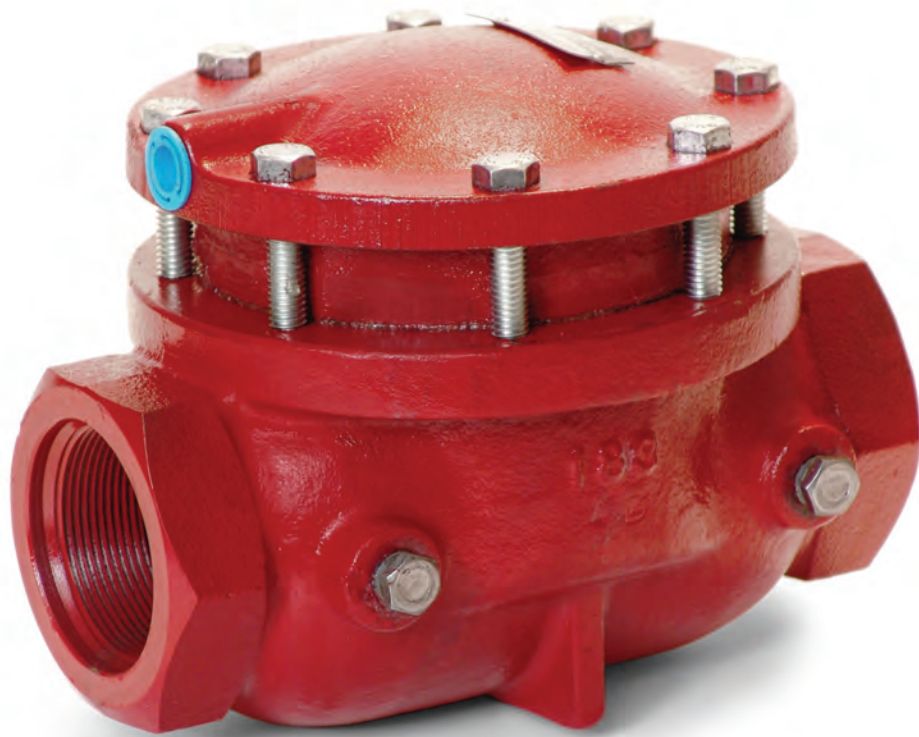


## LOW PRESSURE MOTOR VALVES



**KIMRAY**  
INC.®

NOTE: We reserve the right to modify or change, without prior notice, any statement or information contained herein. If exact dimensions or specifications are required by the customer certified prints will be furnished for a minimum charge upon request to KIMRAY, Inc.  
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#### LOW PRESSURE MOTOR VALVES

Kimray low pressure motor valves are diaphragm operated valves designed to control flow in liquid or gas systems up to 500 psig working pressure from a 30 to 40 psig pneumatic actuating signal. These motor valves can be used for oil and water dump valves on low pressure separators, emulsion treaters and other similar liquid accumulators or metering vessels and as burner valves for throttling or snap action service.

#### SINGLE ACTING

Oil and water dump valve for separators, emulsion treaters and other similar liquid accumulators at pressures up to 500 psig.

MT ..... 10.1  
Controls 2 times signal pressure.

#### SINGLE ACTING WITH REDUCED INNER VALVE

Oil and gas separators and liquid meters where a 30 psig maximum pilot supply is available to actuate valves operating at pressures up to 300 psig.

MT 5 ..... 30.1  
Controls 5 times signal pressure.

#### DOUBLE ACTING

Liquid metering vessels where from 5 to 25 psig back pressure is desired and a signal on either or both sides of the main diaphragm actuates valve operating at pressures up to 300 psig. Controls 2 times the signal pressure.

MT DA ..... 20.1  
Spring loaded for 5 to 6 psig back pressure.

MT 2DA ..... 50.1  
Spring loaded for 10 to 12 psig back pressure.

MT 4DA ..... 70.1  
Spring loaded for 22 to 25 psig back pressure.

#### DOUBLE ACTING WITH REDUCED INNER VALVE

Liquid metering vessels where from 12 to 50 psig back pressure is desired and a signal on either or both sides of the main diaphragm actuates valve operating at pressures up to 300 psig. Controls 5 times the signal pressure

MT DA5 ..... 40.1  
Spring loaded for 12 to 15 psig back pressure.

MT 2DA5 ..... 60.1  
Spring loaded for 24 to 30 psig back pressure.

MT 4DA5 ..... 80.1  
Spring loaded for 44 to 50 psig back pressure.

#### ADJUSTABLE DOUBLE ACTING

Burner valve for throttling on snap action service. Liquid dump valve on low pressure vessels such as gas/glycol separators. Any system that requires a double acting motor valve but is also required to be able to adjust the maximum spring loaded back pressure the valve will hold. Up to 300 psig.

MT ADA ..... 90.1  
1" ADA adjusts from 0 to 40 psig back pressure.  
2" ADA adjusts from 0 to 175 or 0 to 250 psig back pressure.

#### ADJUSTABLE DOUBLE ACTING WITH REDUCED INNER VALVE

As a burner valve for throttling on snap action service. As a liquid dump valve on low pressure vessels such as gas/glycol separators. Any system that requires a double acting motor valve but is also required to be able to adjust the maximum spring loaded back pressure the valve will hold..

MT ADA B ..... 100.1  
1" ADAB adjusts from 0 to 80 psig back pressure.

#### SPRING LOADED BACK PRESSURE

Non-bleed, spring loaded back pressure valve for heater treaters and water knockouts.

MT BP ..... 110.1  
Maintains 0 to 50 or 0 to 85 psig back pressure.

MT BP5 with reduced inner valve ..... 115.1  
Maintains 0 to 65 or 0 to 125 psig back pressure.

#### CAPACITY CHARTS

LIQUID CAPACITY ..... 120.1

#### DIMENSIONS

VALVE DIMENSIONS ..... 120.3

#### OTHER APPLICATIONS

DOUBLE ACTING MV w/MICRO SWITCH . Bulletin No. E285212  
250 FMT w/2" -65 TOPWORKS ..... Bulletin No. E291163  
SINGLE ACTING MV THROTTLE SERV..... Bulletin No. E291164

## ELASTOMERS

### AFLAS® is a trade mark of Asahi Glass Co

#### TEMPERATURE:

+30° to +500° F  
0° to +260° C

#### APPLICATION:

Crude Oil & Gas Production (High heat), Steam Flood Production Chemicals (corrosion inhibitors) Amine Sweetener Systems, Gasoline, Diesel, Fuel Oil Systems

#### FLUID / GAS:

Crude Oil & Gas Production, H<sub>2</sub>S, Steam, Petroleum fluids, Sea Water

### HSN (HNBR)

#### TEMPERATURE:

-15° to +300° F  
-26° to +149° C

#### APPLICATION:

Crude Oil & Gas Production w/ H<sub>2</sub>S, Wet CO<sub>2</sub>

#### FLUID / GAS:

Crude Oil & Gas, H<sub>2</sub>S, Wet CO<sub>2</sub>, Sea Water

### NITRILE

#### TEMPERATURE:

Buna-N:  
-40° to +220° F  
-40° to +105° C  
Low-Temp:  
-85° to +120° F  
-65° to +49° C

#### APPLICATION:

Crude Oil & Gas Production Glycol Dehydrators, Gasoline, Jet Fuel & Diesel Fuel Pumping, Water Disposal, Methanol Injection Pumps, Water pump seals, hydraulic pump seals

#### FLUID / GAS:

Crude Oil & Gas, Good to Poor in Sour Production (See HSN), Water, Glycols, Hydraulic Oils, Resistance to crude oil in the presence of H<sub>2</sub>S and amines, Diesel fuel, fuel oils

#### DO NOT USE WITH:

Aromatic hydrocarbons, chlorinated hydrocarbons, phosphate esters (hydraulic fluids)

### TEFLON (T)

#### TEMPERATURE:

-40° to +400° F  
-20° to +204° C

#### APPLICATION:

Chemically Inert Elastomer Best in static Do not use at low temps

#### FLUID / GAS:

Almost All Chemicals

### VITON® is a trade mark of Dupont

#### TEMPERATURE:

-10° to +350° F  
-23° to +177° C

#### APPLICATION:

Crude Oil & Gas Production, Glycol Dehydrators, Gasoline, Jet Fuel & Diesel Fuel Pumping, Water Disposal, Methanol Injection Pumps. (Also Vacuum Service) (Gas permeability is very low)

#### FLUID / GAS:

Crude Oil & Gas, H<sub>2</sub>S, Propane, Gasoline, Diesel, Fuel Oil Systems

#### DO NOT USE WITH:

Hot Water, Not preferred for wet CO<sub>2</sub>, Methyl Alcohol, Amines, Sodium hydroxide solutions

### POLYURETHANE (P)

#### TEMPERATURE:

-40° to +220° F  
-40° to +104° C

#### APPLICATION:

High abrasion resistance Seats, Diaphragms

#### FLUID / GAS:

Crude Oil gas and Water, H<sub>2</sub>S, propane, butane, fuel, mineral oil and grease

#### APPLICATIONS:

Pilot operated oil or water dump valve for separators, emulsion treaters and other similar liquid accumulators.

Any system requiring a valve to close when it receives a pneumatic signal.

These valves are available, at extra cost, with a spring under the diaphragm plate that will hold the valve full open whenever pressure on top of the diaphragm is released. This assembly is for applications where small differential pressures exist and capacities required are greater than those shown on the MT capacity chart, this section. To order this assembly, specify Valve Number and add "with spring under diaphragm." For capacities of valves so equipped, refer to MT-DA capacity chart, this section.

#### FEATURES:

- Tight shut-off
- Single soft seat
- Full line size opening
- Removable valve seat
- Minimum maintenance
- All internal parts can be removed with valve in line
- Ratio of diaphragm to seat area is 2:1
- Controls approximately 2 times the pilot signal pressure

#### CERTIFICATIONS:

- Canadian Registration Number (CRN):
- 0C15737.24567890NTY (Ductile)
- 0C15620.24567890NTY (Steel)

#### CAPACITY:

- For liquid capacity chart refer to table of contents.
- For gas capacity chart refer to Catalog Section "A."

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

#### 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:

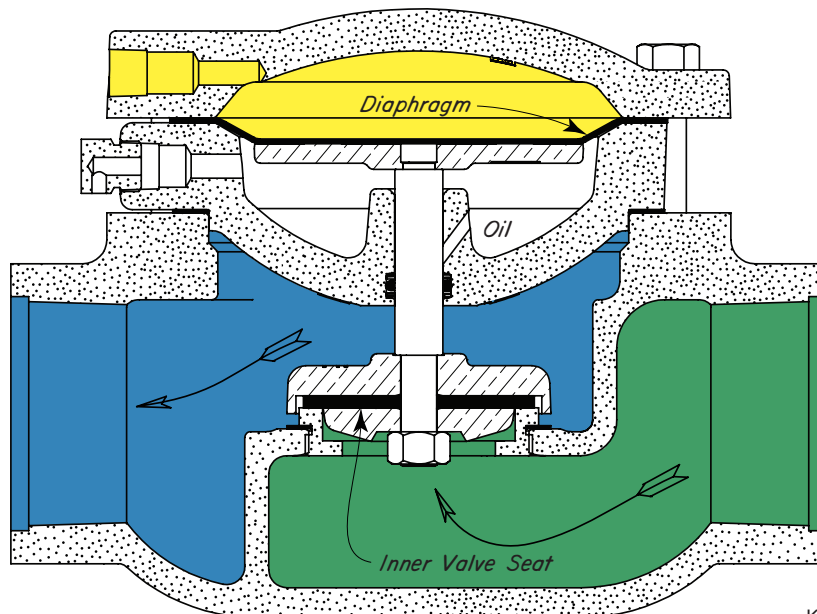
The Stem Assembly is the only moving unit in the motor valve. With the valve open, Diaphragm Pressure (Yellow) from a pilot or control, loads the upper side of the DIAPHRAGM and is opposed by the Upstream Pressure (Green) under the INNER VALVE SEAT.

As Diaphragm Pressure (Yellow) increases the Stem Assembly is forced downward closing the motor valve.

As Diaphragm Pressure (Yellow) is reduced, Upstream Pressure (Green) forces the Stem Assembly upward opening the valve.

With an effective DIAPHRAGM area two times the INNER VALVE SEAT area, Diaphragm Pressure (Yellow) must be 60% or more of the Upstream Pressure (Green) in order to achieve a tight shut-off.

-  Stem Assembly
-  Diaphragm Pressure
-  Upstream Pressure
-  Downstream Pressure



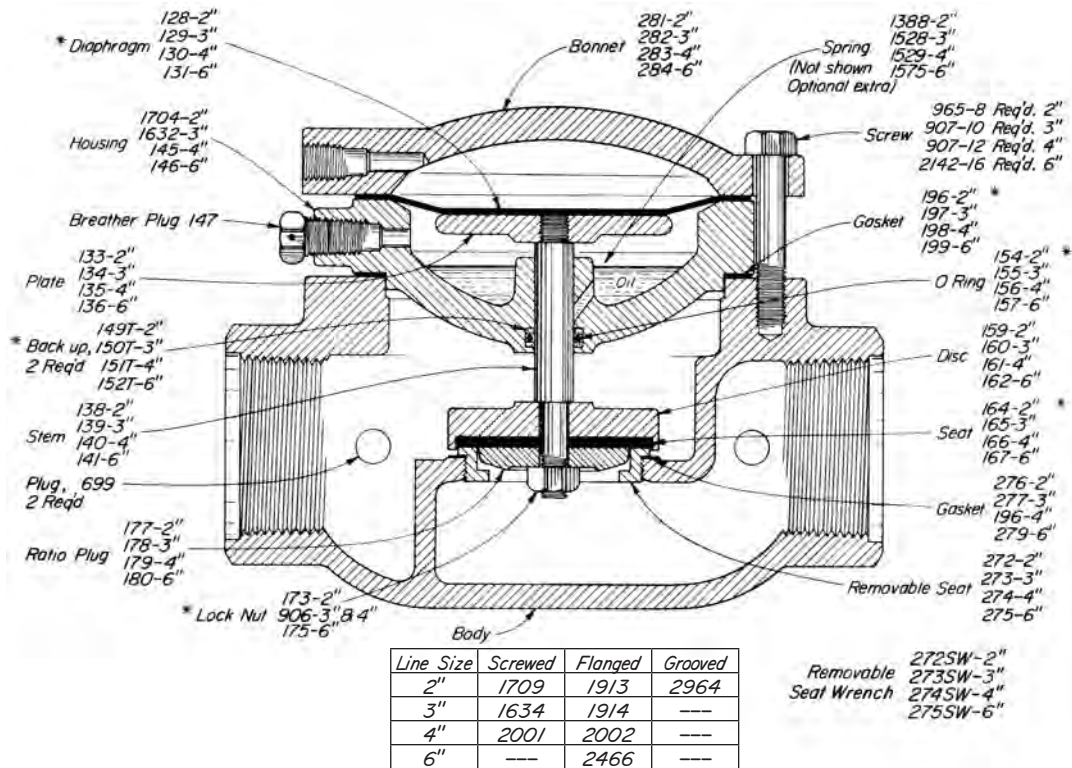
Kimray is an ISO 9001- certified manufacturer.

# LOW PRESSURE MOTOR VALVES

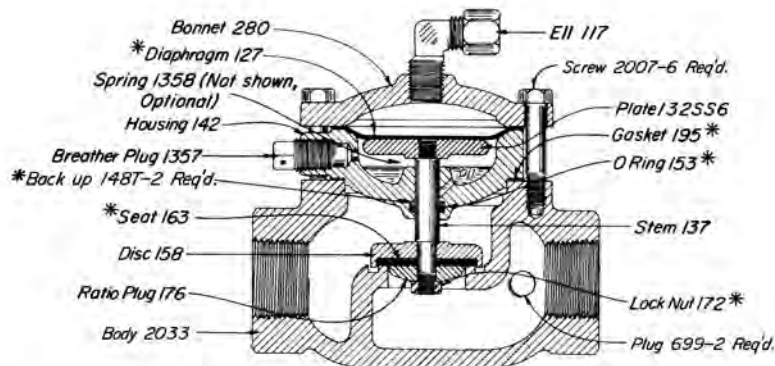
SINGLE ACTING  
DUCTILE IRON

# KIMRAY<sup>®</sup>

2", 3", 4" & 6"



1"



## THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	MAX. W.P.	KIT
EMB	1" SCRD.	112 SMT	175	RCM
EMC	2" SCRD.	212 SMT	175	RCN
EMD	2" FLGD. <sup>a</sup>	212 FMT	175	RCN
EME	2" GRVD.	212 GMT	175	RCN
EMF	3" SCRD.	312 SMT	175	RCP
EMG	3" FLGD. <sup>a</sup>	312 FMT	175	RCP
EMH	4" SCRD.	412 SMT	175	RCR
EMI	4" FLGD. <sup>a</sup>	412 FMT	175	RCR
EMJ	6" FLGD. <sup>a</sup>	612 FMT	175	RCS

## NOTES:

For dimensions refer to Table of Contents.

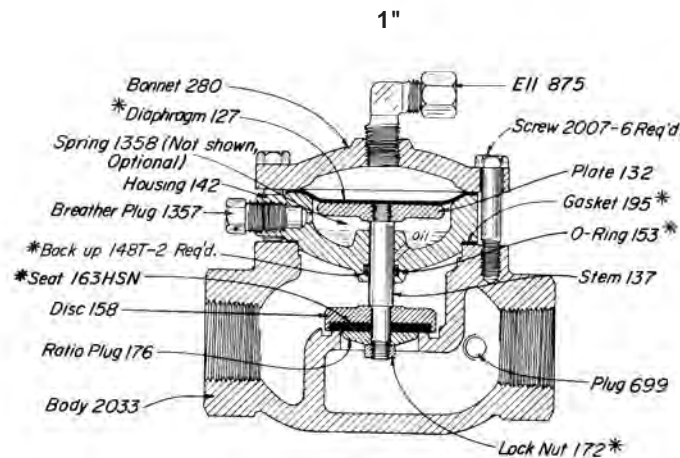
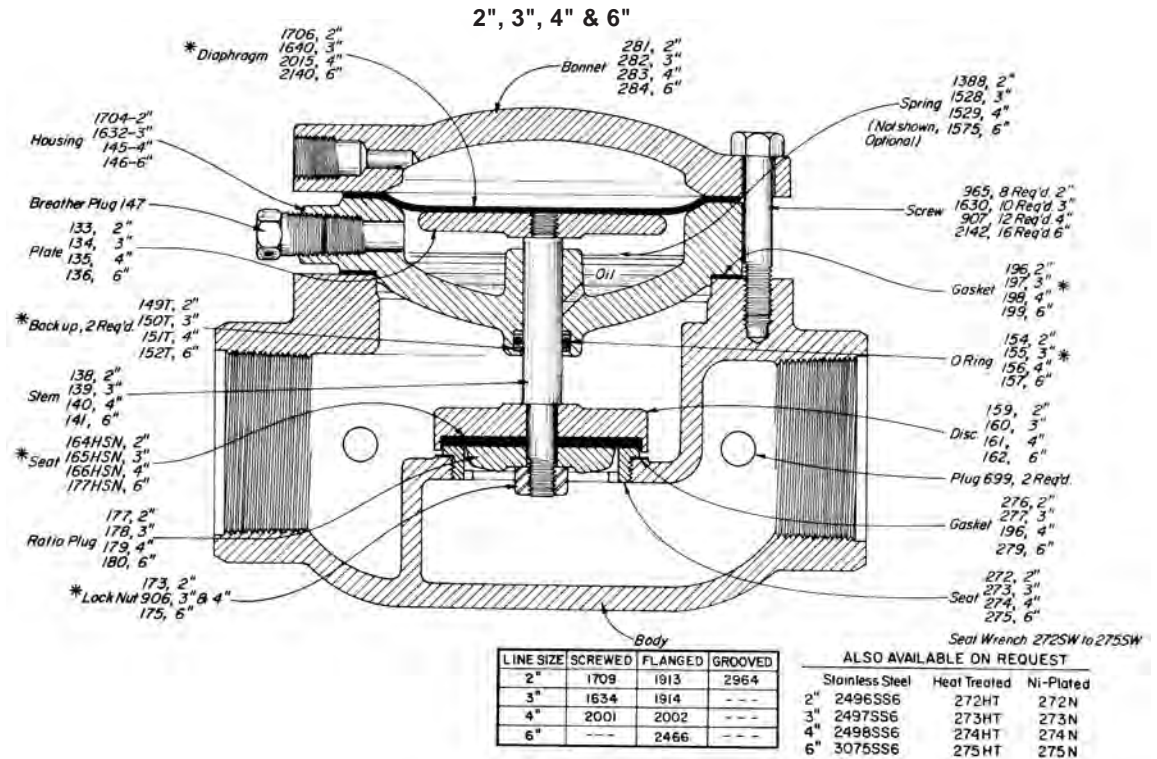
\*These are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4", 199-6".

<sup>a</sup>Companion flanges, nuts, bolts and gaskets are furnished at extra cost. Refer to Section "Y" for ordering.

Kimray is an ISO 9001- certified manufacturer.





#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	MAX. W.P.	KIT
EUA	1" SCRD.	130 SMT-D	300	RCM
EUB	2" SCRD.	230 SMT-D	300	RDL
EUC	2" FLGD.	218 FMT-D	250	RDL
EUD	2" GRVD.	230 GMT-D	300	RDL
EUE	3" SCRD.	330 SMT-D	300	RDM
EUF	3" FLGD.	318 FMT-D	250	RDM
EUG	4" SCRD.	430 SMT-D	300	RDN
EUH	4" FLGD.	418 FMT-D	250	RDN
EUI	6" FLGD.	618 FMT-D	250	RDO

#### NOTES:

For dimensions refer to Table of Contents.

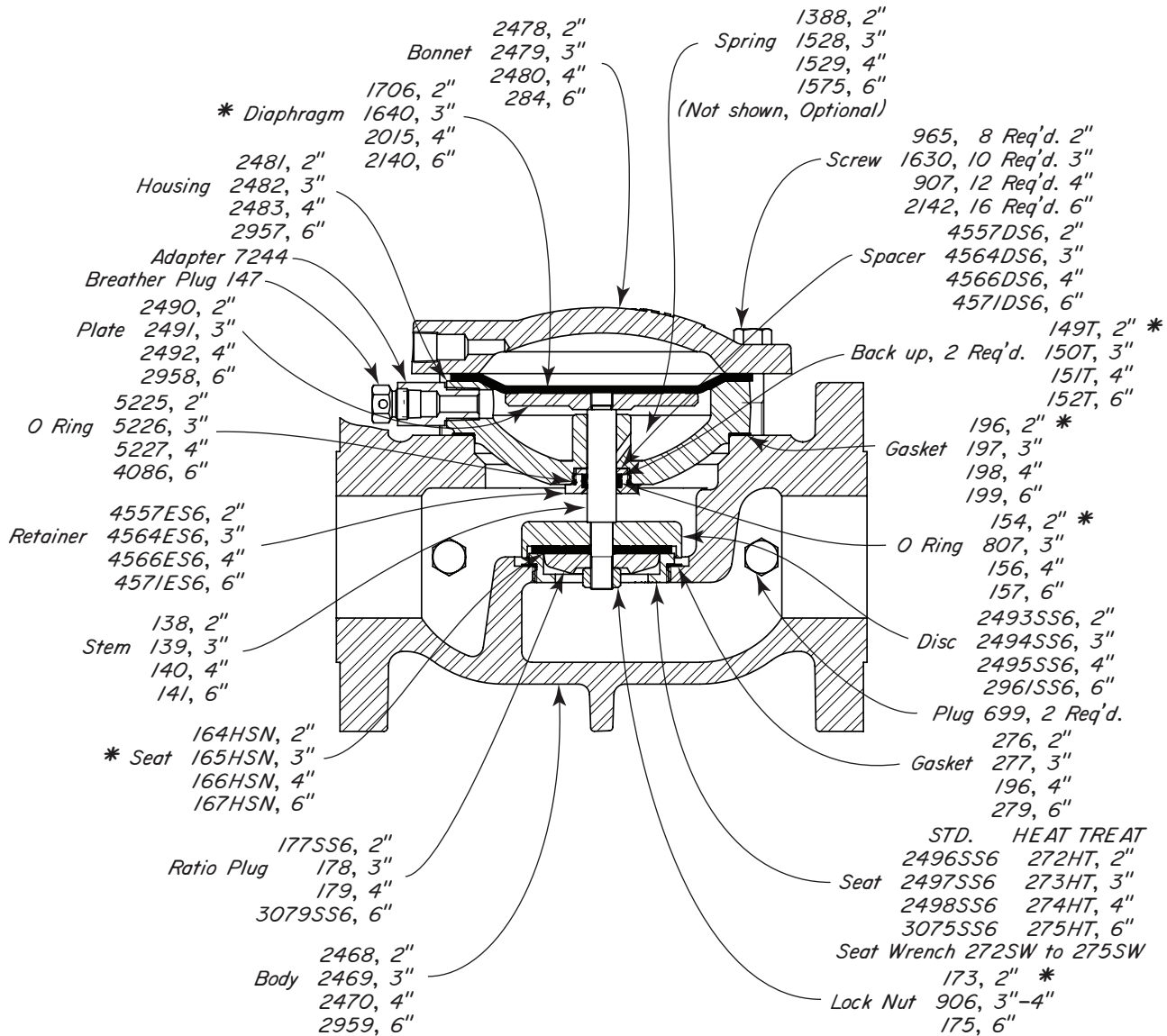
\*These are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4", 199-6".

