

Mark 75A Series

Wafer Style Control Valves With Modular, Stackable Actuator

The Mark 75A wafer style control valve with its modular, stackable actuator was developed by Jordan Valve as the next generation of control valves. Featuring all the benefits of the time-tested Sliding Gate seat design, in a lightweight, compact body the Mark 75A also incorporates a modular, stackable actuator to further reduce weight and footprint dimensions while providing additional thrust. The additional thrust allows the Mark 75A to easily handle maximum allowable pressure drops.

MODULAR, STACKABLE ACTUATOR

The new actuator design provides 25 square inches of effective diaphragm area per module and can be stacked to multiply the total effective area to 50 or 75 square inches. Aluminum construction ensures a lightweight automated package.

Powerful - With a 15-30 bench set and 45 psi (3 bar) of air:

- 25M has 375 lbs (1.67kN) of thrust
- 50M has 750 lbs (3.34kN) of thrust
- 75M has 1,125 lbs (5.00kN) of thrust

Compare with our largest 85M actuator and a standard 6-30 bench set:

- 510 bs (2.27kN) of thrust

WEIGHT ADVANTAGE

The Mark 75A offers a tremendous weight advantage over other valve designs. A 4" Mark 75A with a 75M actuator weighs a mere 26.7 lbs! The lightweight and reduced envelope dimensions create savings in transportation, installation and support.



CAPACITY

The Mark 75A provides great capacity in a compact wafer style body. A 2" Mark 75 provides 72 Cv (62 Kv) as the linear operating Cv. (Refer to Cv Capacity Charts for information concerning all line sizes).

EASE OF MAINTENANCE

The Mark 75A features a 'T' slot design connection to the disc. This connection allows for quick and easy reversing of functions. Instead of having to go into the actuator to change action, all that is needed in a Mark 75A is to turn the seats 180°. With this simple rotation, the valve can go from reverse acting to direct acting (or vice versa).

The stroke length of the Mark 75A is a longer stroke than other sliding gate valves. This longer stroke enables better turndown. Combined with the capacity of the Mark 75A, the increased turndown makes for a great control valve.



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SPECIFICATIONS

Sizes: 1" (DN25) thru 6" (DN150) ANSI 300#

Body/Bonnet Connection

- 316 Stainless Steel (ASME SA-479)
- Carbon Steel (SA-105)

Trim Material

- 316 Stainless Steel

Seats Materials

- Jorcote/316SS – standard

Yoke Materials

- 316SST

Actuator Case Material: Painted Aluminum

Packing Material

- Spring loaded Teflon V-Ring to 450°F (260°C)

Shutoff: ANSI Class IV tightness

Ranges:

- 15-30 psi (1,03 - 2,07 bar) - positioner required
- 30-60 psi (2,07 - 4,14 bar) - positioner required

Action

- Direct (ATC)
- Reverse (ATO)

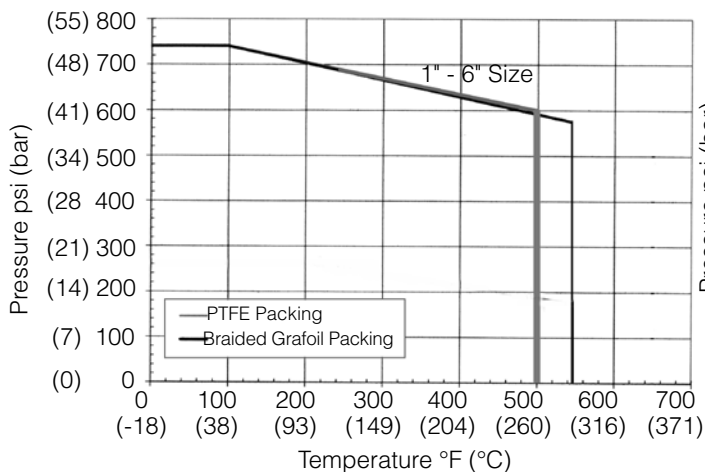
Actuators

- 25M, 50M, 75M modular actuator (depending on size/pressure drop)

