

CONBRACO/APOLLO

4A-700 /RPDA4A/ RPDA 4AN

SERIES

SIZE

2 1/2", 3", 4", 6", 8", 10", 12"

DESCRIPTION

The 4A-700 series is a reduced pressure detector assembly. Production began in 2008. The mainline assembly is a RP similar to the 4A-200 series. There are two different types of bypass assemblies, either type one or type two. The type one bypass utilizes an assembly similar to the 4A-200 series. The type two bypass utilizes a specially constructed single check assembly only. The letter "n" in the model designation refers to the n pattern assemblies with the up and down installation orientation.

BASIC REPAIR KIT

Mainline repair kit contains discs, diaphragm, and O'rings

<u>SIZE</u>	<u>KIT NO</u>	<u>SIZE</u>	<u>KIT NO</u>
2 1/2"-3"	4A-009-18	8"	4A-00E-18
4"	4A-00A-18	10"-12"	4A-00H-09
6"	4A-00C-18		

Type one bypass repair kit contains discs, diaphragm and O'ring.

Type two bypass repair kit contains check module and O'rings

<u>SIZE</u>	<u>KIT NO</u>
Type I	4A-003-09
Type II - 4S	4A-003-12
Type II - 4A	4A-003-13A

IMPORTANT FEATURES

~ Mainline assembly similar to 4A-200

~ Bypass type one assembly similar to 4A-200

~ Bypass type two single check valve only



2 1/2" - 12" Model RPDA 4A Model RPDA2 4A REDUCED PRESSURE DETECTOR ASSEMBLY

SPECIFICATIONS

The 2 1/2" - 12" Reduced Pressure Detector Assembly shall be an Apollo® Model RPDA 4A or RPDA2 4A. The assembly shall be manufactured in America and carry a **5-year** Apollo® factory warranty. The TriForce™ center-stem guided check valves shall feature reversible silicone rubber seat discs. The check valves shall be held in place by SS snap-in retainers (2 1/2" - 6") or SS studs & nuts (8" - 12"). Access to the check valves and relief valve internals shall be by an Apollo® quick-connect SS coupling (2 1/2" - 6") or grooved couplings (covers) and SS bolts (relief valves) (8" - 12"). The bodies shall be SS in 2 1/2" - 8" sizes and FDA epoxy-coated ductile iron in 10" & 12" sizes. The assembly is a mainline RP with a Type 2 bypass consisting of a single check and meter bypassing the mainline second check to prevent backflow while accurately measuring all flows up to 2 gpm with the mainline 2nd check remaining closed. Assemblies with the optional Type 1 bypass consist of an RP and meter which bypasses both mainline checks and accurately meters all flows up to 2 gpm with both mainline checks closed. The Apollo® domestic ball valve test cocks shall have SS handles. Both RP relief valves shall be positioned at the bottom of their respective assemblies with separate center-access covers. The pressure drop across the assembly shall be documented by ASSE or USC FCCC&HR approval curves. The assembly shall prevent contamination of the potable water supply due to back-siphonage or back pressure from substances that are health or non-health hazards.

FEATURES

- Stainless steel body: 2 1/2" - 8"
- FDA epoxy-coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
 - Snap-in check retainers: 2 1/2" - 6"
 - Bolted-in checks: 8" - 12"
- Low pressure loss as documented by ASSE or USC FCCC&HR Backflow Preventer approval agencies
- Center-stem guided TriForce™ check valves
- Approved for horizontal flow
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- **MADE IN THE USA**

ORDERING INFORMATION

4 A - 7 X X - X X

BYPASS TYPE SIZE SHUT-OFF VALVES METER OPTION

BYPASS TYPE

- ☐ 0 - RP on bypass line (Type 1)
- ☐ 2 - Single check on bypass line (Type 2 -Standard)

SIZE

- ☐ 9 - 2 1/2" ☐ A - 4" ☐ E - 8" ☐ H - 12"
- ☐ 0 - 3" ☐ C - 6" ☐ G - 10"