# LOW PRESSURE MOTOR VALVES

SINGLE ACTING  
STEEL

# KIMRAY INC.®



## THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	MAX. W.P.	KIT
END	2" FLGD.	227 FMT-S	285	REH
ENG	3" FLGD.	327 FMT-S	285	REI
ENI	4" FLGD.	427 FMT-S	285	REJ
EVA	6" FLGD.	627 FMT-S	285	REK

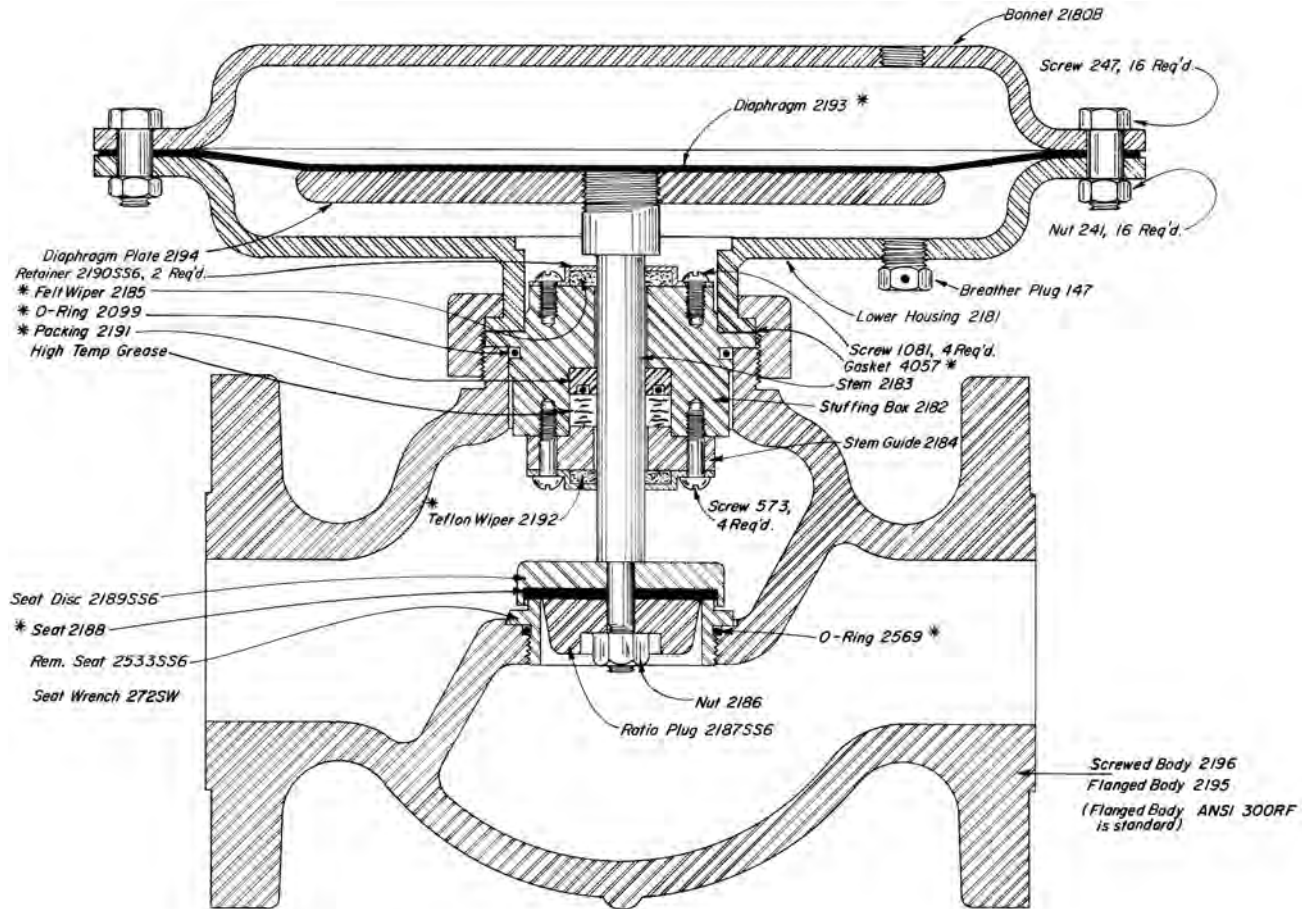
## NOTES:

For dimensions refer to Table of Contents.

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4", 196 6"





#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	MAX. W.P.	KIT
ENA	2" SCRD.	250 SMT-S	500	RDP
ENB	2" FLGD.	250 FMT-S	500	RDP

#### NOTES:

For dimensions refer to Table of Contents.

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

NOTES:



Kimray is an ISO 9001- certified manufacturer.

#### APPLICATIONS:

Liquid metering vessels.  
Any system which requires a valve to receive a pilot signal on either or both sides of the main diaphragm.

#### FEATURES:

- Tight shut-off
- Single soft seat
- Full line size opening
- Removable valve seat
- Ratio of diaphragm to seat area is 2:1
- Spring loaded to hold 5 to 6 p.s.i. back pressure
- Minimum Maintenance
- All internal parts can be removed with valve in line

#### CAPACITY:

For liquid capacity charts refer to table of contents.  
For gas capacity charts refer to catalog section "A".

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

#### CONSTRUCTION:

Materials in body and housings are made of 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. After assembly each valve is given a complete operational test.

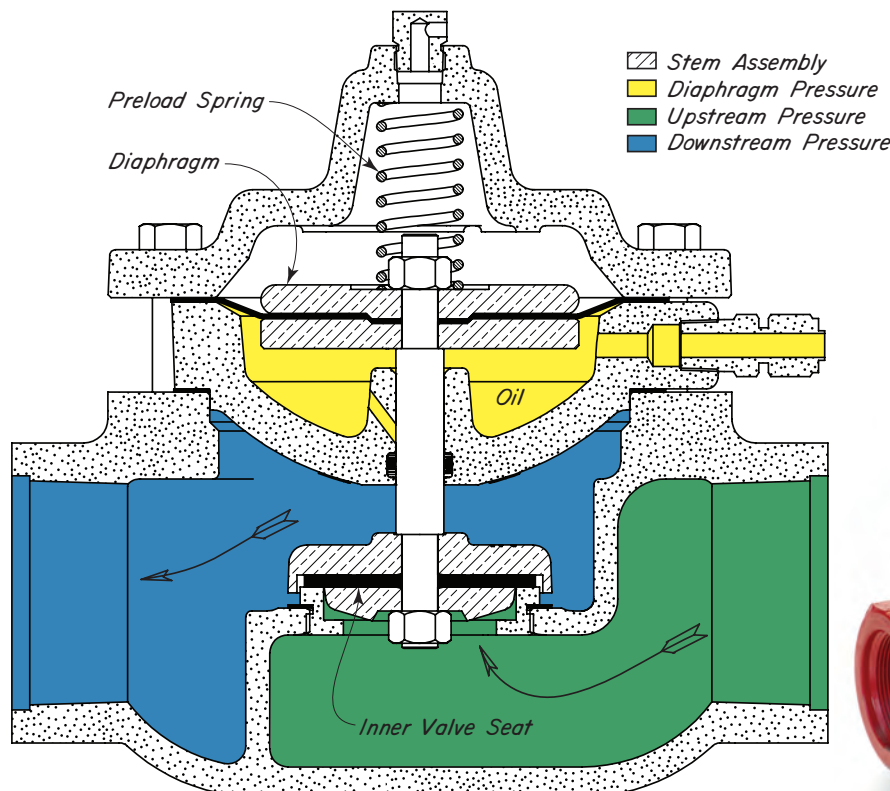
#### OPERATION:

The Stem Assembly is the only moving unit in the double acting 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 5 to 6 psig or less.

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

A decrease in the Diaphragm Pressure (Yellow) allows the PRELOAD SPRING to move the Stem Assembly downward and close the valve when Upstream Pressure (Green) minus Downstream Pressure (Blue) is 5 to 6 psig or less.

With an effective DIAPHRAGM area two times the INNER VALVE SEAT area, and the PRELOAD SPRING, a differential pressure greater than 5 to 6 psig and/or 3 psig or more Diaphragm Pressure (Yellow) will open the motor valve.

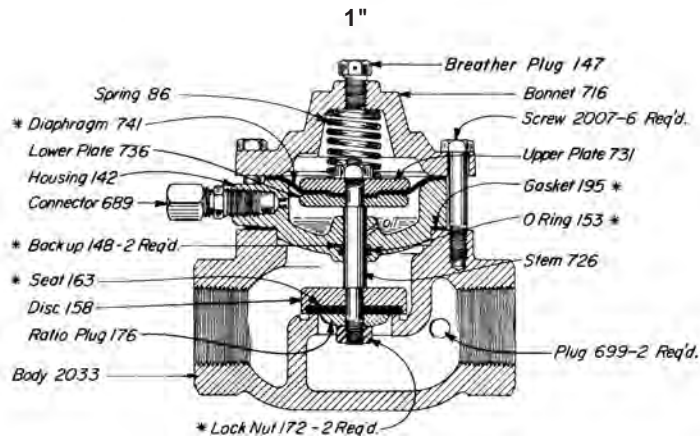
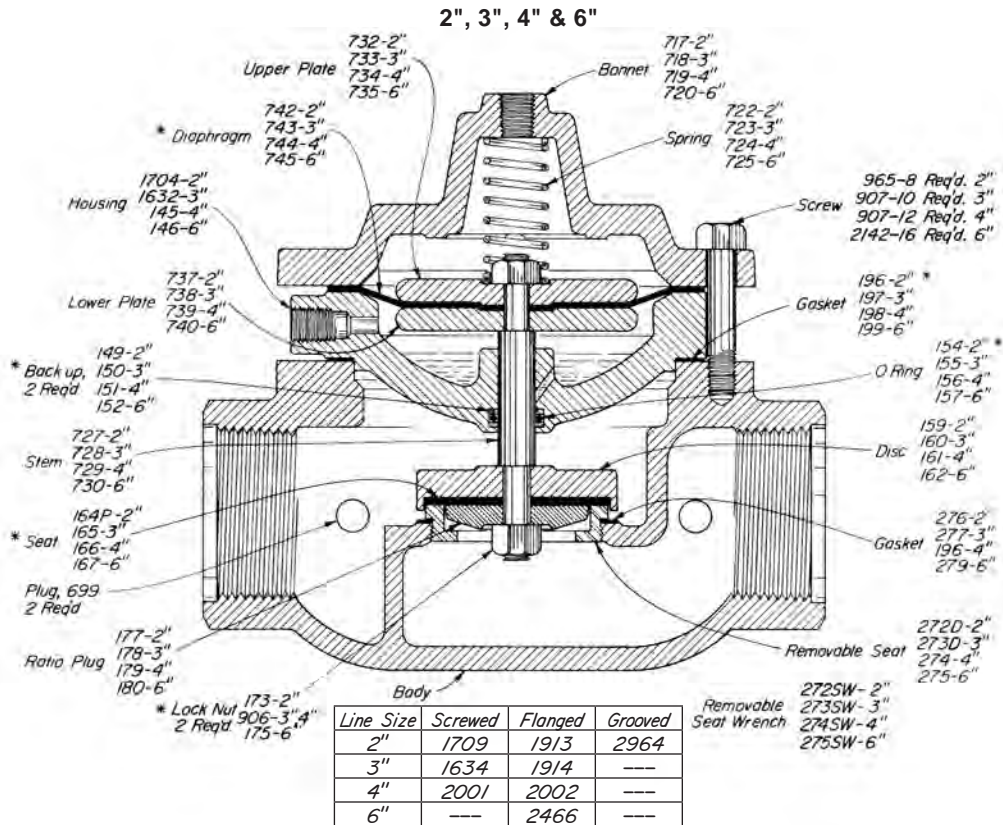


Kimray is an ISO 9001- certified manufacturer.

# LOW PRESSURE MOTOR VALVES

DOUBLE ACTING  
DUCTILE IRON

# KIMRAY INC.®



## THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER PRESS	MAX. W.P.	KIT
EMB2	1" SCRD.	112 SMT DA	5-6	175	RGS
EMC2	2" SCRD.	212 SMT DA	5-6	175	RGT
EMD2	2" FLGD. <sup>a</sup>	212 FMT DA	5-6	175	RGT
EME2	2" GRVD.	212 GMT DA	5-6	175	RGT
EMF2	3" SCRD.	312 SMT DA	5-6	175	RGU
EMG2	3" FLGD. <sup>a</sup>	312 FMT DA	5-6	175	RGU
EMH2	4" SCRD.	412 SMT DA	5-6	175	RGW
EMI2	4" FLGD. <sup>a</sup>	412 FMT DA	5-6	175	RGW
EMJ2	6" FLGD. <sup>a</sup>	612 FMT DA	5-6	175	RGX

<sup>a</sup>Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified.

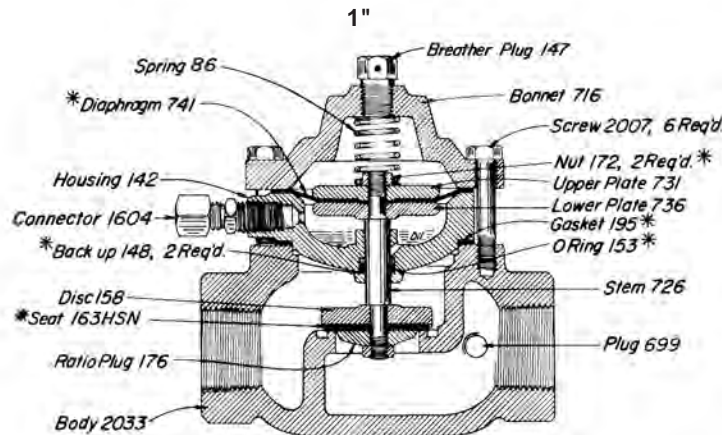
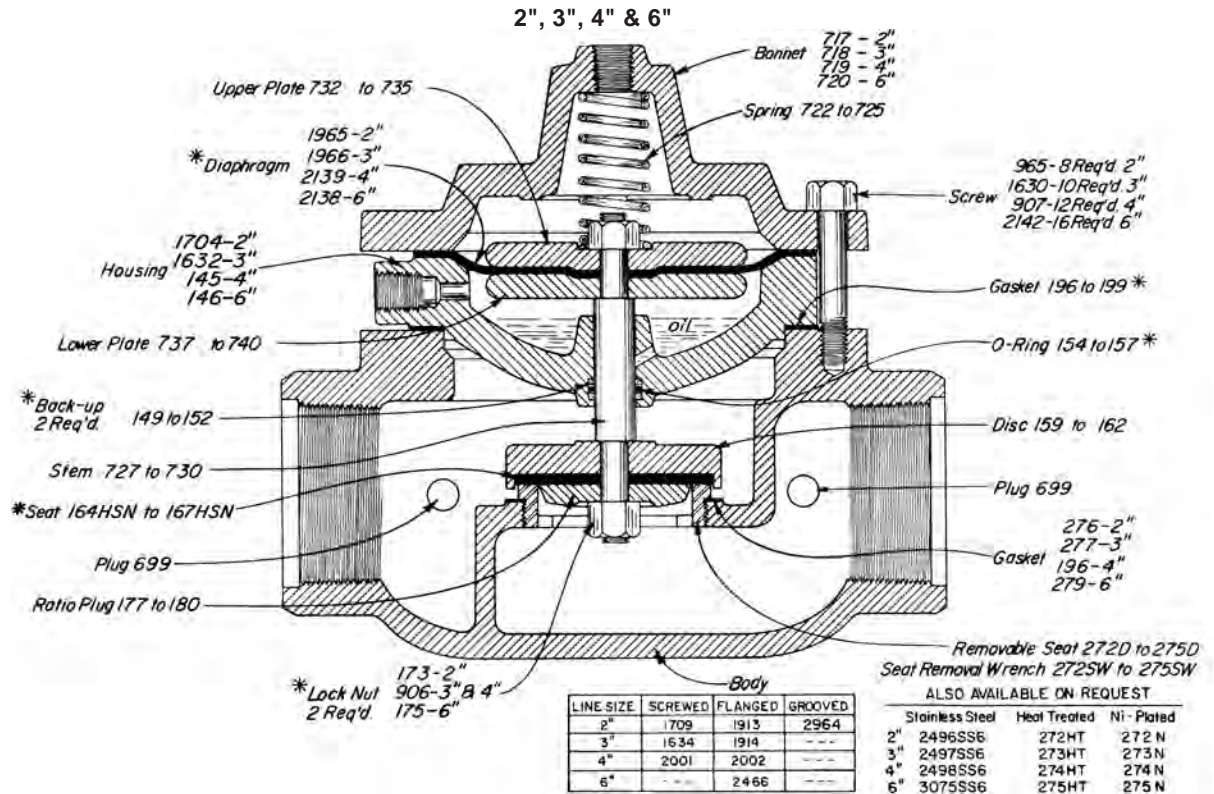
## NOTES:

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4", 199-6".

Kimray is an ISO 9001- certified manufacturer.





#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER PRESS	MAX. W.P.	KIT
EUA2	1" SCRD.	130 SMT DA-D	5-6	300	RNQ
EUB2	2" SCRD.	230 SMT DA-D	5-6	300	RNU
EUC2	2" FLGD.	218 FMT DA-D	5-6	250	RNU
EUD2	2" GRVD.	230 SMT DA-D	5-6	300	RNU
EUE2	3" SCRD.	330 SMT DA-D	5-6	300	RNW
EUF2	3" FLGD.	318 FMT DA-D	5-6	250	RNW
EUG2	4" SCRD.	430 SMT DA-D	5-6	300	RNX
EUH2	4" FLGD.	418 FMT DA-D	5-6	250	RNX
EUI2	6" FLGD.	618 FMT DA-D	5-6	250	RNY

#### NOTES:

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

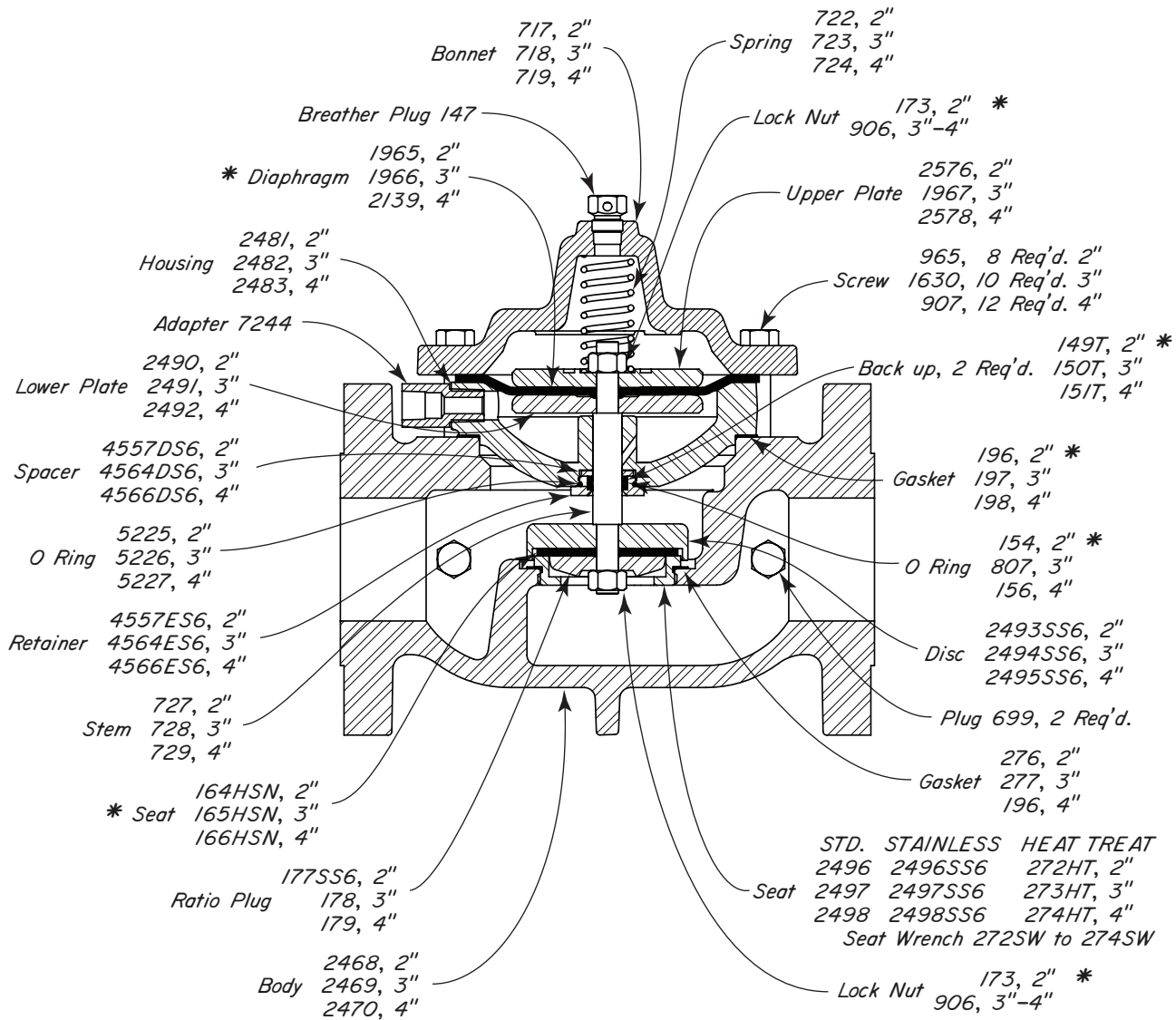
The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4", 199-6".



# LOW PRESSURE MOTOR VALVES

# KIMRAY INC.®

## DOUBLE ACTING STEEL



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS	MAX. W.P.	KIT
END2	2" FLGD.	227 FMT DA-S	5-6	285	ROM
ENG2	3" FLGD.	327 FMT DA-S	5-6	285	RON
ENI2	4" FLGD.	427 FMT DA-S	5-6	285	ROO

### NOTES:

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

#### APPLICATIONS:

For use on oil and gas separators and liquid meters where a 30 psig maximum pilot signal is available to actuate valves operating at pressures up to 300 psig.

These valves are available, at extra cost, with a spring under the diaphragm plate that will hold the valve full open whenever pressure on top of the diaphragm is released. This assembly is for applications where small differential pressures exist and capacities required are greater than those shown on the MT capacity chart, this section. To order this assembly, specify Valve Number and add "with spring under diaphragm." For capacities of valves so equipped, refer to MT-DA capacity chart, this section.

#### FEATURES:

- Tight shut-off
- Single soft seat
- Removable valve seat
- Ratio of diaphragm to seat area is:
  - 8:1 on 1"
  - 5:1 on 2", 3", 4", and 6"
- Controls 8 times signal pressure on 1"
- Controls 5 times signal pressure on 2", 3", 4" and 6"
- Minimum maintenance
- All internal parts can be removed with valve in line

#### 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."

Cf & Cv VALUES			
Line Size	Trim Size	Cf	Cv
1"	.50"	0.86	5.6
2"	1.25"	0.84	24.0
3"	1.62"	0.82	34.2
4"	2.00"	0.80	55.0
6"	3.00"	0.80	120.0

#### 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.

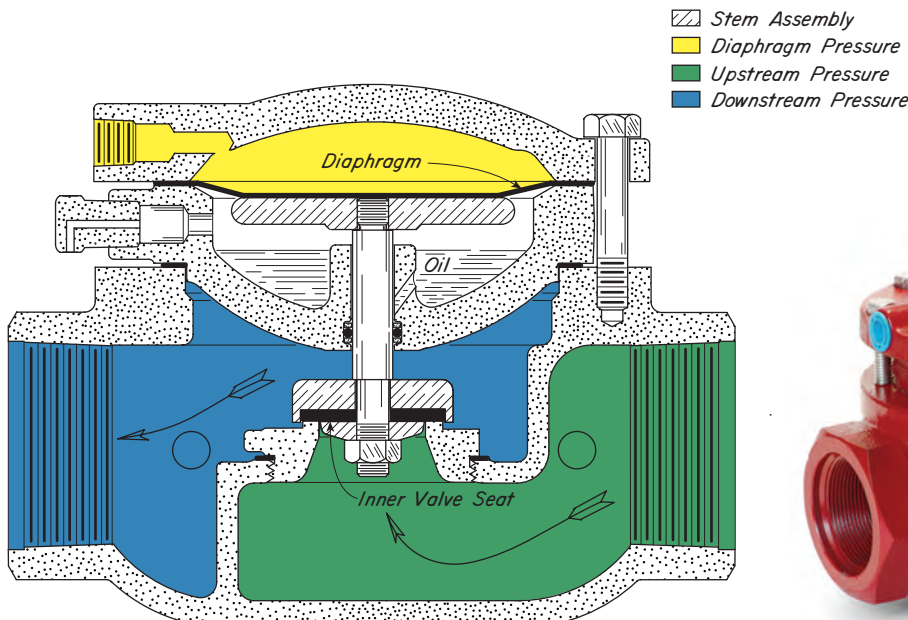
#### OPERATION:

The Stem Assembly is the only moving unit in the motor valve. With the valve open, Diaphragm Pressure (Yellow) from a pilot or control, loads the upper side of the DIAPHRAGM and is opened by the Upstream Pressure (Green) under the INNER VALVE SEAT.

As Diaphragm Pressure (Yellow) increases the Stem Assembly is forced downward, closing the motor valve.

As Diaphragm Pressure (Yellow) is reduced, Upstream Pressure (Green) forces the Stem Assembly upward, opening the valve.

With an effective DIAPHRAGM area five times the INNER VALVE SEAT area, Diaphragm Pressure (Yellow) must be 25% or more of the Upstream Pressure (Green) in order to achieve a tight shut-off.



