

# Mark 74 Series

## Bellows Seal Control Valve

When dealing with clean air requirements, you need to feel confident that you will receive long-term, leak-free performance from your bellows stem seal valves. You will find this assurance with the Mark 74 from Jordan Valve. The Mark 74 provides exceptional bellows life with a valve stroke that is just a fraction of that of other rising stem valves. This means Jordan Valve can use a smaller formed bellows that has minimal movement during operation. With limited movement, the bellows is not subjected to excessive wear and fatigue – conditions that can quickly lead to failure in other designs. In actual laboratory evaluations the valves tested exceeded two million throttling cycles in Class 300 service with no failures of the SST bellows. You can expect the Mark 74 to provide long-term, dependable service to meet Clean Air requirements.

***For compliance with the most stringent requirements of the Clean Air Act, the Mark 74 controls fugitive emissions while reducing the risks associated with toxic, corrosive, explosive and high temperature fluids.***



### FEATURES

- Long bellows life – in actual lab tests, the Mark 74 exceeded 2 million cycles with no bellows failures
- Short stroke – with a valve stroke that's just a fraction of that of other rising stem valves, the Mark 74 uses a smaller bellows that has minimal movement during operation. With limited movement, the bellows is not subjected to excessive wear and fatigue, conditions that can quickly lead to failure in other valve designs.
- Fully packed back-up seal – for additional assurance, a secondary chamber of multiple packing rings provides extra leakage protections
- Detection/monitoring port – a gauge can be mounted to verify bellows performance
- Totally enclosed multi-spring actuator – minimizes deadband and is field reversible without the use of special tools or additional parts
- Specialty alloys available – ideal for toxic or corrosive services

### SPECIFICATIONS

**Sizes:** 1/2" through 2" (DN15 through DN50)

#### End Connections

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

#### Body Materials

- Ductile Iron
- Bronze
- Carbon Steel (WCB)
- Stainless Steel (CF8M)

#### Trim Materials

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

#### Seat Materials

- Jorcote on SST – standard

#### Bellows

- 316SS
- Hastelloy C

**SPECIFICATIONS**

**Yoke:** Cast Iron

**Actuator:** Steel

**Auxilliary Stem Packing**

- Spring-loaded Teflon® (to 500°F/260°C)
- Braided (above 500°F/260°C)

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**Body Rating:** Ductile Iron, Carbon Steel, and Stainless Steel up to 500 psi (34,5 bar) and 650°F (343°C); bronze up to 500 psi (34,5 bar) depending upon specific construction. Temperature limit of -20°F (-28,9°C) on all materials.

**Action**

- Direct (air-to-close)
- Reverse (air-to-open)

**Shutoff:** ANSI Class IV

**Ranges:** controller-operated: 3-15, 3-9, 6-30, 9-15 psi (0,2-1,0; 0,2-0,6; 0,4-2,1; 0,6-1,0 bar)

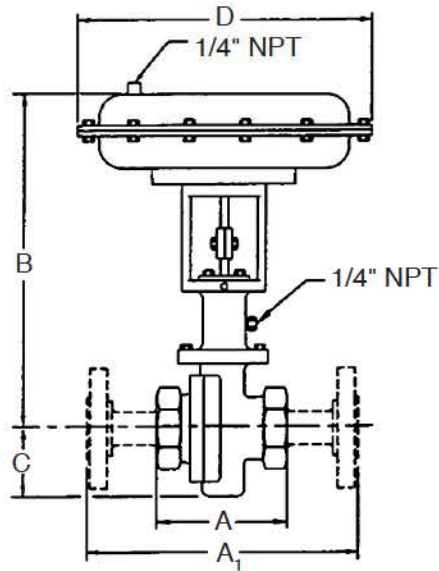
**Positioners:** side or top mounted positioners are available (specify Mark 74P)

