

### APPLICATIONS:

Liquid metering vessels where up to 250 psig adjustable back pressure is desired.

Burner valve for throttling or snap action service.

Any system that requires a double acting motor valve but also requires an adjustable maximum back pressure.

### FEATURES:

All internal parts can be removed with valve in line

Ratio of diaphragm to seat area is 2:1

Controls approximately 2 times signal pressure

Spring adjustment:

5 to 40 psig on 1"

5 to 175 psig on 2" standard

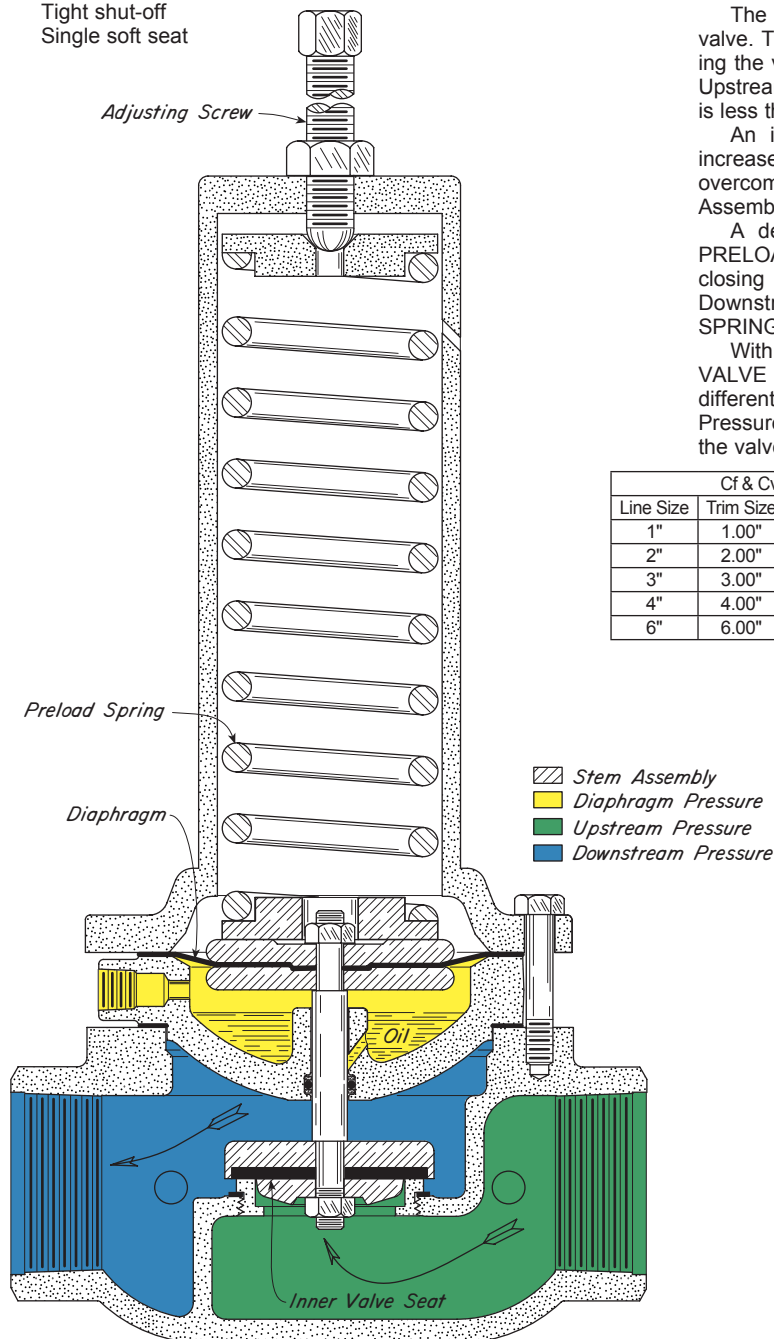
5 to 250 psig optional on 2" ductile and steel

Minimum maintenance

Removable valve seat

Tight shut-off

Single soft seat



### CERTIFICATIONS:

Canadian Registration Number (CRN):

0C15737.24567890NTY (Ductile)

0C15620.24567890NTY (Steel)

### CAPACITY:

For liquid capacity refer to table of contents.

