

# Mark 50 Series

## Self-Operated Back Pressure Regulators

The Mark 50 Sliding Gate Back Pressure Regulator is used to regulate upstream pressure at a predetermined setpoint. The spring in the Mark 50 holds the sliding gate seats in their normally closed position.

The upstream pressure is sensed beneath the diaphragm. As the upstream pressure exceeds the setpoint, pressure is exerted on the diaphragm which raises the stem to modulate the disc (the movable component of the sliding gate seat set) toward the open position. As the seats open, upstream pressure will be regulated to the required setpoint. A decrease in pressure relaxes the spring and diaphragm to move the seats toward the closed position.

*This brochure includes the following Series:*

- **MK50:** a line of self-operating back pressure regulators designed with Jordan Valve's sliding gate seats
- **MK51:** The MK51 features a larger diaphragm than a standard MK50 to provide even greater sensitivity and more accurate regulation of your required setpoint
- **MK50QC:** The MK50QC features a "Quick Change" dome for simple range spring replacements. Ideal for facilities with multiple back pressure requirements as it is possible to stock one valve with several spare springs to cover a wide range of needs
- **MK50H:** The MK50H features a handwheel that is mounted on the adjusting screw to allow easy setpoint changes
- **MK50HP:** The MK50HP option is an elongated spring housing that features a large spring for high pressure setpoints up to 450 psi (31,03 bar)
- **MK50GP:** The MK50GP option is used in grain processing for starch cookers and other viscous services
- **MK50CR:** The MK50CR option has a special spring housing for use if the valve is in cryogenic services
- **MK501/502:** The MK501 and MK502 meet higher capacity requirements than standard back pressure regulators



### MARK 50 FEATURES

- **Fast Response** — the short stroke means fast response to changes in process conditions, resulting in less offset in pressure.
- **Straight-through Flow** — The flow is straight through the valve seats and body. Direction of the disc travel is at right angles with the flow, not opposed to the direction of the flow. Thus, the flow does not unbalance the seats.
- **Quiet Operation** — The design of the Sliding Gate seats makes it inherently quieter than other types of regulators. The disc and plate are always in contact, which eliminates chattering. Straight-through flow minimizes turbulence. Multiple orifices in the plate and disc divide the flow stream into smaller flow components, also reducing noise.
- **Minimum Maintenance** — The MK50 sliding gate seats require no special tools for disassembly. The seats are pre-lapped at the factory and are self-lapping while in operation ensuring a continual tight shutoff. In sizes 2" (DN50) and smaller there are no orings or gaskets to wear out - 100% metal-to-metal sealing - for longer service life.



**Jordan Valve**

**Jordan Valve, a Division of Richards Industries**

3170 Wasson Road • Cincinnati, Ohio 45209

Telephone 513-533-5600 • Fax 513-871-0105

Toll-Free Telephone: 800-543-7311 (U. S. A. & Canada)

E-Mail: [info@richardsind.com](mailto:info@richardsind.com) • URL: [www.jordanvalve.com](http://www.jordanvalve.com)

# SPECIFICATIONS — MK50/50QC/51/50HP

**Sizes:** (note: 1/4" & 3/8" sizes use 1/2" body with reducers)

- Mark 50: 1/4" through 4" (DN8 through DN100)
- Mark 50QC: 1/4" through 2" (DN8 through DN50)
- Mark 51: 1/4" through 3/4" (DN8 through DN20)
- Mark 50HP: 1/4" through 4" (DN8 through DN100)

## End Connections

- Threaded — FNPT, BSPT, BSPP (1/2" - 2" only, DN15-DN50)
- ANSI Flanges (150#, 300#, 600#)
- DIN Flanges (PN10/16, PN25/40)
- JIS Flanges (upon request)

## Spring Housing

- CI or DI — 1/4" through 2" (DN8 through DN50)
- DI/Steel — 2-1/2" through 4" (DN65 through DN100)

## Body Materials

- Ductile Iron
- Bronze (1/2" - 2", DN15-DN50)
- Carbon Steel (A216 WCB)
- Stainless Steel (A351/CF8M)

## Trim Materials:

- 303SST — Standard on Ductile Iron, Bronze, Carbon Steel valves
- 316SST — Standard on Stainless Steel valves
- Monel, Hastelloy and other Alloys available

**Pressure Control Ranges:** Select a range to match your setpoint. For optimal performance, your setpoint should fall in the upper portion of the selected range.

Model	Size (DN)	Spring Ranges	
		PSI	BAR
50 & 50QC	1/4" - 3/4" (DN8 - DN20)	2 - 20	0,14 - 1,38
		10 - 30	0,69 - 2,07
		20 - 45	1,38 - 3,10
		30 - 135	2,07 - 9,31
		80 - 185	5,52 - 12,76
	1" - 2" (DN25 - DN50)	1/2 - 4	0,03 - 0,28
		2 - 6	0,14 - 0,41
		4 - 13	0,28 - 0,90
		8 - 20	0,55 - 1,38
		15 - 80	1,03 - 5,52
	2-1/2" - 4" (DN65 - DN100)	45 - 150	3,10 - 10,34
		4 - 15	0,28 - 1,03
		7 - 24	0,48 - 1,65
		16 - 30	1,10 - 2,07
		75 - 190	5,17 - 13,10
50HP	1/2" - 2" (DN15 - DN40)	100 - 320	6,89 - 22,06
		150 - 450	10,34 - 31,02
		25 - 50	1,72 - 3,45
	2-1/2" - 4" (DN65 - DN100)	40 - 80	2,76 - 5,52
51	1/4" - 3/4" (DN8 - DN20)	1/2 - 5	0,03 - 0,34
		2 - 10	0,14 - 0,69
		2 - 20	0,14 - 1,38
		10 - 30	0,69 - 2,07
		20 - 50	1,38 - 3,45
		20 - 70	1,38 - 4,83
		40 - 105	2,76 - 7,24
		25 - 150	1,72 - 10,34
		30 - 170	2,07 - 11,72

## Seat Materials:

- Jorcote on SST — Standard
- Jorcote/Jordanic on SST — For Severe Service
- Other materials available — Consult factory

## Diaphragm Materials:

- Stainless Steel — Standard on 1/4" - 2" (DN8-DN50)
- Buna-N — Standard on 2-1/2" - 4" (DN65-DN100)
- Jorlon — On steam service 2-1/2" - 4" (DN65-DN100)
- Viton — Optional

**Service:** Steam, water, oil, gas, air and chemicals

**Shutoff:** ANSI Class IV

## Options:

- **Double Bolting:** improves the pressure rating of the valve and ensures a tight seal between the spring housing and the body for services with high inlet pressures
- **High Pressure Spring Housing:** the HP option is an elongated spring housing that features a large spring for high pressure setpoints (up to 450 psi/31bar)
- **Handwheel:** the H option is a handwheel that is mounted on the adjusting screw to allow for easy setpoint changes
- **Exotic Alloys:** where service conditions dictate the use of specialty materials, the Mark 50 Series can be produced with bodies, trim and seats in Monel, Alloy 20, Hastelloy B, Hastelloy C, Titanium and others
- **GP Option:** grain processing modification for starch cookers and other viscous services.
- **Cryogenic Service:** CR option is a special spring housing for use if valve is in cryogenic conditions

## CV Values & Maximum Differential Pressures

Cv (Kv)	Size (DN)	Seat Material	Maximum ΔP PSI (bar)
0.84 (0,74)	1/4" & 3/8" (DN8 & 12)	SST	125 (8,62)
1.6 (1,38)		Jorcote	500 (37,92)
2.5 (2,15)	1/2" & 3/4" (DN15 & 20)	SST	125 (8,62)
4.4 (3,78)		Jorcote	550 (37,92)
6.4 (5,50)	1" & 1-1/4" (DN25 & 32)	SST	125 (8,62)
9.5 (8,17)		Jorcote	450 (31,03)
15 (12,9)	1-1/2" (DN40)	SST	75 (5,17)
25 (21,5)		Jorcote	450 (31,03)
30 (25,8)	2" (DN50)	SST	75 (5,17)
55 (47,3)		Jorcote	450 (31,03)
115 (98,9)	2-1/2" (DN65)	Jorcote	150 (10,34)
200 (172)	3" (DN80)	Jorcote	150 (10,34)
	4" (DN100)	Jorcote	150 (10,34)

**Low Flow Cv's:** reduced Cv's (Kv's) are available. Cv (Kv) ratings of smaller valves can be supplied in larger-sized valves.