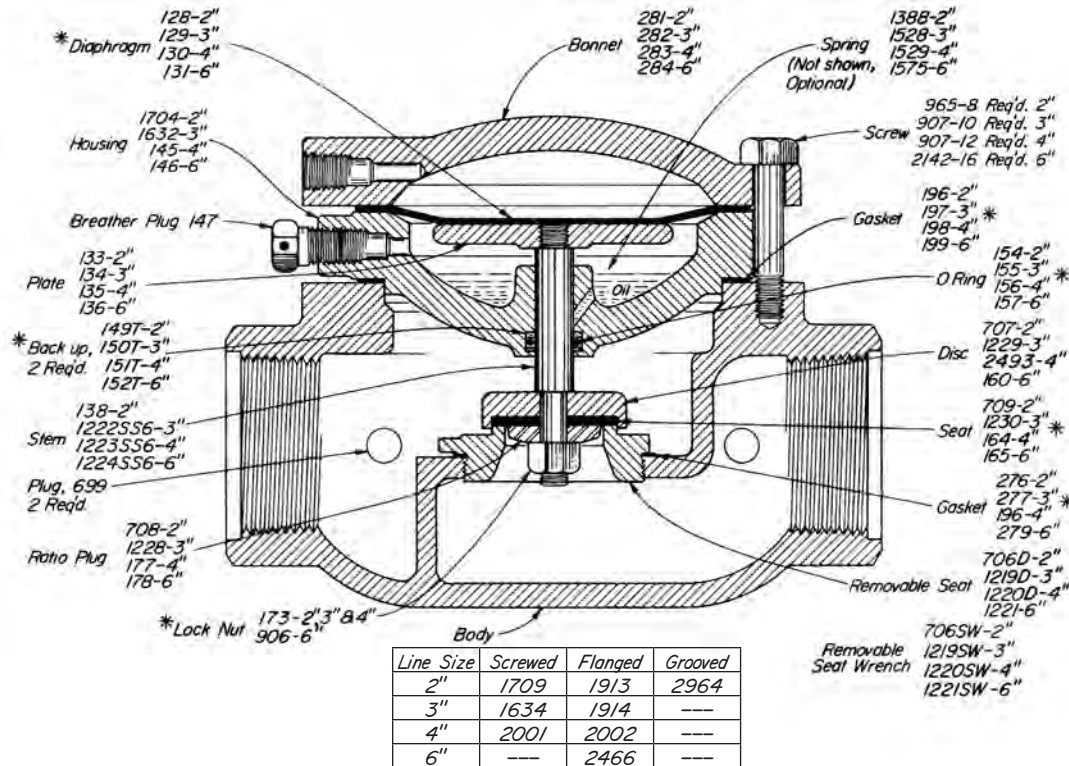
Kimray is an ISO 9001- certified manufacturer.

## LOW PRESSURE MOTOR VALVES

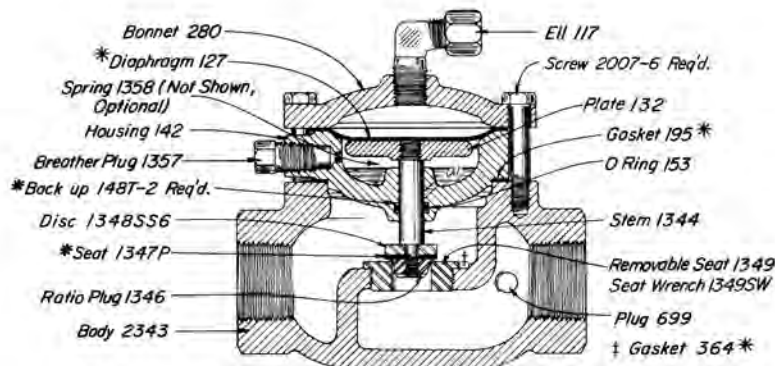
### MT 5 WITH REDUCED INNER VALVE DUCTILE IRON

# KIMRAY<sup>®</sup>

2", 3", 4" & 6"



1"



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	MAX. W.P.	KIT
EMB1	1" SCRD.	112 SMT B	175	RDB
EMC1	2" SCRD.	212 SMT 5	175	RDC
EMD1	2" FLGD.*	212 FMT 5	175	RDC
EME1	2" GRVD.	212 GMT 5	175	RDC
EMF1	3" SCRD.	312 SMT 5	175	RDD
EMG1	3" FLGD.*	312 FMT 5	175	RDD
EMH1	4" SCRD.	412 SMT 5	175	RDE
EMI1	4" FLGD.*	412 FMT 5	175	RDE
EMJ1	6" FLGD.*	612 FMT 5	175	RDF

\*Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified.

E2:30.2  
Issued 12/15

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#### NOTES:

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

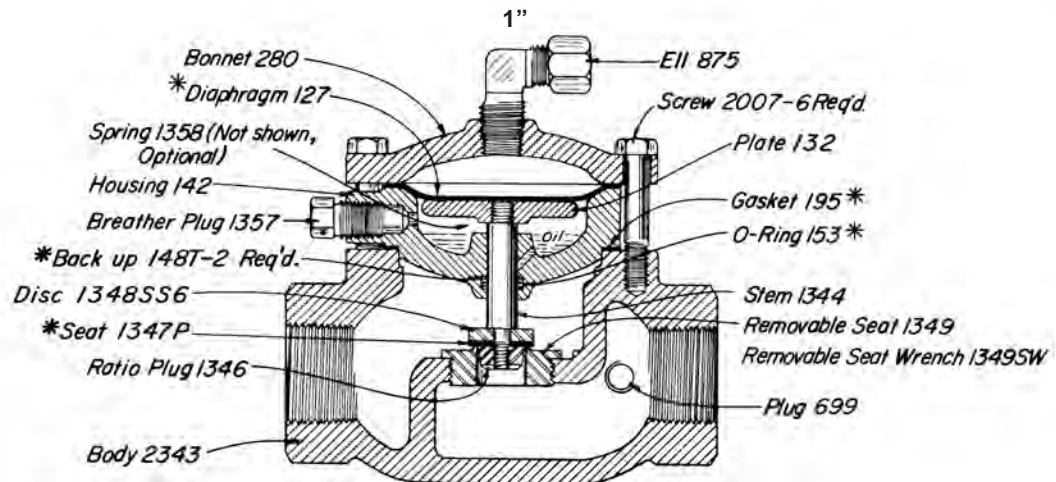
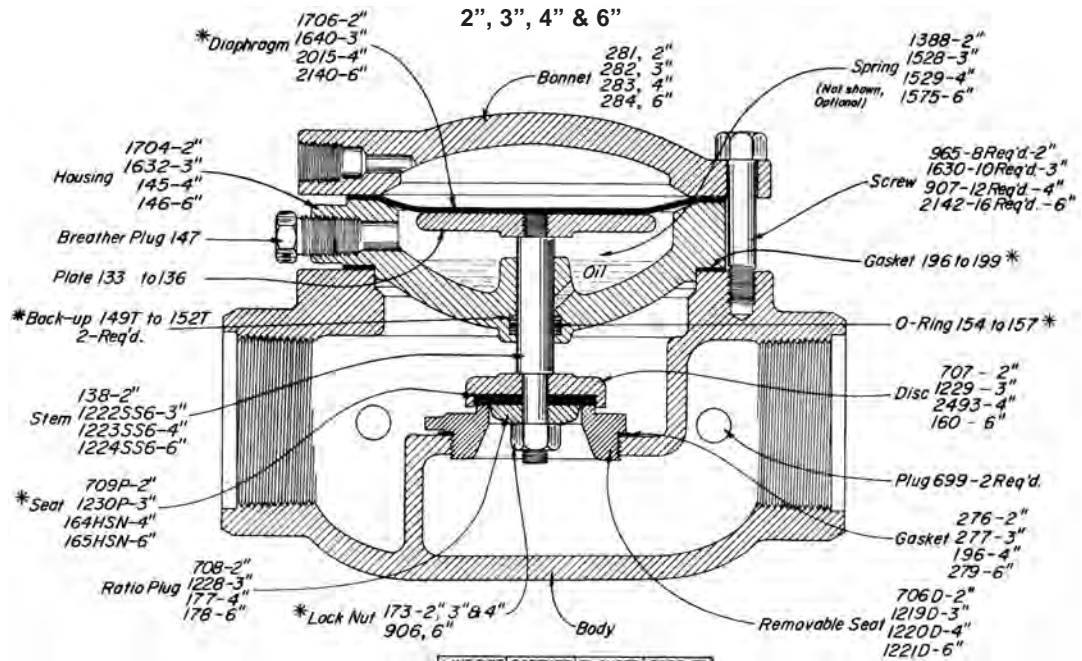
The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4", 199-6".

For fail open applications a optional Spring under the Diaphragm Plate is available: 1358-1", 1388-2", 7132-3", 1529-4", 1575-6"

Kimray is an ISO 9001- certified manufacturer.

Current Revision:  
Change Lower Housing Numbers





#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	MAX. W.P.	KIT
EUA1	1"SCRD.	130 SMT B-D	300	RDB
EUB1	2"SCRD.	230 SMT 5-D	300	RNI
EUC1	2"FLGD.	218 FMT 5-D	250	RNI
EUD1	2"GRVD.	230 GMT 5-D	300	RNI
EUE1	3"SCRD.	330 SMT 5-D	300	RNJ
EUF1	3"FLGD.	318 FMT 5-D	250	RNJ
EUG1	4"SCRD.	430 SMT 5-D	300	RNK
EUH1	4"FLGD.	418 FMT 5-D	250	RNK
EUI1	6"FLGD.	618 FMT 5-D	250	RNL

#### NOTES:

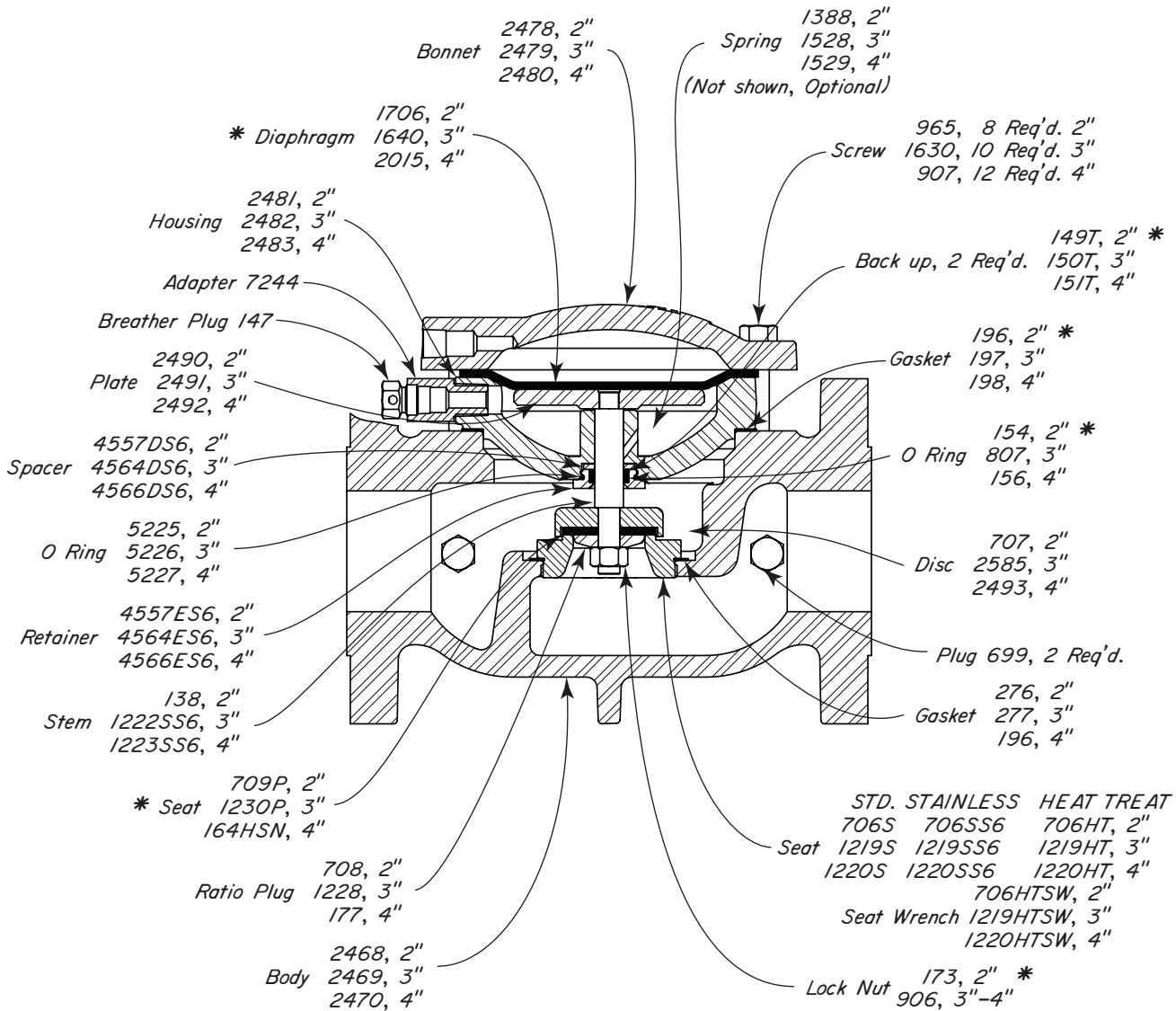
\*These are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4", 199-6".

## LOW PRESSURE MOTOR VALVES

# KIMRAY INC.®

### MT 5 WITH REDUCED INNER VALVE STEEL



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	MAX. W.P.	KIT
END1	2" FLGD.	227 FMT 5-S	285	ROX
ENG1	3" FLGD.	327 FMT 5-S	285	ROY
ENI1	4" FLGD.	427 FMT 5-S	285	ROZ

#### NOTES:

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".



#### APPLICATION:

Liquid metering vessels where a 12 to 15 psig back pressure is desired.

Any system which requires a valve to receive a 30 psig maximum pilot signal on either or both sides of the main diaphragm operating at pressures up to 300 psig.

#### FEATURES:

- Tight shut-off
- Single soft seat
- Removable valve seat
- Ratio of diaphragm to seat area is:  
8:1 on 1"  
5:1 on 2", 3", 4", and 6"
- Controls 8 times signal pressure on 1"
- Controls 5 times signal pressure on 2", 3", 4" and 6"
- Minimum maintenance
- All internal parts can be removed with valve in line

#### 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."

Cf & Cv VALUES			
Line Size	Trim Size	Cf	Cv
1"	.50"	0.86	5.6
2"	1.25"	0.84	24.0
3"	1.62"	0.82	34.2
4"	2.00"	0.80	55.0
6"	3.00"	0.80	120.0

#### 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.

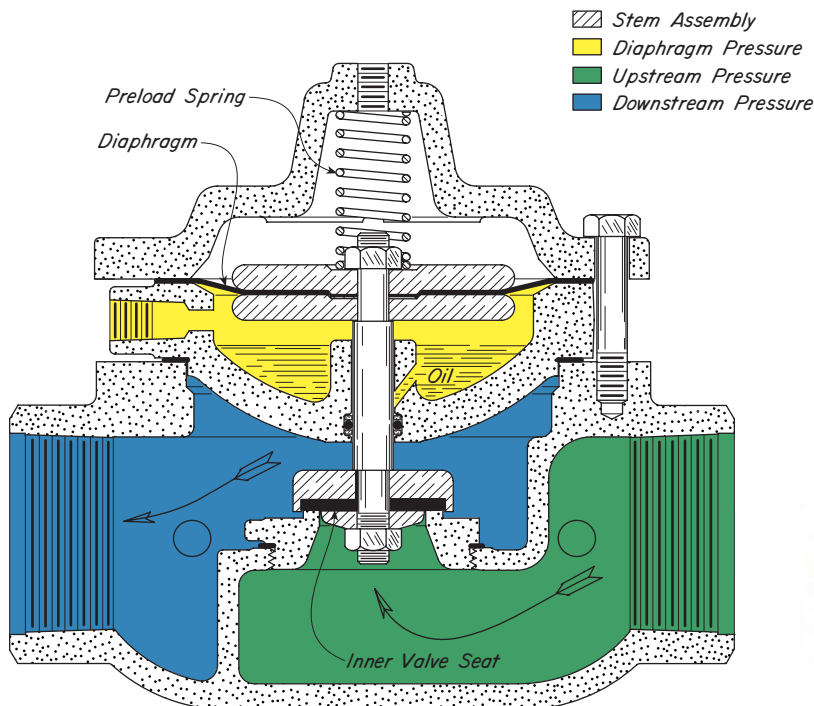
#### OPERATION:

The Stem Assembly is the only moving unit in the double acting 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 12 to 15 psig or less.

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

A decrease in the Diaphragm Pressure (Yellow) allows the PRELOAD SPRING to move the Stem Assembly downward and close the valve when Upstream Pressure (Green) minus Downstream Pressure (Blue) is 12 to 15 psig or less.

With an effective DIAPHRAGM area five times the INNER VALVE SEAT area, and the PRELOAD SPRING, a differential pressure greater than 12 to 15 psig and/or 3 psig or more Diaphragm Pressure (Yellow) will open the motor valve.



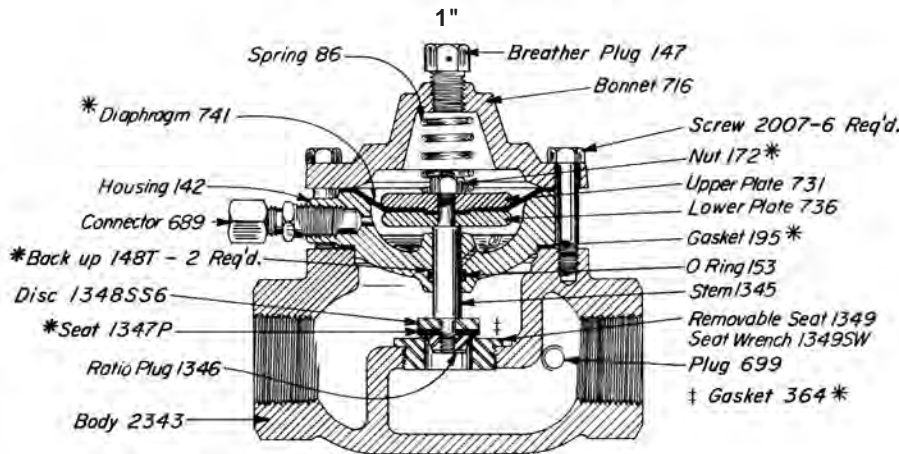
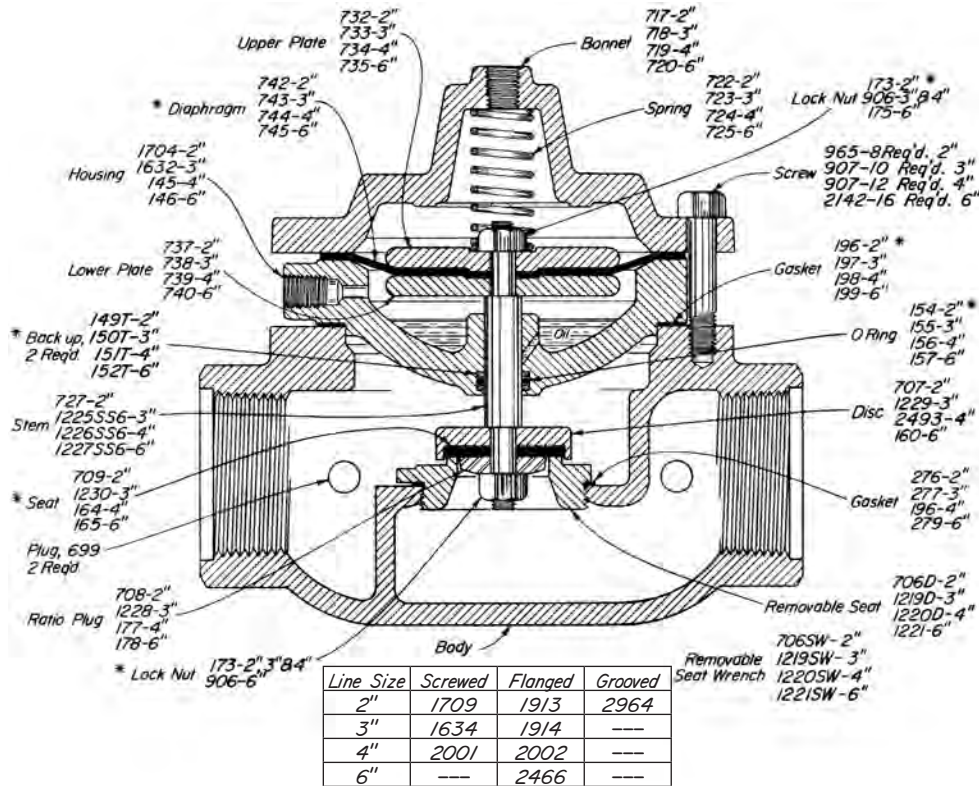
Kimray is an ISO 9001- certified manufacturer.

## LOW PRESSURE MOTOR VALVES

### MT DA5 WITH REDUCED INNER VALVE DUCTILE IRON

# KIMRAY<sup>®</sup>

2", 3", 4" & 6"



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EMB3	1" SCRD.	112 SMT DAB	30-35	175	RHE
EMC3	2" SCRD.	212 SMT DA5	12-15	175	RHF
EMD3	2" FLGD. <sup>a</sup>	212 FMT DA5	12-15	175	RHF
EME3	2" GRVD.	212 GMT DA5	12-15	175	RHF
EMF3	3" SCRD.	312 SMT DA5	12-15	175	RHG
EMG3	3" FLGD. <sup>a</sup>	312 FMT DA5	12-15	175	RHG
EMH3	4" SCRD.	412 SMT DA5	12-15	175	RHH
EMI3	4" FLGD. <sup>a</sup>	412 FMT DA5	12-15	175	RHH
EMJ3	6" FLGD. <sup>a</sup>	612 FMT DA5	12-15	175	RHI

#### NOTES:

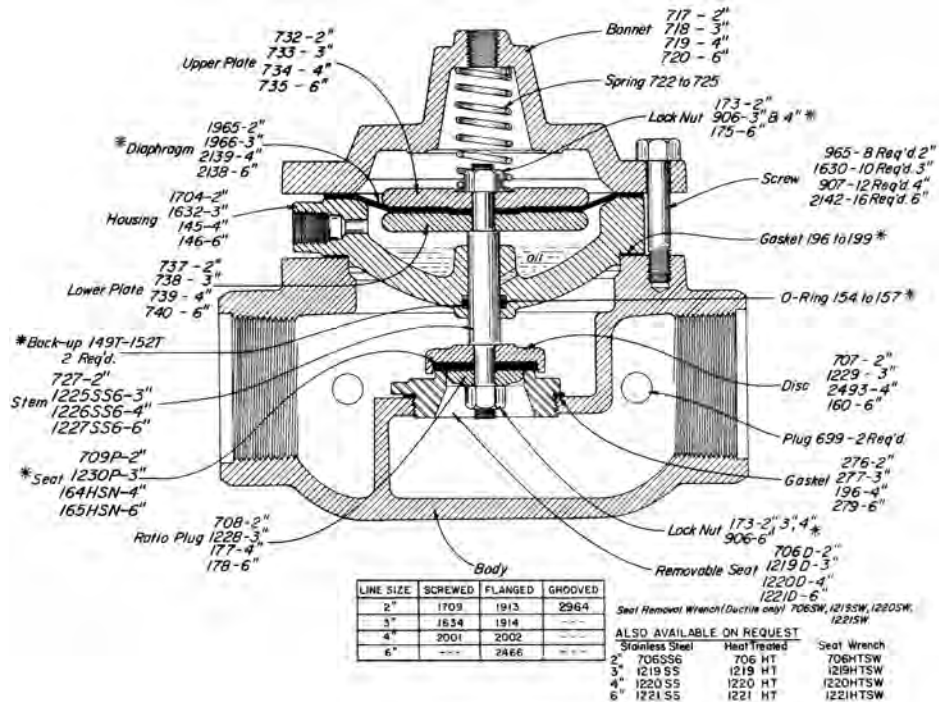
\*These are recommended spare parts and are stocked as repair kits.

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket "195 1", 196-2", 197-3", 198-4", 199-6".

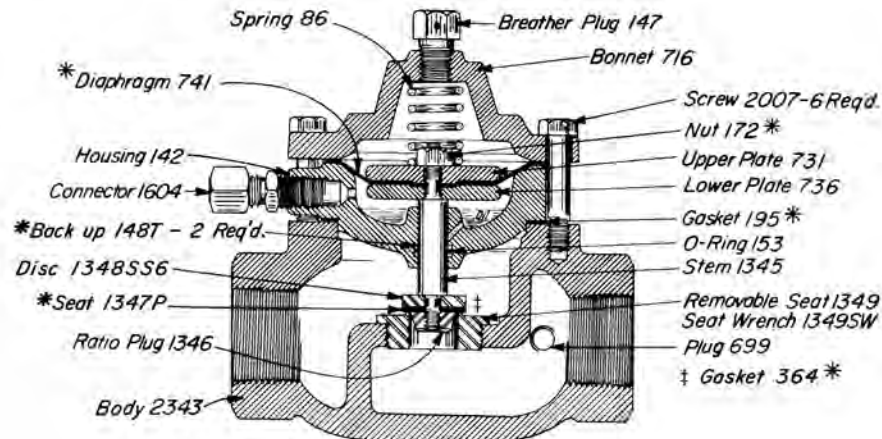
<sup>a</sup>Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified.

Kimray is an ISO 9001- certified manufacturer.