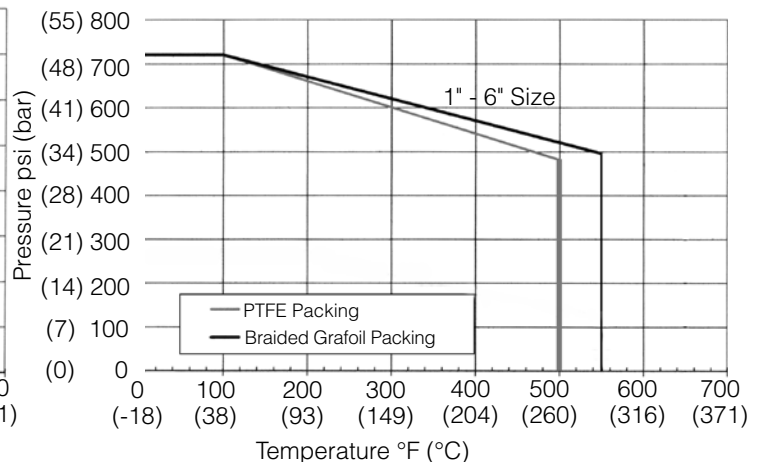
Turndown Ratio Capability: Up to 100:1

PRESSURE/TEMPERATURE CHART

Carbon Steel



Stainless Steel



Cv/Kv vs TRAVEL – LINEAR

Size	Cv (Kv)	Flow Characteristics	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1" (DN25)	9.5 (8,2)	Linear	0.95	1.90	2.85	3.8	4.75	5.70	6.65	7.60	8.55	9.5
1-1/2" (DN40)	33 (28)	Linear	3.3	6.6	9.9	13.2	16.5	19.8	23.1	26.4	29.7	33
2" (DN50)	72 (62)	Linear	7.2	14.4	21.6	28.8	36.0	43.2	50.4	57.6	64.8	72
3" (DN80)	103 (89)	Linear	10.3	20.6	30.9	41.2	51.5	61.8	72.1	82.4	92.7	103
4" (DN100)	180 (155)	Linear	18	36	54	72	90	108	126	144	162	180
6" (DN150)	400 (345)	Linear	40	80	120	160	200	240	280	320	360	400

Cv vs Travel curves represent projected performance based on file data. Actual results may vary from system to system.

MAXIMUM Cv (Kv) VALUES

Size	Linear Cv	Linear Kv
1" (DN25)	9.5	8,2
1-1/2" (DN40)	33	28
2" (DN50)	72	62
3" (DN80)	103	89
4" (DN100)	180	155
6" (DN150)	400	345

Note: If equal percentage flow is required, order MK16IQ positioner programmed for equal percentage flow.

MAXIMUM ALLOWABLE PRESSURE REDUCTIONS - JORCOTE SEATS/DIRECT OR REVERSE - PSI (BAR)

Size	25M	50M	75M	Bench Set ¹	Required Air Supply
1" (DN25)	270 (18,6)	535 (36,9)	535 (36,9)	15-30 psi (1-2 bar)	45 (3,1)
	360 (24,8)	535 (36,9)	535 (36,9)	30-60 psi (2-4 bar)	80 (5,5)
1-1/2" (DN40)	255 (17,6)	510 (35,1)	535 (36,9)	15-30 psi (1-2 bar)	45 (3,1)
	340 (23,4)	535 (36,9)	535 (36,9)	30-60 psi (2-4 bar)	80 (5,5)
2" (DN50)	200 (13,8)	400 (27,6)	535 (36,9)	15-30 psi (1-2 bar)	45 (3,1)
	300 (20,7)	535 (36,9)	535 (36,9)	30-60 psi (2-4 bar)	80 (5,5)
3" (DN80)	330 (22,75)	535 (36,9)	535 (36,9)	15-30 psi (1-2 bar)	45 (3,1)
	440 (30,3)	535 (36,9)	535 (36,9)	30-60 psi (2-4 bar)	80 (5,5)
4" (DN100)	165 (11,4)	330 (22,8)	495 (34,1)	15-30 psi (1-2 bar)	45 (3,1)
	220 (15,2)	440 (30,3)	535 (36,9)	30-60 psi (2-4 bar)	80 (5,5)
6" (DN150)	115 (7,9)	230 (15,9)	345 (23,8)	15-30 psi (1-2 bar)	45 (3,1)
	145 (10,0)	290 (20,0)	350 (24,1)	30-60 psi (2-4 bar)	80 (5,5)

