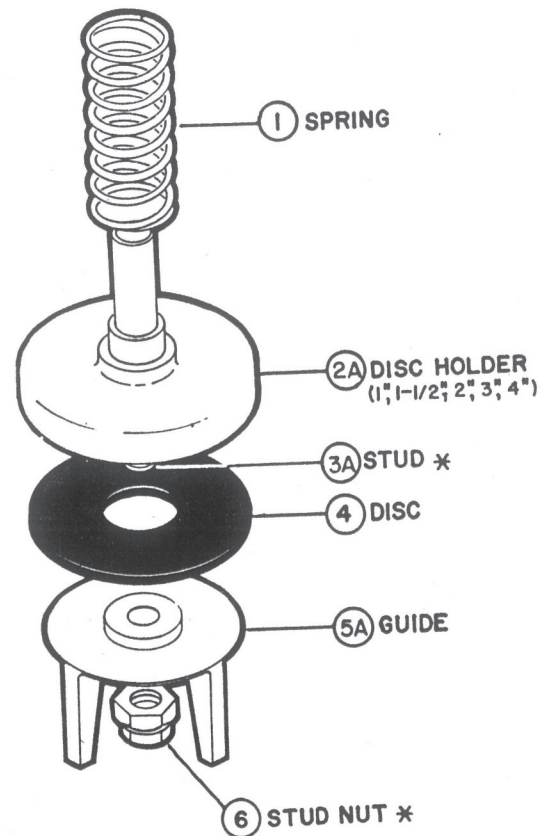
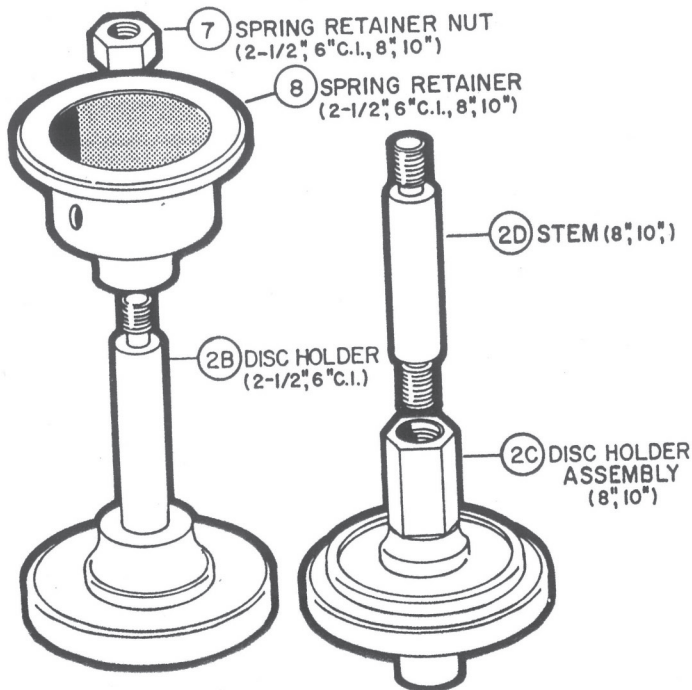


FIGURE 10
TYPICAL CHECK VALVE ASSEMBLY
— BEECO MODEL 6C

REPLACEMENT OF MAIN VALVE SPRING (1-1/2" – 10").

6 C

1. 1-1/2" – 3" (refer to Figs. 9).
- a. Loosen spring retainer nut (1).
- b. Compress spring retainer (2) by hand. Remove spring retainer nut (1).
- c. Release hand and remove retainer (2) and spring (3).
2. Replacement of Main Valve Spring (4" – 10") (Method optional for 3".)
 - a. Remove cover; leave valve assembly in body.
 - b. Place spring removal plate on main valve spring retainer.
 - c. Attach threaded rods (see chart for proper size) to plate and body flange with nuts provided. On 4" size, screw rod into flange. On 6" – 10" sizes, engage bottom nuts fully. Tighten top nuts against plate.
 - d. Compress spring slightly by tightening top rod nuts. This forces retainer downward to release spring retainer nut.
 - e. Remove spring retainer nut (Fig. 12).
 - f. Gradually loosen top rod nuts to allow spring to relax.
 - g. Remove plate, spring retainer and spring. Remove remainder of valve assembly.

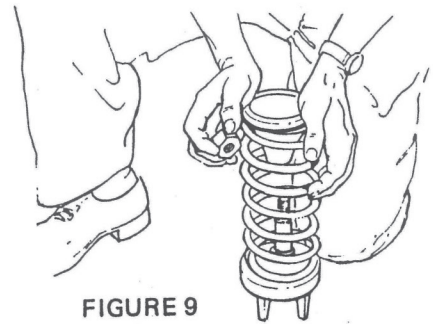


FIGURE 9
REMOVING MAIN VALVE SPRING
(1-1/2" – 3" MODEL 6C)