2", 3", 4" & 6"



1"



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EUA3	1" SCRD.	130 SMT DAB-D	30-35	300	RHE
EUB3	2" SCRD.	230 SMT DA5-D	12-15	300	ROI
EUC3	2" FLGD.	218 FMT DA5-D	12-15	250	ROI
EUD3	2" GRVD.	230 GMT DA5-D	12-15	300	ROI
EUE3	3" SCRD.	330 SMT DA5-D	12-15	300	ROJ
EUF3	3" FLGD.	318 FMT DA5-D	12-15	250	ROJ
EUG3	4" SCRD.	430 SMT DA5-D	12-15	300	ROK
EUH3	4" FLGD.	418 FMT DA5-D	12-15	250	ROK
EUI3	6" FLGD.	618 FMT DA5-D	12-15	250	ROL

#### NOTES:

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

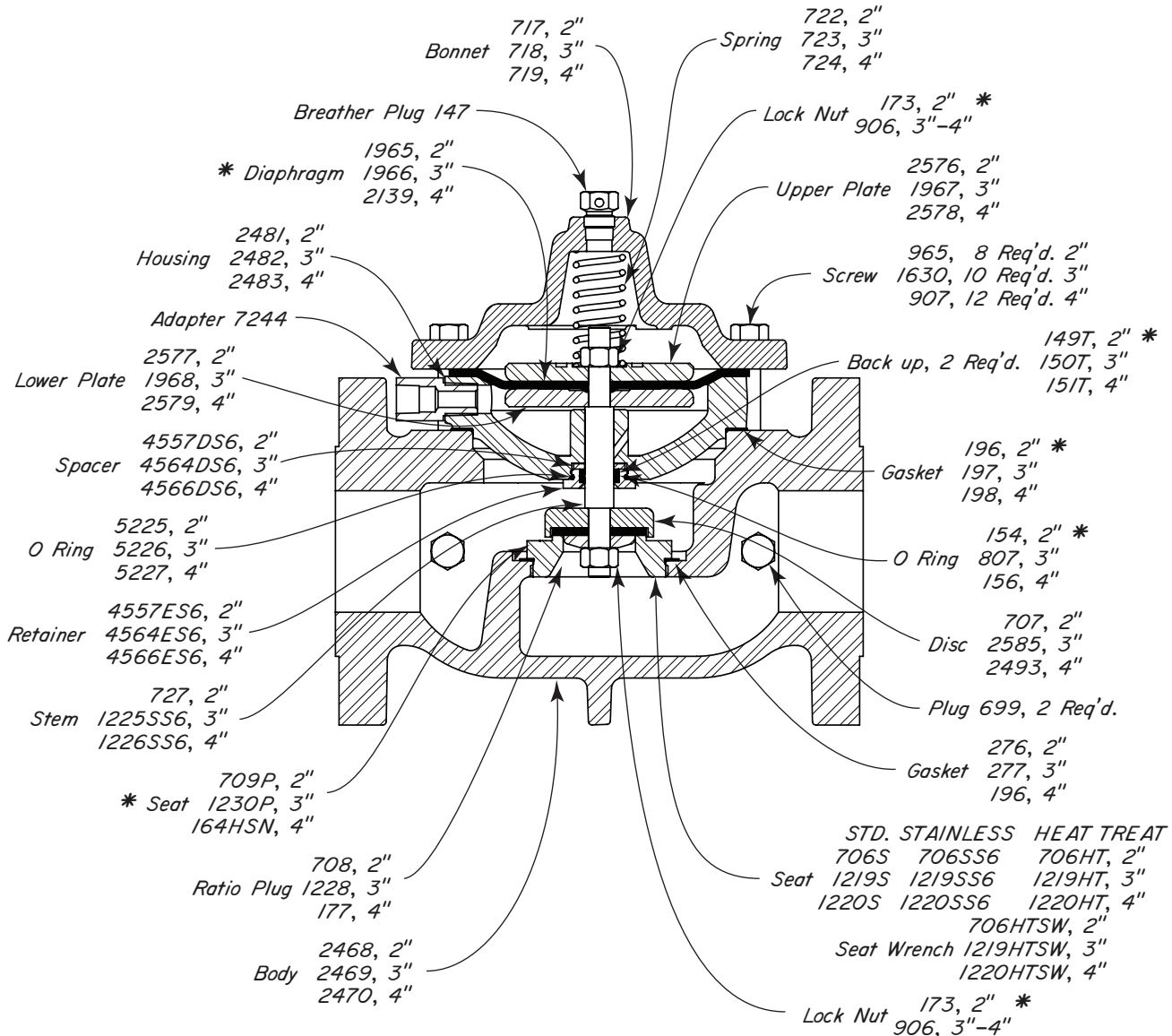
The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 195-1", 196-2", 197-3", 198-4", 199-6".



# LOW PRESSURE MOTOR VALVES

# KIMRAY INC.®

## MT DA5 WITH REDUCED INNER VALVE STEEL



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	MAX. W.P.	KIT
END3	2" FLGD.	227 FMT DA5-S	285	RPW
ENG3	3" FLGD.	327 FMT DA5-S	285	RPX
ENI3	4" FLGD.	427 FMT DA5-S	285	RPY

### NOTES:

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

#### APPLICATIONS:

Liquid metering vessels where a 10 to 12 psig back pressure is desired.

Any system which requires a valve to receive a pilot signal on either or both sides of the main diaphragm.

#### FEATURES:

- Tight shut-off
- Single soft seat
- Full line size opening
- Removable valve seat
- Ratio of diaphragm to seat area is 2:1
- Spring loaded to hold 10 to 12 psig back pressure
- Minimum maintenance
- All internal parts can be removed with valve in line

#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
 0C15737.24567890NTY (Ductile)  
 0C15620.24567890NTY (Steel)

#### CAPACITY:

For liquid capacity chart refer to table of contents.  
 For gas capacity chart refer to catalog section "A."

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

#### 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.

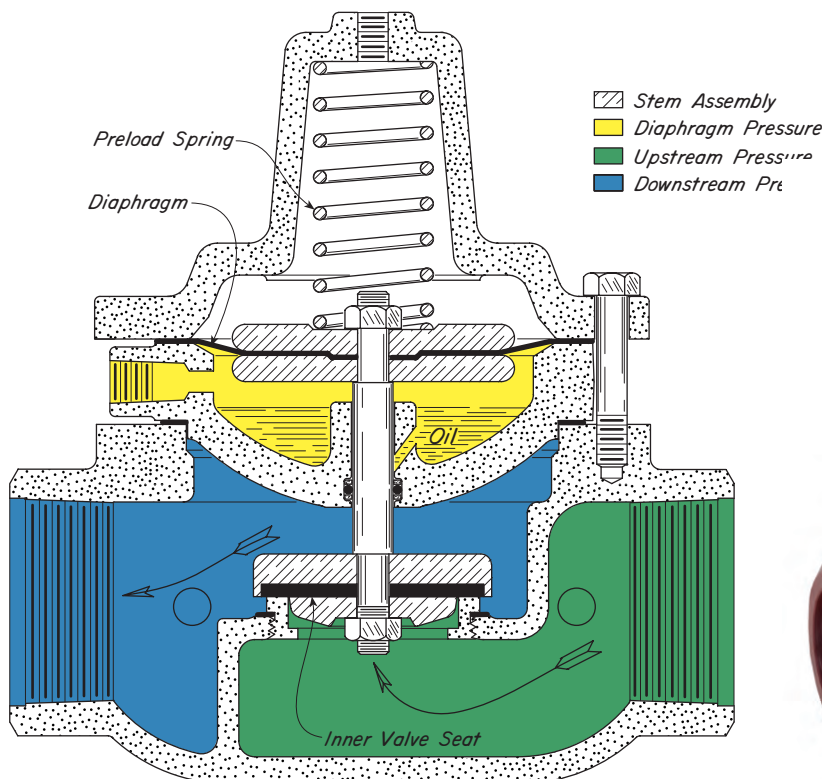
#### OPERATION:

The Stem Assembly is the only moving unit in the double acting 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 10 to 12 psig or less.

An increase in Diaphragm Pressure (Yellow) and/or an increase in the 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 and close the valve when Upstream Pressure (Green) minus Downstream Pressure (Blue) is 10 to 12 psig or less.

With an effective DIAPHRAGM area two times the INNER VALVE SEAT area, and the PRELOAD SPRING, a differential pressure greater than 10 to 12 psig and/or 6 psig or more Diaphragm Pressure (Yellow) will open the motor valve.



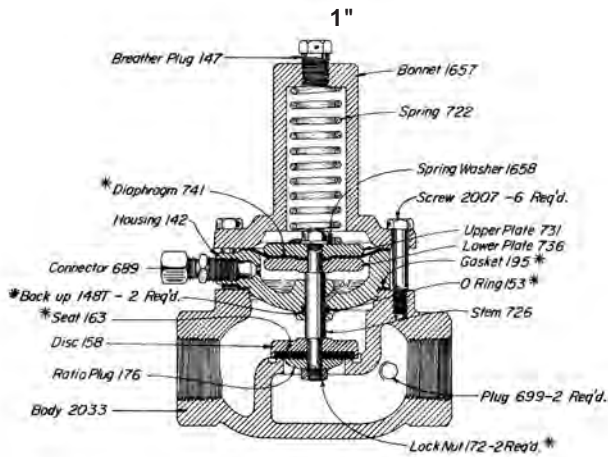
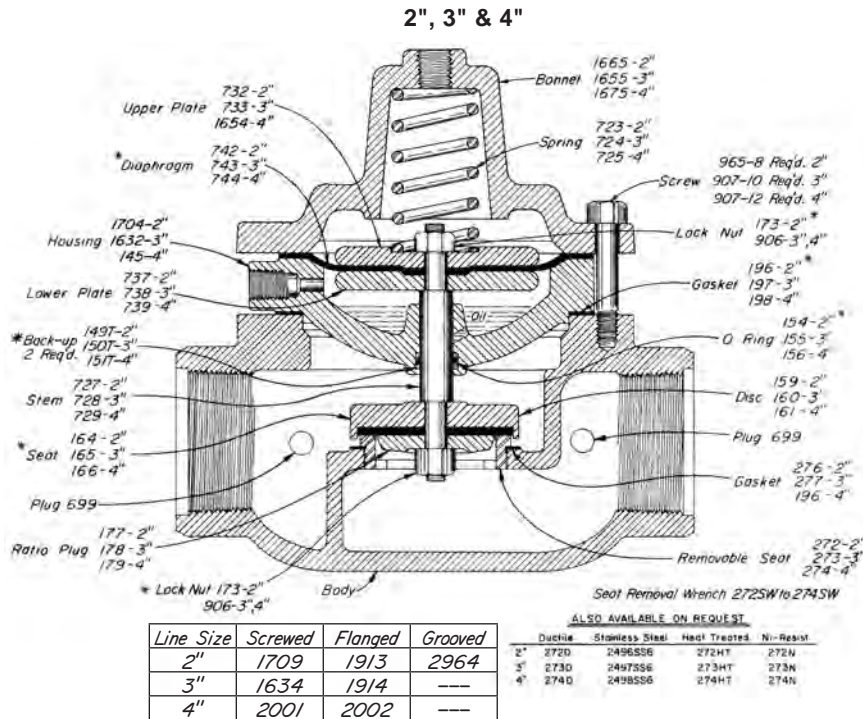
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## LOW PRESSURE MOTOR VALVES

### MT 2DA DOUBLE ACTING DUCTILE IRON

# KIMRAY<sup>®</sup>



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EMB4	1" SCRD.	112 SMT 2DA	10-12	175	RGS
EMC4	2" SCRD.	212 SMT 2DA	10-12	175	RGT
EMD4	2" FLGD. <sup>a</sup>	212 FMT 2DA	10-12	175	RGT
EME4	2" GRVD.	212 GMT 2DA	10-12	175	RGT
EMF4	3" SCRD.	312 SMT 2DA	10-12	175	RGU
EMG4	3" FLGD. <sup>a</sup>	312 FMT 2DA	10-12	175	RGU
EMH4	4" SCRD.	412 SMT 2DA	10-12	175	RGW
EMI4	4" FLGD. <sup>a</sup>	412 FMT 2DA	10-12	175	RGW

<sup>a</sup>Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified.

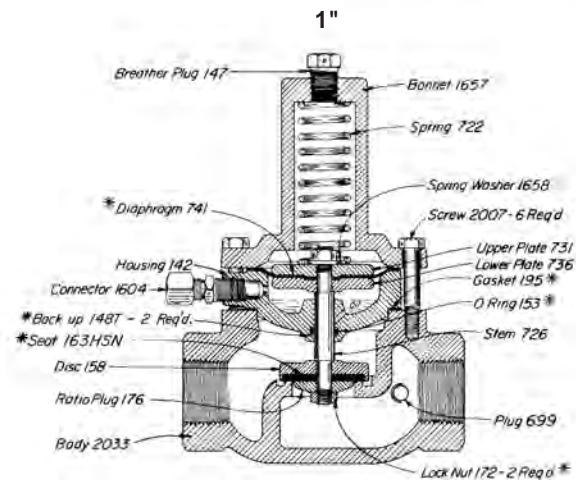
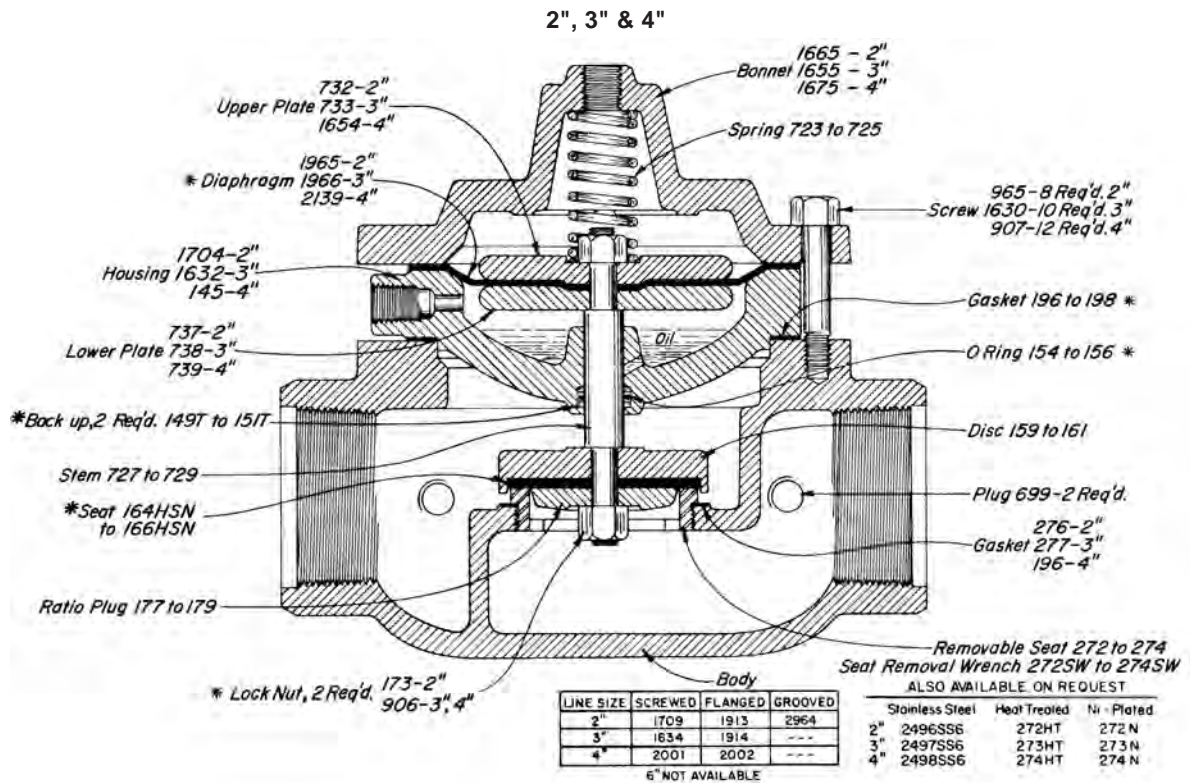
#### NOTES:

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

For dimensions refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EUA4	1" SCR.D.	130 SMT 2DA-D	10-12	300	RNQ
EUB4	2" SCR.D.	230 SMT 2DA-D	10-12	300	RNU
EUC4	2" FLGD. <sup>a</sup>	218 FMT 2DA-D	10-12	250	RNU
EUD4	2" GRVD.	230 GMT 2DA-D	10-12	300	RNU
EUE4	3" SCR.D.	330 SMT 2DA-D	10-12	300	RNW
EUF4	3" FLGD. <sup>a</sup>	318 FMT 2DA-D	10-12	250	RNW
EUG4	4" SCR.D.	430 SMT 2DA-D	10-12	300	RNX
EUH4	4" FLGD. <sup>a</sup>	418 FMT 2DA-D	10-12	250	RNX

<sup>a</sup>Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified.

Current Revision:  
Change Lower Housing Numbers

#### NOTES:

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

For dimensions refer to Table of Contents.

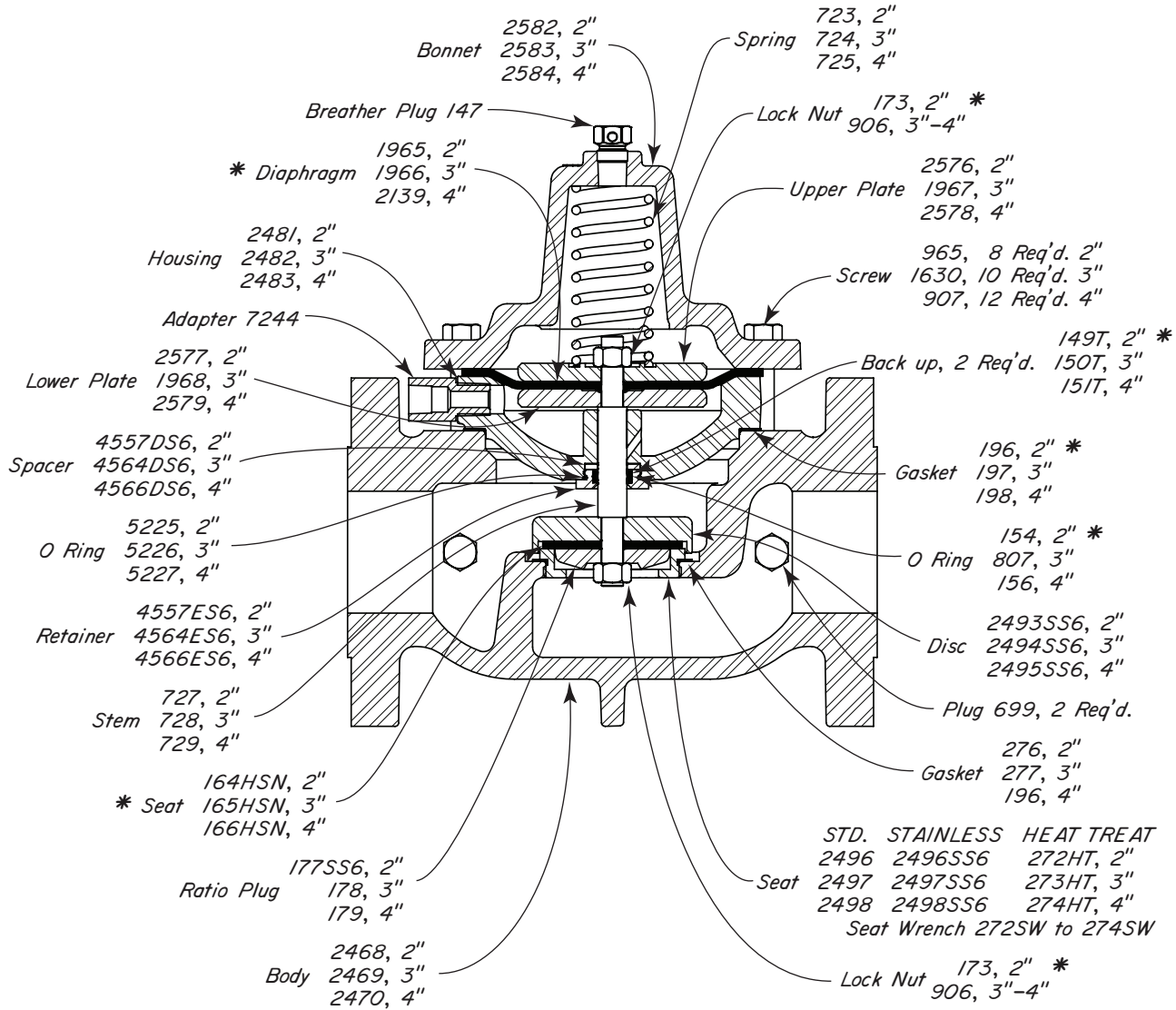
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Issued 12/15

# LOW PRESSURE MOTOR VALVES

# KIMRAY INC.®

## MT 2DA DOUBLE ACTING STEEL



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
END4	2" FLGD. <sup>a</sup>	227 FMT 2DA-S	10-12	285	ROM
ENG4	3" FLGD. <sup>a</sup>	327 FMT 2DA-S	10-12	285	RON
ENI4	4" FLGD. <sup>a</sup>	427 FMT 2DA-S	10-12	285	ROO

<sup>a</sup>Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified

### NOTES:

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

For dimensions refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.

#### APPLICATIONS:

Liquid metering vessels where a 24 to 30 psig back pressure is desired.

Any system which requires a valve to receive a 30 psig maximum pilot signal on either or both sides of the main diaphragm operating at pressures up to 300 psig.

#### FEATURES:

- Tight shut-off
- Single soft seat
- Removable valve seat
- Ratio of diaphragm to seat area is:
  - 8:1 on 1"
  - 5:1 on 2", 3", 4", and 6"
- Controls 8 times signal pressure on 1"
- Controls 5 times signal pressure on 2", 3", 4" and 6"
- Spring loaded to hold:
  - 35 to 40 psig back pressure on 1"
  - 24 to 30 psig back pressure on 2", 3", 4" and 6"
- Minimum maintenance
- All internal parts can be removed with valve in line

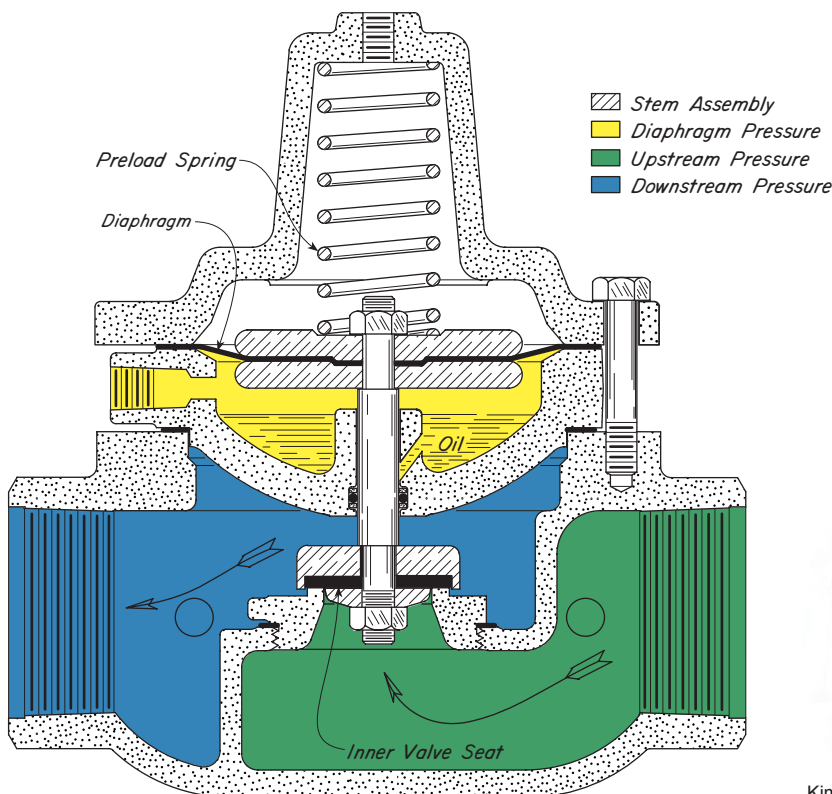
#### CERTIFICATIONS:

- 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."

Cf & Cv VALUES			
Line Size	Trim Size	Cf	Cv
1"	.50"	0.86	5.6
2"	1.25"	0.84	24.0
3"	1.62"	0.82	34.2
4"	2.00"	0.80	55.0
6"	3.00"	0.80	120.0



#### 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 double acting 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 24 to 30 psig or less.

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

A decrease in the Diaphragm Pressure (Yellow) allows the PRELOAD SPRING to move the Stem Assembly downward and close the valve when Upstream Pressure (Green) minus Downstream Pressure (Blue) is 24 to 30 psig or less.

With an effective DIAPHRAGM area five times the INNER VALVE SEAT area, and the PRELOAD SPRING, a differential pressure greater than 24 to 30 psig and/or 6 psig or more Diaphragm Pressure (Yellow) will open the motor valve.