For gas capacity refer to catalog section "A."

### CONSTRUCTION:

Body and housings are available in cast iron, ductile iron or steel. Valve stem is 303 stainless steel. Spring is stainless steel. Diaphragm and seating materials are oil resistant synthetic rubber or polyurethane. After assembly each valve is given a complete operational test.

### OPERATION:

The Stem Assembly is the only moving unit in the motor valve. The PRELOAD SPRING loads the Stem Assembly closing the valve if there is no Diaphragm Pressure (Yellow) and if Upstream Pressure (Green) minus downstream Pressure (Blue) is less than the PRELOAD SPRING force.

An increase in Diaphragm Pressure (Yellow) and/or an increase in differential pressure across the INNER VALVE SEAT overcomes the PRELOAD SPRING force, moves the Stem Assembly upward, opening the valve.

A decrease in Diaphragm Pressure (Yellow) allows the PRELOAD SPRING to move the Stem Assembly downward closing the valve when Upstream Pressure (Green) minus Downstream Pressure (Blue) is less than the PRELOAD SPRING setting.

With an effective DIAPHRAGM area two times the INNER VALVE SEAT area, and an adjustable PRELOAD SPRING, a differential pressure ranging up to 250 psig and/or a Diaphragm Pressure (Yellow) ranging from 3 to 125 psig or greater will open the valve depending on the PRELOAD SPRING setting.

Cf & Cv VALUES			
Line Size	Trim Size	Cf	Cv
1"	1.00"	0.74	13.2
2"	2.00"	0.84	47.0
3"	3.00"	0.75	117.0
4"	4.00"	0.75	210.0
6"	6.00"	0.75	480.0