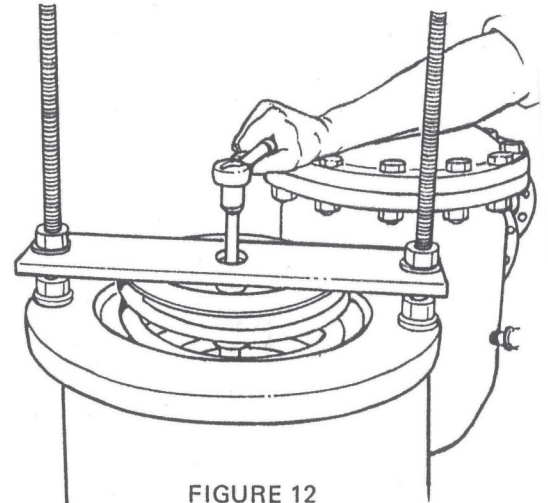


FIGURE 12
REMOVING 8" MAIN VALVE SPRING RETAINER
NUT FOLLOWING INSTALLATION OF SPRING
REMOVAL PLATE AND THREADED RODS

REPLACEMENT OF CHECK VALVE SPRING
(1", 1-1/2", 2", 3", 4", 6" bronze sizes). Spring is released when plug or valve cover is removed.

NOTE: In all sizes, the heavier spring is used on the main or first check valve.

REPLACEMENT OF CHECK VALVE SPRING
(2-1/2", 6" CI, 8", 10" sizes) (See Fig. 10.)

1. Remove valve assembly from body (Fig. 15).
2. Loosen spring retainer nut (7).
3. Compress spring retainer (8) by hand. Remove spring retainer nut.
4. Release hand and remove retainer and spring (1).

REPAIR OF RELIEF VALVES - 1" - 6"

6C

1. Removal

- Remove relief valve cover.
- Separate diaphragm (11) from body. (Use knife blade to separate it if it adheres).

- Remove relief valve lock nut (15).

NOTE: If elbow or other fittings are connected to outlet, remove them first.

- Support relief valve from beneath. Tap projecting end of housing (6) at discharge port with soft-faced hammer to

disengage locating pins. Valve assembly will drop through opening at base of body.

NOTE: Should locating pins start to disengage before lock nut is completely removed, support valve assembly before unthreading lock nut completely.

2. Disassembly

- Loosen clamp bolt nut (13) slightly. If nut cannot be released by hand, or if clamp bolt turns with nut when wrench applied, disassemble spring as follows:

(1) Insert Allen wrench into hexagonal opening at bottom end of clamp bolt.

- Rest valve assembly on seat, and remove clamp bolt nut with second wrench. Hold Allen wrench to prevent clamp bolt from turning.

A second person must press down on lower diaphragm plate at the same time to prevent sudden release of nut. After releasing nut, remove wrenches and allow spring to relax.

- Rest assembly on top of seat (1). Compress relief valve spring (9) by pressing down on lower diaphragm plate (12).
- Partially remove clamp bolt nut, and gradually release spring. Caution! If lower diaphragm plate does not rest against nut, clamp bolt gasket (8) is adhering to upper diaphragm plate (10) and preventing spring release. Tap top plate to release spring. Compress spring again, remove nut completely, and release spring.
- Remove the lower diaphragm plate (12), diaphragm (11), upper diaphragm plate (10) and spring (9).