**Rangeability**

- Mark 74 (1/2" – 1-1/2") (DN15 – DN40): 100:1
- Mark 74 2" (DN50): >200:1

Cv (Kv)	Valve Size (DN)	Seat Material	Max ΔP, PSI * (BAR)	
			Mark 74	Mark 74P
2.5 (2,2) 4.4 (3,8)	1/2" to 3/4" DN8 to 20	SST	125 (8,6)	175 (12,1)
		Jorcote	250 (17,2)	500 (34,5)
6.4 (5,5) 9.5 (8,2)	1" & 1-1/4" DN25 & 32	SST	100 (6,9)	150 (10,3)
		Jorcote	150 (10,3)	300 (20,7)
15 (12,9)	1-1/2" DN40	SST	75 (5,2)	125 (8,6)
			125 (8,6)	250 (17,2)
25/30 (22/26)	2" DN50	Jorcote		
High Flow			Mark 741	Mark 741P
30 (26)	1-1/2" & 2" Dn40 & 50	SST	100 (6,9)	125 (8,6)
		Jorcote	150 (10,3)	175 (12,1)
45 (39)	1-1/2" DN40	SST Jorcote	100 (6,9)	125 (8,6)
			150 (10,3)	175 (12,1)
50 (43)	2" DN50	Jorcote		
Super High Flow			Mark 742	Mark 742P
65 (56)	1-1/2" DN40	SST	100 (6,9)	125 (8,6)
		Jorcote		
70 (60)	2" DN50	SST	150 (10,3)	150 (10,3)
		Jorcote		

**DIMENSIONS**



• **Mark 74: Flanged Ends**

Size	ANSI Flange	Dimensions (inches)				Weight (lbs)
		A <sub>1</sub>	B	C	D	
1/2"	150#	7.25	12.38	2.18	9.50	29
	300#	7.50	12.38	2.18	9.50	31
3/4"	150#	7.25	12.38	2.18	9.50	31
	300#	7.62	12.38	2.18	9.50	33
1"	150#	7.25	12.62	2.62	9.50	33
	300#	7.75	12.62	2.62	9.50	36
1-1/4"	150#	7.87	12.87	2.62	9.50	33
	300#	8.37	12.87	2.62	9.50	37
1-1/2"	150#	8.75	12.87	2.75	9.50	36
	300#	9.25	12.87	2.75	9.50	43
2"	150#	10.00	13.00	3.00	9.50	42
	300#	10.50	13.00	3.00	9.50	49

• **Mark 74: Threaded Ends**

Size	Material	Dimensions (inches)				Weight (lbs)
		A	B	C	D	
1/2" & 3/4"	DI/BRZ	3.62	12.38	2.18	9.50	27
	CS/SS	3.65	12.38	2.18	9.50	27
1"	DI/BRZ	4.12	12.62	2.62	9.50	29
	CS/SS	4.12	12.62	2.62	9.50	30
1-1/4"	DI/BRZ	4.12	12.87	2.62	9.50	29
1-1/2"	DI/BRZ	4.50	12.87	2.62	9.50	30
	CS/SS	4.65	12.87	2.75	9.50	31
2"	DI/BRZ	4.50	13.00	2.62	9.50	32
	CS/SS	5.50	13.00	3.00	9.50	35

• **Mark 74: Flanged Ends, DIN**

Size	ANSI PN	Dimensions (mm)				Weight (kgs)
		A <sub>1</sub>	B	C	D	
DN15	10/16	130	314	55	241	11,8
	25/40	130	314	55	241	12,7
DN20	10/16	150	314	55	241	11,8
	25/40	150	314	55	241	12,7
DN25	10/16	160	321	67	241	12,7
	25/40	160	321	67	241	13,6
DN32	10/16	180	327	67	241	12,7
	25/40	180	327	67	241	13,6
DN40	10/16	200	327	70	241	13,6
	25/40	200	327	70	241	14,5
DN50	10/16	230	330	76	241	14,8
	25/40	230	330	76	241	16,3

• **Mark 74: Threaded Ends, DIN**

Size	Material	Dimensions (mm)				Weight (kgs)
		A	B	C	D	
DN15 & 20	DI/BRZ	92	314	55	241	12,2
	CS/SS	93	314	55	241	12,2
DN25	DI/BRZ	105	321	67	241	12,6
	CS/SS	105	321	67	241	13,6
DN32	DI/BRZ	105	327	67	241	12,6
	CS/SS	114	327	67	241	13,6
DN40	DI/BRZ	114	327	70	241	14,1
	CS/SS	118	327	70	241	14,1
DN50	DI/BRZ	114	330	67	241	14,5
	CS/SS	140	330	76	241	15,9