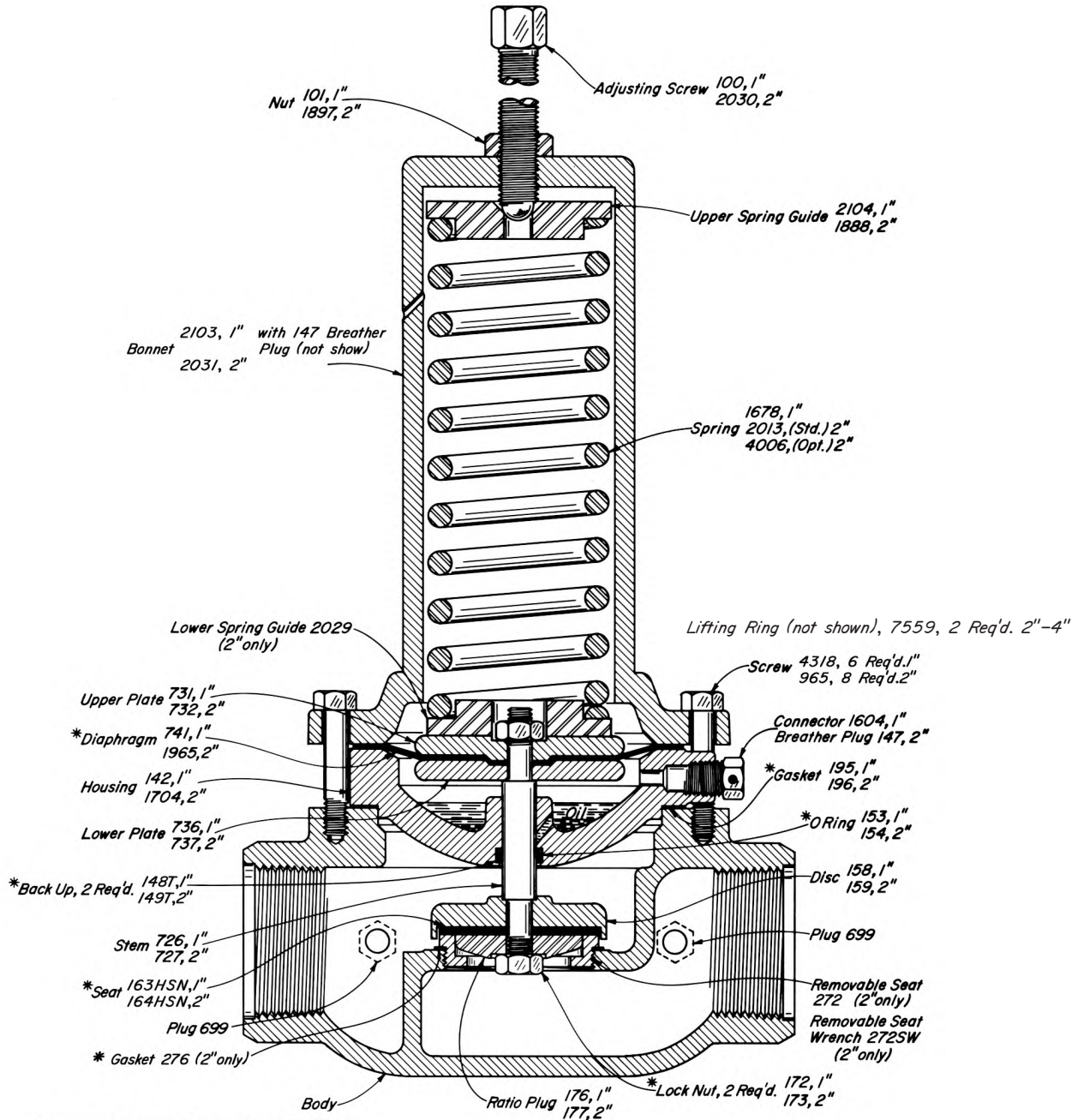


Kimray is an ISO 9001- certified manufacturer.

# LOW PRESSURE MOTOR VALVES



## MT ADA ADJUSTABLE DOUBLE ACTING DUCTILE IRON



Line Size	Screwed	Flanged	Grooved
1"	2033	—	—
2"	1709	1913	2964

### THRU VALVES AVAILABLE:

CAT. NO.	SIZE	TYPE	MOTOR VALVES	MAX. W.P.	MAX. DIFF. PRESS.	KIT
ABC3	1"	SCRD.	130 SMT ADA-D	300	40	RNQ
ATC3	2"	SCRD.	230 SMT ADA-D	300	175	RGT
ATD3	2"	FLGD.	218 FMT ADA-D	250	175	RGT
ATE3	2"	GRVD.	230 GMT ADA-D	300	175	RGT

Optional Heavy Spring 4006 raises Max. Diff. to 250 psig.

### NOTES:

\*These are recommended spare parts and are stocked as repair kits.

NOTE: The numbers of a series assigned to a part indicated different line sizes. For example: Diaphragm 741-1", 742-2"

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CAPACITY - Bbls. Water/Day

SINGLE ACTING MOTOR VALVES					
PRESSURE DROP ACROSS VALVE PSIG.	VALVE SIZE-INCHES				
	1	2	3	4	6
1	105	745	1,760	3,350	7,800
2	150	1,060	2,500	4,900	11,000
3	180	1,300	3,050	6,100	13,500
4	210	1,500	3,500	7,000	15,600
5	235	1,700	3,900	7,800	17,500
10	330	2,300	5,600	11,000	24,700
15	405	2,900	6,800	13,500	30,200
20	465	3,300	7,900	15,600	34,900
30	575	4,100	9,600	19,200	42,700
40	660	4,700	11,100	22,100	49,300
50	740	5,300	12,400	24,800	55,200
60	810	5,800	13,600	27,100	60,500
70	875	6,200	14,700	29,300	65,400
80	935	6,700	15,700	31,300	69,800
100	1,045	7,500	17,600	33,500	78,200
125	1,170	8,400	19,700	38,200	87,500