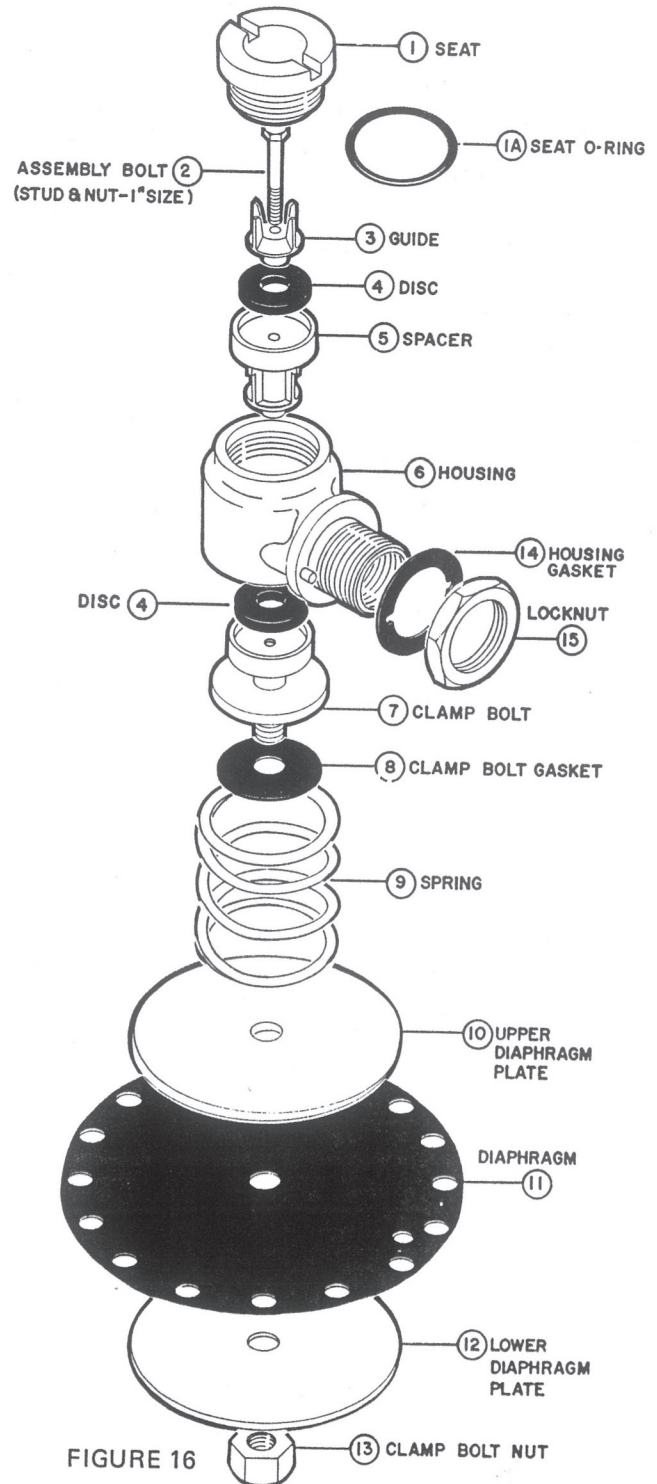


FIGURE 16
RELIEF VALVE ASSEMBLY - BEECO MODEL 6C
(1" - 6" SIZES)

- Select a piece of bar stock that will fit in slot on top of relief valve seat (1) and place in vise.
- Position slot in seat over bar stock. Turn housing (6) counterclockwise, using an 18" or longer length of pipe, threaded into the housing, to remove seat.

NOTE: Use 3/4" pipe for 1" and 1-1/2" backflow preventer. Use 1-1/4" pipe for 2", 2-1/2" and 3" sizes. For 4" and 6" sizes use 2" pipe. (Standard pipe thread). (Fig. 19).

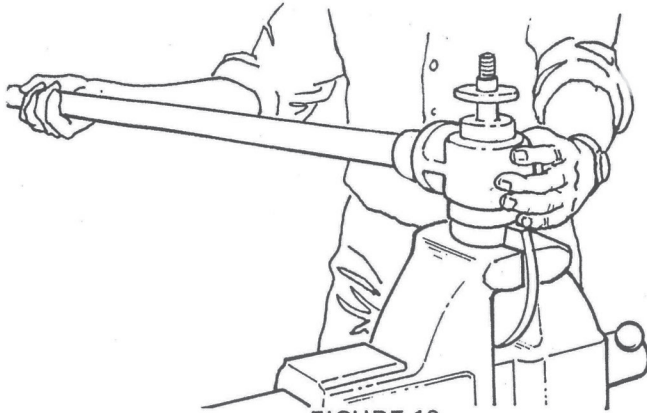


FIGURE 19
REMOVING SEAT FROM HOUSING

- g. On 1" size, unscrew the clamp bolt (7) from the lower end of the stud. (Stud may remain attached to clamp bolt). The guide (3), spacer (5), and stud (2) can then be removed through the top of the housing for final disassembly. Remove upper and lower relief valve discs (4) from the spacer and clamp bolt (7). On larger sizes, remove the assembly bolt. This releases the guide (3), spacer (5), and clamp bolt (7). Withdraw the guide and spacer through the top of the housing (6).

3. Reassembly

- a. Insert new relief valve discs (4) into the spacer (5) and clamp bolt (7).
- b. Insert the assembled spacer, disc, guide and assembly bolt (or stud), into the housing (6) through the top opening.
- c. Apply pipe joint compound to threads of relief valve seat (1) and assemble to the housing (6). (If seat is equipped with an O-ring, apply vaseline to O-ring to hold it in slot). Turn housing over and screw clamp bolt into position over bottom seat of housing. Tighten firmly by using socket wrench on assembly bolt and Allen wrench in end of clamp bolt

NOTE: On 1" and 1-1/2" devices, insert 1/2" drive socket wrench, without socket attached, between projections of relief valve guide. On larger sizes, use appropriate socket on assembly bolt.

- d. Place pencil or ink mark on side of clamp bolt and a matching mark on side of housing bottom seat (see Fig. 21).
- e. Tighten seat by placing slot over bar held in vise, using pipe inserted into housing opening, as in step f, disassembly.
- f. Continue tightening until pencil marks *just* separate. This assures simultaneous seating of the upper and lower valve discs, for correct operation of the relief valve.
- g. Rest partially assembled valve on top of seat (1).
- h. Place diaphragm (two thicknesses – 11) between upper (thicker – 10) and lower (thinner – 12) diaphragm plates, aligning diaphragm holes (in particular the hole for water passage through the cored inlet). Install new clamp bolt gasket (8).
- i. Place relief valve spring (9) on housing.
- j. Center diaphragm (11) and plates (10, 12) over clamp bolt (7). Press down on lower diaphragm plate to compress spring, and replace clamp bolt nut (13). Tighten firmly with wrench.

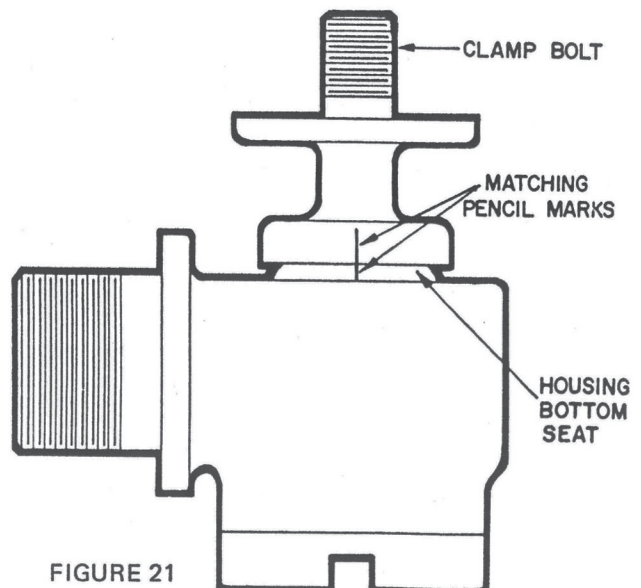


FIGURE 21
MARKING CLAMP BOLT AND HOUSING
BOTTOM SEAT FOR CORRECT DISC SEATING
ADJUSTMENT (1" – 6" MODEL 6C)

REPAIR OF RELIEF VALVES – 8" AND 10"

6 C

1. Removal

- a. See step 1. Repair of relief valves (1" – 6" sizes).