1. A tolerance of $\pm 10\%$ is normal for Bench Range values.

MAXIMUM WORKING PRESSURE @ 100°F (38°C), PSI (BAR)

Size	Carbon Steel	Stainless Steel
1" - 4" (DN25 - DN100)	740 (51,0)	720 (49,6)
6" (DN150)	680 (46,9)	680 (46,9)

PRESSURE @ MAXIMUM TEMPERATURE, PSI (BAR) @ °F (°C)

Size	Carbon Steel	Stainless Steel
All (PTFE PKG)	600 psi @ 500°F (41,4 bar @ 260°C)	480 psi @ 500°F (33,1 bar @ 260°C)
All (GRAF PKG)	535 psi @ 550°F (36,9 bar @ 288°C)	445 psi @ 500°F (30,7 bar @ 288°C)

SLIDING GATE FEATURES & BENEFITS

Jordan Valve's Sliding Gate Seats

Installed in the widest range of gas, chemical and steam applications the world over, our pressure regulators, temperature regulators and control valves have been providing the following benefits for over sixty years.

Shorter stroke length than globe or cage designs

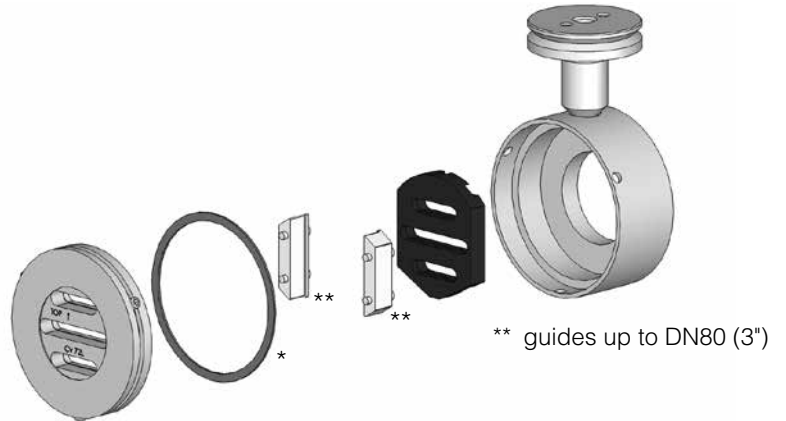
- Provides faster response to input signal changes
- Significantly extends packing and diaphragm life
- Allows for more compact valve/actuator assembly

Straight-through flow

- Significantly reduces turbulence, thereby reducing noise and erosion
- Markedly increases rangeability associated with "flow to open" and "flow to close" designs
- Eliminate valve "chatter" commonly observed when valve is partially open