0.42 (0,36)	0.21 (0,18)	0.08 (0,07)	0.04 (0,03)	0.02 (0,02)
0.008 (0,007)	0.004 (0,003)	0.002 (0,002)	0.0008 (0,0007)	(N/A in 316SS)

# MK50 SELF-OPERATING BACK PRESSURE REGULATORS

## Cv VERSUS BUILD-UP DATA

Size NPS	Nominal Cv	Set Pressure	Model Mark 50 & 50QC				
			Cv @ 5% BUILD-UP	Cv @ 10% BUILD-UP	Cv @ 15% BUILD-UP	Cv @ 20% BUILD-UP	Cv @ 30% BUILD-UP
1/4" - 3/4"	1.6	20	0.25	0.38	0.52	0.64	0.85
		30	0.24	0.38	0.51	0.63	0.84
		45	0.26	0.40	0.54	0.67	0.91
		135	0.35	0.57	0.78	0.98	1.33
		185	0.35	0.58	0.79	1.00	1.37
	2.5	20	0.39	0.61	0.81	1.00	1.33
		30	0.38	0.59	0.79	0.98	1.32
		45	0.40	0.63	0.84	1.05	1.42
		135	0.54	0.89	1.22	1.53	2.08
		185	0.54	0.90	1.24	1.85	2.13
	4.4	20	0.69	1.07	1.42	1.76	2.35
		30	0.66	1.04	1.39	1.72	2.32
		45	0.70	1.11	1.48	1.85	2.49
		135	0.95	1.57	2.14	2.69	3.66
		185	0.95	1.59	2.17	2.74	3.75
1-1/4"	6.4	4	0.74	1.13	1.48	1.81	2.41
		6	0.75	1.17	1.54	1.90	2.53
		10	0.77	1.21	1.60	1.99	2.66
		20	0.76	1.17	1.57	1.95	2.65
		80	1.08	1.85	2.57	3.27	4.57
		150	1.63	2.96	4.24	5.50	6.40
	9.5	4	1.09	1.67	2.19	2.69	3.58
		6	1.11	1.73	2.29	2.82	3.75
		10	1.14	1.79	2.38	2.95	3.95
		20	1.12	1.74	2.33	2.90	3.93
		80	1.60	2.74	3.81	4.85	6.79
		150	2.42	4.39	6.30	8.16	9.50
1-1/2"	15	4	1.59	2.38	3.09	3.77	4.96
		6	1.61	2.46	3.22	3.93	5.20
		10	1.66	2.54	3.33	4.11	5.47
		20	1.63	2.47	3.27	4.04	5.45
		80	2.29	3.84	5.29	6.71	9.35
		150	3.42	6.10	8.70	11.20	15.00
2"	25	4	2.63	3.96	5.15	6.29	8.26
		6	2.70	4.09	5.36	6.56	8.66
		10	2.76	4.23	5.54	6.85	9.12
		20	2.72	4.12	5.45	6.74	9.09
		80	3.82	6.40	8.82	11.19	15.59
		150	5.69	10.16	14.50	18.72	25.00
	30	4	3.16	4.77	6.21	7.56	9.97
		6	3.24	4.93	6.45	7.90	10.44
		10	3.35	5.08	6.65	8.22	10.95
		20	3.26	4.95	6.54	8.09	10.90
		80	4.59	7.68	10.59	13.43	18.71
		150	6.83	12.19	17.40	22.46	30.00
2-1/4" - 4"	55	15	22.00	40.24	55.00	55.00	55.00
		20	16.69	30.13	43.17	55.00	55.00
		30	13.38	23.60	33.69	43.58	55.00
	115	15	40.26	73.10	104.44	115.00	115.00
		20	31.10	54.93	78.37	101.15	115.00
		30	24.70	43.21	61.34	79.11	113.36
	200	15	58.81	108.64	156.79	200.00	200.00
		20	44.01	80.90	116.68	151.45	200.00
		30	34.69	62.97	90.64	117.77	170.10

### Notes:

1. Installed Cv is the Failure Cv for Safety Relief Valve Sizing
2. Assumes SST diaphragm, optimal spring range for set point, and minimum flow = 5% of Cv
3.   Indicates valve reaches full Cv before offset is attained

# MK51 SELF-OPERATING BACK PRESSURE REGULATORS

## Cv VERSUS BUILD-UP DATA

Model Mark 51							
Size NPS	Installed Cv	Set Pressure	Cv @ 5% BUILD-UP	Cv @ 10% BUILD-UP	Cv @ 15% BUILD-UP	Cv @ 20% BUILD-UP	Cv @ 30% BUILD-UP
1/4" - 3/4"	1.6	5	0.23	0.38	0.52	0.64	0.87
		10	0.28	0.47	0.64	0.79	1.08
		20	0.32	0.54	0.75	0.94	1.29
		30	0.35	0.59	0.84	1.06	1.46
		50	0.38	0.67	0.94	1.20	1.60
		80	0.45	0.80	1.15	1.47	1.60
		115	0.50	0.92	1.32	1.60	1.60
		160	0.70	1.32	1.60	1.60	1.60
		180	0.74	1.40	1.60	1.60	1.60
	2.5	5	0.36	0.60	0.81	1.00	1.36
		10	0.43	0.73	0.99	1.24	1.69
		20	0.49	0.84	1.17	1.47	2.01
		30	0.54	0.93	1.31	1.65	2.28
		50	0.60	1.04	1.47	1.88	2.50
		80	0.70	1.26	1.79	2.30	2.50
		115	0.78	1.43	2.06	2.50	2.50
		160	1.10	2.06	2.50	2.50	2.50
		180	1.16	2.19	2.50	2.50	2.50
	4.4	5	0.64	1.05	1.42	1.76	2.39
		10	0.76	1.28	1.75	2.18	2.98
		20	0.87	1.48	2.05	2.58	3.54
		30	0.96	1.63	2.30	2.91	4.01
		50	1.05	1.84	2.60	3.31	4.40
		80	1.23	2.21	3.15	4.05	4.40
		115	1.38	2.52	3.63	4.40	4.40
		160	1.93	3.62	4.40	4.40	4.40
		180	2.04	3.85	4.40	4.40	4.40

### Notes:

1. Installed Cv is the Failure Cv for Safety Relief Valve Sizing
2. Assumes SST diaphragm, optimal spring range for set point, and minimum flow = 5% of Cv
3.   Indicates valve reaches full Cv before offset is attained

# MK50 SELF-OPERATING BACK PRESSURE REGULATORS

## **MAXIMUM WORKING PRESSURE, PSI**

Temp °F	1/4" - 2"					
	DI Body			BRZ Body		
	150#	300#	TE	150#	300#	TE
-20 to 100	250	600	300 [600]	225	500	300 [500]
200	235	600	300 [600]	215	475	300 [475]
300	215	565	300 [600]	195	425	300 [425]
400	200	525	300 [600]	170	375	300 [375]
500	170	495	300 [600]	150	325	300 [325]
600	140	465	300 [600]	—	—	—
650	125	450	300 [600]	—	—	—

## **MAXIMUM WORKING PRESSURE, BAR**

Temp °C	DN8 - DN50					
	DI Body			BRZ Body		
	150#	300#	TE	150#	300#	TE
-29 to 38	17	41	21 [41]	16	34	21 [34]
93	16	41	21 [41]	15	33	21 [33]
149	15	39	21 [41]	13	29	21 [29]
204	14	36	21 [41]	12	26	21 [26]
260	12	34	21 [41]	10	22	21 [22]
316	10	32	21 [41]	—	—	—
343	9	31	21 [41]	—	—	—