NOTE: On 8" and 10" sizes, body may be inverted and relief valve lifted from opening.

2. Disassembly

- a. Loosen assembly bolt (6).
- b. Compress spring (12) by pushing down on relief valve housing (3).
- c. Remove assembly bolt (6) with socket wrench. This releases guide (7) and

spacer (9). Allow spring to extend. The housing will now lift away from the inside spacer (13) (Fig. 24).

- d. Loosen lower seat (11) with seat wrench.
- e. Remove lower seat and spacer from housing.
- f. Loosen and remove upper seat (5) with seat wrench.
- g. Loosen and remove clamp nut (16), diaphragm plate (15) and diaphragm (14).

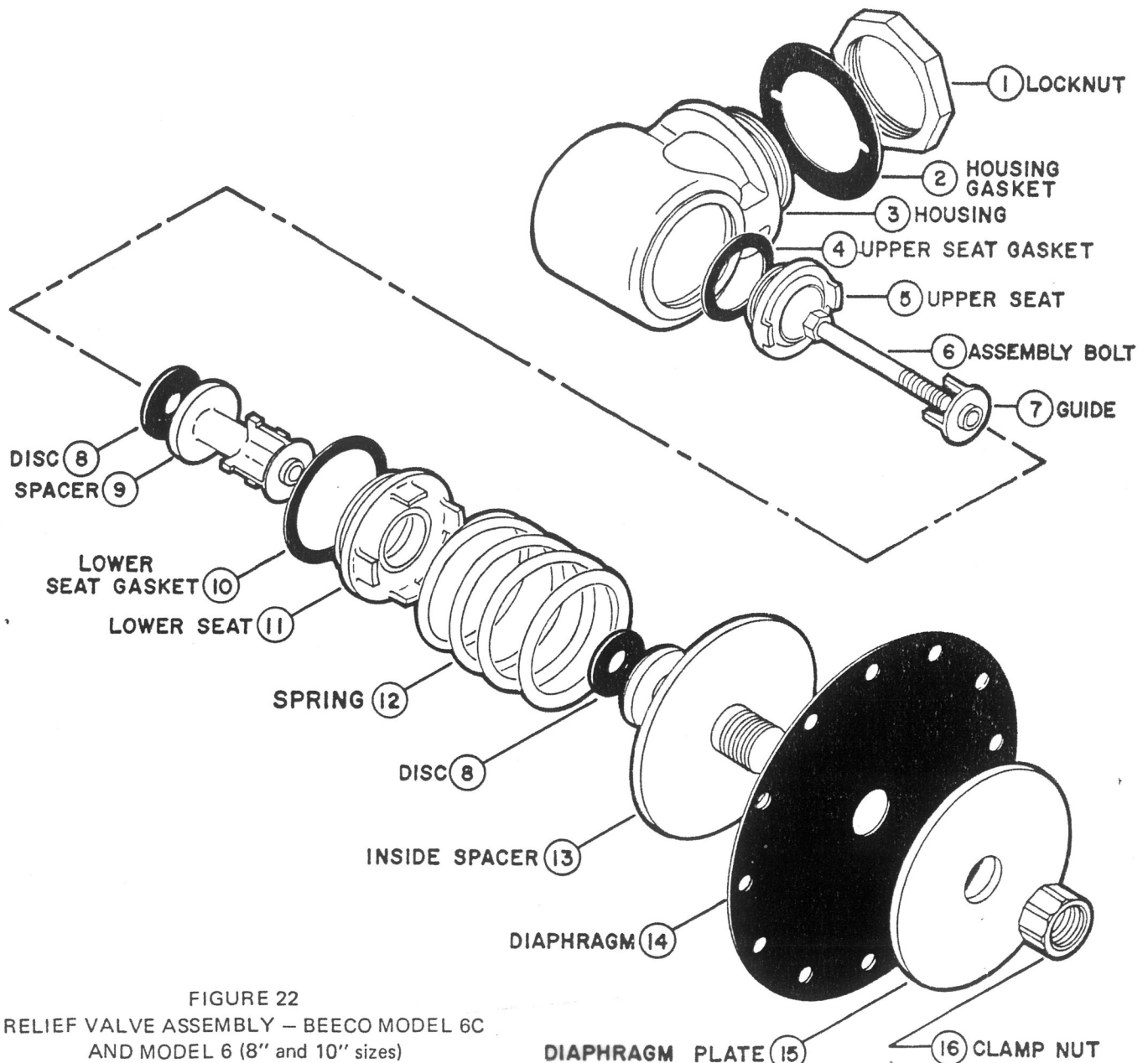


FIGURE 22
RELIEF VALVE ASSEMBLY – BEECO MODEL 6C
AND MODEL 6 (8" and 10" sizes)

3. Reassembly

- a. Replace upper and lower seat gaskets (4 and 10).
- b. Screw upper seat (5) into relief valve housing (3), using seat wrench.
- c. Insert new discs (8) into spacer (9) and inside spacer (13).
- d. Place spacer into relief valve housing (3), and screw lower seat (11) into housing, using seat wrench.