METER OPTION

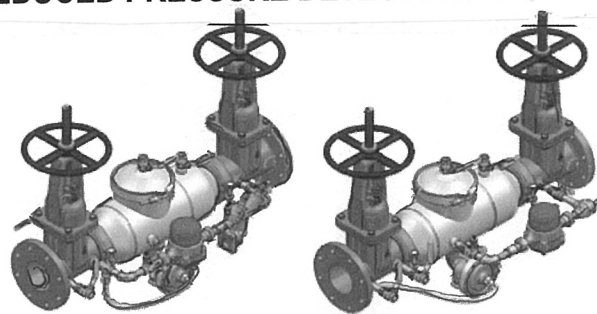
- C - ft³/min ☐ E - gpm ☐ G - no meter

SHUT-OFF VALVES (Inlet x Outlet)

- ☐ 1 - Less Shut-off Valves (see notes)
- ☐ 2 - NRS Flg x NRS Flg
- ☐ 3 - OS&Y Flg x OS&Y Flg
- ☐ 4 - OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv
- ☐ 6 - OS&Y Flg x Post Indicator Flg (Not in 2 1/2" size)
- ☐ 7 - OS&Y Flg x OS&Y Grv
- ☐ 8 - OS&Y Grv x OS&Y Grv
- ☐ 9 - Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv
- ☐ 10 - OS&Y Flg x Post Indicator Grv (Not in 2 1/2" size)
- ☐ 11 - NRS Grv x NRS Grv
- ☐ 12 - NRS Flg x NRS Grv

AIR GAP DRAIN (Optional - See SS1176 for details)

- ☐ AGD4A6 (Fits 2 1/2" - 6")
- ☐ AGD4A8 (Fits 8")
- ☐ AGD4A12IN (Fits 10" & 12")



TYPE 1

TYPE 2 (Standard)

PERFORMANCE RATING

Maximum Working Pressure 175 psi
Temperature Range 33 ° F - 140 ° F
Hydrostatic Test Pressure 350 psi

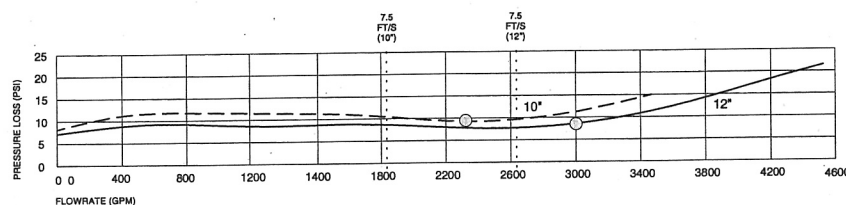
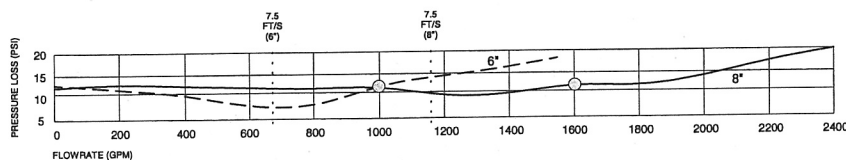
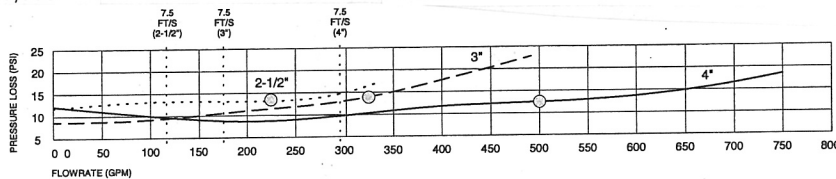
STANDARD MATERIALS LIST

Part Name	Material
Body (2 1/2" - 8")	Domestic Stainless Steel
Body (10" & 12")	FDA Epoxy-Coated Ductile Iron
Covers (2 1/2" - 6")	Glass-filled PPO/Stainless Steel
Cover (8")	Domestic Stainless Steel
Covers (10" & 12")	FDA Epoxy-Coated Ductile Iron
Relief Valves (2 1/2" - 12")	Bronze
Check Valves (2 1/2" - 12")	Glass-filled PPO/Bronze (C89836 Lead-Free*)/SS
Bypass Valves	Bronze (C89836 Lead-Free*)
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