Temp °F	1/4" - 2"					
	CS Body			SS Body		
	150#	300#	TE	150#	300#	TE
-20 to 100	285	740	300 [950]	275	720	300 [950]
200	260	675	300 [950]	240	620	300 [950]
300	230	655	300 [950]	215	560	300 [950]
400	200	635	300 [950]	195	515	300 [950]
500	170	600	300 [950]	170	480	300 [950]
600	140	550	300 [950]	140	450	300 [905]
650	125	535	300 [950]	125	445	300 [890]

Temp °C	DN8 - DN50					
	CS Body			SS Body		
	150#	300#	TE	150#	300#	TE
-29 to 38	20	51	21 [66]	19	49	21 [66]
93	18	47	21 [66]	17	43	21 [66]
149	16	45	21 [66]	15	39	21 [66]
204	14	44	21 [66]	13	36	21 [66]
260	12	41	21 [66]	12	33	21 [66]
316	10	38	21 [66]	10	31	21 [62]
343	9	37	21 [66]	9	31	21 [61]

Temp °F	2-1/2" - 4"					
	DI Body		CS Body		SS Body	
	150#	300#	150#	300#	150#	300#
-20 to 100	250	500	285	500	275	500
200	235	500	260	500	240	500
300	215	500	230	500	215	500
400	200	500	200	500	195	500
500	170	495	170	500	170	500
600	140	300	140	300	140	300
650	125	300	125	300	125	300

Temp °C	DN65- DN100					
	DI Body		CS Body		SS Body	
	150#	300#	150#	300#	150#	300#
-29 to 38	17	34	20	34	19	34
93	16	34	18	34	17	34
149	15	34	16	34	15	34
204	4	34	14	34	13	34
260	12	34	12	34	12	34
316	10	21	10	21	10	21
343	9	21	9	21	9	21

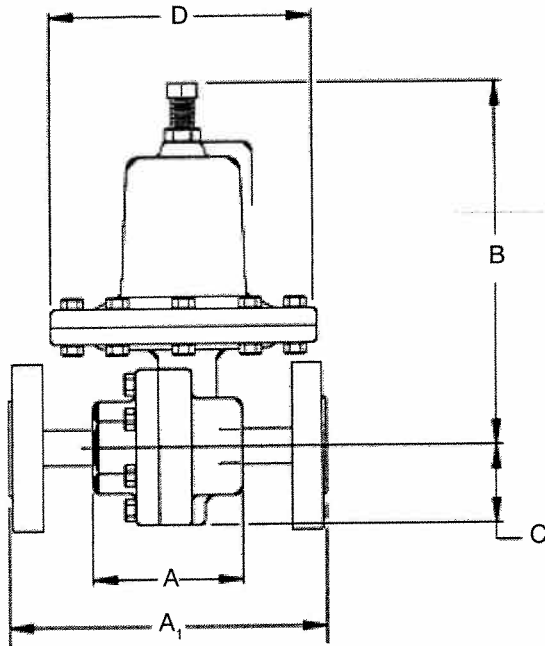
### Notes:

- 1 Double bolting option is required to reach pressures indicated in Brackets [ ].
- 2 If weld flanges are supplied, use ratings in "TE" column or flange rating, whichever is less (i.e. ANSI 600/900 flanges or PN64/100 flanges).



# MK50 SELF-OPERATING BACK PRESSURE REGULATORS

## DIMENSIONS — MK50/MK50QC



### ■ Mark 50/MK50QC\*: Threaded & FSW Ends

Size	Material	A	B	B-QC	C	D	Weight (lbs)
1/2" & 3/4"	DI/BRZ	3.62"	8.50"	10.25"	1.69"	5.12"	10#
	CS/SS	3.62"	8.50"	10.25"	1.69"	5.12"	12#
1"	DI/BRZ	4.12"	10.00"	11.37"	2.62"	7.09"	21#
	CS/SS	4.18"	10.75"	12.00"	2.63"	7.09"	25#
1-1/4"	DI/BRZ	4.12"	10.00"	11.37"	2.62"	7.09"	21#
1-1/2"	DI/BRZ	4.50"	10.25"	11.37"	2.31"	7.09"	23#
	CS/SS	4.81"	11.00"	12.25"	2.25"	7.09"	31#
2"	DI/BRZ	4.50"	10.25"	11.37"	2.75"	7.09"	26#
	CS/SS	5.50"	11.00"	12.25"	2.75"	7.09"	35#

\*For MK50QC, use Column B-QC

### ■ Mark 50/MK50QC: Threaded & FSW Ends, Metric

Size	Material	A	B	B-QC	C	D	Weight (kg)
DN15 & 20	DI/BRZ	91,95	215,90	260,35	42,93	130,05	4,5
	CS/SS	91,95	215,90	260,35	42,93	130,05	5,4
DN25	DI/BRZ	104,65	254,00	288,80	66,55	180,09	9,5
	CS/SS	106,17	273,05	304,80	66,55	180,09	11,3
DN32	DI/BRZ	104,65	254,00	288,80	66,55	180,09	9,5
DN40	DI/BRZ	114,30	260,35	288,80	58,67	180,09	10,4
	CS/SS	122,17	279,40	311,15	57,15	180,09	14,1
DN50	DI/BRZ	114,30	260,35	288,80	69,85	180,09	11,8
	CS/SS	139,70	279,40	311,15	69,85	180,09	15,9

\*For MK50QC, use Column B-QC

### ■ Mark 50: Integral Flanges: ANSI, CS & SS Bodies

Size	ANSI Flange	A1		B		C		D		Weight (lbs)
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	ALL	ALL	DI/BRZ	CS/SS	
1/2"	150#	7.25	7.25	8.50	8.50	1.69	5.12	13	15	
	300#	7.50	7.50	8.50	8.50	1.69	5.12	14	16	
3/4"	150#	7.25	7.25	8.50	8.50	1.69	5.12	14	16	
	300#	7.62	7.62	8.50	8.50	1.69	5.12	16	17	
1"	150#	7.25 <sup>1</sup>	7.25 <sup>2</sup>	10.00	10.75	2.62	7.09	26	34	
	300#	8.75 <sup>1</sup>	7.75 <sup>2</sup>	10.00	10.75	2.62	7.09	28	37	
1-1/4"	150#	7.87	—	10.00	—	2.62	7.09	28	—	
	300#	8.37	—	10.00	—	2.62	7.09	31	—	
1-1/2"	150#	8.75 <sup>1</sup>	8.75 <sup>2</sup>	10.25	11.22	2.31	7.09	42	46	
	300#	10.25 <sup>1</sup>	9.25 <sup>2</sup>	10.25	11.22	2.31	7.09	45	52	
2"	150#	10.00	10.00	10.25	11.42	2.75	7.09	46	50	
	300#	10.50	10.50	10.25	11.42	2.75	7.09	49	55	

Note: dimensions for 2-1/2" - 4" sizes apply to DI bodies also.

1 Not ANSI standard 2 IFE only

### ■ Mark 50: Companion Flanges: ANSI, Ductile & Bronze Bodies

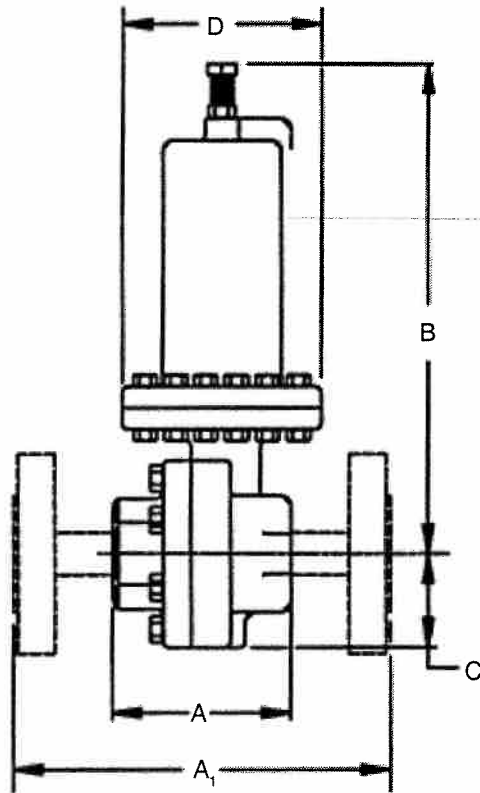
Size	Flange	A	B	C	D	Weight (lbs)
1/2"	150#	7.25"	8.50"	1.75"	5.12"	13#
	300#	7.50"	8.50"	1.87"	5.12"	14#
3/4"	150#	7.25"	8.50"	1.93"	5.12"	14#
	300#	7.62"	8.50"	2.31"	5.12"	16#
1"	150#	7.25"	10.00"	2.12"	7.09"	26#
	300#	8.75"	10.00"	2.43"	7.09"	28#
1-1/4"	150#	7.87"	10.00"	2.31"	7.09"	28#
	300#	8.37"	10.00"	2.62"	7.09"	31#
1-1/2"	150#	8.75"	10.25"	2.50"	7.09"	42#
	300#	10.25"	10.25"	3.06"	7.09"	45#
2"	150#	10.00"	10.25"	3.00"	7.09"	46#
	300#	10.50"	10.25"	3.25"	7.09"	49#

