

# Mark ED & ET Series

## Globe Style Control Valves (1" - 6")

The Mark E Series is a single port, globe-style body with composition or metal seats and a balanced push-down-to-close valve action plug.

There are two styles of valve available, providing excellent pressure and flow control on steam, gasses and various liquid applications:

**The Mark ED Series** is intended for general control applications over a wide variety of temperatures and pressure drops. This design has an upper piston ring seal and metal-to-metal seating.

**The Mark ET Series** is intended for applications requiring low leakage rates with composition seating (TFE) for tight shutoff requirements or metal-to-metal seating for higher temperature capabilities. The valve plug has a two-piece upper seal.

### FEATURES

- Top entry cage design allows easy, in-line maintenance
- Balanced Plug allows the use of smaller actuators
- Characterized flow options including equal percentage, linear, and quick opening
- Available in a variety of body and trim materials make the Mark E Series suitable for a variety of applications including liquids, gasses or steam
- Cage guiding allows the Mark E to handle high pressure drops while providing greater plug stability
- Sour Service Capability: Optional NACE MRO175/ISO 15156-2009
- Tight shutoff



Mark ED/ET Series Valve

## SPECIFICATIONS

**Sizes:** 1" - 6"

**End Connections:**

- ANSI Flanges- Class 150, 300 and 600
- Raised Face, or Ring Type Joint flanges as per ASME B16.34-latest edition

**Body Materials:**

- LCC
- WCB
- WCC
- WC9
- C5
- Monel
- CF8M SST
- Additional materials may be available upon request

**Trim Materials:**

- 316SST (standard)
- 416SST
- 17-4PH
- Alloy6-Co.Cr-A
- Cobalt
- 316SST/Tungsten Carbide

**Seats:**

- Metal
- PTFE

**Shutoff:**

- Mark ET: ANSI Class IV & V
- Mark ED: ANSI Class II & III

**Maximum Inlet Pressures and Temperatures:** The Maximum Inlet Pressure and Temperature is consistent with ASME Class per ASME 16.34