Model RPDALF 4A Model RPDA2LF 4A Reduced Pressure Detector Assembly

FLOW CURVES

○ Meter Rated Flow



Notes:

1. Flow curves directly reflect data collected by an independent laboratory.
2. Flow curves shown were recorded with butterfly shut-off valves. Flow curves with gate valves are slightly lower. Contact factory for more information.
3. All data points are based on ASSE increasing flow data, from zero GPM to Meter Rated Flow (opening curve).
4. For high flow rates/pressure loss information - contact factory.

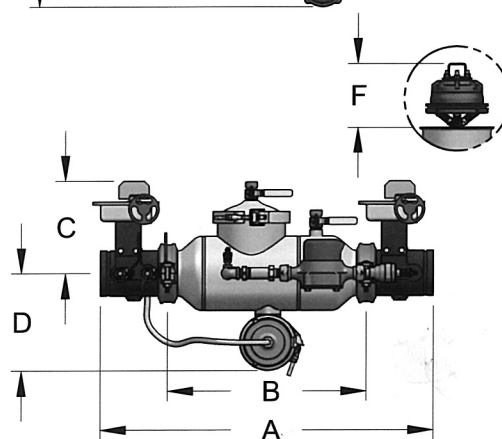
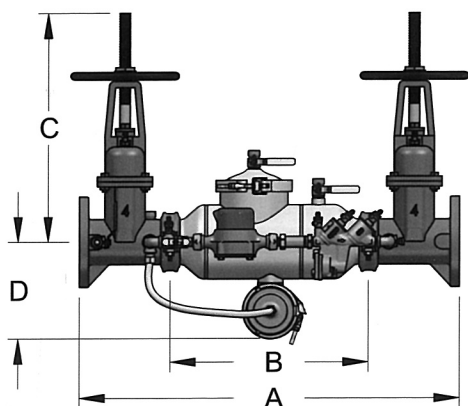
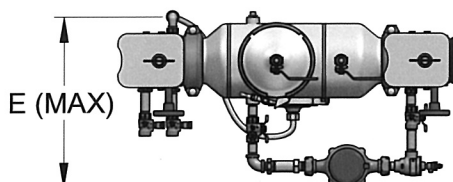
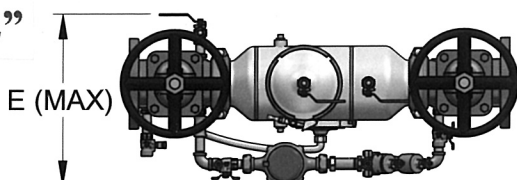
'Apollo' Valves

SUBMITTAL SHEET

LEAD FREE

— Model RPDALF 4A — Model RPDA2LF 4A Reduced Pressure Detector Assembly

2 1/2" - 12"



TYPE 1 BYPASS

TYPE 2 BYPASS

DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Butterfly Valves)	28	711	28.5	724	33.3	846	38.9	988	46.4	1179	52.3	1328	N/A	N/A
A (Gate Valves)	31	787	32	813	38	965	45.9	1166	53.4	1356	62.3	1582	65.5	1664
B (less Shut-off Valves)	15.9	404	15.9	404	19.6	498	24.5	622	30	762	36	914	37	940
C (Butterfly Valves)	8	203	8.4	213	9.1	231	10.1	257	12	305	13.4	340	N/A	N/A
C (NRS/PI Gate Valves)	11.8	300	13	330	14	356	17.8	452	21	533	24.5	622	30	762
C (OS&Y Open)	18.8	478	20.3	515	22.1	562	29.4	147	36.8	934	45.2	1147	52.2	1326
D (Centerline to Bottom)	9.6	244	9.6	244	10.4	264	11.6	295	15.6	396	21	533	21	533
E (Width Max)	17	432	17	432	17	432	20	508	21.5	546	26.5	673	27.5	699
F (Check Removal Clearance)	4.8	122	4.8	122	6.5	165	7.5	191	7.5	191	10	254	10	254
Test Cocks (NPT)	1/2"	13	1/2"	13	1/2"	13	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (W/ Butterfly Valves)	75	34	79	36	109	50	169	77	376	171	1005	457	N/A	N/A
Ship Wt. (W/ Butterfly Valves)	159	72	163	74	194	88	257	117	524	238	1995	907	N/A	N/A
Net Wt. (W/ Post Ind. Valves)	102	46	120	55	160	73	284	129	562	255	1294	588	1750	795
Ship Wt. (W/ Post Ind. Valves)	186	85	204	93	245	111	372	169	710	323	1484	675	1940	882
Net Wt. (W/ OS&Y Valves)	120	55	136	62	191	87	344	156	637	290	1404	638	1865	848
Ship Wt. (W/ OS&Y Valves)	204	93	220	100	276	125	432	196	785	357	1595	725	2055	934