### ■ Mark 50: Flanged Ends, Metric

Size DN	Flange PN	Dimensions (mm)						Weight (kg)	
		A1 •		B		C	D	DI/BRZ	CS/SS
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	ALL	ALL		
15	10/16	184	130	216	240	43	130	5,9	6,8
	25/40	184	130	216	240	43	130	6,4	7,3
20	10/16	184	150	216	240	43	130	6,4	7,3
	25/40	184	150	216	240	43	130	7,3	7,7
25	10/16	184	160	273	262	67	180	11,8	15,4
	25/40	184	160	273	262	67	180	12,7	16,8
32	10/16	200	—	273	—	67	180	12,7	—
	25/40	200	—	273	—	67	180	14,1	—
40	10/16	222	200	279	285	59	180	19,1	20,9
	25/40	222	200	279	285	59	180	20,4	23,6
50	10/16	254	230	279	290	70	180	20,9	22,7
	25/40	254	230	279	290	70	180	22,2	24,9
FLANGED END CS/SS									
Larger sizes		A1 •		B		C	D	Weight (kg)	
65	10/16	283		476		177	324	75	
	25/40	283		476		177	324	75	
80	10/16	312		476		177	324	84	
	25/40	312		476		177	324	84	
100	10/16	350		507		203	324	98	
	25/40	350		507		203	324	98	

# MK50HP SELF-OPERATING BACK PRESSURE REGULATORS

## DIMENSIONS — MK50HP



### ■ Mark 50HP: Flanged End

Size	Flange	A1		B •		C	D	Weight (lbs)
		DI/BRZ	CS/SS	All	All	All	All	All
1/2"	150#	7.25"	7.25"	12.25"	1.69"	5.20"	21 •	
	300#	7.50"	7.50"	12.25"	1.69"	5.20"		
	• 600#	8.00"	8.00"	12.25"	1.69"	5.20"		
3/4"	150#	7.25"	7.25"	12.25"	1.69"	5.20"	22 •	
	300#	7.62"	7.62"	12.25"	1.69"	5.20"		
	• 600#	8.12"	8.12"	12.25"	1.69"	5.20"		
1"	150#	7.25"	7.25"	12.75"	2.62"	5.20"	37	
	300#	7.75"	7.75"	12.75"	2.62"	5.20"		
	• 600#	8.25"	8.25"	12.75"	2.62"	5.20"		
1-1/4"	150#	7.87"	—	12.75"	2.62"	5.20"	37	
	300#	8.37"	—	12.75"	2.62"	5.20"		
1-1/2"	150#	8.75"	8.75"	13.25"	2.31"	5.20"	45	
	300#	9.25"	9.25"	13.25"	2.31"	5.20"		
	• 600#	9.87"	9.87"	13.25"	2.31"	5.20"		
2"	150#	10.00"	10.00"	13.50"	2.75"	5.20"	49	
	300#	10.50"	10.50"	13.50"	2.75"	5.20"		
	• 600#	11.25"	11.25"	13.50"	2.75"	5.20"		

- 600# are not IFE
- For IFE, add 1" (25,4mm) to all "B" dimensions

### ■ Mark 50HP: Threaded & FSW Ends

Size	Material	A	B	C	D	Weight (lbs)
1/2" & 3/4"	DI/BRZ	3.62"	12.25"	1.75"	5.12"	15
	CS/SS	3.62"	12.25"	1.75"	5.12"	17
1"	DI/BRZ	4.12"	12.50"	2.12"	5.20"	21
	CS/SS	4.18"	12.75"	2.12"	5.20"	25
1-1/4"	DI/BRZ	4.12"	12.50"	2.12"	5.20"	21
1-1/2"	DI/BRZ	4.50"	12.75"	2.31"	5.20"	23
	CS/SS	4.81"	13.25"	2.50"	5.20"	31
2"	DI/BRZ	4.50"	12.75"	2.50"	5.20"	26
	CS/SS	5.50"	13.50"	2.50"	5.20"	35

### ■ Mark 50HP: Threaded & FSW Ends, Metric

Size	Material	A	B	C	D	Weight (kg)
DN15 & 20	DI/BRZ	91,95	311,15	44,45	130,05	6,8
	CS/SS	91,95	311,15	44,45	130,05	7,7
DN25	DI/BRZ	104,65	317,50	53,85	132,08	9,5
	CS/SS	106,17	323,85	53,85	132,08	11,3
DN32	DI/BRZ	104,65	317,50	53,85	132,08	9,5
DN40	DI/BRZ	114,30	323,85	58,67	132,08	10,4
	CS/SS	122,17	336,55	63,50	132,08	14,1
DN50	DI/BRZ	114,30	323,85	63,50	132,08	11,8
	CS/SS	139,70	342,90	63,50	132,08	15,9

### ■ Mark 50HP: Flanged End, Metric<sup>3</sup>

Size DN	Flange PN	A1		B <sup>2</sup>		C	D	Weight (kg)
		DI/BRZ <sup>1</sup>	CS/SS	All	All	All	All	All
15	10/16	184,15	130,00	311,15	42,93	132,08	9,5	
	25/40	184,15	130,00	311,15	42,93	132,08		
20	10/16	184,15	150,00	311,15	42,93	132,08	10,0	
	25/40	184,15	150,00	311,15	42,93	132,08		
25	10/16	184,15	160,00	323,85	66,55	132,08	16,8	
	25/40	184,15	160,00	323,85	66,55	132,08		
32	10/16	199,90	—	323,85	66,55	132,08	16,8	
	25/40	199,90	—	323,85	66,55	132,08		
40	10/16	222,25	200,00	336,55	58,67	132,08	20,4	
	25/40	222,25	200,00	336,55	58,67	132,08		
50	10/16	254,00	230,00	342,90	69,85	132,08	22,2	
	25/40	254,00	230,00	342,90	69,85	132,08		

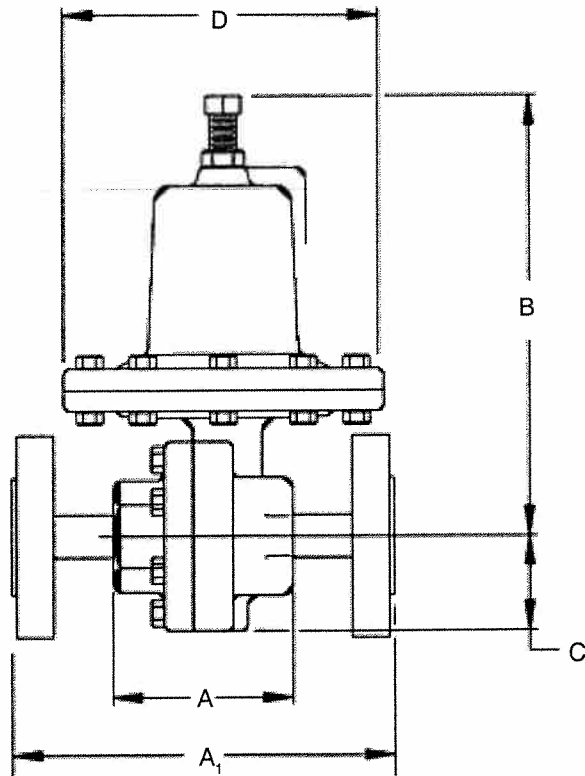
1 Not IFE & Not per DIN3202

2 For IFE, Add 25,4mm

3 PN64/100 welded flanges, consult factory

# MK51 SELF-OPERATING BACK PRESSURE REGULATORS

## DIMENSIONS — MK51



### ■ Mark 51: Threaded & FSW Ends

Size	Material	A	B	C	D	Weight (lbs)
1/2" & 3/4"	DI/BRZ	3.62	10.25	2.25	7.12	12
	CS/SS	3.62	10.25	2.25	7.12	13

