

# Mark 63/64 Series

## Differential Pressure Regulators

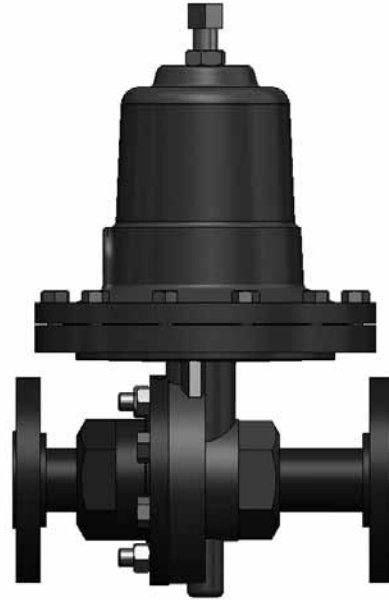
The Jordan Mark 63 is designed to maintain a constant differential between the pressure on the discharge side of the regulator and the signal pressure loaded on the diaphragm. The Mark 64 provides the same flow capacity as the Mark 63 but with less offset in controlled pressure due to a larger diaphragm.

The Mark 63CDF features a flow-through spring housing that is designed to permit "in-oil-line" installation. This is especially desirable where air or steam is used for fuel oil atomization. The fuel oil flow through the spring housing reduces the possibility of the oil asphaltting on top of the diaphragm which would cause a loss of differential pressure control and operating sensitivity. For added protection in this service, the Mark 63CDF includes a separated double diaphragm that prevents the fluid from mixing in the event the diaphragm were to rupture.

The regulator is normally open. The outlet pressure acts beneath the diaphragm and is opposed by the force of the adjusting spring plus the pressure of the loading medium. As the outlet pressure overcomes the combined pressures on top of the diaphragm, the regulator moves to the closed position.

### FEATURES

- Mark 63/64 – maintains a constant differential between the pressure on the discharge side of the regulator and the signal pressure loaded on the diaphragm. The MK64 features a larger effective diaphragm area for greater sensitivity.
- Mark 63CDF – features a flow-through spring housing for use in controlling atomizing steam or air to oil burners.
- Sliding Gate Seats – all of Jordan Valve's differential regulators feature advanced sliding gate seat technology: straight-through flow for reduced turbulence and quiet operation; short stroke for fast response and accurate regulation; easily interchangeable Cv's; tight shutoff



### SPECIFICATIONS

**Sizes:** (Note: 1/4" DN8 & 3/8" (DN12) use 1/2" (DN15) body with reducer bushings)

- Mark 63: 1/4" (DN8) through 2" (DN50)
- Mark 64: 1/4" (DN8) through 3/4" (DN20)

### 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 – SA351 CF8M

### Trim Materials:

- 303SST – standard on Ductile Iron, Bronze or Carbon Steel valves
- 316SST – standard on Stainless Steel valves



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**SPECIFICATIONS**

**Seat Materials**

- Jorcote on SST – Standard
- Jorcote/Jordanic on SST – For severe service
- Chrome Plated SST – Optional