WITH REDUCED INNER VALVES					
PRESSURE DROP ACROSS VALVE PSIG.	VALVE SIZE-INCHES				
	1	2	3	4	6
1	26	290	515	835	1,950
2	37	410	735	1,225	2,750
3	45	510	895	1,525	3,370
4	52	590	1,025	1,750	3,900
5	59	660	1,140	1,950	4,375
10	82	900	1,640	2,750	6,175
15	101	1,130	2,000	3,370	7,550
20	116	1,290	2,320	3,900	8,725
30	145	1,600	2,820	4,800	10,675
40	165	1,840	3,260	5,500	12,300
50	185	2,070	3,640	6,200	13,800
60	200	2,260	4,000	6,750	15,100
70	220	2,420	4,300	7,300	16,350
80	230	2,620	4,600	7,800	17,450
100	260	2,940	5,150	8,350	19,500
125	290	3,280	5,750	9,800	21,900

For gravity correction, multiply the above figures by  $\sqrt{\frac{1}{G}}$   
 Where "G" is the specific gravity of the flowing liquid.

**CAPACITY - Blds. Water/Day, Steady Row**

**DOUBLE ACTING MOTOR VALVES**

PRESSURE DROP ACROSS VALVE PSIG.	VALVE SIZE-INCHES				
	1	2	3	4	6
1	405	1,520	3,150	5,830	13,150
2	573	2,150	4,460	8,250	18,600
3	702	2,630	5,450	10,700	22,800
4	810	3,040	6,300	11,700	26,300
5	905	3,400	7,030	13,100	29,400
10	1,280	4,800	9,980	18,500	41,700
15	1,570	5,880	12,200	22,600	50,900
20	1,810	6,800	14,100	26,100	58,800
30	2,220	8,320	17,300	31,900	72,000
40	2,560	9,600	19,900	36,900	83,100
50	2,860	10,750	22,300	41,300	93,000
60	3,130	11,780	24,400	45,200	102,000
70	3,380	12,700	26,400	48,800	110,000
80	3,620	13,600	28,200	52,100	117,500
100	4,050	15,200	31,500	58,300	131,500
125	4,520	16,900	35,200	65,100	147,000

**WITH REDUCED INNER VALVES**

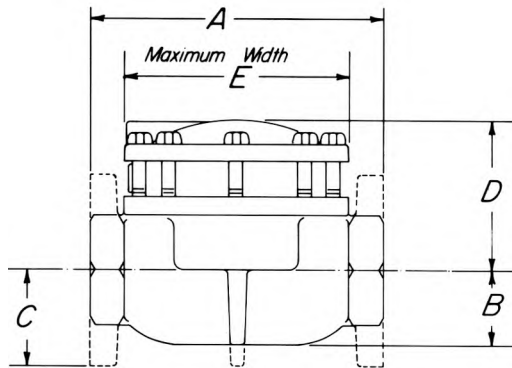
PRESSURE DROP ACROSS VALVE PSIG.	VALVE SIZE-INCHES				
	1	2	3	4	6
1	101	740	1,080	1,650	3,740
2	143	1,040	1,525	2,340	5,330
3	175	1,280	1,860	2,860	6,530
4	200	1,475	2,150	3,300	7,550
5	225	1,650	2,400	3,700	8,400
10	320	2,330	3,400	5,250	11,950
15	390	2,875	4,150	6,400	14,600
20	450	3,300	4,800	7,400	16,850
30	555	4,050	5,900	9,050	20,600
40	640	4,650	6,800	10,500	23,800
50	710	5,200	7,600	11,700	26,600
60	780	5,700	8,350	12,800	29,200
70	845	6,150	9,000	13,800	31,500
80	905	6,600	9,650	14,800	33,600
100	1,010	7,375	10,800	16,500	37,400
125	1,105	8,200	12,000	18,450	42,000