Ease of maintenance

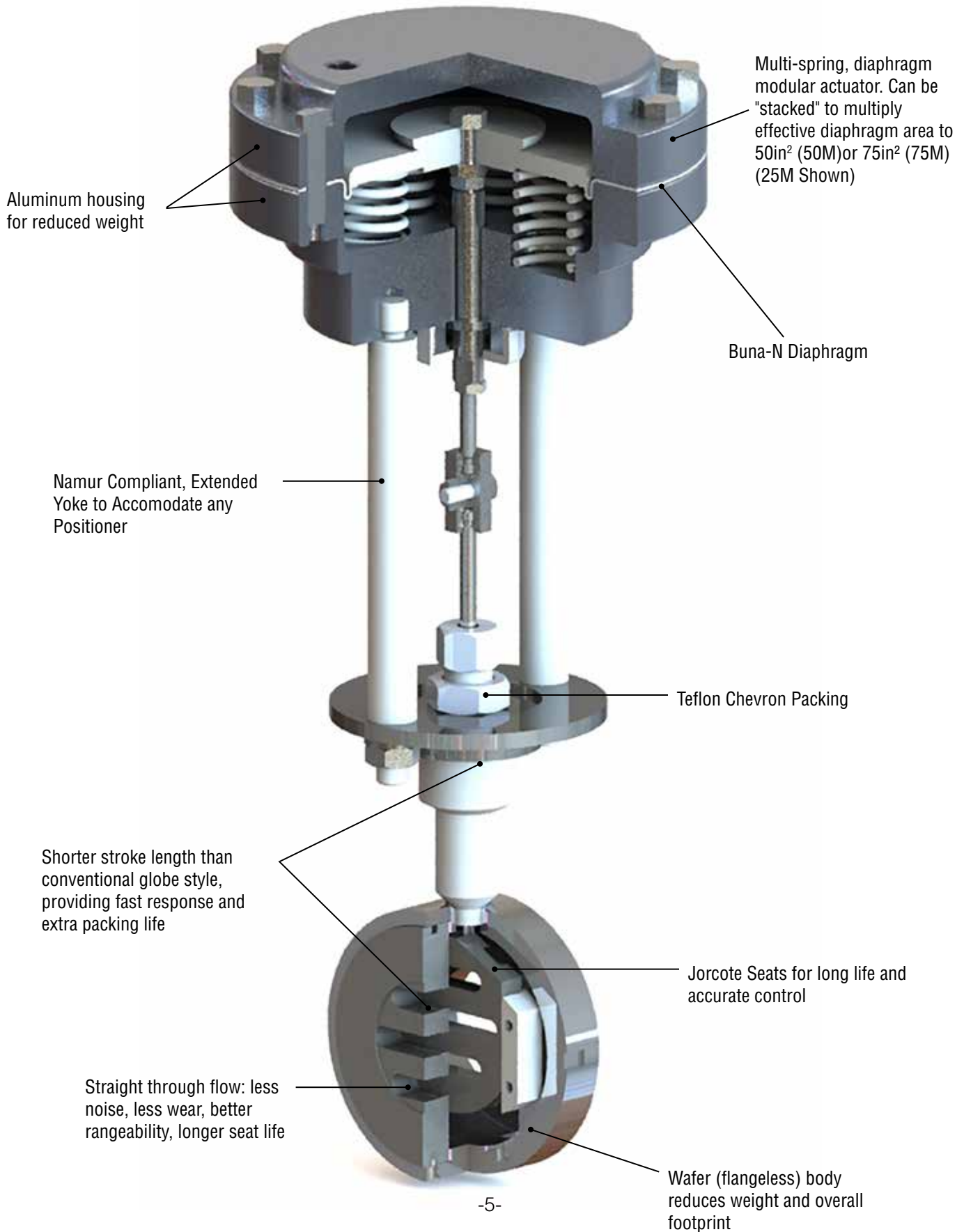
- Seats are not screwed or pressed in body
- Fewer trim components



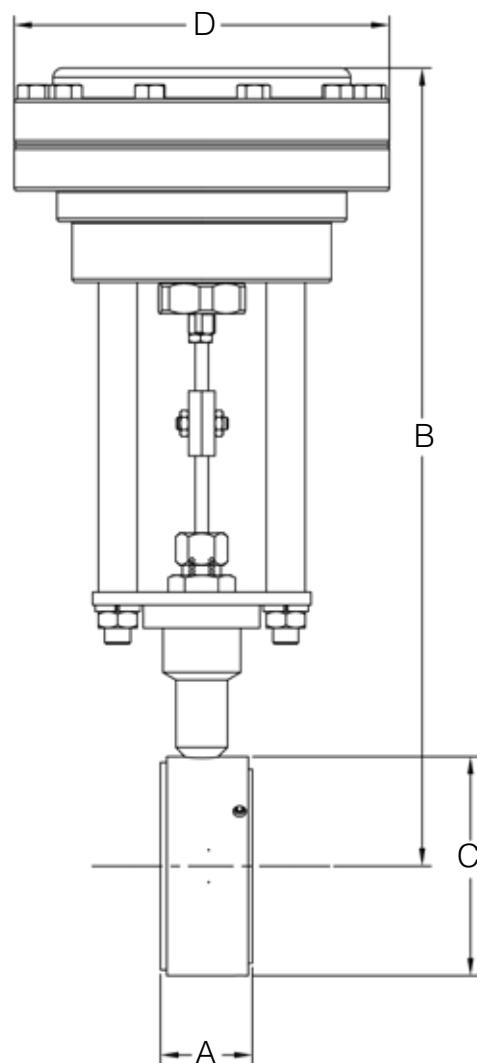
Benefits

- Small and lighter weight
- Envelope dimensions facilitate easy installation
- High flow rates
- Self cleaning, self lapping seats
- Reduced noise compared to conventional globe/cage valves
- More resistant to cavitation / flashing with straight through, wafer design