**Diaphragm Materials**

- Stainless Steel – Standard
- Buna-N
- Viton
- Jorlon

**Spring Housing Material:** Ductile Iron

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

**Shutoff:** ANSI Class IV

**Body Rating**

Body Mat'l	End Conn.	-20 to 100°F	200°F	300°F	400°F	500°F	600°F	650°F
DI	T.E.	300 (600)	300 (600)	300 (600)	300 (600)	300 (600)	300 (600)	300 (600)
	150#FE PN20	250	235	215	200	170	140	125
	300#FE PN50	300 (600)	300 (600)	300 (600)	300 (525)	300 (495)	300 (465)	300 (450)
	600#FE PN100	300 (600)	300 (600)	300 (600)	300 (600)	300 (600)	300 (600)	300 (600)
BRZ	T.E.	300 (500)	300 (475)	300 (425)	300 (375)	300 (325)	N/A	N/A
	150#FE PN20	225	215	195	170	150	N/A	N/A
	300#FE PN50	300 (500)	300 (475)	300 (425)	300 (375)	300 (325)	N/A	N/A
CS	T.E.	300 (950)	300 (950)	300 (950)	300 (950)	300 (950)	300 (950)	300 (950)
	150#FE PN20	285	260	230	200	170	140	125
	300#FE PN50	300 (740)	300 (675)	300 (665)	300 (635)	300 (600)	300 (550)	300 (535)
	600#FE PN100	300 (950)	300 (950)	300 (950)	300 (950)	300 (950)	300 (950)	300 (950)
SS	T.E.	300 (950)	300 (950)	300 (950)	300 (950)	300 (950)	300 (905)	300 (890)
	150#FE PN20	275	240	215	195	170	140	125
	300#FE PN50	300 (720)	300 (620)	300 (560)	300 (515)	300 (480)	300 (450)	300 (445)
	600#FE PN100	300 (950)	300 (950)	300 (950)	300 (950)	300 (950)	300 (905)	300 (890)

Note: double bolting option is required to reach pressures indicated in parenthesis ( ). For temperatures below -20°F or above 650°F, consult factory.

Note: to convert temperature to Celsius: subtract 32 from Fahrenheit temperature then multiply result by 5 and divide answer by 9. ((F-32)\*5/9 - C). To convert PSI to BAR, divide by 14.5.

**Maximum Dome Loading Pressure:** the combined pressure of the spring setting (psig) and dome loading (psig) must not exceed the body rating

**Options**

- DB: double bolting for higher pressure ratings
- C: closing cap for adjusting screw
- B: bleed valve on spring housing (available only with option C closing cap above)
- H: handwheel and packing box
- F: flow-through spring housing
- D: separated double diaphragm (prevents mixing fluids in case of ruptured diaphragm)
- HP: high pressure spring housing
- H: handwheel and packing box

**Differential Pressure Control Ranges, PSI (BAR)**

Model	Size	Ranges in psi (bar)		
MK63	1/4"-3/4" (DN8-20)	2-23 (0,14-1,6)	10-38 (0,7-2,6)	20-55 (1,4-3,8)
		35-160 (2,4-11)	95-220 (6,6-15)	
MK63HP	1/2"-2" (DN15-25)	1-5 (0,07-0,34)	3-8 (0,21-0,55)	5-20 (0,34-1,4)
		10-30 (0,7-2,1)	20-45 (1,4-3,1)	30-160 (2,1-11)
MK64	1/4"-3/4" (DN8-20)	1-5 (0,07-0,34)	2-12 (0,14-0,8)	2-25 (0,14-1,7)
MK64	1/4"-3/4" (DN8-20)	10-35 (0,7-2,4)	20-55 (1,4-3,8)	20-80 (1,4-5,5)
		40-116 (2,8-8)	25-160 (1,7-11)	30-180 (2,1-12)

**Cv (Kv) Ratings and Maximum Allowable ΔP:**

Cv (Kv)	Valve Size	Seat Material	Max. ΔP, psi (bar)	
			Sat. Steam/Air	Liquid
2.5 (2,2)	1/4" to 3/4" (DN8 to 20)	SST	125 (8,6)	125 (8,6)
4.4 (3,8)		Jorcote	400 (28)	400 (28)
6.4 (5,5)	1" & 1-1/4" (DN25 & 32)	SST	125 (8,6)	125 (8,6)
9.5 (8,2)		Jorcote	400 (28)	400 (28)
15 (12,9)	1-1/2" (DN40)	SST	75 (5,2)	75 (5,2)
		Jorcote	325 (22)	325 (22)
25 (21,5)	2" (DN50)	SST	75 (5,2)	75 (5,2)
30 (25,8)		Jorcote	325 (22)	325 (22)

**\*Low Flow Trim Available:** reduced Cv's (Kv's) can be used in a valve of any size as long as the required flow is a smaller value than the standard Cv (Kv) for the particular size. In addition, the following Cv's (Kv's) can be provided.