NOTE: To assure correct spacing of the seats, the bottom flange of the spacer should be within $\pm .005$ " of being level with the face of the lower seat (Fig. 25). Lay a straight edge across lower seat with feeler gauge. Check clearance between straight edge and disc spacer with feeler gauge. Back off or tighten lower seat until correct clearance is attained.

- e. Reassemble inside spacer (13), diaphragm (14), diaphragm plate (15) and clamp nut (16). Position diaphragm hole for water passage in proper relation to opening of cored passageway.
- f. Place spring (12) on inside spacer, set housing assembly on this spring, and insert assembly bolt (6) through the guide (7) and spacer.
- g. Compress spring, engage assembly bolt in threads of inside spacer, and tighten bolt. Release spring tension.

4. Assembly of Relief Valve into Body

- a. Replace housing gasket (2) and insert relief valve assembly into body through base, positioning housing outlet in body opening. Engage locating pins.
- b. Screw locknut on housing. Strike cut-out with driver to seat tightly.
- c. Replace relief valve cover, making sure that the inlet water passage holes in the body, diaphragm and cover are aligned.

NOTE: If holes are misaligned, remove valve from body, disassemble diaphragm plates, and spring. Rotate diaphragm to correct position, reassemble valve and place in body.

- d. Replace cover plate and tighten bolts.

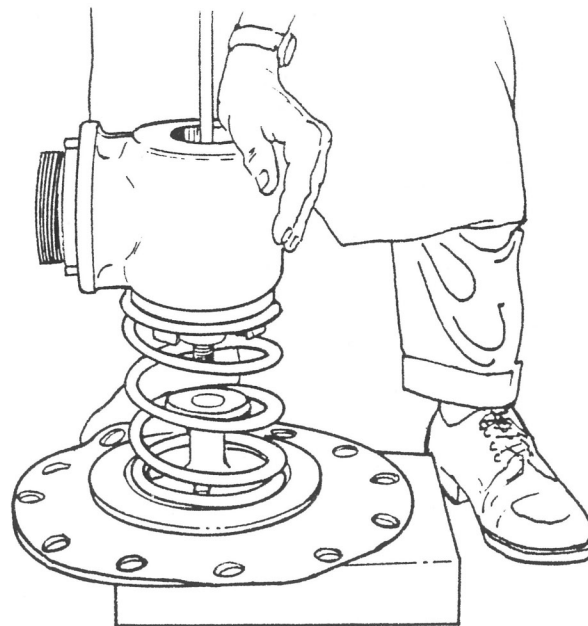


FIGURE 24
REMOVING ASSEMBLY BOLT

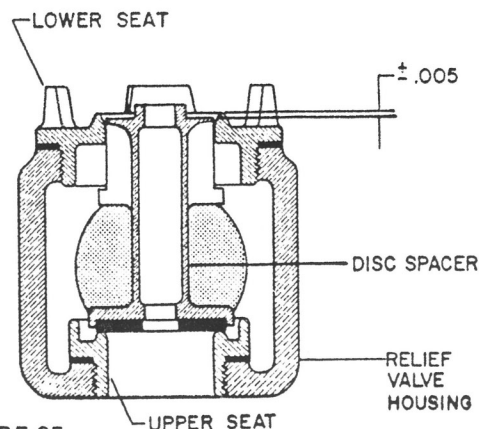
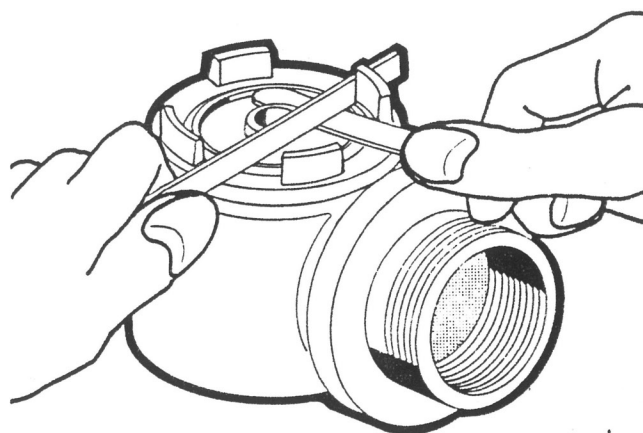


FIGURE 25
GAUGING OPERATION FOR CORRECT SEAT SPACING
(8" AND 10" MODEL 6C)

B. REPAIR OF MAIN VALVE

A. PRELIMINARY STEPS

1. Close inlet and outlet shutoff valves.
2. Open test cocks 2, 3, and 4 to release pressure and drain the Backflow Preventer.