1. Internal body connections are grooved on 2-1/2" to 10" sizes.
2. Internal body connections are flanged on 12" size.

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Model RPDA 4AN 2 1/2 - 12" Model RPDA2 4AN REDUCED PRESSURE DETECTOR ASSEMBLY

SPECIFICATIONS

The 2 1/2" - 12" Reduced Pressure Detector Assembly shall be an Apollo® Model RPDA 4AN or RPDA2 4AN. The assembly shall be manufactured in America and carry a **5-year Apollo®** factory warranty. The normally vertical up / vertical down oriented body shall incorporate an internal swivel connection providing the ability to pivot the second check 180°, producing a vertical up RPDA assembly. The TriForce™ center-stem guided check valves shall feature reversible silicone rubber seat discs. The check valves shall be held in place by drop-in retainers (2 1/2" - 6") or SS studs & nuts (8" - 12"). Access to the check valves and relief valve internals shall be by an Apollo® quick-connect SS coupling (2 1/2" - 6") or grooved couplings (covers) and SS bolts (relief valves) (8" - 12"). The bodies shall be SS in 2 1/2" - 8" sizes and FDA epoxy-coated ductile iron in 10" & 12" sizes. The assembly is a mainline RP with a Type 2 bypass consisting of a single check and meter bypassing the mainline second check to prevent backflow while accurately measuring all flows up to 2 gpm with the mainline 2nd check remaining closed. Assemblies with the optional Type 1 bypass consist of an RP and meter which bypasses both mainline checks and accurately meters all flows up to 2 gpm with both mainline checks closed. The Apollo® domestic ball valve test cocks shall have SS handles. The assembly shall prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are health and non-health hazards. The pressure drop across the assembly shall be documented by ASSE or USC FCCC&HR Approval curves.

FEATURES

- Stainless steel body: 2 1/2" - 8"
- FDA epoxy-coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
 - Drop-in check retainers: 2 1/2" - 6"
 - Bolted-in checks: 8" - 12"
- Low pressure loss as documented by ASSE or USC FCCC&HR Backflow Preventer approval agencies
- Center-stem guided TriForce™ check valves
- Small installation space required - small footprint
- Approved for n-flow and vertical flow up
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- MADE IN THE USA

ORDERING INFORMATION

4AN - 7 X X - X X

BYPASS TYPE SHUT-OFF VALVES
SIZE METER OPTION

BYPASS TYPE

- ☐ 0 - RP on bypass line (Type 1)
☐ 2 - Single check on bypass line (Type 2 - Standard)

SIZE

- ☐ 9 - 2 1/2" ☐ A - 4" ☐ E - 8" ☐ H - 12"
☐ 0 - 3" ☐ C - 6" ☐ G - 10"

METER OPTION

- ☐ C - ft³/min ☐ E - gpm ☐ G - no meter

SHUT-OFF VALVES (Inlet x Outlet)