MK75A ANSI 300# WITH SINGLE ELEMENT 25M ACTUATOR

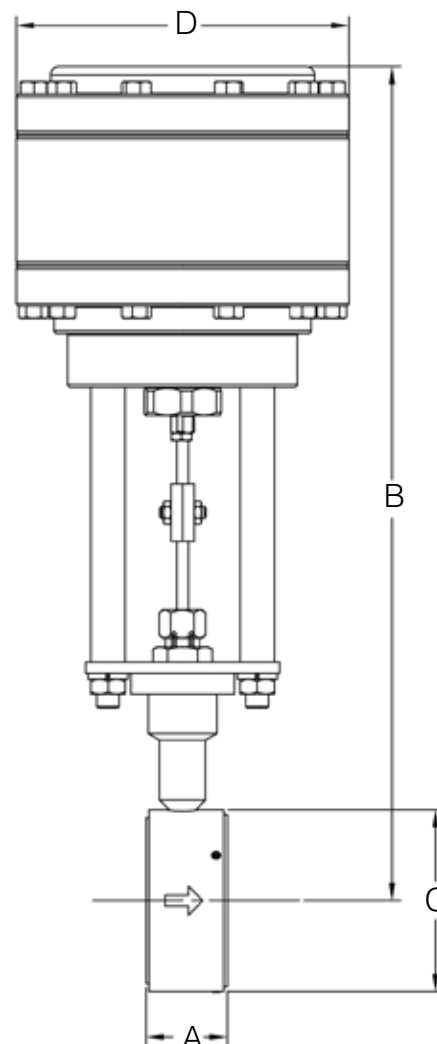


DIMENSIONS – MK75A



MARK 75A WITH 25M ACTUATOR

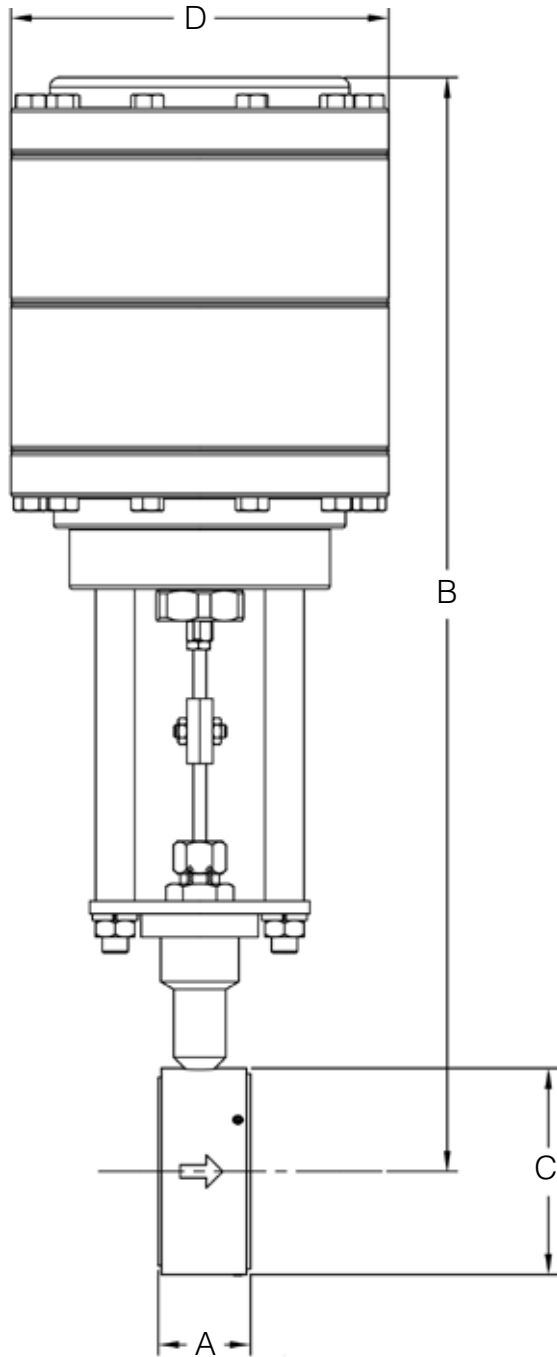
Valve Size	Dimensions in (mm)				Weight lbs (kgs)
	A	B	C	D	
1" DN25	1.24 (31)	14.92 (379)	2.76 (70)	7.25 (184)	10.0 (4.5)
1 1/2" DN40	1.36 (35)	15.05 (382)	3.24 (82)	7.25 (184)	11.0 (5.0)
2" DN50	1.76 (45)	15.32 (389)	3.98 (101)	7.25 (184)	14.3 (6.5)
3" DN80	1.81 (46)	16.95 (431)	5.25 (133)	7.25 (184)	17.9 (8.1)
4" DN100	2.06 (52)	17.63 (448)	6.46 (164)	7.25 (184)	16.5 (7.5)
6" DN150	2.23 (57)	19.68 (500)	8.62 (218)	7.25 (184)	33 (15)