**Maximum Pressure Drops:** All Valves are Capable of Full Rated Pressure Drops

**Flow Characteristics:**

- Quick opening
- Linear
- Equal percentage

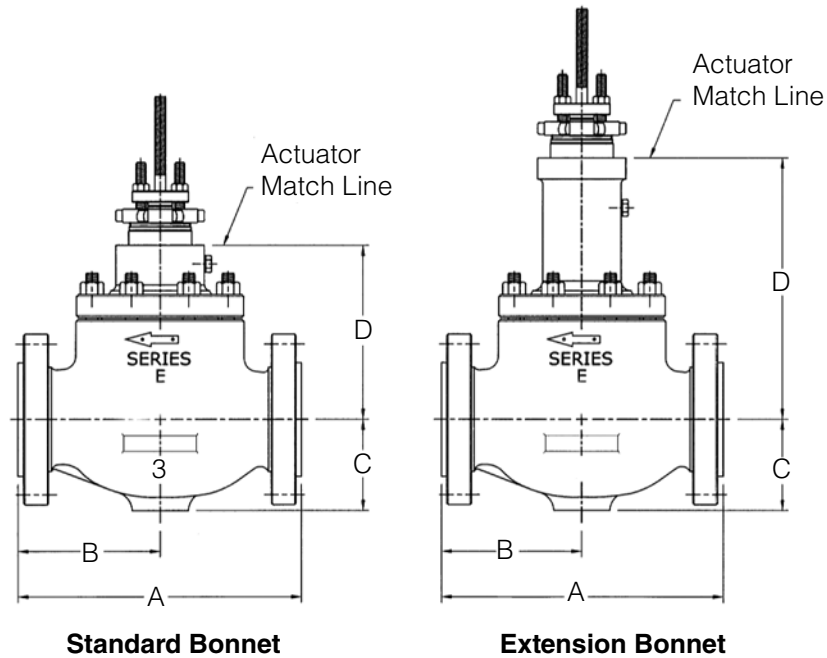
**Trim Options:**

- Noise abatement
- Anti-cavitation

**Flow Direction:** Flow Down

**Valve Travel Indication:** Valves are supplied with Visual Travel Indicator

MARK ED/ET SERIES DIMENSIONAL DATA



Steel Bodies through 600lb Rating

Valve Size		Dimension A <sup>1</sup>											
		150 RF		150 RTJ		300 RF		300 RTJ		600 RF		600 RTJ	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1	25,4	7.25	184.2	7.75	169.9	7.75	169.9	8.25	209.6	8.25	209.6	8.25	209.6
1-1/2	38,1	8.75	222.3	9.25	235.0	9.25	235.0	9.75	247.7	9.88	251.0	9.88	251.0
2	50,8	10.00	254.0	10.50	266.7	10.50	266.7	11.13	282.7	11.25	285.8	11.38	289.1
2-1/2	63,5	10.88	276.4	11.38	289.1	11.50	292.1	12.13	308.1	12.25	311.2	12.38	314.5
3	76,2	11.75	298.5	12.25	311.2	12.5	317.5	13.13	333.5	13.25	333.6	13.38	339.9
4	101,6	13.88	352.6	14.38	365.3	14.51	368.3	15.13	384.3	15.50	393.7	15.63	397.0
6	152,4	17.75	450.9	18.25	463.6	18.63	473.2	19.25	489.0	20.00	508.0	20.13	511.3

<sup>1</sup> Dimension B = Dim. A divided by 2; RF=Raised Face; RTJ=Ring Type Joint; Flange Spec. ASME/ANSI B16.5 - 1996

Valve Size		Dimension C											
		150 RF		150 RTJ		300 RF		300 RTJ		600 RF		600 RTJ	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1	25.4	2.13	54.1	2.13	54.1	2.13	54.1	2.13	54.1	2.13	54.1	2.13	54.1
1-1/2	38.1	2.44	61.9	2.44	61.9	2.44	61.9	2.44	61.9	2.44	61.9	2.44	61.9
2	50.8	2.88	73.2	2.88	73.2	2.88	73.2	2.88	73.2	2.88	73.2	2.88	73.2
2-1/2	63.5	3.44	87.4	3.44	87.4	3.44	87.4	3.44	87.4	3.44	87.4	3.44	87.4
3	76.2	3.56	90.4	3.56	90.4	3.56	90.4	3.56	90.4	3.56	90.4	3.56	90.4
4	101.6	4.69	119.1	4.69	119.1	4.81	119.1	4.81	119.1	4.94	125.5	4.94	125.5
6	152.4	5.19	131.8	5.31	134.9	5.31	134.9	5.50	139.7	5.50	139.7	5.50	139.7

## MARK ED AND ET SERIES 1"-6" GLOBE STYLE CONTROL VALVE

## Steel Bodies through 600lb Rating Cont.,

Valve Size		Dimension D											
		Standard Bonnet						Extension Bonnet					
		Stem Size						Stem Size					
in	mm	3/8	9.5	1/2	12.7	3.4	19.1	3/8	9.5	1/2	12.7	3.4	19.1
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1	25.4	5	127.0	5.88	150	---	---	8.38	212.8	9.88	251.0	---	---
1-1/2	38.1	4.88	123.8	5.75	146.1	---	---	8.25	209.6	9.75	247.7	---	---
2	50.8	---	---	6.50	165.1	6.38	162.1	---	---	10.50	266.7	10.50	266.7
2-1/2	63.5	---	---	7.38	187.5	7.25	184.2	---	---	10.50	266.7	10.50	266.7
3	76.2	---	---	7.50	190.5	7.38	187.5	---	---	11.50	292.1	11.69	296.9
4	101.6	---	---	8.69	221.0	8.56	217.4	---	---	12.69	322.3	12.88	327.2
6	152.4	---	---	---	---	9.88	251.0	---	---	---	---	14.06	357.1

RF=Raised Face RTJ=Ring Type Joint; Flange Specification ASME/ANSIB16.5 - 1996

## Approximate Weights- Without Actuator

Valve Size, Inches	Weight	
	Lbs	Kg
1, 1-1/4	30	14
1-1/2	45	20
2	68	31
2-1/2	100	45
3	125	57
4	170	78
6	350	160

## Interpolation Table: Equal Percentage Cv Coefficients for Mark ED and ET 1-6 Inch Valves

Percent Travel	Standard Full Size Trim						
	1&1.25"	1.5"	2"	2.5"	3"	4"	6"
	km=0.77	km=0.70	km=0.72	km=0.71	km=0.68	km=0.68	km=0.73
10	0.8	1.5	1.7	3.4	4.3	5.9	12.9
20	1.5	2.6	2.9	7.1	7.5	11.6	25.8
30	2.2	3.9	4.7	10.8	10.9	18.3	43.3
40	2.9	5.4	7.0	15.1	17.1	30.2	67.4
50	4.2	7.5	10.8	22.4	27.2	49.7	104.0
60	5.8	11.2	16.5	33.7	43.5	79.7	162.0
70	7.8	17.4	25.4	49.2	66.0	125.0	239.0
80	10.9	24.5	37.3	71.1	97.0	171.0	316.0
90	14.1	30.8	50.7	89.5	120.0	205.0	368.0
100	17.2	35.8	59.7	99.4	136.0	224.0	394.0



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