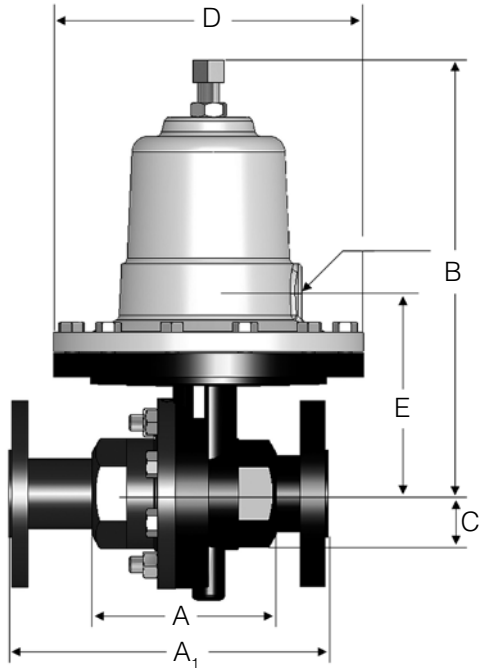
1.6 (1,4)	0.84 (0,72)	0.42 (0,36)	0.21 (0,18)	0.08 (0,07)	0.04 (0,03)
0.02 (0,017)	0.008 (0,007)	0.004 (0,003)	0.002 (0,0017)	0.0008* (0,0007)	

\* not available in 316SS

**MARK 63 SERIES DIMENSIONS**

• Flanged Ends

Size	ANSI Flange	Dimensions (inches)								Weight (lbs.)	
		A		B		C	D	E			
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	All	All	DI/BRZ	CS/SS	DI/BRZ	CS/SS
1/2"	150#	7.25	7.25	8.50	8.50	1.69	5.12	3.94	3.94	13	15
	300#	7.50	7.50	8.50	8.50	1.69	5.12	3.94	3.94	14	16
3/4"	150#	7.25	7.25	8.50	8.50	1.69	5.12	3.94	3.94	14	16
	300#	7.52	7.62	8.50	8.50	1.69	5.12	3.94	3.94	16	17
1"	150#	7.25	7.25	10.00	10.75	2.62	7.09	4.53	4.83	26	34
	300#	8.75	7.75	10.00	10.75	2.62	7.09	4.53	4.83	28	37
1 1/4"	150#	7.87	—	10.00	—	2.62	7.09	4.53	—	28	—
	300#	8.37	—	10.00	—	2.62	7.09	4.53	—	31	—
1 1/2"	150#	8.75	8.75	10.25	11.22	2.31	7.09	4.50	5.08	42	46
	300#	10.25	9.25	10.25	11.22	2.31	7.09	4.50	5.08	45	52
2"	150#	10.00	10.00	10.25	11.42	2.75	7.09	4.75	5.05	46	50
	300#	10.50	10.50	10.25	11.42	2.75	7.09	4.75	5.05	49	55



• Flanged Ends, DIN

Size (DN)	Flange (PN)	Dimensions (mm)								Weight (kg)	
		A		B		C	D	E			
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	All	All	DI/BRZ	CS/SS	DI/BRZ	CS/SS
15	10/16	184 <sup>4</sup>	130	216	240	43	130	100	100 <sup>1</sup>	5,9	6,8
	25/40	184 <sup>4</sup>	130	216	240	43	130	100	100 <sup>1</sup>	6,4	7,3
20	10/16	184 <sup>4</sup>	150	216	240	43	130	100	100 <sup>1</sup>	6,4	7,3
	25/40	184 <sup>4</sup>	150	216	240	43	130	100	100 <sup>1</sup>	7,3	7,7
25	10/16	184 <sup>4</sup>	160	273	262	67	180	115	123 <sup>2</sup>	11,8	15,4
	25/40	184 <sup>4</sup>	160	273	262	67	180	115	123 <sup>2</sup>	12,7	16,8
32	10/16	200 <sup>4</sup>	—	273	—	67	180	115	—	12,7	—
	25/40	200 <sup>4</sup>	—	273	—	67	180	115	—	14,1	—
40	10/16	222 <sup>4</sup>	200	279	285	59	180	114	129 <sup>1</sup>	19,1	20,9
	25/40	222 <sup>4</sup>	200	279	285	59	180	114	129 <sup>1</sup>	20,9	23,6
50	10/16	254 <sup>4</sup>	230	279	290	70	180	120	128 <sup>3</sup>	20,9	22,7
	25/40	254 <sup>4</sup>	230	279	290	70	180	120	128 <sup>3</sup>	22,2	24,9