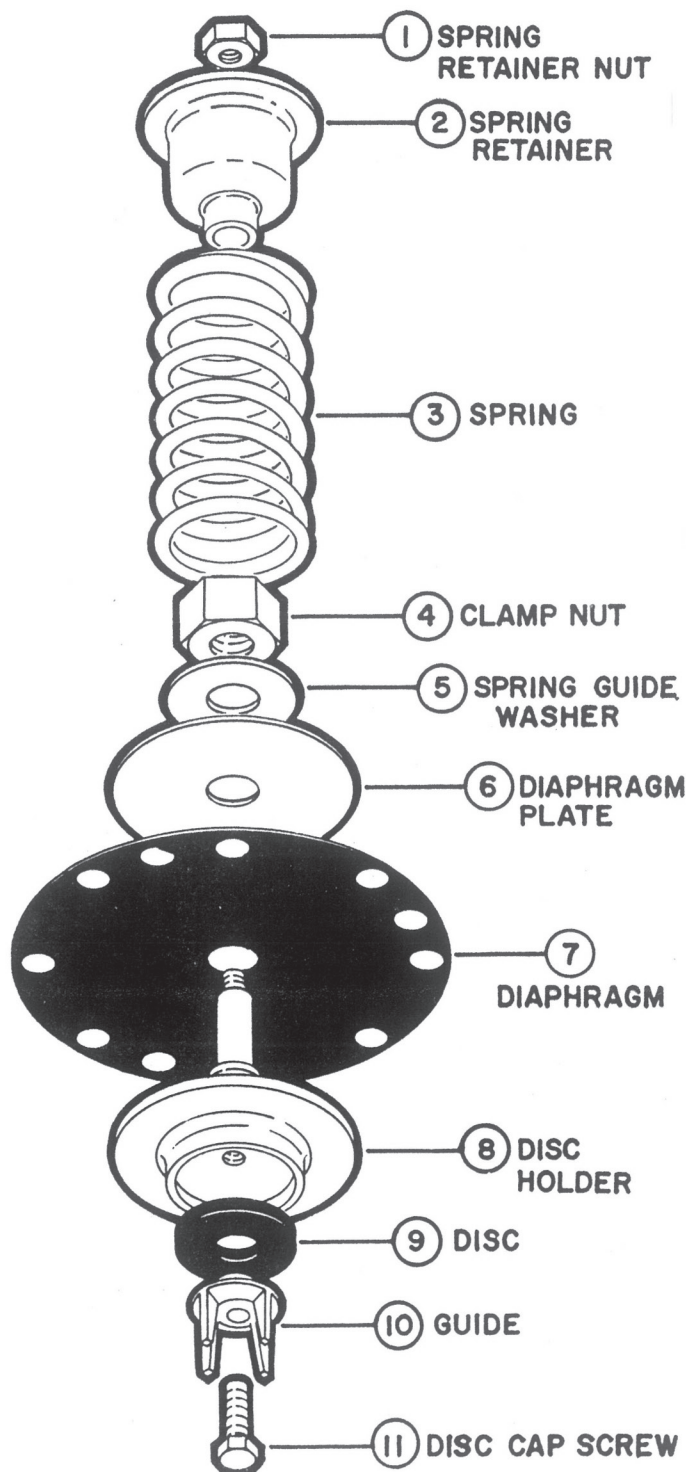


FIGURE 48
MAIN VALVE ASSEMBLY
BEECO MODEL 10 (1" AND 1-1/4" SIZES)