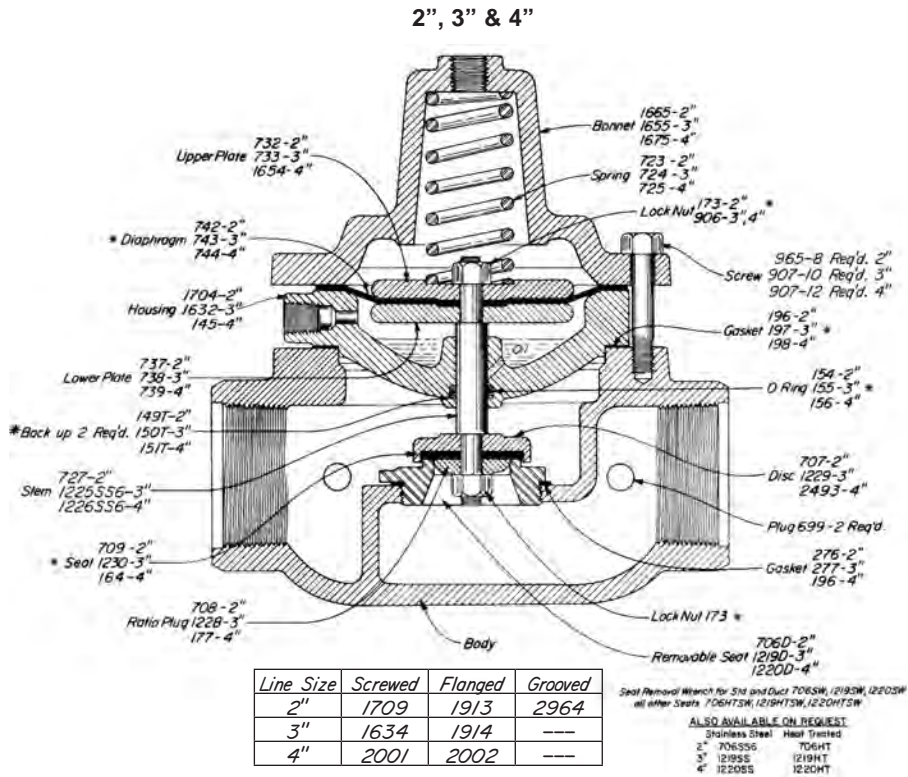
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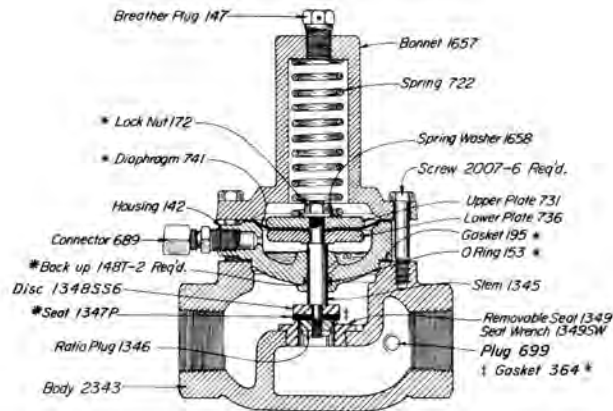
## LOW PRESSURE MOTOR VALVES

### MT 2DA5 WITH REDUCED INNER VALVE DUCTILE IRON

# KIMRAY<sup>®</sup>



1"



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EMB5	1" SCRD.	112 SMT 2DAB	35 -40	125	RHE
EMC5	2" SCRD.	212 SMT 2DA5	24 -30	125	RHF
EMD5	2" FLGD. <sup>a</sup>	212 FMT 2DA5	24 -30	125	RHF
EME5	2" GRVD.	212 GMT 2DA5	24 -30	125	RHF
EMF5	3" SCRD.	312 SMT 2DA5	24 -30	125	RHG
EMG5	3" FLGD. <sup>a</sup>	312 FMT 2DA5	24 -30	125	RHG
EMH5	4" SCRD.	412 SMT 2DA5	24 -30	125	RHH
EMI5	4" FLGD. <sup>a</sup>	412 FMT 2DA5	24 -30	125	RHH

<sup>a</sup>Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified.

E2:60.2  
Issued 12/15

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#### NOTES:

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

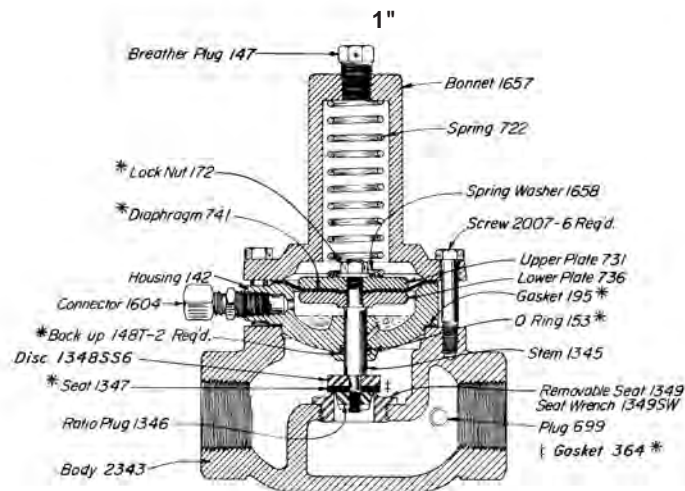
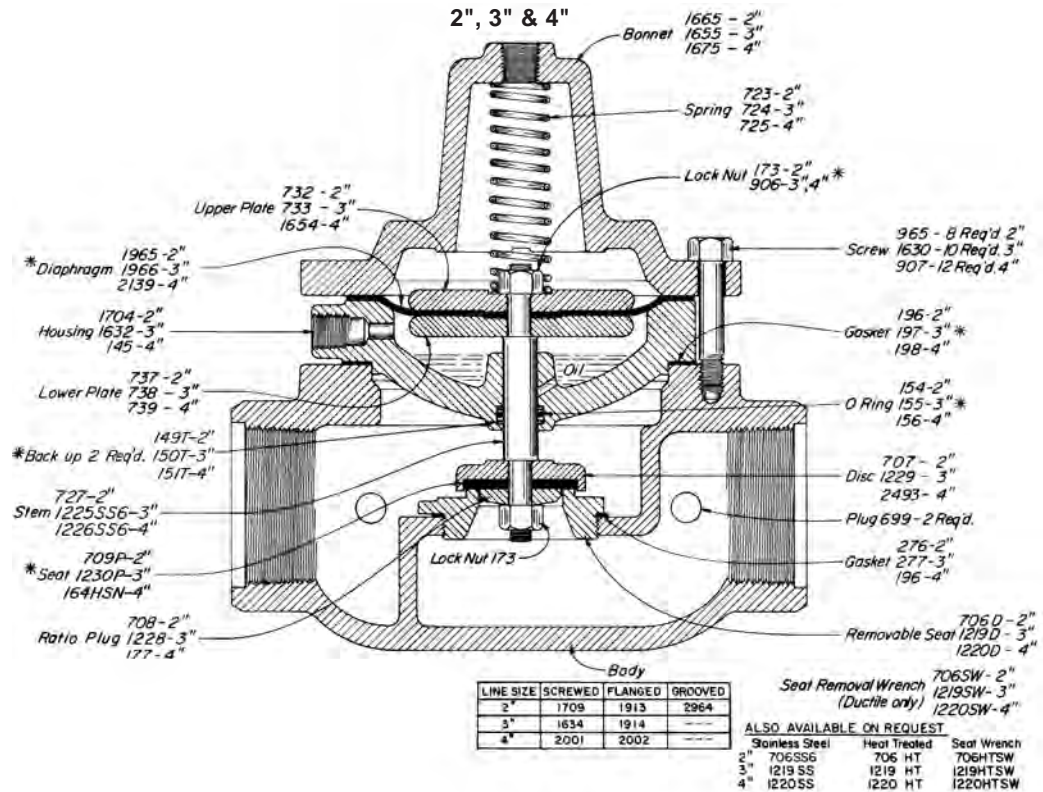
The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

For dimensions refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.

Current Revision:  
Change Lower Housing Numbers





#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EUA5	1" SCRD.	130 SMT 2DAB-D	35 -40	300	RHE
EUB5	2" SCRD.	230 SMT 2DA5-D	35 -40	300	ROI
EUC5	2" FLGD. <sup>a</sup>	218 FMT 2DA 5-D	35 -40	250	ROI
EUD5	2" GRVD.	230 GMT 2DA5-D	35 -40	300	ROI
EUE5	3" SCRD.	330 SMT 2DA5-D	35 -40	300	ROJ
EUF5	3" FLGD. <sup>a</sup>	318 FMT 2DA5-D	35 -40	250	ROJ
EUG5	4" SCRD.	430 SMT 2DA5-D	35 -40	300	ROK
EUH5	4" FLGD. <sup>a</sup>	418 FMT 2DA5-D	35 -40	250	ROK

<sup>a</sup>Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified.

Current Revision:  
Change Seat to HSN

#### NOTES:

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

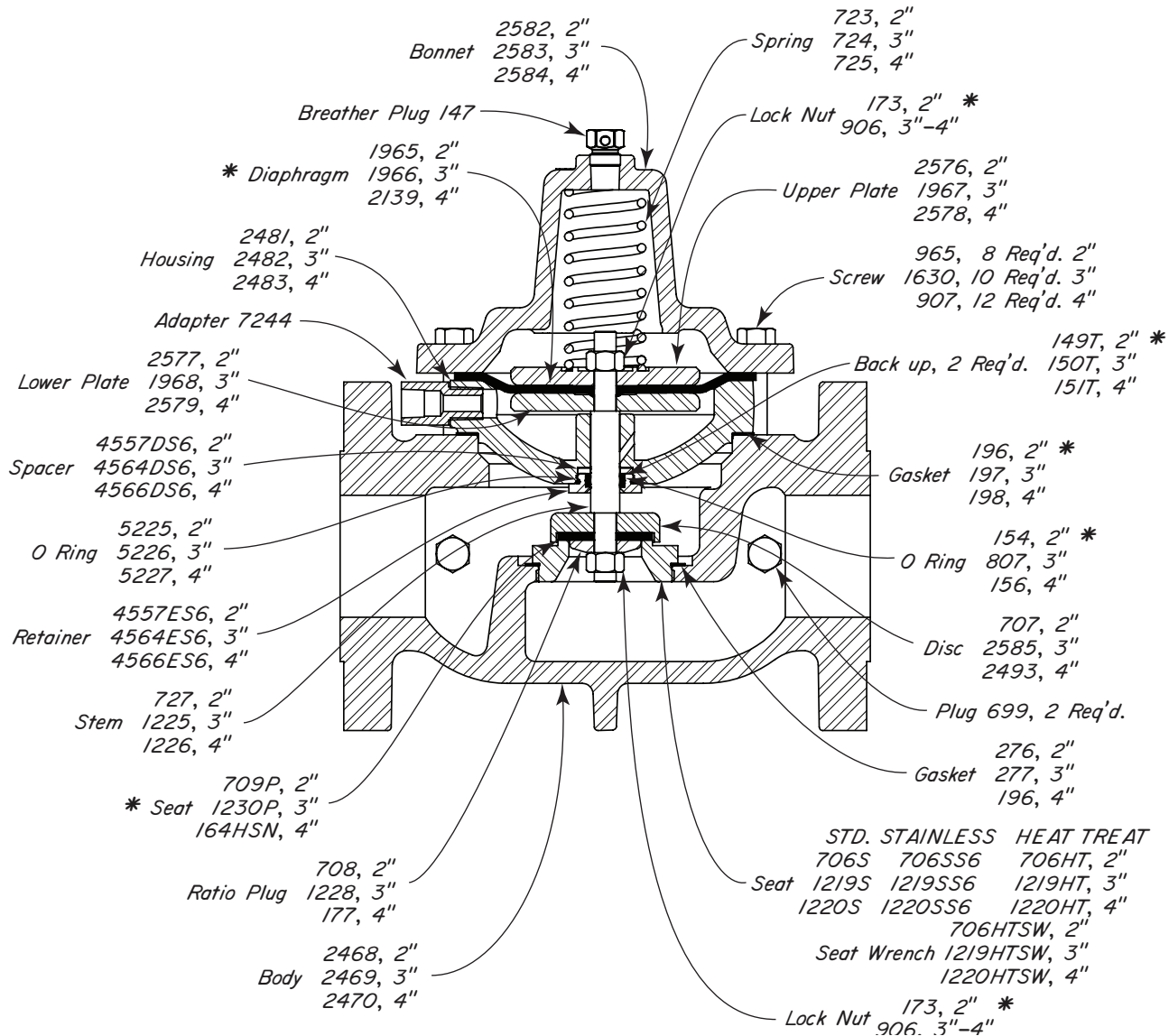
For dimensions refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.

## LOW PRESSURE MOTOR VALVES

### MT 2DA5 WITH REDUCED INNER VALVE STEEL

# KIMRAY<sup>®</sup>



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
END5	2" FLGD. <sup>a</sup>	227 FMT 2DA5-S	24 -30	285	RPW
ENG5	3" FLGD. <sup>a</sup>	327 FMT 2DA5-S	24 -30	285	RPX
ENI5	4" FLGD. <sup>a</sup>	427 FMT 2DA5-S	24 -30	285	RPY

<sup>a</sup>Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified.

#### NOTES:

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

The numbers of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

For dimensions refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.

#### APPLICATIONS:

Liquid metering vessels where a 22 to 25 psig back pressure is desired.

Any system which requires a valve to receive a pilot signal on either or both sides of the main diaphragm.

#### FEATURES:

- Tight shut-off
- Single soft seat
- Full line size opening
- Removable valve seat
- Ratio of diaphragm to seat area is 2:1
- Spring loaded to hold 22 to 25 psig back pressure
- Minimum maintenance
- All internal parts can be removed with valve in line.

#### 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."

Cf & Cv VALUES			
Line Size	Trim Size	Cf	Cv
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

#### 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.

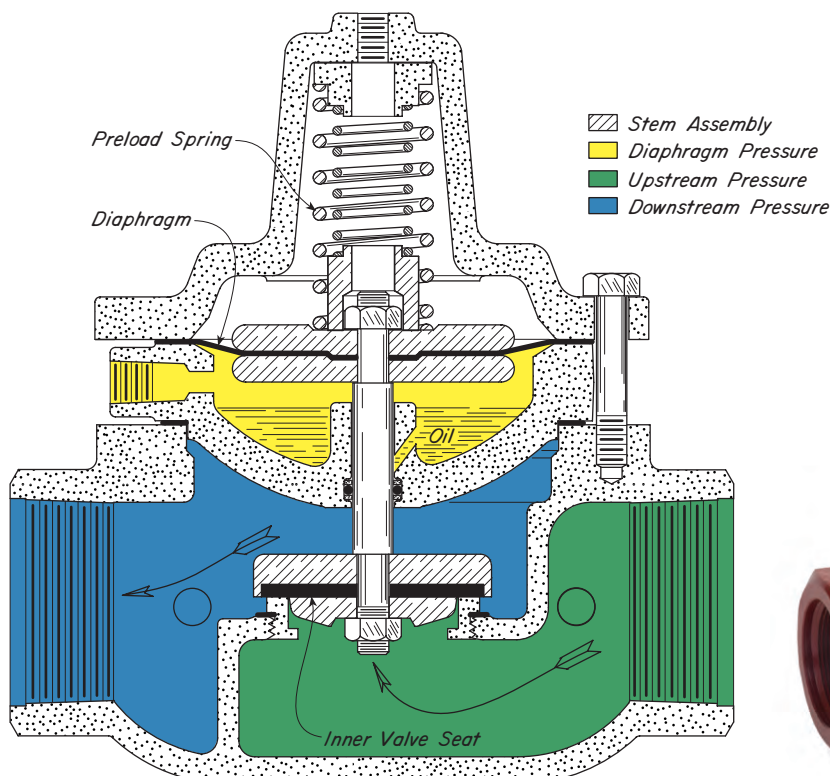
#### OPERATION:

The Stem Assembly is the only moving unit in the double acting 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 22 to 25 psig or less.

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

A decrease in the Diaphragm Pressure (Yellow) allows the PRELOAD SPRING to move the Stem Assembly downward and close the valve when Upstream Pressure (Green) minus Downstream Pressure (Blue) is 22 to 25 psig or less.

With an effective DIAPHRAGM area two times the INNER VALVE SEAT area, and the PRELOAD SPRING, a differential pressure greater than 22 to 25 psig and/or 12 psig or more Diaphragm Pressure (Yellow) will open the motor valve.



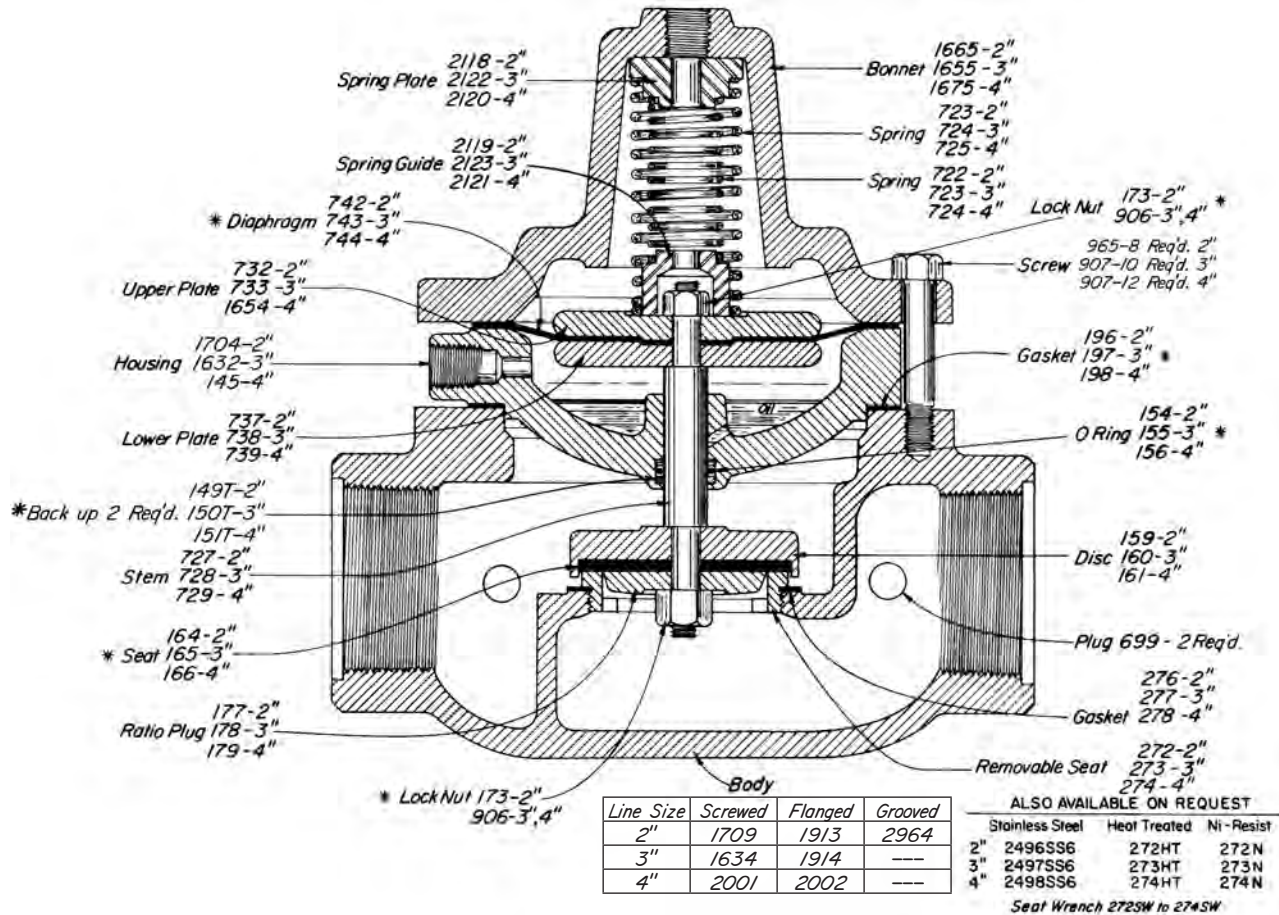
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## LOW PRESSURE MOTOR VALVES

### MT 4DA DOUBLE ACTING DUCTILE IRON

# KIMRAY<sup>®</sup>



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EMC6	2" SCRD.	212 SMT 4DA	22 -25	175	RGT
EMD6	2" FLGD.*	212 FMT 4DA	22 -25	175	RGT
EME6	2" GRVD.	212 GMT 4DA	22 -25	175	RGT
EMF6	3" SCRD.	312 SMT 4DA	22 -25	175	RGU
EMG6	3" FLGD.*	312 FMT 4DA	22 -25	175	RGU
EMH6	4" SCRD.	412 SMT 4DA	22 -25	175	RGW
EMI6	4" FLGD.*	412 FMT 4DA	22 -25	175	RGW

\*Companion flanges, nuts, bolts and gaskets are furnished at extra cost. Refer to Section "Y" for ordering.

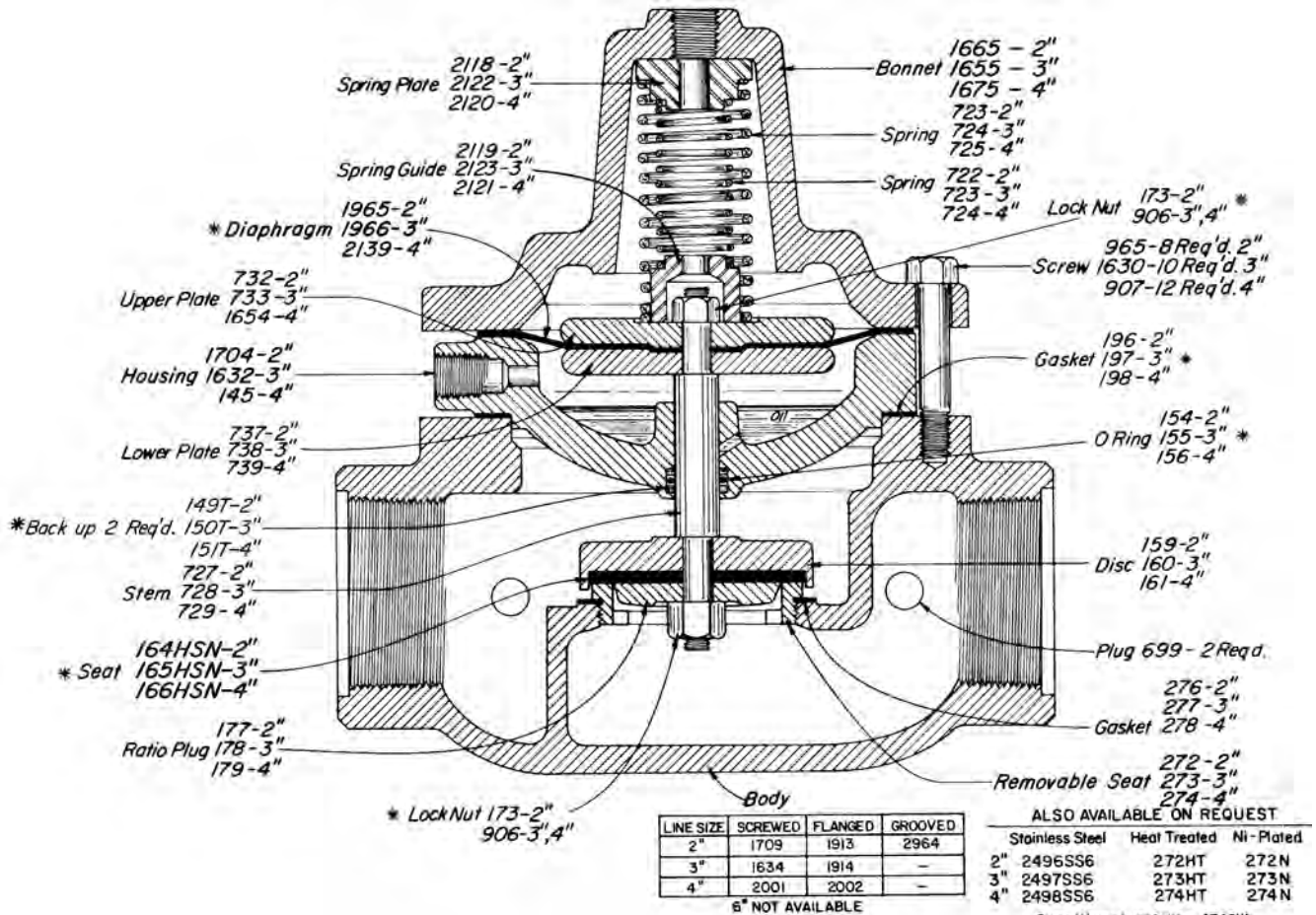
#### NOTES:

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

The number of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

Kimray is an ISO 9001- certified manufacturer.