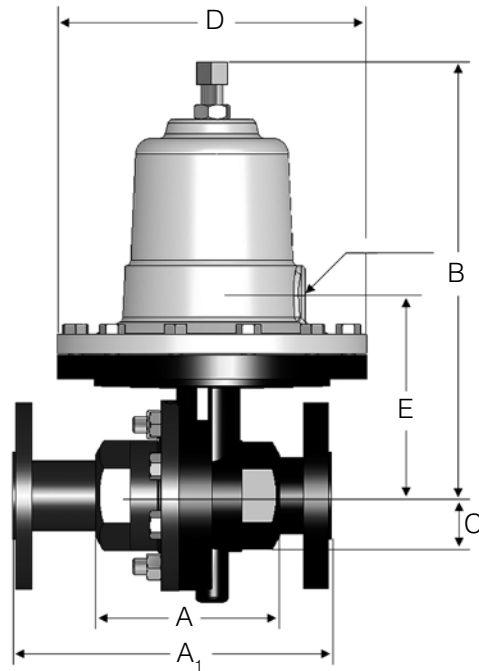
• Threaded Ends

Size	Mat'l	Dimensions (inches)					Weight (lbs.)
		A	B	C	D	E	
1/2" & 3/4"	DI/BRZ	3.62	8.50	1.69	5.12	3.94	10
	CS/SS	3.62	8.50	1.69	5.12	3.94	12
1"	DI/BRZ	4.12	10.00	2.62	7.09	4.53	21
	CS/SS	4.18	10.75	2.62	7.09	4.83	25
1 1/4"	DI/BRZ	4.12	10.00	2.62	7.09	4.53	21
1 1/2"	DI/BRZ	4.50	10.25	2.31	7.09	4.50	23
	CS/SS	4.81	11.00	2.25	7.09	5.08	31
2"	DI/BRZ	4.50	10.25	2.75	7.09	4.72	26
	CS/SS	5.50	11.00	2.75	7.09	5.05	35

• Threaded Ends, DIN

Size (DN)	Mat'l	Dimensions (mm)					Weight (kg)
		A	B	C	D	E	
15 & 20	DI/BRZ	92	216	43	130	100	4,4
	CS/SS	92	216	43	130	100	5,4
25	DI/BRZ	105	254	67	180	115	9,5
	CS/SS	106	273	67	180	123	11,3
32	DI/BRZ	105	254	67	180	115	9,5
40	DI/BRZ	114	260	59	180	114	10,4
	CS/SS	122	279	57	180	129	14,0
50	DI/BRZ	114	260	70	180	120	11,8
	CS/SS	140	279	70	180	128	15,9

**MARK 64 SERIES DIMENSIONS**



• Flanged Ends

Size	ANSI Flange	Dimensions (inches)										Weight (lbs.)	
		A		B		C	D	E					
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	All	All	DI/BRZ	CS/SS	DI/BRZ	CS/SS		
1/2"	150#	9.62	9.62	10.25	10.25	2.25	7.12	4.33	4.25	26	26		
	300#	9.62	9.62	10.25	10.25	2.25	7.12	4.33	4.25	26	26		
3/4"	150#	10.25	10.25	10.25	10.25	2.25	7.12	4.33	4.25	29	29		
	300#	10.25	10.25	10.25	10.25	2.25	7.12	4.33	4.25	29	29		

• Flanged Ends, DIN

Size (DN)	Flange (PN)	Dimensions (mm)										Weight (kg)	
		A		B		C	D	E					
		DI/BRZ	CS/SS	DI/BRZ	CS/SS	All	All	DI/BRZ	CS/SS	DI/BRZ	CS/SS		
15	10/16	244	244	260	260	57	181	110	108	12	12		
	25/40	244	244	260	260	57	181	110	108	12	12		
20	10/16	260	260	260	260	57	181	110	108	6,4	13		
	25/40	260	260	260	260	57	181	110	108	7,3	13		