### ■ Mark 51: Flanged Ends

Size	ANSI Flange	A1		B		C	D	Weight (lbs)	
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	All	All	DI/BRZ	CS/SS
1/2 & 3/4"	150#	9.62	9.62	10.25	10.25	2.25	7.12	26	26
	300#	10.25	10.25	10.25	10.25	2.25	7.12	29	29

### ■ Mark 51: Threaded & FSW Ends, Metric

Size	Material	A	B	C	D	Weight (kg)
DN15 & 20	DI/BRZ	91.95	260.35	57.15	180.85	5.4
	CS/SS	91.95	260.35	57.15	180.85	5.9

### ■ Mark 51: Flanged Ends, Metric

Size DN	Flange PN	A1 <sup>1</sup>		B		C	D	Weight (kg)	
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	All	All	DI/BRZ	CS/SS
15 & 20	10/16	244.4	244.4	260.4	260.4	57.2	180.9	11.8	11.8
	25/40	260.4	260.4	260.4	260.4	57.2	180.9	13.2	13.2

Note: 1/4" & 3/8" utilize 1/2" body with reducer bushings

<sup>1</sup> Not per DIN3202



# MK50 SELF-OPERATED BACK PRESSURE REGULATORS

## ORDERING SCHEMATIC

1	2	3	4	5	6	7	8	9	10

1	Model
50	Standard
50HP	High Pressure
50QC	Quick Change
51	Large Diaphragm

2	Size	DN
Inches		
025	1/4"	DN8
038	3/8"	DN10
050	1/2"	DN15
075	3/4"	DN20
100	1"	DN25
125	1-1/4"	DN32
150	1-1/2"	DN40
200	2"	DN50
250	2-1/2" (MK50/50HP only)	DN65
300	3" (MK50/50HP only)	DN80
400	4" (MK50/50HP only)	DN100

MK51 available in 1/4" through 3/4" only

3	Body Material
DI	Ductile Iron
BR	Bronze (1/4" - 2")
CS	Carbon Steel
S6	Stainless Steel
CI	Cast Iron (2-1/2" - 4")

4	End Connections
1-4" - 2" MK50/51	
PT	NPT
BT	BSPT
BP	BSPP
SW	FSW
I5	150# IFE
F5	300# FE (Except IFE)
I3	300# IFE
F3	300# FE (Except IFE)
2-1/2" - 4" MK50	
I1	125# IFE
I5	150# IFE
I2	250# IFE
I3	300# IFE
I7	PN 10 DIN IFE (CS/S6) DN15-150
I6	PN 16 DIN IFE (CS/S6) DN15-150
I8	PN 25 DIN IFE (CS/S6) DN15-150
I4	PN 40 DIN IFE (CS/S6) DN15-150

5	Trim
S3	303SS
S6	316SS
I3	303SSF/IFE (1/4" - 2")
I6	316SSF/IFE (1/4" - 2")

6	Seat Material
A	303SST (1/4" - 2")
B	316SST (1/4" - 2")
V	303SS/Jorcote
W	316SS/Jorcote
X	303SS/JOR/JIC
Y	316SS/JOR/JIC

7	Cv (Kv)
1	0.21 (0,28)
2	0.42 (0,36)
3	0.84 (0,72)
4	1.6 (1,38)
5	2.5 (2,16)
6	4.4 (3,79)
7	6.4 (5,52)
8	9.5 (8,19)
9	15 (12,93)
A	25 (21,55)
B	30 (25,86)
D*	55 (47,41)
F*	85 (73,28)
G*	115 (99,14)
I*	200 (172,41)
	* 2-12" - 4" only

8	MK50/50QC Spring Range PSI (BAR)					
	1/4" - 3/4"		1" - 2"		2-1/2" - 4"	
	14	2-20 (0,14-1,38)	03	1/2-4 (0,03-0,28)	22	4-15 (0,28-1,3)
	34	10-30 (0,69-2,07)	06	2-6 (0,14-0,41)	30	7-24 (0,48-1,65)
	53	20-45 (1,38-3,10)	21	4-13 (0,28-0,90)	52	16-30 (1,10-2,07)
	76	30-135 (2,07-9,31)	31	8-20 (0,55-1,38)		
	A4	80-185 (5,52-12,76)	50	15-80 (1,3-5,52)		
			95	45-150 (3,10-10,34)		

8	MK50HP Spring Range PSI (BAR)
1/2" - 2"	2-1/2" - 4"
A1 75-190 (5-13)	71 30-75 (3-5)
A7 100-320 (7-220)	98 65-110 (4-8)
A9 150-450 (10-31)	

8	MK61 Spring Range PSI (BAR)
04 1/2-5 (0,03-0,34)	62 20-70 (1,38-4,83)
08 2-10 (0,14-0,69)	86 40-105 (2,76-7,24)
14 2-20 (0,14-1,38)	69 25-150 (1,72-10,34)
34 10-30 (0,69-2,07)	79 30-170 (2,07-11,72)
54 20-50 (1,38-3,45)	

9	Diaphragm
S6	316 SST (1/4" - 2" only)
V1	Viton
BN	Buna-N
JL	Jorlon

10	Actuator
MD	for Metal Diaphragm (1/4" - 2" only)
ED	for Elastomer Diaphragm

# Mark 501/502 Series

## High Flow Back Pressure Regulators

The Mark 501 and 502 meet higher capacity requirements than standard back pressure regulators. The High Flow Mark 501 has Cv's as high as 50 (43Kv) and the Super High Flow Mark 502 has Cv's up to 70 (60,2 Kv). Each valve is standard with Jordan's Sliding Gate Seats, which helps to reduce the build-up commonly associated with high flow back pressure regulators.

Jordan's unique self-operated sliding gate back pressure regulator offers:

- Shorter stroke than a globe or plug-style valve
  - Faster response
  - Smaller and lighter weight than globe-style valves
  - Less build-up
- Straightthrough -flow
  - Less turbulence, erosion and noise
  - Improved rangeability
  - Longer seat life
- Ease of maintenance
  - Interchangeable seats and Cv's
  - Fewer spare parts
  - Self-cleaning seats
  - No gaskets or o-rings

### SPECIFICATIONS

**Sizes:** 1-1/2" & 2" (DN40 & DN50)

#### End Connections

- Threaded (FNPT, BSPT, BSPP)
- ANSI Flanges (150#, 300#)
- DIN Flanges (PN10/16, PN25/40)

#### Body Materials

- Ductile Iron
- Bronze
- Carbon Steel (A216 WCB)
- Stainless Steel (A351/CF8M)

#### Trim Materials

- 303SST — Standard on Ductile Iron, Bronze, Carbon Steel valves
- 316SST — Standard on Stainless Steel Valves
- Monel, Hastelloy and other Alloys available

#### Seat Materials

- Jorcote on SST — Standard
- Jorcote/Jordanic on SST — For Severe Service



#### Diaphragm Materials

- Stainless Steel — standard
- Buna-N — optional
- Jorlon — optional
- Viton — optional

**Service:** Steam, water, oil, gas, air and chemicals

**Shutoff:** ANSI Class IV

**Reduced Pressure Control Ranges:** Select a range to match your setpoint. For optimal performance, your setpoint should fall in the upper portion of the selected range.