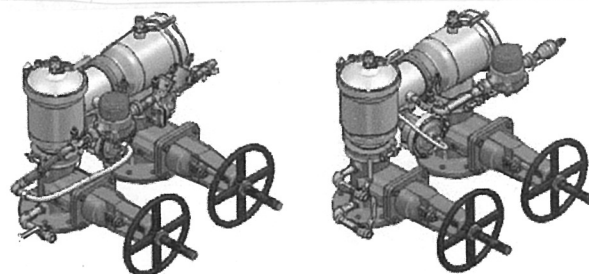
- ☐ 1 - Less Shut-off Valves (see notes)
☐ 2 - NRS Flg x NRS Flg
☐ 3 - OS&Y Flg x OS&Y Flg
☐ 4 - OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv
☐ 6 - OS&Y Flg x Post Indicator Flg (Not in 2 1/2" size)
☐ 7 - OS&Y Flg x OS&Y Grv
☐ 8 - OS&Y Grv x OS&Y Grv
☐ 9 - Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv
☐ 10 - OS&Y Flg x Post Indicator Grv (Not in 2 1/2" size)
☐ 11 - NRS Grv x NRS Grv
☐ 12 - NRS Flg x NRS Grv

VALVE SETTER (Optional - See SS1174 for details)

- ☐ FS - Flange x Flange Setter
☐ MJFS - Mech. Joint x Flange Setter
☐ MJS - Mech. Joint x Mech. Joint Setter

AIR GAP DRAIN (Optional - See SS1176 for details)

- ☐ AGD4A6 (Fits 2 1/2" - 6")
☐ AGD4A8 (Fits 8")
☐ AGD4A12IN (Fits 10" & 12")



TYPE 1

TYPE 2 (Standard)

PERFORMANCE RATING

Maximum Working Pressure 175 psi
Temperature Range 33 ° F - 140 ° F
Hydrostatic Test Pressure 350 psi

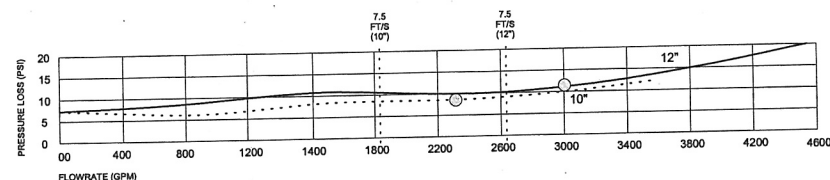
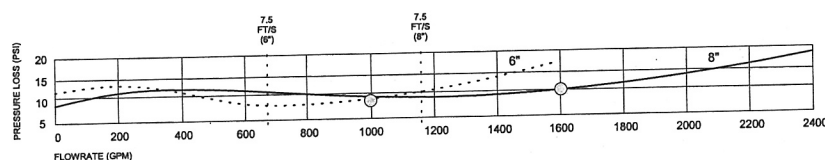
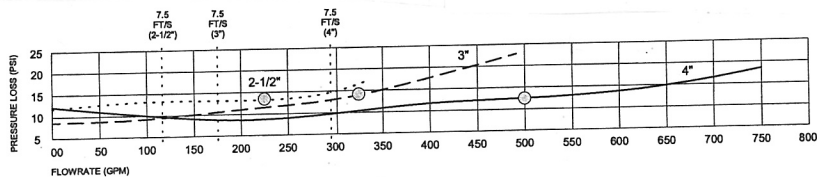
STANDARD MATERIALS LIST

Part Name	Material
Body (2 1/2" - 8")	Domestic Stainless Steel
Body (10" & 12")	FDA Epoxy Coated Ductile Iron
Relief Valve (2 1/2" - 12")	Bronze (C89836 Lead Free*)
Bypass Line Valves	Bronze (C89836 Lead Free*)
Covers (2 1/2" - 6")	Glass-filled PPO/Stainless steel
Cover (8")	Domestic Stainless Steel
Covers (10" & 12")	FDA Epoxy Coated Ductile Iron
Check Valves (2 1/2" - 12")	Glass-filled PPO/Bronze (C89836 Lead Free*)/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

—Model RPDALF 4AN— Model RPDA2LF 4AN Reduced Pressure Detector Assembly

FLOW CURVES

○ Meter Rated Flow



Notes:

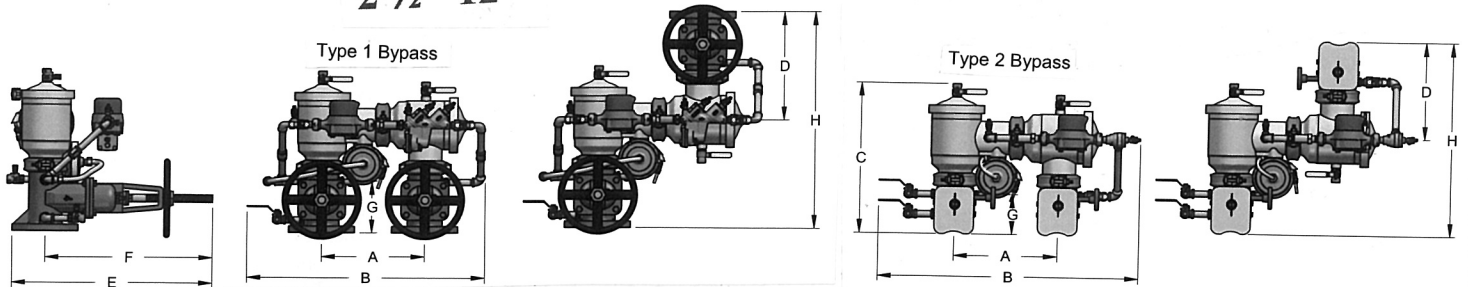
1. Flow curves directly reflect data collected by an independent laboratory.
2. Flow curves shown were recorded with butterfly shut-off valves. Flow curves with gate valves are slightly lower. Contact factory for more information.
3. All data points are based on ASSE increasing flow data, from zero GPM to rated flow (opening curve).
4. For high flow rates/pressure loss information - contact factory.

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—Model RPDALF 4AN— Model RPDA2LF 4AN

Reduced Pressure
Detector Assembly

2 1/2" - 12"