#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EUB6	2" SCRD.	230 SMT 4DA-D	22 -35	300	RNU
EUC6	2" FLGD.	218 FMT 4DA-D	22 -35	250	RNU
EUD6	2" GRVD.	230 GMT 4DA-D	22 -35	300	RNU
EUE6	3" SCRD.	330 SMT 4DA-D	22 -35	300	RNW
EUF6	3" FLGD.	318 FMT 4DA-D	22 -35	250	RNW
EUG6	4" SCRD.	430 SMT 4DA-D	22 -35	300	RNX
EUH6	4" FLGD.	418 FMT 4DA-D	22 -35	250	RNX

#### NOTES:

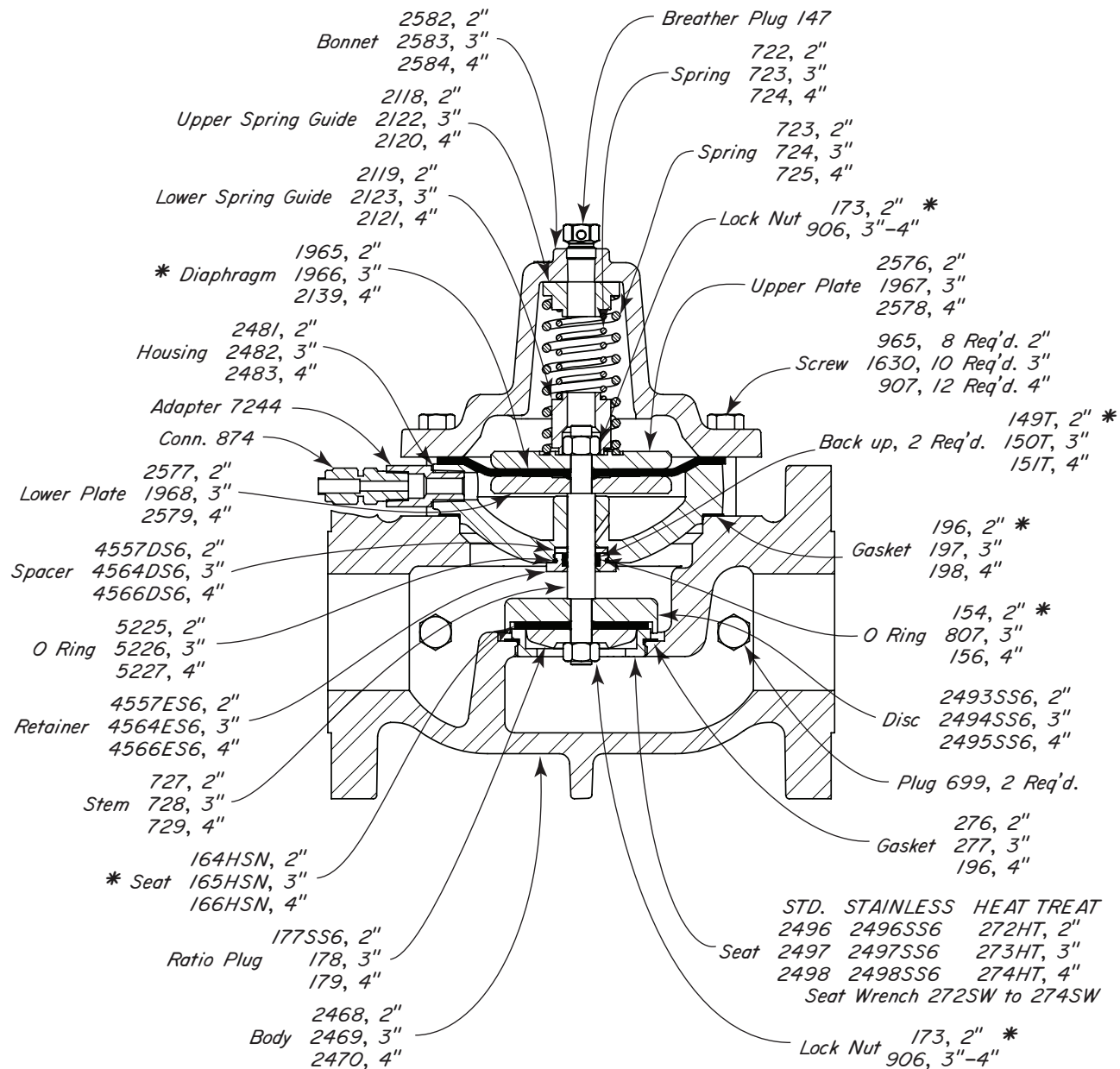
\*These are recommended spare parts and are stocked as repair kits.

The number of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4".

# LOW PRESSURE MOTOR VALVES

# KIMRAY INC.®

## MT 4DA DOUBLE ACTING STEEL



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
END6	2" FLGD.	227 FMT 4DA-S	22 -35	285	ROM
ENG6	3" FLGD.	327 FMT 4DA-S	22 -35	285	RON
ENI6	4" FLGD.	427 FMT 4DA-S	22 -35	285	ROO

### NOTES:

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

The number of a series assigned to a part indicate different line sizes. For example: Gasket 196-2", 197-3", 198-4"

#### APPLICATIONS:

Liquid metering vessels where a 44 to 50 psig back pressure is desired.

Any system which requires a valve to receive a pilot signal on either or both sides of the main diaphragm.

#### FEATURES:

- Tight shut-off
- Single soft seat
- Removable valve seat
- Ratio of diaphragm to seat area is 5:1
- Controls approximately 5 times signal pressure
- Spring loaded to hold 44 to 50 psig back pressure
- Minimum maintenance
- All internal parts can be removed with valve in line

#### 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:

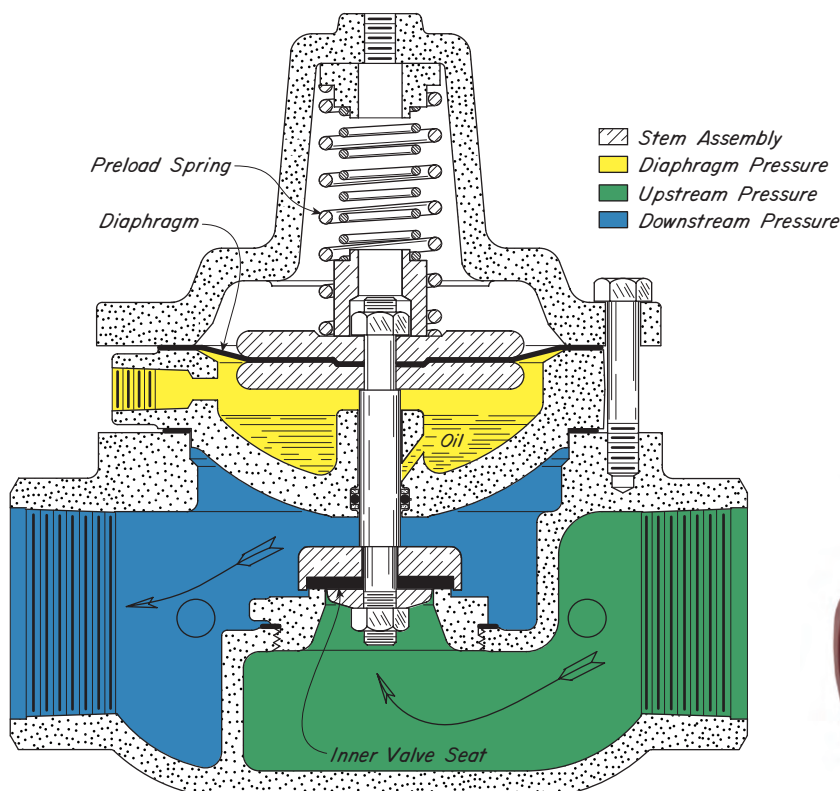
The Stem Assembly is the only moving unit in the double acting motor valve. The PRELOAD SPRING loads the Stem Assembly closing the valve if there is no Diaphragm Pressure (Yellow) and if Upstream Pressure (Green) minus downstream Pressure (Blue) is 44 to 50 psig or less.

An increase in Diaphragm Pressure (Yellow) and/or an increase in the 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 and close the valve when Upstream Pressure (Green) minus Downstream Pressure (Blue) is 44 to 50 psig or less.

With an effective DIAPHRAGM area five times the INNER VALVE SEAT area, and the PRELOAD SPRING, a differential pressure greater than 44 to 50 psig and/or 10 psig or more Diaphragm Pressure (Yellow) will open the motor valve.

Cf & Cv VALUES			
Line Size	Trim Size	Cf	Cv
1"	.50"	0.86	5.6
2"	1.25"	0.84	24.0
3"	1.62"	0.82	34.2
4"	2.00"	0.80	55.0
6"	3.00"	0.80	120.0



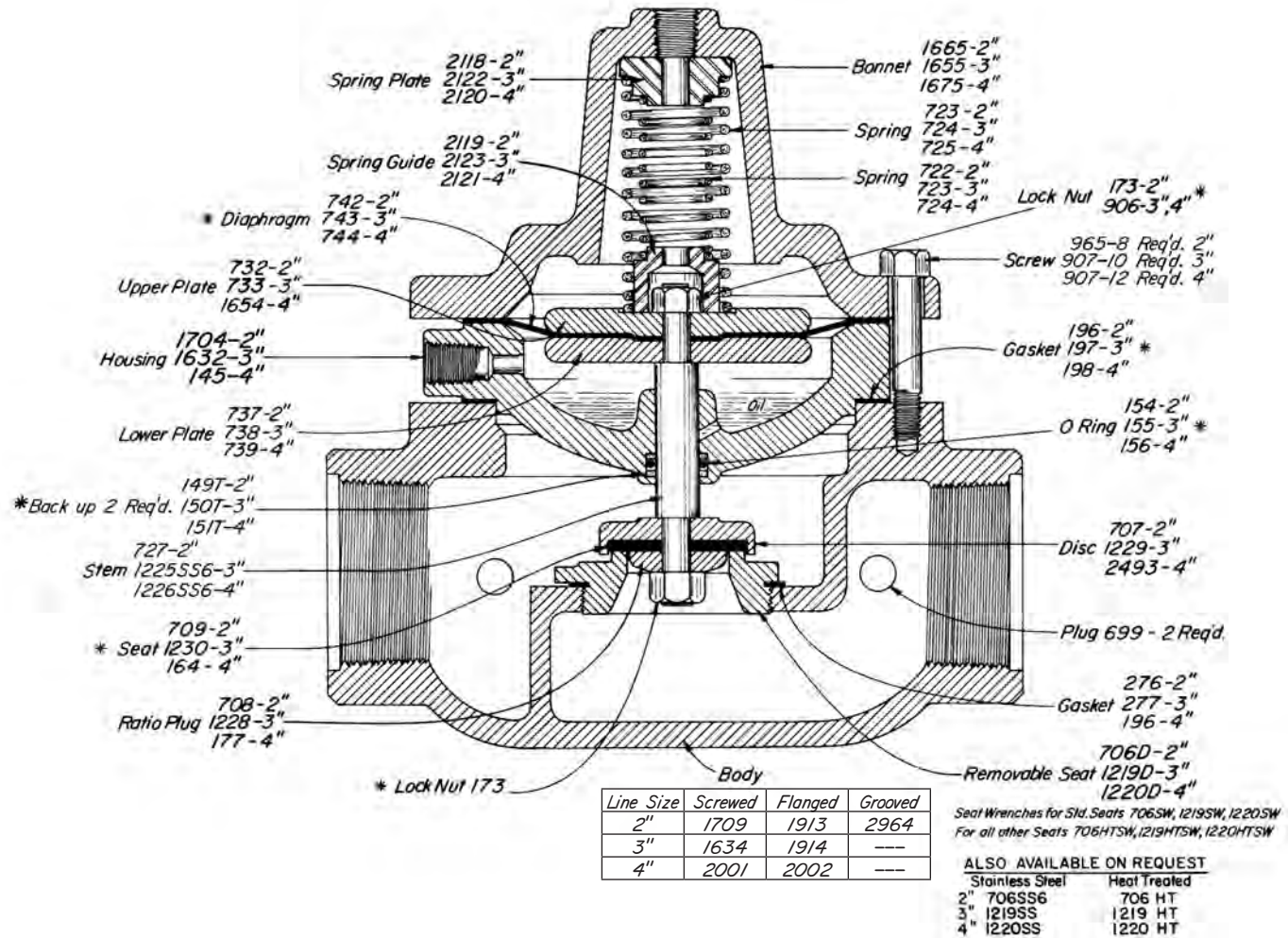
Kimray is an ISO 9001- certified manufacturer.



## LOW PRESSURE MOTOR VALVES

MT 4DA5 WITH REDUCED INNER VALVE  
DUCTILE IRON

# KIMRAY<sup>®</sup>



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EMC7	2" SCR.D.	212 SMT 4DA5	44 -50	175	RHF
EMD7	2" FLGD.*	212 FMT 4DA5	44 -50	175	RHF
EME7	2" GRVD.	212 GMT 4DA5	44 -50	175	RHF
EMF7	3" SCR.D.	312 SMT 4DA5	44 -50	175	RHG
EMG7	3" FLGD.*	312 FMT 4DA5	44 -50	175	RHG
EMH7	4" SCR.D.	412 SMT 4DA5	44 -50	175	RHH
EMI7	4" FLGD.*	412 FMT 4DA5	44 -50	175	RHH

\*Companion flanges, nuts, bolts and gaskets are furnished at extra cost. Refer to Section "Y" for ordering.

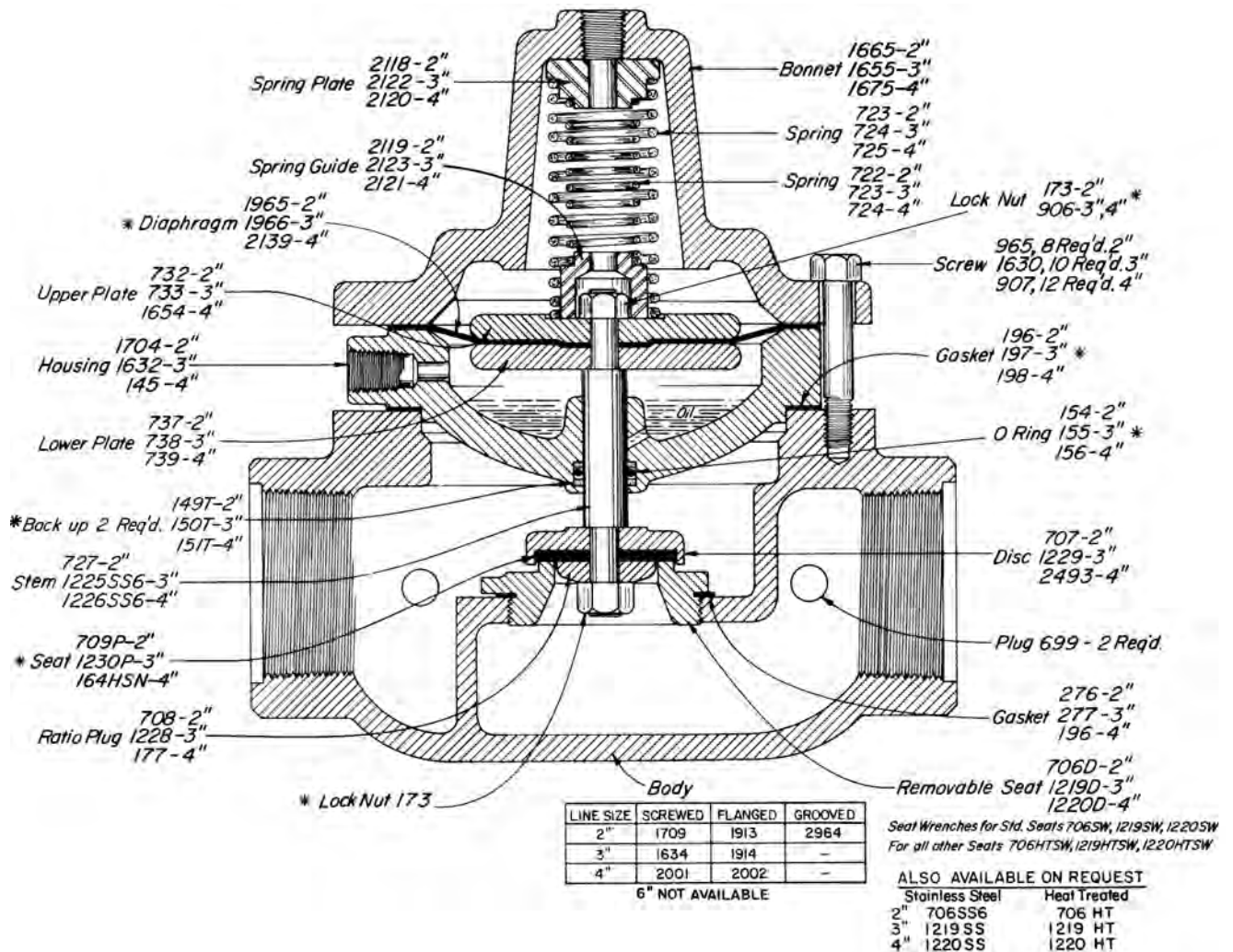
### NOTES:

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

The number of a series assigned to a part indicate different line sizes. For example: 196-2", 197-3", 198-4"

Kimray is an ISO 9001- certified manufacturer.





#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
EUB7	2" SCRD.	230 SMT 4DA5-D	44 -50	300	ROI
EUC7	2" FLGD.*	218 FMT 4DA5-D	44 -50	250	ROI
EUE7	3" SCRD.	330 SMT 4DA5-D	44 -50	300	ROJ
EUF7	3" FLGD.*	318 FMT 4DA5-D	44 -50	250	ROJ
EUG7	4" SCRD.	430 SMT 4DA5-D	44 -50	300	ROK
EUH7	4" FLGD.*	418 FMT 4DA5-D	44 -50	250	ROK

\*Companion flanges, nuts, bolts and gaskets are furnished at extra cost.  
Refer to Section "Y" for ordering.

#### NOTES:

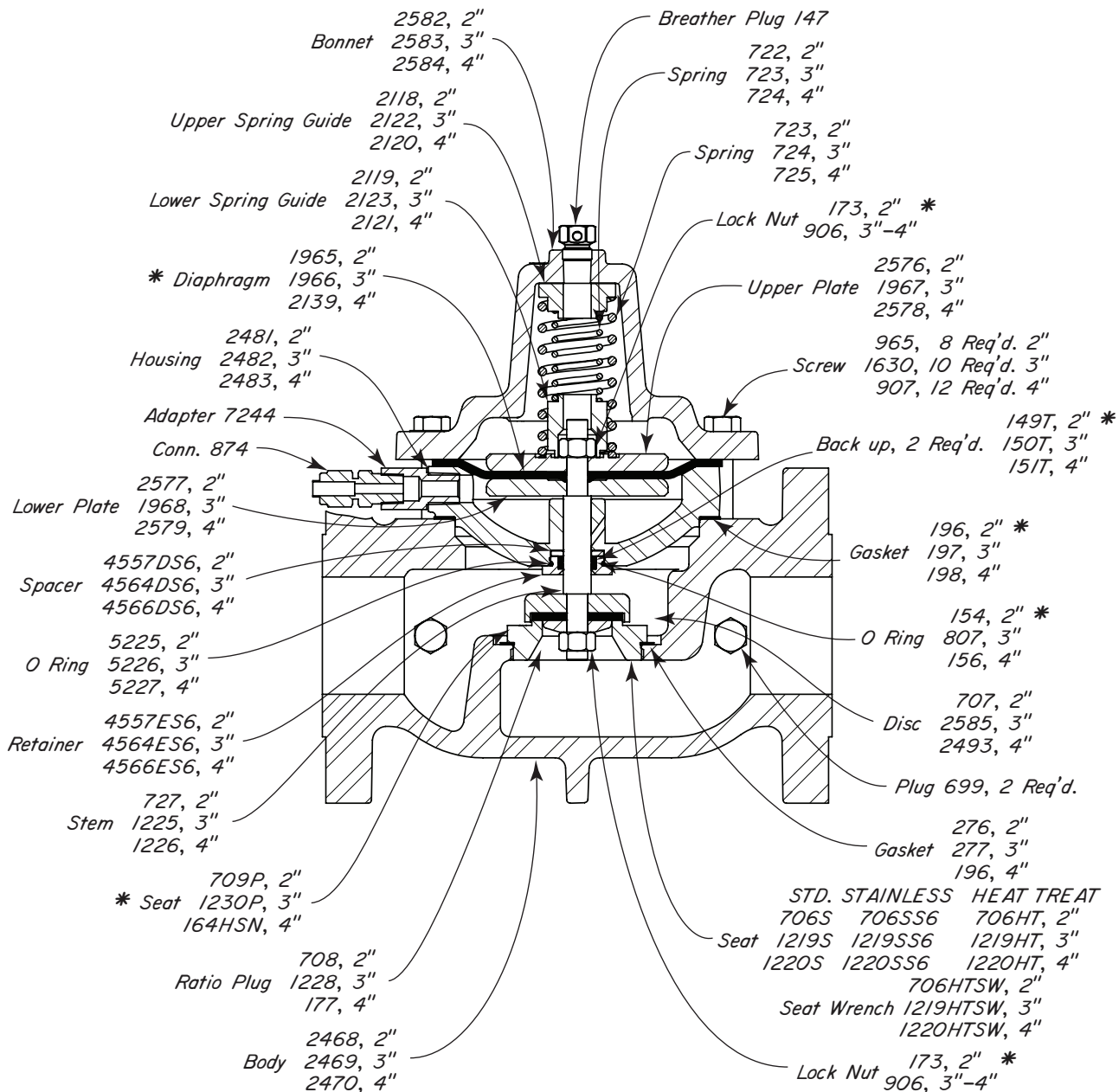
\*These are recommended spare parts and are stocked as repair kits.

The number of a series assigned to a part indicate different line sizes. For example: 196-2", 197-3", 198-4"

## LOW PRESSURE MOTOR VALVES

# KIMRAY INC.®

### MT 4DA5 WITH REDUCED INNER VALVE STEEL



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
END7	2" FLGD.*	227 FMT 4DA5-S	44 -50	285	RPW
ENG7	3" FLGD.*	327 FMT 4DA5-S	44 -50	285	RPX
ENI7	4" FLGD.*	427 FMT 4DA5-S	44 -50	285	RPY

#### NOTES:

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

The number of a series assigned to a part indicate different line sizes. For example: 196-2", 197-3", 198-4"

### 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

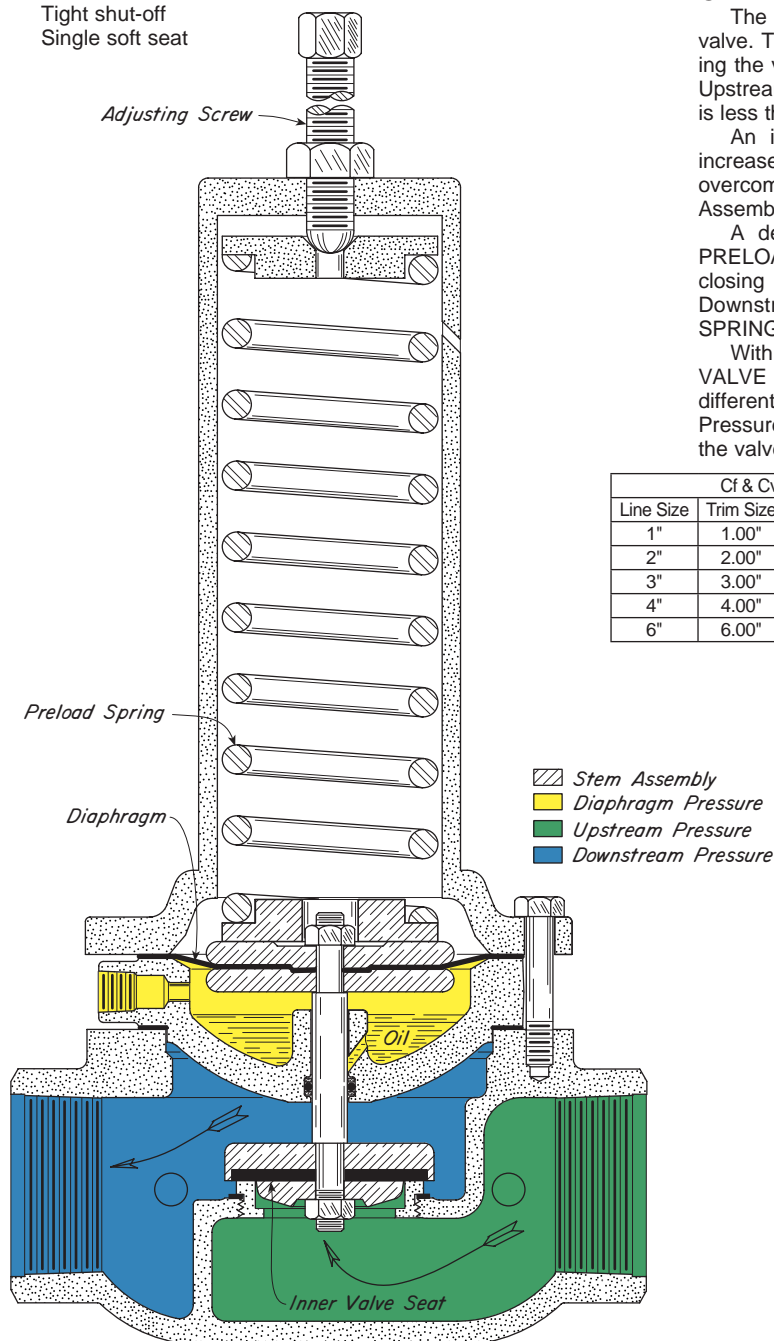
5 to 250 psig optional on 2" ductile and steel

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



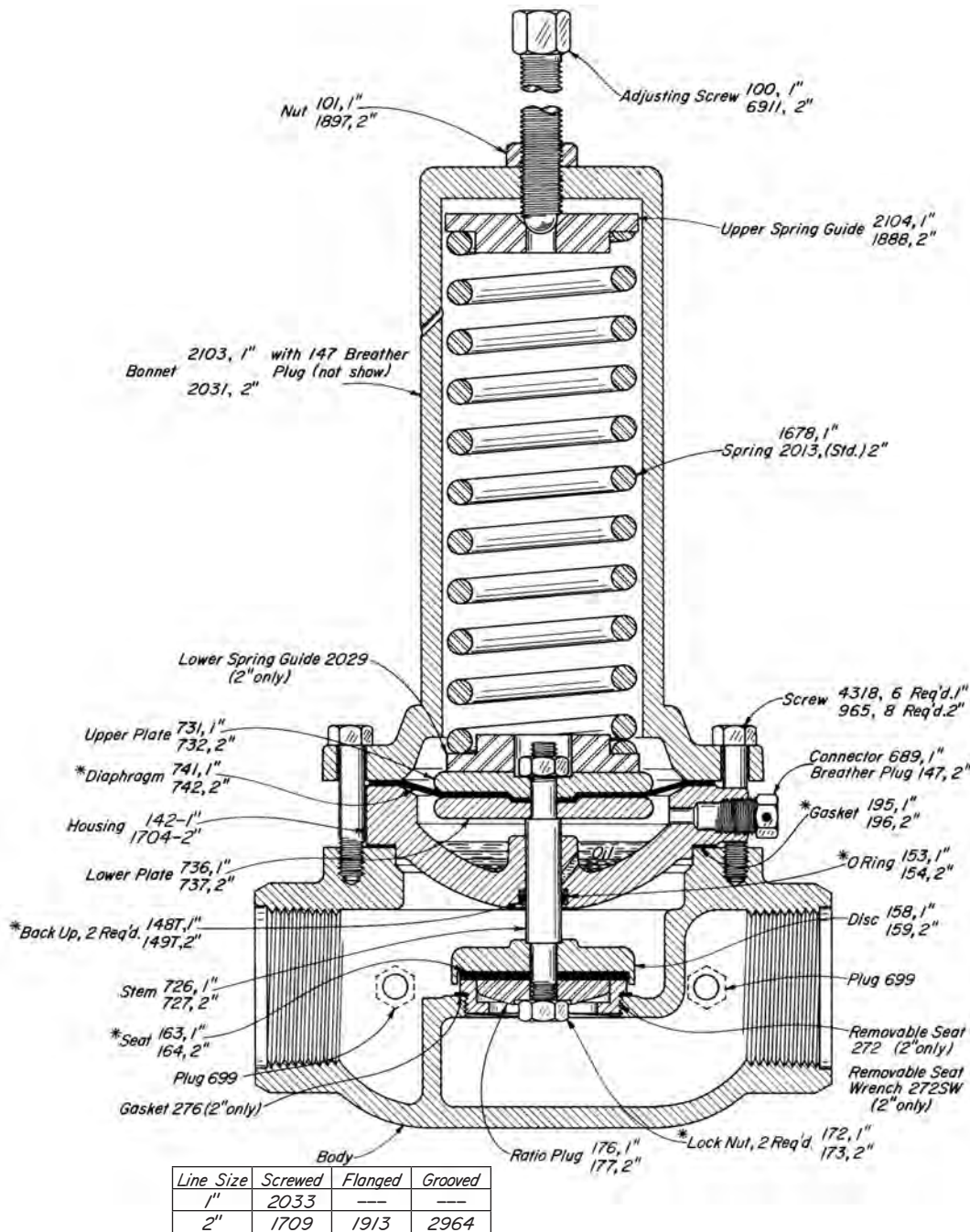
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## LOW PRESSURE MOTOR VALVES