Model	Size (DN)	Spring Ranges	
		PSI	BAR
501 & 502	1-1/2" - 2" (DN40 - DN50)	8 - 20	0,55 - 1,38
		15 - 80	1,03 - 5,52
		45 - 150	3,10 - 10,34

#### Cv Values & Maximum Differential Pressures

##### • Mark 501

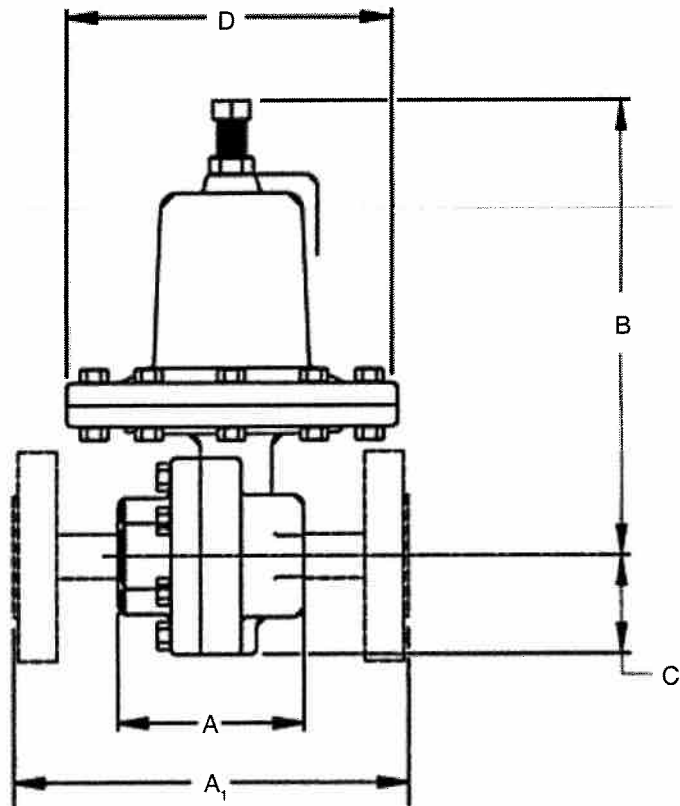
Cv (Kv)	Size (DN)	Seat Material	Maximum ΔP PSI (bar)
25 (21,5)	1-1/2" & 2" (DN40 & DN50)	Jorcote	150 (10,34)
30 (25,8)	1-1/2" & 2" (DN40 & DN50)	Jorcote	150 (10,34)
35 (30,1)	1-1/2" & 2" (DN40 & DN50)	Jorcote	150 (10,34)
45 (38,7)	1-1/2" (DN40)	Jorcote	150 (10,34)
50 (43,0)	2" (DN50)	Jorcote	150 (10,34)

##### • Mark 502

Cv (Kv)	Size (DN)	Seat Material	Maximum ΔP PSI (bar)
65 (55,9)	1-1/2" (DN40)	Jorcote	150 (10,34)
70 (60,2)	2" (DN50)	Jorcote	150 (10,34)

# MK501/502 HIGH FLOW BACK PRESSURE REGULATORS

## DIMENSIONS



### Mark 501/502: Threaded & FSW Ends

Size	Material	A	B	C	D	Weight (lbs)
1-1/2" - 2"	DI/BRZ	4.50	10.25	2.75	7.09	26
	CS/SS	5.50	11.00	2.75	7.09	35

### Mark 501/502: Threaded & FSW Ends, Metric

Size	Material	A	B	C	D	Weight (kg)
DN40-	DI/BRZ	114,3	260,4	69,9	180,1	11,8
DN50	CS/SS	139,7	279,4	69,9	180,1	15,9

### Mark 501/502: Flanged Ends

Size	ANSI Flange	A1		B		C	D	Weight (lbs)	
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	All	All	DI/BRZ	CS/SS
1-1/2"	150#	10.00*	10.00*	10.25	11.22	2.31	7.09	42	46
	300#	10.25*	10.25*	10.25	11.22	2.31	7.09	45	52
2"	150#	10.00	10.00	10.25	11.42	2.75	7.09	46	50
	300#	10.50	10.50	10.25	11.42	2.75	7.09	49	55

- Not IFE
- Not ANSI Standard

### Mark 501/502: Flanged Ends, Metric

Size	Flange PN	A1		B		C	D	Weight (kg)	
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	All	All	DI/BRZ	CS/SS
DN40	10/16	254,0	254,0*	279,0	285,0	58,7	180,1	19,1	20,9
	25/40	260,4	260,4*	279,0	285,0	58,7	180,1	20,4	23,6
DN50	10/16	254,0	230,0	279,0	290,1	69,9	180,1	20,9	22,7
	25/40	266,7	230,0	279,0	290,1	69,9	180,1	22,2	24,9

- Not IFE
- Not per DIN3202

## ORDER SCHEMATIC

1	2	3	4	5	6	7	8	9	10	11	12

1	Model
501	High Flow
502	Super High Flow

2	Size
	Inches DN
150	1-1/2" DN40
200	2" DN50

3	Body Material
DI	Ductile Iron
BR	Bronze
CS	Carbon Steel
S6	Stainless Steel

4	End Connections
PT	NPT
BT	BSPT
I5	150# IFE CS or SST*
F5	150# FE DI or BR
I7	PN10 IFE, CS or SST*
F7	PN10 FE DI or BR
I6	PN16 IFE, CS or SST*
F6	PN16 FE DI or BR
BP	BSPP
SW	FSW
I3	300# IFE, CS or SST*
F3	300# FE DI or BR
I8	PN25 IFE, CS or SST*
F8	PN25 FE DI or BR
I4	PN40 IFE, CS or SST*
F4	PN40 FE DI or BR

\* IFE (integral flanged end) for 2" only  
FE is threaded or weld flanges

5	Trim
S3	303SS
S6	316SS
I3	303SSF/IFE
I6	316SSF/IFE

6	Seat Material
V	303SS/Jorcote
W	316SS/Jorcote
X	303SS/JOR/JIC
Y	316SS/JOR/JIC

7	CV (Kv)
A	25 (22)
B	30 (26)
V	35 (30)
W	45 (39)
C	50 (43)
Y	65 (56)
E	70 (60)

8	Range
53	20-45 (1,38-3,01)
75	30-95 (2,07-6,55)
97	60-160 (4,14-11,03)

9	Diaphragm
S6	316 SST
V1	Viton
BN	Buna-N
JL	Jorlon

10	Actuator
MD	for Metal Diaphragm
ED	for Elastomer Diaphragm

11	Double Bolting
00	None
ZZ	Non-Standard

12	Accessories
0	None
6	316 SS Bolting
7	Hi-temperature bolting
Z	Non-standard



# Jordan Valve



# JORDAN VALVE

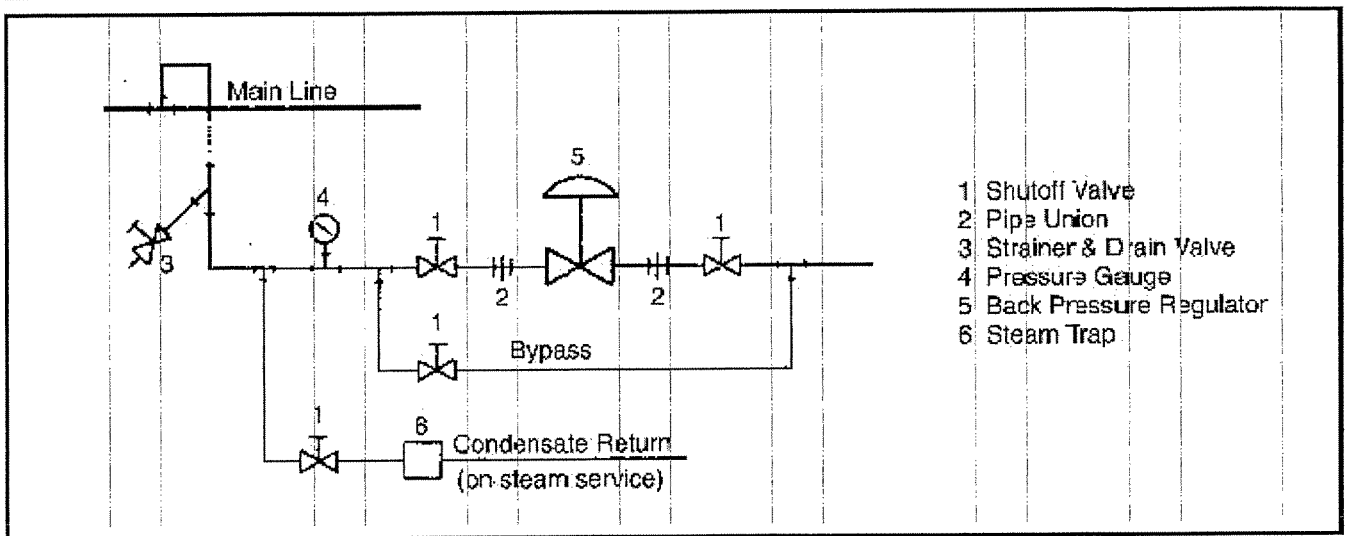
3170 Wasson Road • Cincinnati, OH 45209 USA  
Phone 513-533-5600 • Fax 513-871-0105  
E-Mail: info@richardsind.com • www.jordanvalve.com