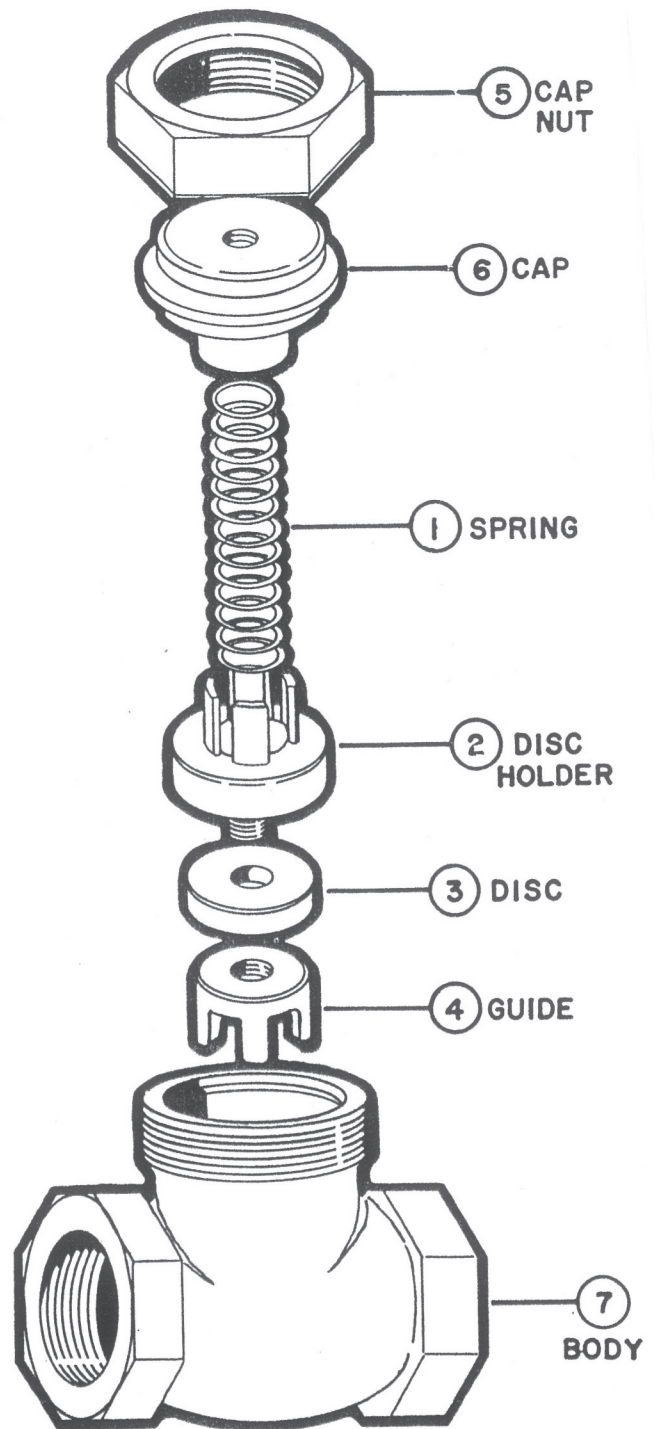
1. Disassembly (see Figs. 48 and 49)
 - a. Remove cover by unscrewing cover cap screws.
NOTE: Main valve spring (3) exerts pressure against cover. When cap screws are removed, cover will be lifted about 3/8" (spring travel is stopped by spring retainer (2)).
 - b. Break spring retainer nut (1) free with wrench, holding spring to prevent valve assembly from turning.
 - c. Screw threaded rods into flange of device
 - d. Place spring removal plate over rods and rest on spring retainer (2).
 - e. Install washers and rod nuts. Tighten nuts against plate enough to compress spring (3) slightly. This forces spring retainer downward to release spring retainer nut (1).
 - f. Remove spring retainer nut, and back off (loosen) rod nuts until spring is completely extended.
 - g. Remove plate, threaded rods, spring retainer, spring and balance of valve assembly.
 - h. Remove disc cap screw (11). This releases guide (10) and disc (9).
 - i. Remove clamp nut (4). This releases spring guide washer (5), diaphragm plate (6), and diaphragm (7) from disc holder (8).
2. Reassembly
 - a. Place new diaphragm (7) on disc holder (8). Replace diaphragm plate (6) and spring guide washer (5). Install clamp nut (4) and tighten firmly.
 - b. Install new disc (9) in disc holder (8), replace guide (10) and tighten cap screw (11) firmly in place. Place assembly in body.
 - c. Place spring (3) on diaphragm plate (6).
 - d. Place spring retainer (2) on spring (3).
 - e. Install plate and threaded rods. Compress spring enough to permit replacement of spring retainer nut (1).
 - f. Remove plate and rods; tighten nut firmly with wrench.
 - g. Align bolt holes on diaphragm with holes on body, paying particular attention to hole for cored passageway to zone of reduced pressure.
 - h. Replace cover.

MODEL 10

C. REPAIR OF CHECK VALVE

1. Disassembly
 - a. Unscrew cap nut (5).
 - b. Remove cap (6).
 - c. Lift out spring (1) and disc holder (2).
 - d. Unscrew disc guide (4).
 - e. Remove disc (3).
2. Reassembly
 - a. Install new disc (3).
 - b. Replace disc guide (4).
 - c. Install disc holder (2) and spring (1).
 - d. Replace cover and retaining nut.

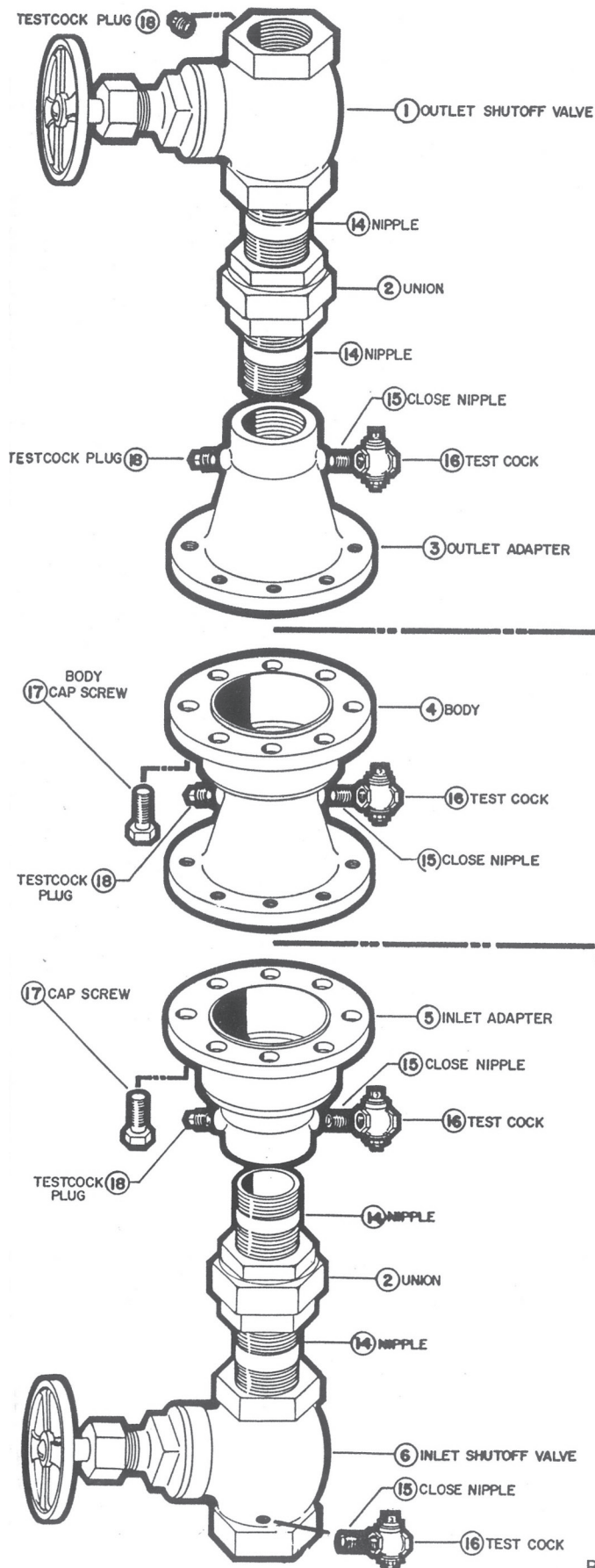
CHECK VALVE ASSEMBLY, BEECO MODEL 10
(1" AND 1-1/4" SIZES)