**ADJUSTABLE DOUBLE ACTING WITH REDUCED INNER VALVES**

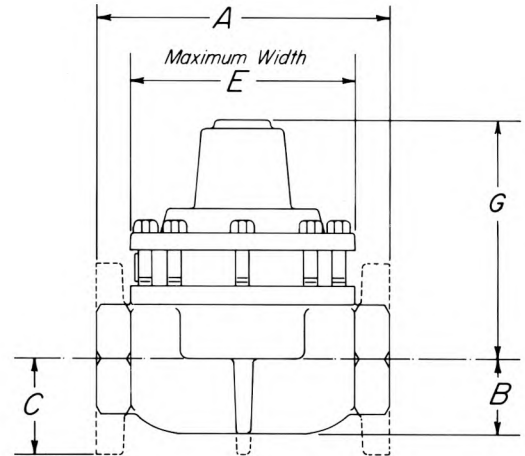
PRESSURE DROP ACROSS VALVE PSIG.	ADAB
1	101
2	143
3	175
4	200
5	225
10	320
15	390
20	450
30	555
40	640
50	710
60	780
70	845
80	905
100	1,010
125	1,105

For gravity correction, multiply the above figures by  $\sqrt{\frac{1}{G}}$   
 Where "G" is the specific gravity of the flowing liquid.

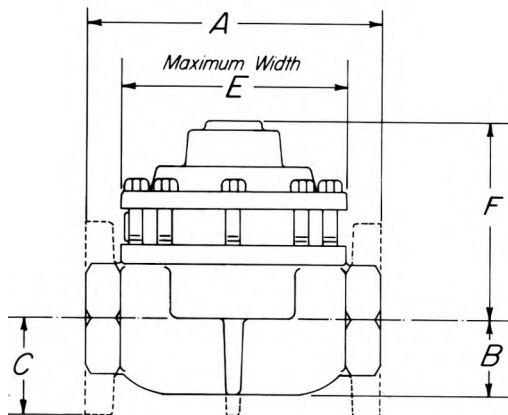
MT (SINGLE ACTING MOTOR VALVE)  
MT-5 (WITH REDUCED INNER VALVES)



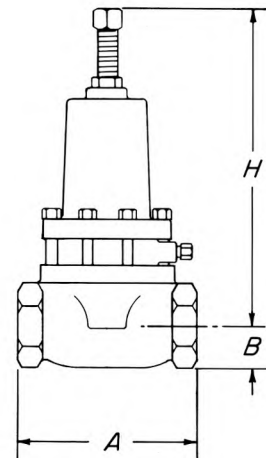
MT-2DA, MT-4DA (DOUBLE ACTING MOTOR VALVE)  
MT-2DA5, MT-4DA5 (WITH REDUCED INNER VALVES)



MT-DA (DOUBLE ACTING MOTOR VALVE)  
MT-DA5 (WITH REDUCED INNER VALVES)



MT-ADA, MT ADAB (ADJUSTABLE DOUBLE ACTING)  
MT BP, MT BP5 (SPRING LOADED BACK PRESSURE)



LINE SIZE	BODY STYLE	A	B	C	D	E	F	G	H
1"	SCRD	4 3/8	1 1/8		2 3/4	3 3/8	3 3/8	3 3/8	8
2"	SCRD	8 1/2	2 1/8		4 3/8	5 7/8	6 7/8	6 7/8	18 1/2
	FLGD	9		3	4 3/8	5 7/8	6 7/8	6 7/8	18 1/2
	GRVD	8 3/4	2 1/8		4 3/8	5 7/8	6 7/8	6 7/8	18 1/2
3"	SCRD	12	3 1/16		5 7/8	8	8	8	20
	FLGD	12 3/16		3 3/4	5 7/8	8	8	8	20
4"	SCRD	15	4		7 1/2	9 3/4	9 1/2	9 1/2	
	FLGD	15 1/8		4 1/2	7 1/2	9 3/4	9 1/2	9 1/2	
6"	FLGD	22 1/8		5 1/2	11	16	15 1/4		

FLANGE DIMENSIONS ARE ASA 150 LB. STANDARD.