MT ADA ADJUSTABLE DOUBLE ACTING  
DUCTILE IRON

# KIMRAY<sup>®</sup>



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE	TYPE	MOTOR VALVES	MAX. W.P.	MAX. DIFF. PRESS.	KIT
ABC	1"	SCRD.	112 SMT ADA	175	40	RGS
ATC	2"	SCRD.	212 SMT ADA	175	175	RGT
ATD	2"	FLGD.	212 FMT ADA	175	175	RGT
ATE	2"	GRVD.	212 GMT ADA	175	175	RGT

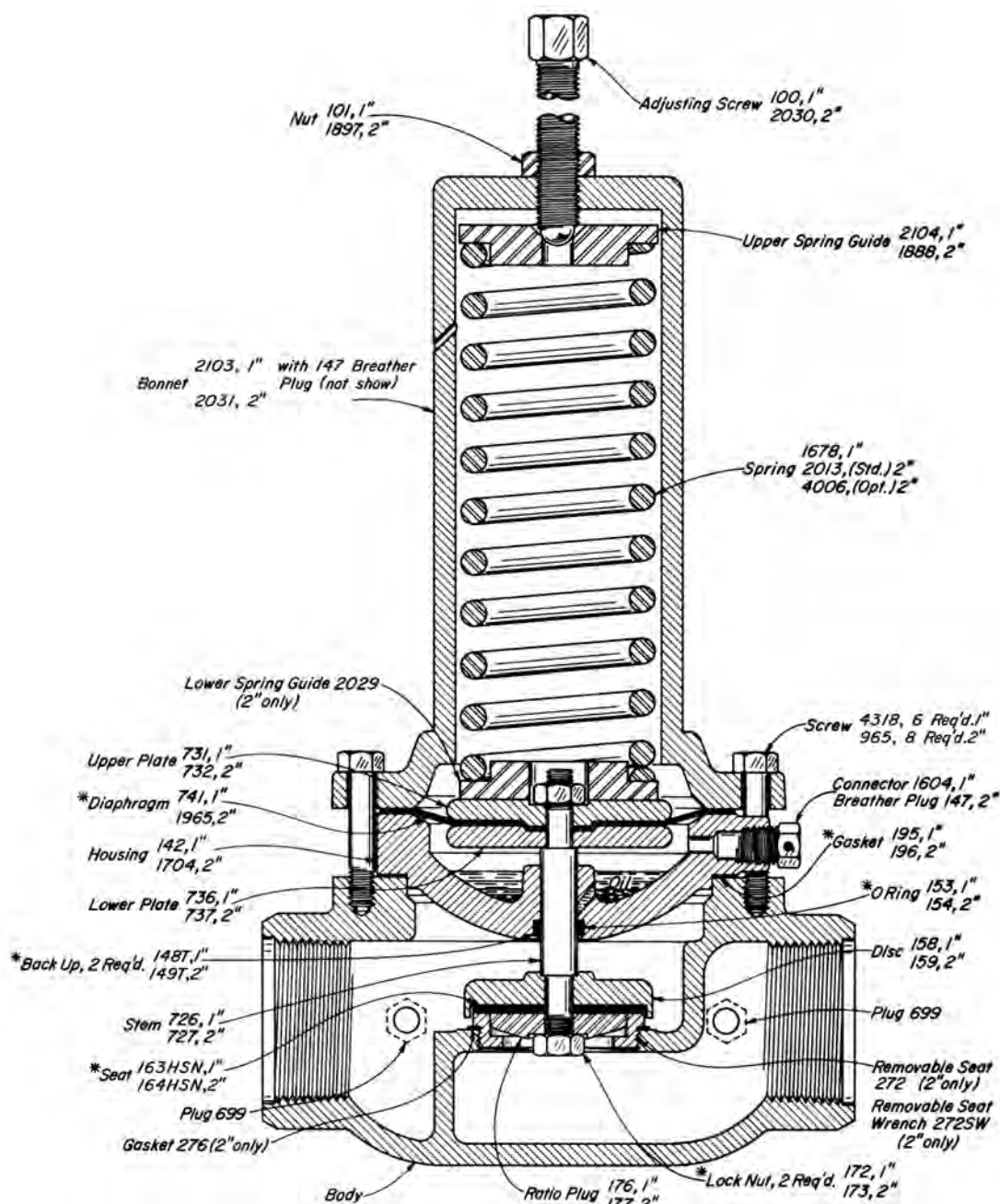
### NOTES:

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

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

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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 SMT ADA-D	250	175	RGT
ATE3	2"	GRVD.	230 SMT 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.

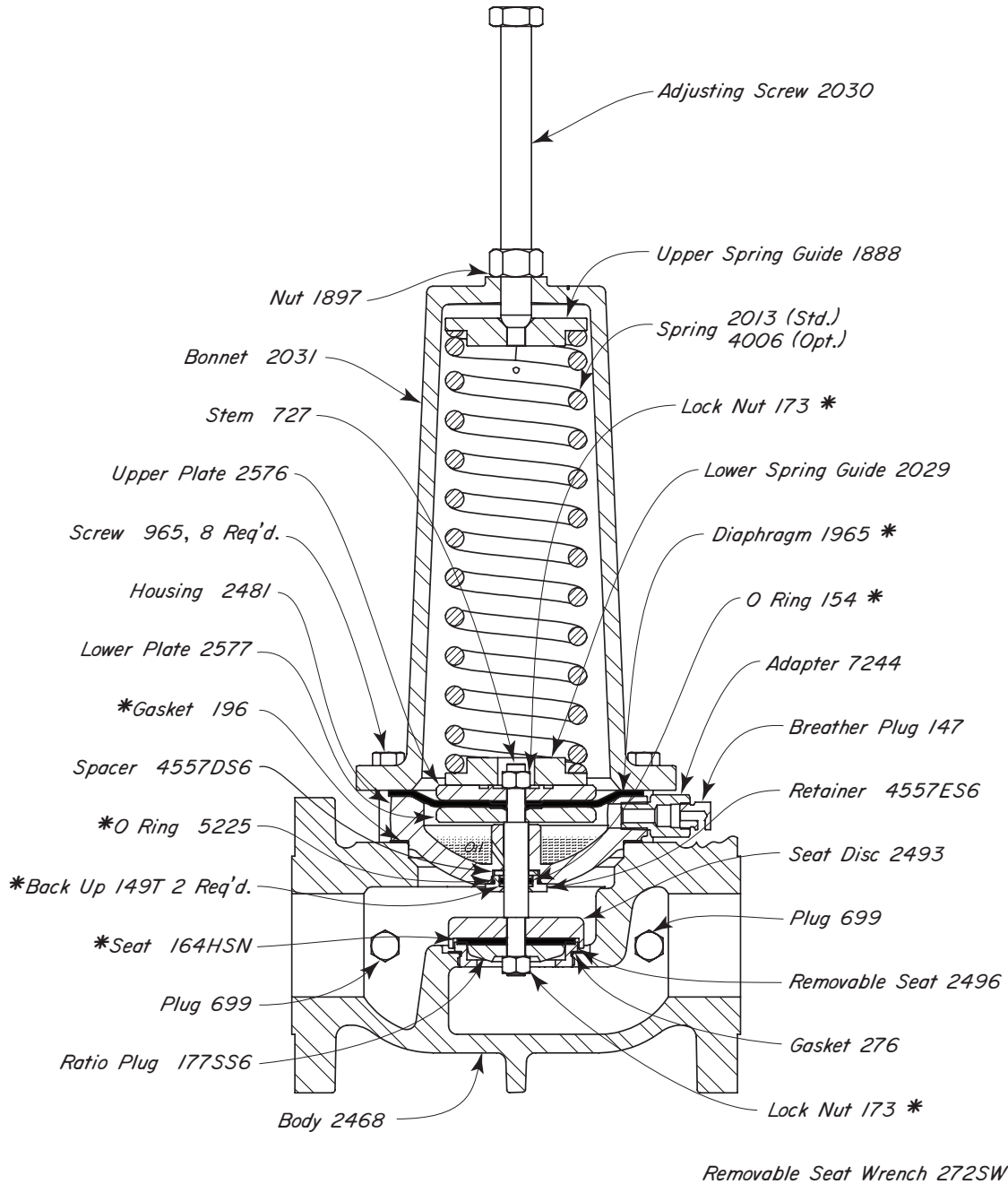
NOTE: The numbers of a series assigned to a part indicated different line sizes. For example: Diaphragm 741-1", 742-2"

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## LOW PRESSURE MOTOR VALVES

### MT ADA ADJUSTABLE DOUBLE ACTING STEEL

# KIMRAY<sup>®</sup>



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE	TYPE	MOTOR VALVES	MAX. W.P.	MAX. DIFF. PRESS.	KIT
ATC4	2"	FLGD.	227 FMT ADA-S	285	175	ROM

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

#### NOTES:

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

#### APPLICATIONS:

Liquid metering vessels where a 5 to 80 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:

Tight shut-off

Single soft seat

Removable valve seat

Ratio of diaphragm to seat area is 8:1

Controls approximately 8 times signal pressure

Spring adjustment from 5 to 80 psig

Minimum maintenance

All internal parts can be removed with valve in line

#### 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.

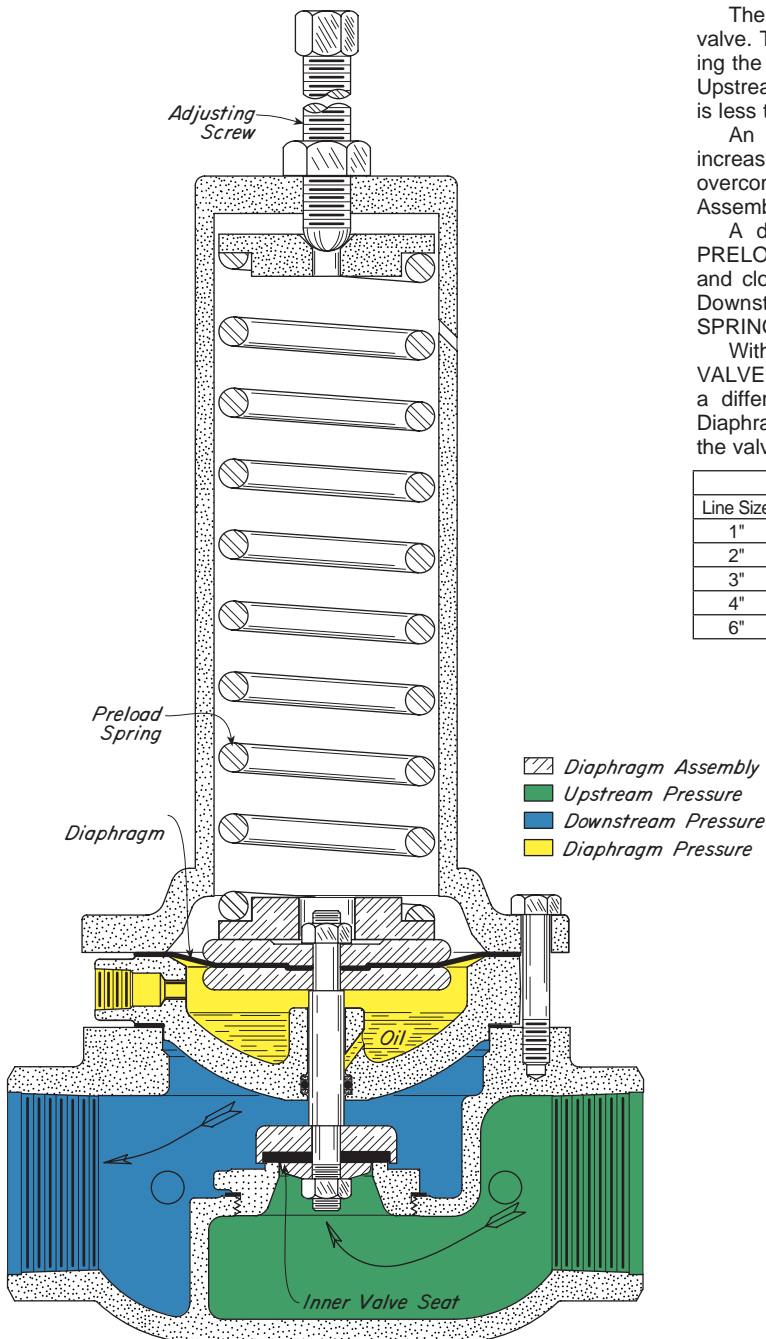
#### OPERATION:

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 upwards, opening the valve.

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

With an effective DIAPHRAGM area eight times the INNER VALVE SEAT area, and an adjustable PRELOAD SPRING, a differential pressure ranging from 5 to 80 psig and/or a Diaphragm Pressure (Yellow) ranging from 3 to 10 psig will open the valve depending on the PRELOAD SPRING setting.



Cf & Cv VALUES			
Line Size	Trim Size	Cf	Cv
1"	.50"	0.86	5.6
2"	1.25"	0.84	24.0
3"	1.62"	0.82	34.2
4"	2.00"	0.80	55.0
6"	3.00"	0.80	120.0

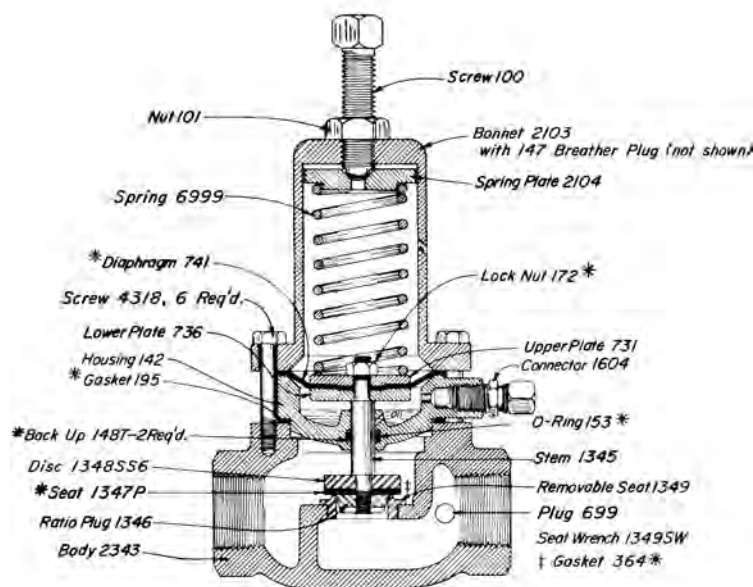


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## LOW PRESSURE MOTOR VALVES

MT ADAB ADJ. DOUBLE ACTING w/REDUCED INNER VALVE  
DUCTILE IRON

# KIMRAY<sup>®</sup>



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVE	OPER. PRESS.	MAX. W.P.	KIT
ABC2	1" SCRD.	130 SMT ADAB-D	80	300	RHE

### NOTES:

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

For dimensions refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.

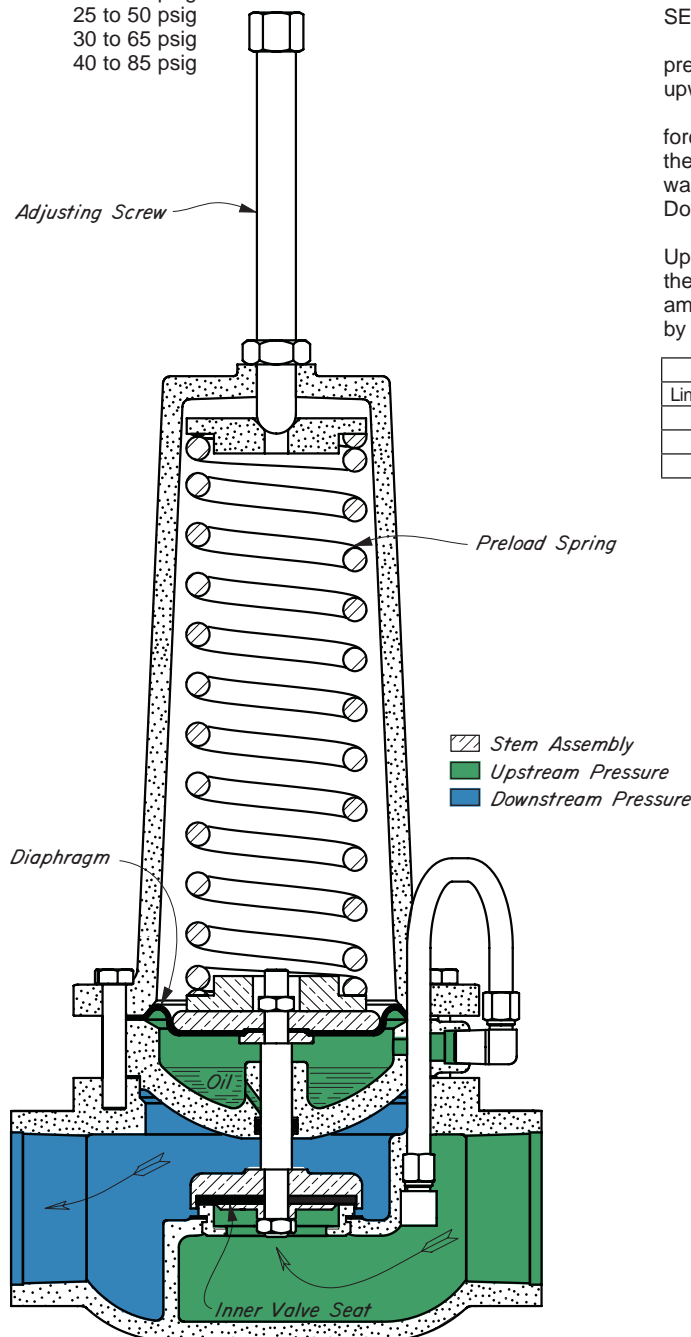


#### APPLICATIONS:

Liquid or gas systems where a 0 to 85 psig adjustable back pressure is desired, such as treaters, free water knockouts, pressure vessels, vent lines on separators, flow treaters, compressor stations, and gas gathering systems.

#### FEATURES:

- Single adjustment
- Single soft seat
- Removable valve seat
- Minimum maintenance
- All internal parts can be removed with valve in line
- Spring adjustment:
  - 0 to 10 psig
  - 10 to 20 psig
  - 15 to 30 psig
  - 25 to 50 psig
  - 30 to 65 psig
  - 40 to 85 psig



#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
 0C15676.24567890NTY (Ductile)  
 0C15331.24567890NTY (Steel)

#### 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 and is opposed by Upstream Pressure (Green) on the under side of the DIAPHRAGM plus the differential of Upstream Pressure (Green) minus Downstream Pressure (Blue) across the INNER VALVE SEAT.

An increase in Upstream Pressure (Green) exceeding the set pressure of the PRELOAD SPRING moves the Stem Assembly upward, opening the INNER VALVE SEAT.

A decrease in Upstream Pressure (Green) decreases the force on the INNER VALVE SEAT and DIAPHRAGM allowing the PRELOAD SPRING to move the Stem Assembly downward reducing the flow from Upstream Pressure (Green) to Downstream Pressure (Blue).

The interaction between the PRELOAD SPRING and the Upstream Pressure (Green) on the INNER VALVE SEAT and the DIAPHRAGM will cause the valve to open or close the amount required to maintain the Upstream Pressure (Green) set by the ADJUSTING SCREW.

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

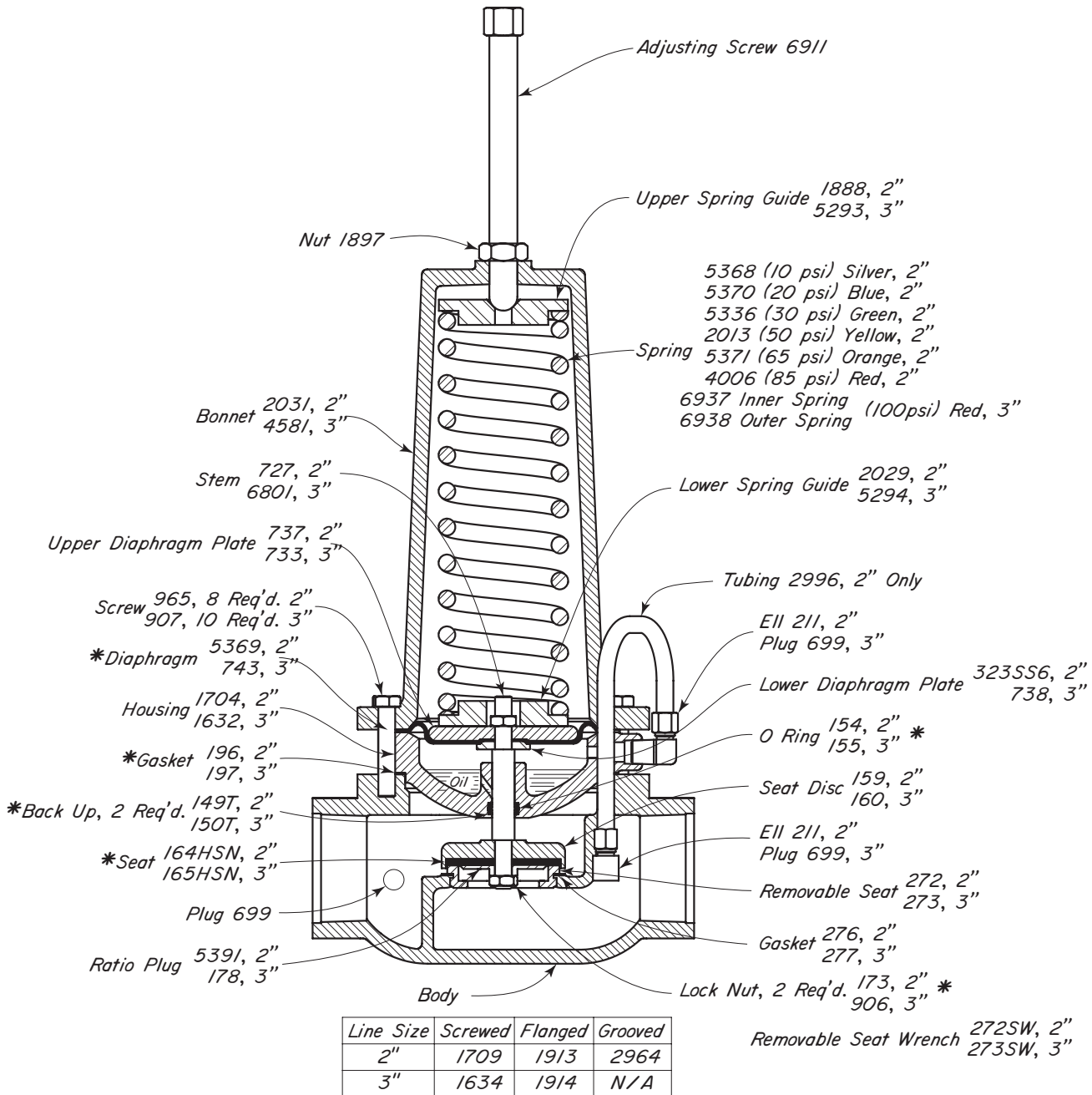


Kimray is an ISO 9001- certified manufacturer.