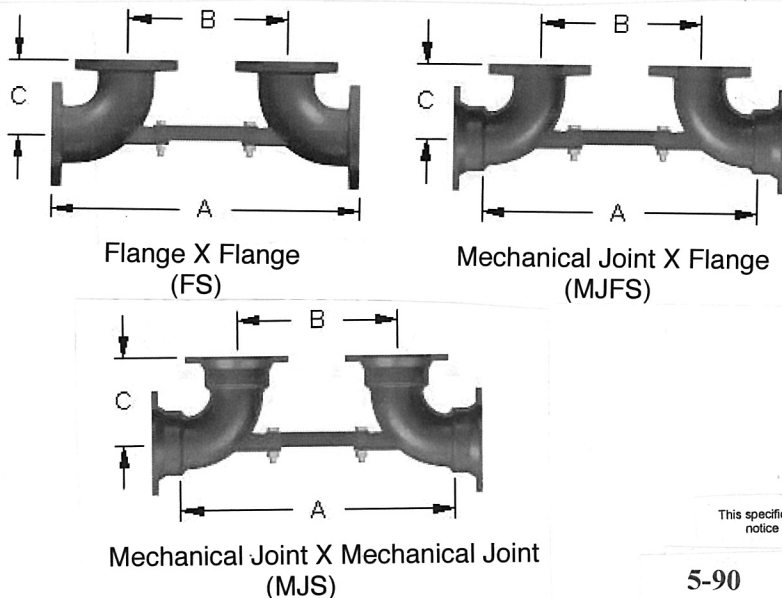
DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Centerline to Centerline)	12.5	318	12.5	318	14	356	16	406	18.5	470	21	533	26.8	681
B (Lay Length Space - Butterfly Valves)	32.8	833	32.8	833	35.5	902	40	1016	44	1118	54	1372	N/A	N/A
B (Lay Length Space - Gate Valves)	31	787	31	787	31.8	808	36.8	935	41.5	1054	49	1245	55.8	1417
C (Butterfly Valves - Flange to Top)	18.3	465	18.5	470	20	508	24.8	630	28.5	724	37	940	N/A	N/A
C (Gate Valves - Flange to Top)	19.6	498	20	508	22.5	572	27.8	706	32.1	815	40	1016	44	1118
D (Centerline to bottom Butterfly Valves)	11.5	292	11.8	300	13.3	338	15.6	396	17.9	455	19.8	503	N/A	N/A
D (Centerline to bottom Gate Valves)	13	330	13.5	343	14.9	378	18	457	21.4	544	24.8	630	28.8	732
E (Maximum Width - Butterfly Valves)	11.5	292	12.1	307	12.9	328	15.9	404	22.3	566	23.1	587	N/A	N/A
E (Maximum Width - NRS/PI Gate Valves)	15.6	396	16.9	429	18.6	472	23.8	605	29.1	739	36.3	922	40	1016
E (Maximum Width - OS&Y Valves Open)	22.7	575	24.2	614	26.6	679	34.4	875	44.9	1140	57.9	1471	61.9	1572
F (Centerline to Width - Butterfly Valves)	8	203	8.4	213	9	229	10.9	277	12.9	328	13.5	343	N/A	N/A
F (Centerline to Width - NRS/PI Gate Valves)	11.8	300	13	330	14	356	17.8	452	21	533	24.5	622	30	762
F (Centerline to Width - OS&Y Valves Open)	18.8	478	20.3	515	22.1	562	29.4	747	36.8	934	45.2	1147	52.2	1326
G (Relief Valve to SOV Flg - Butterfly Valves)	4.1	104	4.5	114	4.4	112	6.5	165	5.3	135	4	102	N/A	N/A
G (Relief Valve to SOV Flg - Gate Valves)	5.5	140	6	152	6	152	9	229	9	229	9	229	N/A	N/A
H (Flange to flange Vertical Up Butterfly Vlv)	23	584	23.5	597	25	635	29	737	35.8	909	N/A	N/A	N/A	N/A
H (Flange to flange Vertical Up Gate Vlv)	26	660	27	686	29.8	757	36	914	42.8	1087	N/A	N/A	N/A	N/A
I (Check Removal Clearance)	6	152	6	152	6	152	8	203	8.5	216	12	305	12	305
Test Cocks (NPT)	1/2"	13	1/2"	13	1/2"	13	3/4"	20	3/4"	20	3/4"	20	3/4"	20
WEIGHTS	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg	lb.	kg
Net Wt. (W/ Butterfly Valves)	85	39	88	40	92	42	151	69	456	207	1039	472	N/A	N/A
Ship Wt. (W/ Butterfly Valves)	146	66	149	68	153	70	231	105	591	269	1229	559	N/A	N/A
Net Wt. (W/ NRS/Post Indicator Valves)	112	51	129	59	155	70	266	121	642	292	1368	622	1847	840
Ship Wt. (W/ NRS/Post Indicator Valves)	173	79	190	86	216	98	346	157	777	353	1558	708	2137	971
Net Wt. (W/ OS&Y Valves)	130	59	142	65	186	85	326	148	717	326	1483	674	1962	892
Ship Wt. (W/ OS&Y Valves)	191	87	203	92	247	112	406	185	852	387	1673	760	2152	978

1. Internal body connections are grooved on 2-1/2"-10" sizes.
2. Internal body connections are flanged on 12" size.

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Valve Setters Models FS, MJFS, and MJS

DIMENSIONS (in) - WEIGHTS (lbs)

Size	Model	A	B	C	Wt.
2 1/2"	FS	23 1/2	12 1/2	5 1/2	43.7
	FS	23 1/2	12 1/2	5 1/2	50.4
3"	MJFS	21 1/2	12 1/2	5 1/2	50.4
	MJS	21 1/2	12 1/2	7	50.7
	FS	27	14	6 1/2	87.1
4"	MJFS	24	14	6 1/2	71.1
	MJS	24	14	7 1/2	65.1
	FS	32	16	8	147.5
6"	MJFS	29	16	8	115.3
	MJS	29	16	9	107.1
	FS	36 1/2	18 1/2	9	236.3
8"	MJFS	33 1/2	18 1/2	9	216.4
	MJS	33 1/2	18 1/2	10	193.2
	FS	43	21	11	387.9
10"	FS	50 3/4	26 3/4	12	546.1

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances.

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