D. REPAIR OF RELIEF VALVE

As relief valve is identical to relief valve used in the Model 6C, 1" – 6" sizes, refer to Model 6C section for procedure.

REPAIR OF 2" BEECO MODEL VC DOUBLE CHECK VALVE ASSEMBLIES



A. PRELIMINARY STEPS (see Fig. 50)

1. Close shutoff valves (1, 6)
2. Break the two union connections (2).
3. Remove valves and adapters.

B. REPAIR OF FIRST CHECK VALVE

1. Disassembly (see Fig. 50)

- a. Remove inlet adapter (5). This releases valve assembly, including spring (7).
- b. Remove stud nut (12). Leave stud in place. This releases guide (10).
- c. Remove disc (9) from disc holder (8).

Reassembly

- a. Install new disc (9).
- b. Install guide (10).
- c. Install stud (11).
- d. Install disc holder assembly.
- e. Install spring (7).
- f. Stand valve assembly on outlet adapter (3).
- g. Replace body flange gasket (13).
- h. Assemble inlet adapter to body (4).
- i. Install cap screws.

C. REPAIR OF SECOND CHECK VALVE

1. Disassembly (see Fig. 50)

Follow same procedure used for first check valve, after removing outlet adapter.

2. Reassembly

Follow same procedure used for first check valve; then attach outlet adapter.

D. FINAL STEPS

1. Connect valves and adapters to union connections.
2. Open shutoff valves.

FIGURE 50
BEECO DOUBLE CHECK VALVE ASSEMBLY
(2" SIZE)

REPAIR OF 3" BEECO MODEL VC DOUBLE CHECK VALVE ASSEMBLIES

VC

REPAIR OF 4" BEECO MODEL VC DOUBLE CHECK VALVE ASSEMBLIES

A. PRELIMINARY STEPS

1. Close shutoff valves.
2. Unbolt assembly from valves. Or, remove all but one bolt from each end of outlet check valve only and roll it out of line. This permits access to internal parts.

B. REPAIR OF CHECK VALVES

1. Disassembly
 - a. Unscrew retainer (1) by inserting 1/2" square piece of bar stock in end slot and turning with wrench; or, strike end slot with driver to loosen.
 - b. Remove balance of valve assembly, including spring (2).
 - c. Unscrew stud nut (7). This releases guide (5).
 - d. Remove disc (4) from disc holder (3).
2. Reassembly
 - a. Replace disc (4) and install guide (5) and stud nut (7).
 - b. Place above assembly in body.
 - c. Replace spring and screw retainer in place.
 - d. Reassemble check valve to shutoff valve and other check valve, using new gasket (14) if necessary.

C. FINAL STEPS

1. Reassemble check valve to shutoff valve and other check valve, replacing flange gaskets if necessary.
2. Open shutoff valves.

A. PRELIMINARY STEPS

1. Close shutoff valves.
2. Unbolt assembly from valves. Or, remove all but one bolt from each end of outlet check valve only and roll it out of line. This permits access to internal parts.

B. REPAIR OF CHECK VALVE

1. Disassembly
 - a. Unscrew retainer (1) by inserting 1/2" square piece of bar stock in end slot and turning with wrench; or, strike end slot with driver to loosen.
 - b. Grasp stop (3A) and remove entire valve assembly.
 - c. Rest assembly on guide (5).
 - d. Press down on retainer (1) to compress spring (2).
 - e. Unscrew stop and gradually release pressure on retainer. Remove retainer and spring.
 - f. To replace disc (4), unscrew stud nut (7). This releases guide (5). Remove disc (4).
2. Assembly
 - a. Place new disc (4) on disc holder (3).
 - b. Place guide (5) on disc holder and install stud nut (7).
 - c. Place spring on disc holder.
 - d. Place retainer (1) on spring (2). Compress spring to permit assembly of stop (3A) to disc holder.
 - e. Install valve assembly in body.
 - f. Press retainer, compressing spring to allow engagement of retainer threads. Screw retainer in place, tightening firmly.

C. FINAL STEPS

1. Reassemble check valves to each other and to shutoff valves, replacing flange gaskets if necessary.
2. Open shutoff valves.