MARK 75A WITH 50M ACTUATOR

Valve Size	Dimensions in (mm)				Weight lbs (kgs)
	A	B	C	D	
1" DN25	1.24 (31)	17.80 (452)	2.76 (70)	7.25 (184)	20.0 (9.1)
1 1/2" DN40	1.36 (35)	17.94 (456)	3.24 (82)	7.25 (184)	21.0 (9.6)
2" DN50	1.76 (45)	18.18 (462)	3.98 (101)	7.25 (184)	24.3 (11.1)
3" DN80	1.81 (46)	19.84 (504)	5.25 (133)	7.25 (184)	27.9 (12.7)
4" DN100	2.06 (52)	20.51 (521)	6.46 (164)	7.25 (184)	26.7 (12.1)
6" DN150	2.23 (57)	22.56 (573)	8.62 (218)	7.25 (184)	44.2 (20.0)

DIMENSIONS, CONTINUED – MK75A



MARK 75A WITH 75M ACTUATOR

Valve Size	Dimensions in (mm)				Weight lbs (kgs)
	A	B	C	D	
1" DN25	1.24 (31)	20.53 (521)	2.76 (70)	7.25 (184)	22.2 (10.1)
1 1/2" DN40	1.36 (35)	20.66 (525)	3.24 (82)	7.25 (184)	23.2 (10.6)
2" DN50	1.76 (45)	20.93 (532)	3.98 (101)	7.25 (184)	26.5 (12.1)
3" DN80	1.81 (46)	22.56 (573)	5.25 (133)	7.25 (184)	30.1 (13.7)
4" DN100	2.06 (52)	23.24 (590)	6.46 (164)	7.25 (184)	28.7 (13.1)
6" DN150	2.23 (57)	25.29 (642)	8.62 (218)	7.25 (184)	45.0 (20.4)

MARK 75A SERIES WAFER STYLE CONTROL VALVES

ORDERING SCHEMATIC MARK 75A

Model No	Size	Body Mat'l	/	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

	Model
75A	Standard
75ASP	Side Mounted Positioner

	Size
100	1" (DN25)
150	1-1/2" (DN40)
200	2" (DN50)
300	3" (DN80)
400	4" (DN100)
600	6" (DN150)

	Body Material
CB	Carbon Steel Bar
SB	Stainless Steel Bar

1 & 2	End Connections
I3	ANSI 300#
ZZ	Non-Standard

3 & 4	Trim
T6	316SS / TEF Packing
ZZ	Non-Standard

5 & 6	Seats	
	Material	Cv
W	316SS / Jorcote	8 9.5
		A 33
		B 38
		E 72
		F 76
		H 103
		I 180
		J 400
ZZ	Non-Standard	

Consult factory for equal percentage requirements.

7 & 8	Range
A1	25M 15-30
A3	25M 30-60
B1	50M 15-30
B3	50M 30-60
C1	75M 15-30
C3	75M 30-60
ZZ	Non-Standard

9 & 10	Diaphragm
E1	BUNA-N 25M
E2	BUNA-N 50M
E3	BUNA-N 75M
ZZ	Non-Standard

11 & 12	Actuator
A1	25M
B1	50M
C1	75M
ZZ	Non-Standard

13 & 14	Accessory 1
00	None
ZZ	Non-Standard

15	Action
0D	Air-To-Close
0R	Air-To-Open

16	Accessory 2
00	None
Z	Non-Standard

17	PED Compliance
0	Not Required
F	CE Category 1
Z	Non-Standard

18	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 DIR/REV
H	MK16IQ-B DIR/REV
J	MK16IQ-FF DIR/REV
Z	Non-Standard



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