• Threaded Ends

Size	Mat'l	Dimensions (inches)					Weight (lbs.)
		A	B	C	D	E	
1/2"	DI/BRZ	3.62	10.25	2.25	7.12	4.33	12
	CS/SS	3.62	10.25	2.25	7.12	4.25	13
3/4"	DI/BRZ	3.62	10.25	2.25	7.12	4.33	12
	CS/SS	3.62	10.25	2.25	7.12	4.25	13

• Threaded Ends, DIN

Size (DN)	Mat'l	Dimensions (mm)					Weight (kg)
		A	B	C	D	E	
15	DI/BRZ	92	260	57,2	181	110	5,5
	CS/SS	92	260	57,2	181	110	5,5
20	DI/BRZ	92	260	57,2	181	108	5,9
	CS/SS	92	260	57,2	181	108	5,9

MARK 63/64 SERIES DIFFERENTIAL PRESSURE REGULATORS

ORDERING SCHEMATIC

Model No	Options	Size	Body Material	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Model	
63	Standard
64	Large Diaphragm

Options	
C	Closing Cap
D	Separated Double Diaphragm
F	Flow Through Dome
H	Handwheel
HP	High Pressure

Size	
025	1/4" (DN8)
038	3/8" (DN12)
050	1/2" (DN15)
075	3/4" (DN20)
100	1" (DN25)
125	1-1/4" (DN32)
150	1-1/2" (DN40)
200	2" (DN50)

Body Material	
DI	Ductile Iron
BR	Bronze
CS	Carbon Steel (WCB)
S6	Stainless Steel (CF8M)

End Connections	
PT	NPT
BT	BSPT
BP	BSPP
SW	FSW
I5	150# IFE CS or SST
I3	300# IFE CS or SST
F5	150# IFE DI or BR
F3	300# IFE DI or BR
I7	IFE PN10 CS or SST
I6	IFE PN16 CS or SST
I8	IFE PN25 CS or SST
I4	IFE PN40 CS or SST

Trim	
S3	303SS
S6	316SS
I3	303SS Flanged
I6	316SS Flanged

Seats			
5 & 6	Material	Cv (Kv)	
A	303SST	1	0.21 (0,18)
B	316SST	2	0.42 (0,36)
V	303SS/Jorcote	3	0.84 (0,72)
W	316SS/Jorcote	4	1.6 (1,38)
X	303SS Jorcote/Jordanic	5	2.5 (2,15)
Y	316SS/Jorcote/Jordanic	6	4.4 (3,8)
		7	6.4 (5,5)
		8	9.5 (8,2)
		9	15 (13)
		A	25 (22)
		B	30 (26)

Range – Mark 63 Series			
1/4" - 3/4"		1" - 2"	
15	2-20 SST	05	1-5
16	2-23	07	2-6 SST3-8
37	10-38	20	3-8
43	15-35 SST	13	2-16 SST
56	20-55	28	5-20
59	20-60 SST	33	10-25 SST
74	30-85 SST	34	10-30
81	35-160	53	20-45
A6	95-220	75	30-95
		97	60-160

Range – Mark 63HP & 64 Series			
63HP Series		64 Series	
A1	75-190	05	1-5
A7	100-320	10	2-12
A9	150-450	11	2-12 SST
		17	2-25
		18	2-25 SST
		36	10-35
		B3	10-35 SST
		56	20-55
		57	20-55 SST
		63	20-80
		87	40-115
		70	25-160
		80	30-180

Model No	Options	Size	Body Material	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

9 & 10	Diaphragm
S6	316 SST
V1	Viton
BN	Buna-N
JL	Jorlon
ZZ	Non-Standard

13 & 14	Double Bolting
00	None
ZZ	Non-Standard

11 & 12	Actuator
MD	For Metal Diaphragm
ED	For Elastomer Diaphragm
ZZ	Non-Standard

15	Accessories
0	None
6	316SS Bolting
7	Hi-Temp Bolt
3	Bleed Port w/Va
4	Bleed Port Plugged
Z	Non-Standard

**Droop Chart:** Droop characteristics will be similar to the Mark 60. Due to the variance of pressures in the dome, charts are only available on an application basis.