## I & M 50

### Installation & Maintenance Instructions for Mark 50 (1/4" - 2") Back Pressure Regulators

**Warning:** Jordan Valve Back Pressure Regulators must only be used, installed, and repaired in accordance with these Installation & Maintenance Instructions. Observe all applicable public and company codes and regulations. In the event of leakage or other malfunction, call a qualified service person; continued operation may cause system failure or a general hazard. Before servicing any valve, disconnect, shut off, or bypass all pressurized fluid. Before disassembling a valve, be sure to release all spring tension.

### Ideal Installation Schematic



### Please read these instructions carefully!

Your Jordan Valve product will provide you with long, trouble-free service if it is correctly installed and maintained. Spending a few minutes now reading these instructions can save hours of trouble and downtime later. When making repairs, use only genuine Jordan Valve parts, available for immediate shipment from the factory.

### Valve Installation

1. To protect the regulator from grit, scale, thread chips, and other foreign matter, all pipe lines and piping components should be blown out and thoroughly cleaned before the regulator is installed.
2. Shutoff valves, pressure gauges, and bypass piping should be installed as indicated in the diagram to provide easier adjustment, operation, and testing.
3. In preparing threaded pipe connections, care should be exercised to prevent pipe sealing compound from getting into the pipe lines. Pipe sealing compound should be used sparingly, leaving the two end threads clean. Jordan uses, and recommends, thread sealer Teflon ribbon.
4. **A LINE STRAINER SHOULD BE INSTALLED ON THE INLET SIDE OF THE REGULATOR TO PROTECT IT FROM GRIT, SCALE AND OTHER FOREIGN MATTER.**

### A .033 PERFORATED SCREEN IS USUALLY SUITABLE. LINE STRAINERS ARE AVAILABLE FROM JORDAN VALVE.

5. Install the regulator in the highest horizontal line of piping to provide drainage for inlet and outlet piping, to prevent water hammer, and to obtain faster regulation.
6. The flow arrow on the regulator body must be pointed in the direction of flow. The regulator may be installed vertically or horizontally without affecting its operation.
7. For best control, 3' - 0" straight sections of pipe should be installed on either side of the regulator.
8. In hot vapor lines, upstream piping near the regulator should be insulated to minimize condensation.

### Start-Up Procedure

With the inlet and outlet shutoff valves closed:

1. Throttle the bypass valve so that the pressure to be controlled is maintained near the set point.
2. Slowly open the inlet shutoff valve.
3. Open the outlet shutoff valve.
4. Slowly close the bypass valve, but do not close it fully until you are certain that the regulator has control of the system.
5. To change the controlled pressure, turn the adjusting screw clockwise to increase pressure, counterclockwise to decrease pressure.

---

## Maintenance

---

**Caution:** Make certain that there is no pressure in the valve before loosening any fittings or joints. The following steps are recommended:

1. Close inlet shutoff valve.
2. Allow pressure to bleed off through downstream piping. Do not cause a reverse flow through valve by bleeding pressure from upstream side of valve.
3. When downstream pressure gauge indicates no pressure in the line, close the outlet shutoff valve.

---

## Valve Seats

---

### A. DISASSEMBLY

The seats of Jordan regulators are precision-lapped. Maintaining such tolerances is of paramount importance for your assurance of excellent control and tight shutoff. Do not use metallic objects in removing the seats. Care in handling is imperative.

1. Close shutoff valve on each side of the regulator.
2. Remove the regulator from line.
3. Secure the inlet *body* hex in the vise. Remove the *cap screws* and lift *cap* straight up.
4. Next remove the valve *plate* and place it on the bench with the lapped surface up. You will notice that there is also a locating pin which aligns the valve *plate* with the *disc guide*. The scribe line on the outside of the valve *cap* and the valve *body* indicates that this locating pin should be on this side.
5. Now remove the valve *disc* and the *disc guide*, placing the valve *disc* on the bench with the lapped surface up. Fingertip pressure should be sufficient to remove these parts.

**SPECIAL NOTE:** It is imperative that the *disc pin* is not rotated in disassembly, cleaning, or reassembly, since this affects the stroke adjustment of the valve.

6. Clean all parts of the *body* and *cap* with a good quality solvent. The valve *disc* and the valve *plate* may then be cleaned. Place a 4/0 polishing cloth or jeweler's cloth on a smooth, flat surface, and polish the lapped surfaces. If the parts are badly scarred, do not attempt to relap them, but return them to the factory for repair or replacement.
7. A .005 feeler gauge should be used to check the clearance between the valve *disc* and the *disc guides*. If the clearance is less than .005" clean the *disc guides* with a smooth file.

### B. REASSEMBLY

1. Place the valve *disc guide* in the valve body bore with the *index pin* on the same side as the scribe line on the valve *body*.
2. Place the valve *disc* in the aperture of the *disc guide* with the arrow pointing to the *index pin* and engage the *disc pin*.
3. In placing the valve *plate* in the valve *body*, notice that the index pin hole in the lapped surface of the valve *plate* engages the *index pin* of the *disc guide*.
4. Replace the valve *cap*.
5. Tighten the *cap screws* uniformly, being cautious not to apply too much torque. See back page for torque recommendations.

---

## Diaphragm Replacement

---

### A. DISASSEMBLY

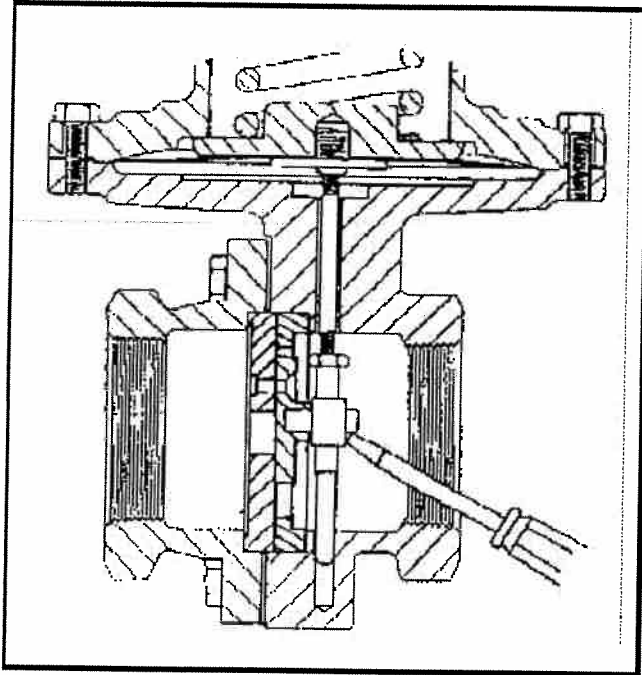
1. In removing the *diaphragm*, you must first remove the valve *disc* and valve *plate*. This is outlined under **VALVE SEATS**.
2. Remove the compression of the *adjusting spring* by rotating the *adjusting screw* counterclockwise.
3. Remove the *spring housing screws* and *spring housing*. Remove *adjusting spring* and *spring seat*.
4. Hold the *disc pin* with an open end wrench and remove the *diaphragm assembly* by rotating counterclockwise. The *diaphragm assembly* consists of the *upper diaphragm plate*, *diaphragm*, and *lower diaphragm plate*.
5. If the *diaphragm* must be replaced, secure the *upper diaphragm plate* in the vise. A face spanner wrench should be used to remove the *lower diaphragm plate* from the assembly. If a face spanner wrench is not available, use a punch and hammer, but make certain to remove all burrs prior to reassembling.