"B" Dimensions are for 35M actuator, for 55M actuator add 1.2" (30,5mm), for 85M actuator add 2" (50,8mm)

"D" Dimensions are for 35M actuator, for 55M actuator add 3" (76,2mm), for 85M actuator add 5.5" (140mm)

MARK 74 BELLOWS STEM SEAL CONTROL VALVE

ORDERING SCHEMATIC

Model No	Size	Body Mat'l	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Model	
74	Bellows Seal
74TP	Bellows Seal with Top Positioner
74SP	Bellows Seal with Side Positioner

Seat Material	
V	303SS/Jorcote
W	316SS/Jorcote

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

Cv (Kv)			
1	0.21 (0,28)	7	6.4 (5.5)
2	0.42 (0,36)	8	9.5 (8,2)
3	0.84 (0,72)	9	15 (13)
4	1.6 (1,4)	A	25 (22)
5	2.5 (2,2)	B	30 (26)
6	4.4 (3,8)		

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

7,8,9,10,11,12	Range & Actuator	
	Range	Actuator
N3Q3N3	3-15 DIR	35M
Q3Q3N3	3-15 REV	
C3B3A3	3-9 DIR	
D3B3A3	3-9 REV	
E3B3A3	9-15 DIR	
F3B3A3	9-15 REV	
G3B3A3	6-30 DIR	55M
H3B3A3	6-30 REV	
A5B5A5	3-15 DIR	
B5B5A5	3-15 REV	
C5B5A5	3-9 DIR	
D5B5A5	3-9 REV	
E5B5A5	9-15 DIR	85M
F5B5A5	9-15 REV	
G5B5A5	6-30 DIR	
H5B5A5	6-30 REV	
A8B8A8	3-15 DIR	
B8B8A8	3-15 REV	
C8B8A8	3-9 DIR	85M
D8B8A8	3-9 REV	
E8B8A8	9-15 DIR	
F8B8A8	9-15 REV	
G8B8A8	6-30 DIR	
H8B8A8	6-30 REV	

1 & 2	End Connections
PT	NPT
BT	BSPT
I5	150# IFE DI above 2" or CS or SST valves
F5	150# FE DI below 2-1/2" or BR
I7	PN10 IFE DI above 2" or CS or SST valves
I6	PN16 IFE DI above 2" or CS or SST valves
BP	BSPP
SW	FSW
I3	300# IFE DI above 2" or CS or SST valves
F3	300# FE DI below 2-1/2" or BR
I8	PN25 IFE DI above 2" or CS or SST valves
I4	PN40 IFE DI above 2" or CS or SST valves

3 & 4	Trim
B3	303SS/TFE Pkg/316 Bellows
B6	316SS/TFE Pkg/316 Bellows
BH	H-C/TFE Pkg/H-C Bellows

## MARK 74 BELLOWS STEM SEAL CONTROL VALVE

## ORDERING SCHEMATIC, CONT.

13 & 14	Accessories
00	None
AR	Air Regulator
S6	316SS Bolting

15	Action
D	Air-to-close
R	Air-to-open

16	I/P
0	None
3	I/P 35M Actuator
5	I/P 55M Actuator
8	I/P 85M Actuator

17	SMP
0	None
A	SMP DIR/REV 3-15
B	SMP DIR/REV 3-9
C	SMP DIR/REV 9-15
D	SMP/IP DIR/REV 4-20
E	SMP/IP DIR/REV 4-12
F	SMP/IP DIR/REV 12-20
G	MK16IQ-S DIR/REV 4-20 (Hart & FM-App)
H	MK16IQ-B DIR/REV 4-20 (with gauges)
J	MK16IQ-FF DIR/REV 4-20 (Fieldbus w/ gauges)
Z	Non-Standard



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