### B. ASSEMBLY AND STROKE ADJUSTMENT

1. The valve stroke adjustment is determined by how far the diaphragm assembly is screwed onto the stem. Hold the *disc pin* with an open end wrench and screw the *diaphragm assembly* onto the valve *stem* all the way, and back off two turns initially.
2. To check the stroke adjustment, put the *disc guide*, valve *disc*, and valve *plate* in position in the valve *body*, using the same precautions outlined under **VALVE SEATS**.
3. Secure the *spring housing* to the valve *body* with two *spring housing screws* and tighten.



- Using a small screwdriver through the upstream opening of the valve *body*, stroke the valve against the upper travel stop of the *spring housing*. The orifices should be aligned in the full open position.



- If the orifices are not aligned in the open position, remove the *spring housing* and rotate the *diaphragm assembly* counterclockwise to lower the *disc*, and clockwise to raise the *disc*.
- A further check on the stroke adjustment can be made by checking the orifices in the closed position. This is a "normally closed" valve, and there should be a 1/32" overlap when the diaphragm assembly is down against the valve body.
- Remove the valve *plate* and the valve *disc* to eliminate the possibility of damage during the topworks reassembly.
- Reassemble the *adjusting spring* and *spring seat*.
- Before replacing the *spring housing*, make certain that the *diaphragm* is centered in the body recess. This recess aligns the *spring housing* and *diaphragm*.
- In replacing the *spring housing*, make certain that it seats properly in the valve body recess.
- Replace the *spring housing screws* and tighten only finger tight. Thread the *adjusting screw* into the *spring housing* until the seats are in their fully closed position. Tighten the *spring housing screws* to the torque values shown on the last page of this document.
- Replace the *disc guide*, *disc*, *plate*, and *cap*. See last page of this document for recommended torque.

---

## Disc Pin and Stem

---

- Remove the valve *disc* and valve *plate* as explained under **VALVE SEATS**.
- Remove the *diaphragm* and topworks as described under **DIAPHRAGM REPLACEMENT**.
- Hold the *disc pin* with an open end wrench and loosen the *locknut*. Now the *stem* may be unscrewed from the *disc pin* and removed.
- To reassemble, first insert the *disc pin* into the valve *body*; followed by the *stem* and *locknut*. Screw the *stem* fully into the *disc pin* and lock the *locknut* against the *disc pin*.
- To reassemble the *diaphragm* and topworks and valve seats, refer to the reassembly instructions under **VALVE SEATS AND DIAPHRAGM REPLACEMENT**.

---

## Troubleshooting

---

### If You Experience Erratic Control:

- Oversizing causes cycling and hunting, and reduces the rangeability of the valve. Make certain that your sizing is correct.
- Excessive foreign matter may be on seats; clean seats.
- Valve stroke may be out of adjustment.; readjust and tighten locknuts securely.
- Valve disc may not be moving freely; inspect and clean.
- Moving parts may be binding; inspect and realign or replace if necessary.

### If Valve Will Not Operate:

- Diaphragm may be ruptured and require replacement.
- Adjusting spring may be broken and require replacement.
- Spring may be set improperly and require resetting.

---

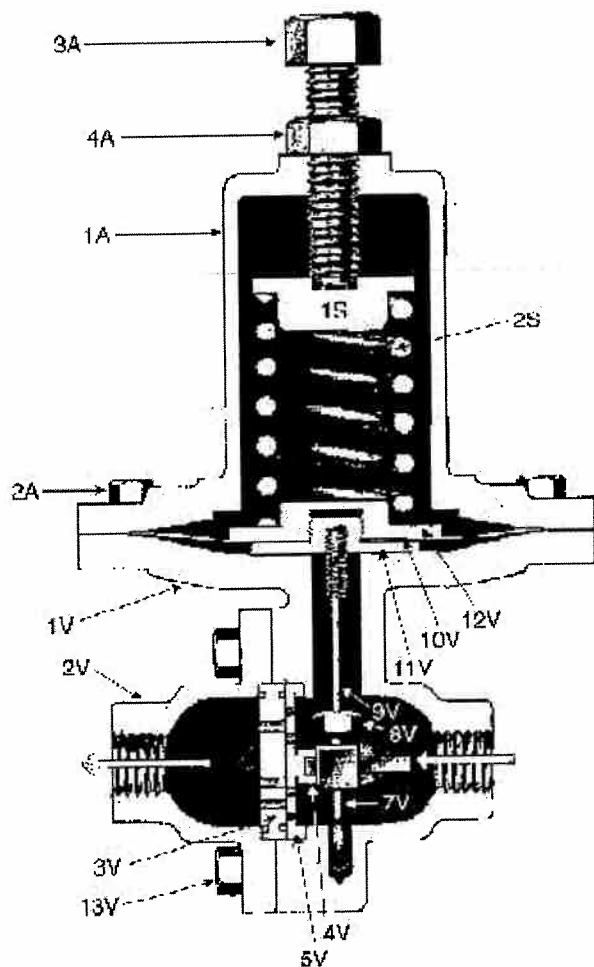
## Ordering Spare Parts

---

Jordan Valves are ruggedly built, carefully assembled to accurate dimensions, and individually tested for performance. A complete stock of finished parts is maintained for immediate delivery. Use only genuine Jordan Valve parts to keep your Jordan regulator in good working order. In order to supply you with the precise parts designed for your specific valve, we need to know the following information when you request spare parts:

- Valve serial number (found on nameplate)
- Valve model number
- Body size
- Body material
- End connections (if flanged, supply flange rating)
- Spring range or set point

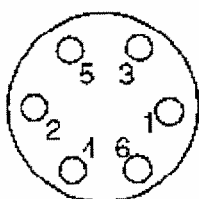
## Illustration & Parts List



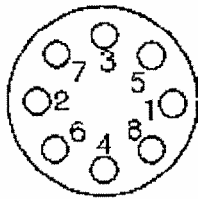
1A	Spring Housing
2A	Spring Housing Bolt
3A	Adjusting Screw
4A	Locknut
1S	Spring Seat
2S	Spring
1V	Body
2V	Cap
* 3V	Plate
* 4V	Disc
* 5V	Disc Guide
* 7V	Disc Pin
* 8V	Stem Locknut
* 9V	Stem
* 10V	Diaphragm
11V	Lower Diaphragm Plate
12V	Upper Diaphragm Plate
13V	Body Bolt
*	Recommended Spare Parts

## Torque Values

### Bolt Pattern/Torque Sequence



6 Bolts  
(or multiples)



8 Bolts  
(or multiples)

Connection	Valve Size	BRZ Body	DI, CS or SS Body
Body to Cap	1/2" & 3/4"	140 in-lbs	200 in-lbs
	1" & 1-1/4"	140 in-lbs	200 in-lbs
	1-1/2" & 2"	140 in-lbs	200 in-lbs
Body to Spring Housing	1/2" - 2"	200 in-lbs	200 in-lbs



# JORDAN VALVE

Bulletin IM-50-0899 L

3170 Wasson Road • Cincinnati, OH 45209  
 Phone 513-533-5600 • Fax 513-871-0105  
 Phone Toll-Free:  
 800-543-7311 (USA) • 800-354-0305 (Canada)  
 E-Mail: [info@richardsind.com](mailto:info@richardsind.com)  
 URL: [www.jordanvalve.com](http://www.jordanvalve.com)