## LOW PRESSURE MOTOR VALVES

MT BP SPRING LOADED BACK PRESSURE  
DUCTILE IRON

# KIMRAY<sup>®</sup>



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER PRESS	MAX. W.P.	KIT
AMN1	2" SCRD.	201 SMT BP	0-10	175	RGT1
AMN2	2" SCRD.	202 SMT BP	10-20	175	RGT1
AMN3	2" SCRD.	203 SMT BP	15-30	175	RGT1
AMN5	2" SCRD.	205 SMT BP	25-50	175	RGT1
AMN6	2" SCRD.	206 SMT BP	30-65	175	RGT1
AMN8	2" SCRD.	208 SMT BP	40-85	175	RGT1
AMO1	2" GRVD.	201 GMT BP	0-10	175	RGT1
AMO2	2" GRVD.	202 GMT BP	10-20	175	RGT1
AMO3	2" GRVD.	203 GMT BP	15-30	175	RGT1
AMO5	2" GRVD.	205 GMT BP	25-50	175	RGT1
AMO6	2" GRVD.	206 GMT BP	30-65	175	RGT1
AMO8	2" GRVD.	208 GMT BP	40-85	175	RGT1

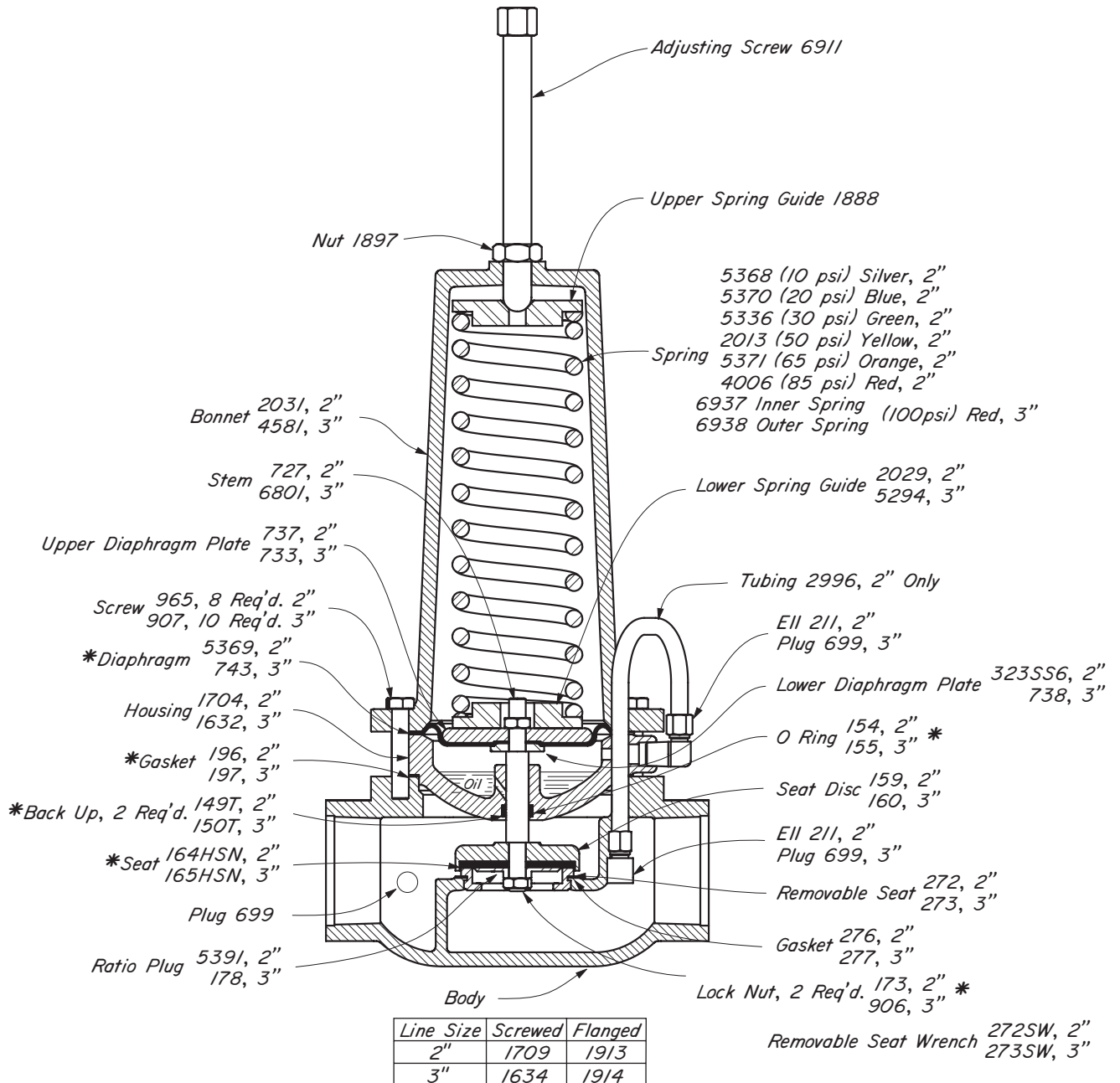
### THRU VALVES AVAILABLE CONT'D:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER PRESS	MAX. W.P.	KIT
AMP1	2" FLGD.	201 FMT BP	0-10	175	RGT1
AMP2	2" FLGD.	202 FMT BP	10-20	175	RGT1
AMP3	2" FLGD.	203 FMT BP	15-30	175	RGT1
AMP5	2" FLGD.	205 FMT BP	25-50	175	RGT1
AMP6	2" FLGD.	206 FMT BP	30-65	175	RGT1
AMP8	2" FLGD.	208 FMT BP	40-85	175	RGT1
ENS	3" SCRD.	310 SMT BP	10-100	175	RTD
ENT	3" FLGD.	310 FMT BP	10-100	175	RTD

#### NOTES:

\*These are recommended spare parts and are stocked as repair kits. Dimensions, refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER PRESS	MAX. W.P.	KIT
AMU1	2" SCR.D.	201 SMT BP-D	0-10	300	RNU1
AMU2	2" SCR.D.	202 SMT BP-D	10-20	300	RNU1
AMU3	2" SCR.D.	203 SMT BP-D	15-30	300	RNU1
AMU5	2" SCR.D.	205 SMT BP-D	25-50	300	RNU1
AMU6	2" SCR.D.	206 SMT BP-D	30-65	300	RNU1
AMU8	2" SCR.D.	208 SMT BP-D	40-85	300	RNU1
AMW1	2" FLGD.	201 FMT BP-D	0-10	250	RNU1
AMW2	2" FLGD.	202 FMT BP-D	10-20	250	RNU1
AMW3	2" FLGD.	203 FMT BP-D	15-30	250	RNU1
AMW5	2" FLGD.	205 FMT BP-D	25-50	250	RNU1
AMW6	2" FLGD.	206 FMT BP-D	30-65	250	RNU1
AMW8	2" FLGD.	208 FMT BP-D	40-85	250	RNU1

#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER PRESS	MAX. W.P.	KIT
ENU	3" SCR.D.	310 SMT BP-D	10-100	300	RTD
ENZ	3" FLGD.	310 FMT BP-D	10-100	285	RTD

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

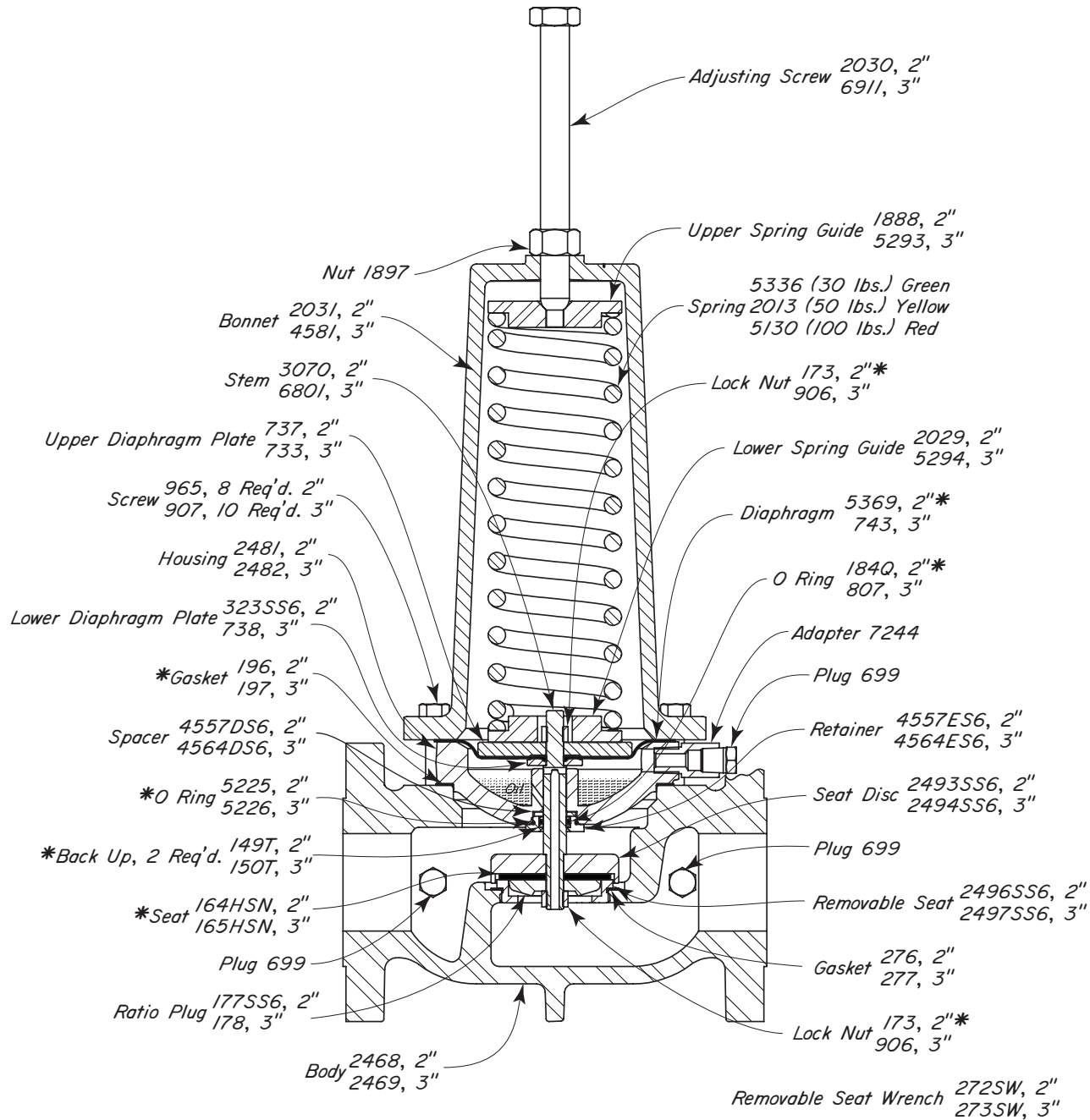
Dimensions, refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.

## LOW PRESSURE MOTOR VALVES

### MT BP SPRING LOADED BACK PRESSURE STEEL

# KIMRAY<sup>®</sup>



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER. PRESS.	MAX. W.P.	KIT
ALZ4	2" FLGD.	204 FMT BP-S	15-30	285	RNP
ALZ6	2" FLGD.	206 FMT BP-S	25-50	285	RNP
MGB	3" FLGD.	310 FMT BP-S	10-100	285	RTD

#### NOTES:

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

For dimensions refer to Table of Contents.

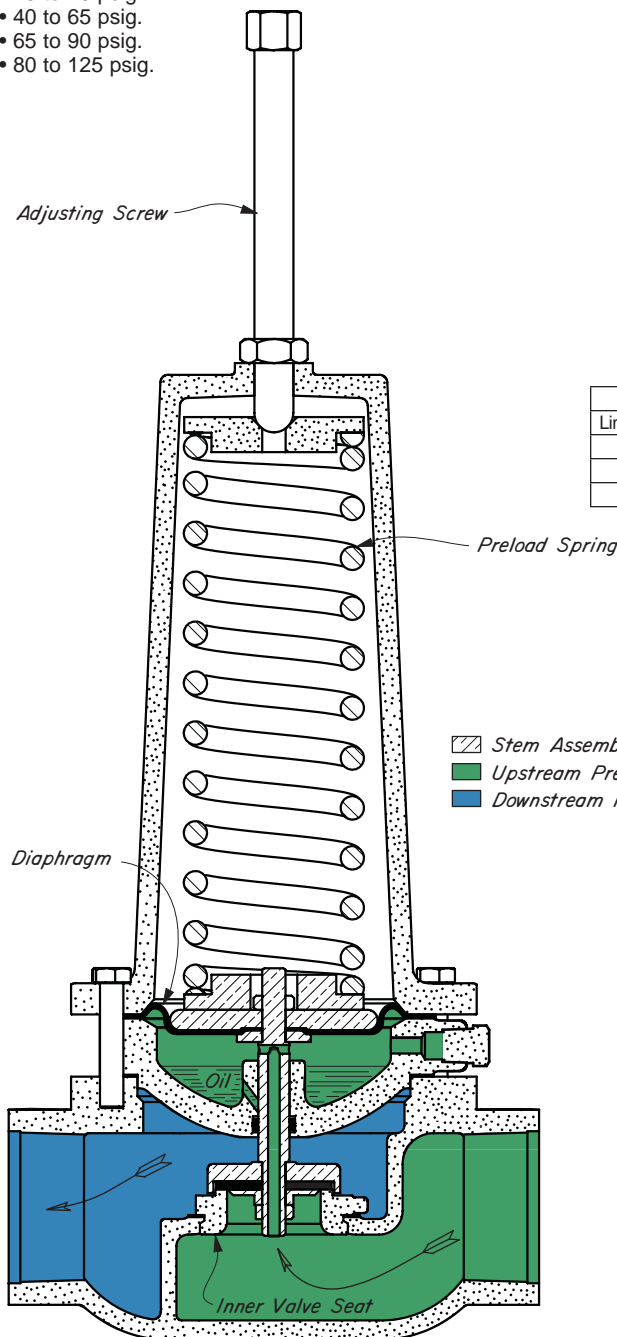


#### APPLICATIONS:

Liquid or gas systems where a 0 to 125 psig adjustable back pressure is desired, such as treaters, free water knockouts, pressure vessels, vent lines on separators, flow treaters, compressor stations, and gas gathering systems.

#### FEATURES:

- Single adjustment
- Single soft seat
- Removable valve seat
- Internal sense line
- Minimum maintenance
- All internal parts can be removed with valve in line
- Spring adjustment
  - 0 to 10 psig.
  - 10 to 20 psig.
  - 20 to 40 psig.
  - 40 to 65 psig.
  - 65 to 90 psig.
  - 80 to 125 psig.



#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
 0C15676.24567890NTY (Ductile)  
 0C15331.24567890NTY (Steel)

#### 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 and is opposed by Upstream Pressure (Green) on the under side of the DIAPHRAGM plus the differential of Upstream Pressure (Green) minus Downstream Pressure (Blue) across the INNER VALVE SEAT.

An increase in Upstream Pressure (Green) exceeding the set pressure of the PRELOAD SPRING moves the Stem Assembly upward, opening the INNER VALVE SEAT.

A decrease in Upstream Pressure (Green) decreases the force on the INNER VALVE SEAT and DIAPHRAGM allowing the PRELOAD SPRING to move the Stem Assembly downward reducing the flow from Upstream Pressure (Green) to Downstream Pressure (Blue).

The interaction between the PRELOAD SPRING and the Upstream Pressure (Green) on the INNER VALVE SEAT and the DIAPHRAGM will cause the valve to open or close the amount required to maintain the Upstream Pressure (Green) set by the ADJUSTING SCREW.

Cf & Cv VALUES			
Line Size	Trim Size	Cf	Cv
1"	.50"	0.86	5.6
2"	1.25"	0.84	24.0
3"	1.62"	0.82	34.2

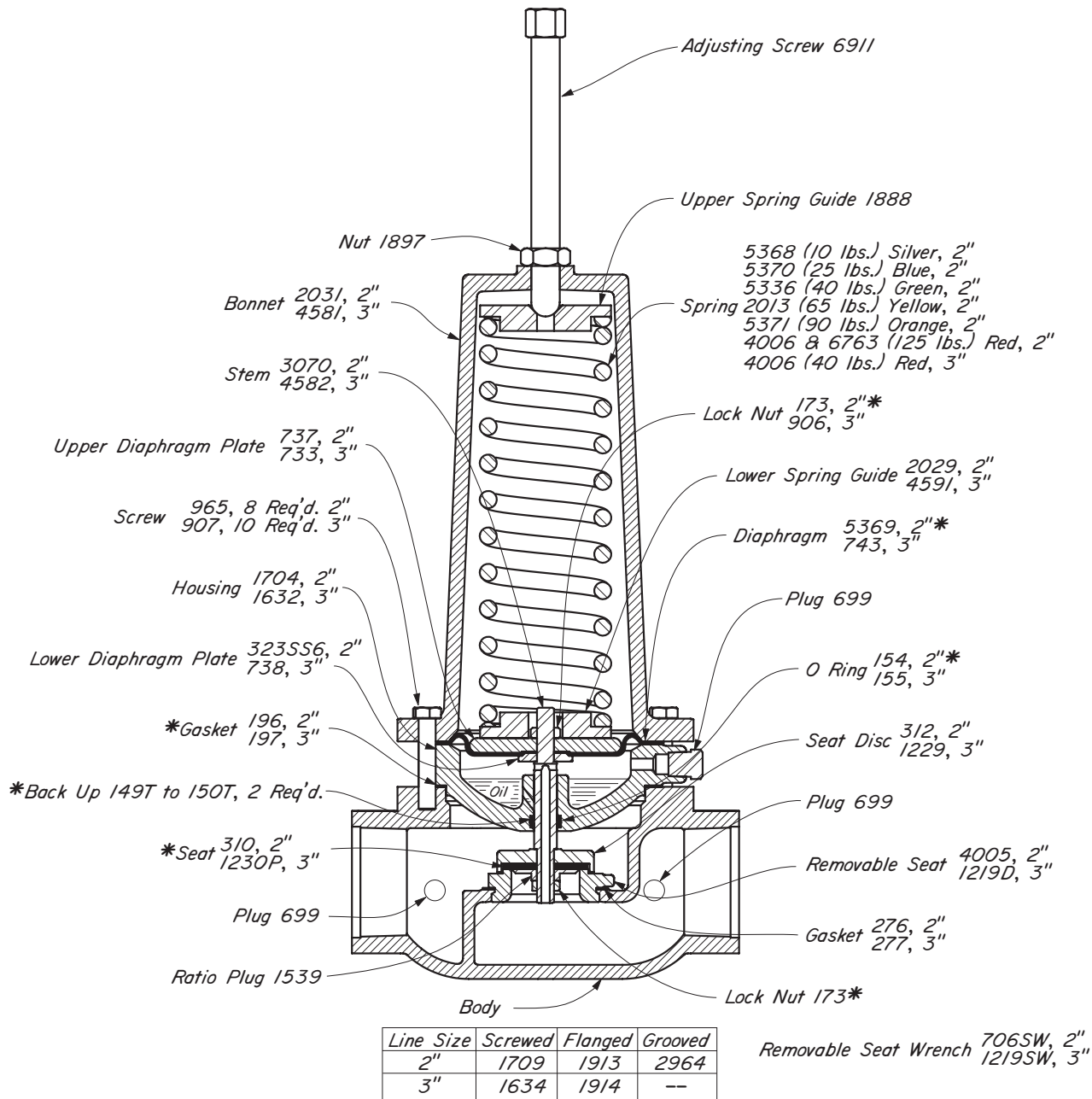


Kimray is an ISO 9001- certified manufacturer.

## LOW PRESSURE MOTOR VALVES

MT BP5 SPRING LOADED BACK PRESS. w/REDUCED INNER VALVE  
DUCTILE IRON

# KIMRAY<sup>®</sup>



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER PRESS	MAX. W.P.	KIT
ALN1	2" SCRD.	201 SMT BP5	0-10	175	RTA1
ALN2	2" SCRD.	202 SMT BP5	10-20	175	RTA1
ALN4	2" SCRD.	204 SMT BP5	20-40	175	RTA1
ALN6	2" SCRD.	206 SMT BP5	40-65	175	RTA1
ALN9	2" SCRD.	209 SMT BP5	65-90	175	RTA1
ALN12	2" SCRD.	212 SMT BP5	80-125	175	RTA1
ALO1	2" GRVD.	201 GMT BP5	0-10	175	RTA1
ALO2	2" GRVD.	202 GMT BP5	10-20	175	RTA1
ALO4	2" GRVD.	204 GMT BP5	20-40	175	RTA1
ALO6	2" GRVD.	206 GMT BP5	40-65	175	RTA1

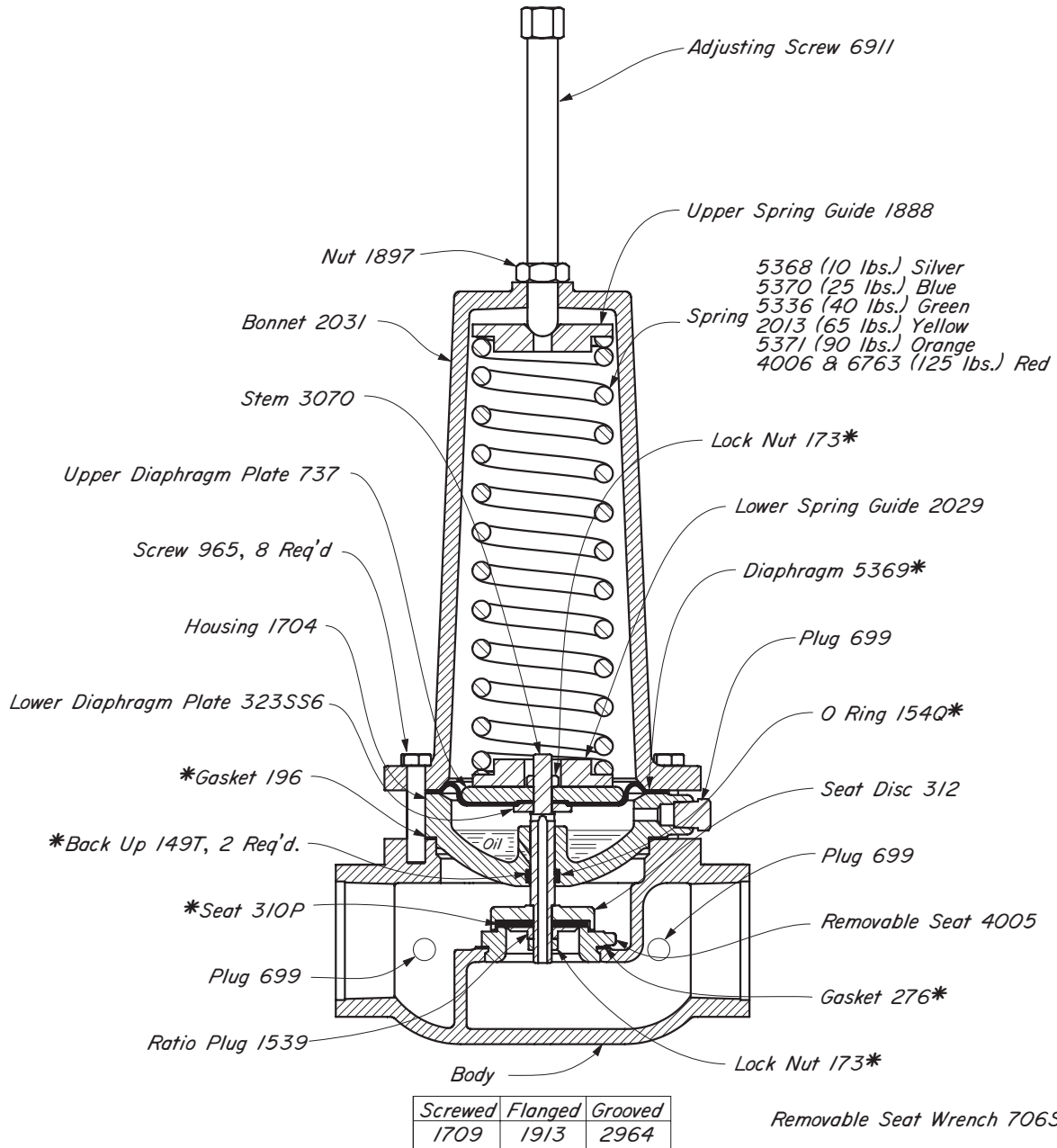
### NOTES:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER PRESS	MAX. W.P.	KIT
ALO9	2" GRVD.	209 GMT BP5	65-90	175	RTA1
ALO12	2" GRVD.	212 GMT BP5	80-125	175	RTA1
ALP1	2" FLGD.	201 FMT BP5	0-10	175	RTA1
ALP2	2" FLGD.	202 FMT BP5	10-20	175	RTA1
ALP4	2" FLGD.	204 FMT BP5	20-40	175	RTA1
ALP6	2" FLGD.	206 FMT BP5	40-65	175	RTA1
ALP9	2" FLGD.	209 FMT BP5	65-90	175	RTA1
ALP12	2" FLGD.	212 FMT BP5	80-125	175	RTA1
ENQ	3" SCRD.	304 SMT BP5	10-40	175	RTD1
ENR	3" FLGD.	304 FMT BP5	10-40	175	RTD1

\*Companion flanges, nuts, bolts and gaskets are furnished, at extra cost, only when specified.

\*These are recommended spare parts and are stocked as repair kits.  
For dimensions refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.



#### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER PRESS	MAX. W.P.	KIT
ALU1	2" SCR.D.	201 SMT BP5-D	0-10	300	RTB1
ALU2	2" SCR.D.	202 SMT BP5-D	10-20	300	RTB1
ALU4	2" SCR.D.	204 SMT BP5-D	20-40	300	RTB1
ALU6	2" SCR.D.	206 SMT BP5-D	40-65	300	RTB1
ALU9	2" SCR.D.	209 SMT BP5-D	65-90	300	RTB1
ALU12	2" SCR.D.	212 SMT BP5-D	80-125	300	RTB1
ALV1	2" GRVD.	201 GMT BP5-D	0-10	300	RTB1
ALV2	2" GRVD.	202 GMT BP5-D	10-20	300	RTB1
ALV4	2" GRVD.	204 GMT BP5-D	20-40	300	RTB1

#### NOTES:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER PRESS	MAX. W.P.	KIT
ALV6	2" GRVD.	206 GMT BP5-D	40-65	300	RTB1
ALV9	2" GRVD.	209 GMT BP5-D	65-90	300	RTB1
ALV12	2" GRVD.	212 GMT BP5-D	80-125	300	RTB1
ALW1	2" FLGD.	201 FMT BP5-D	0-10	250	RTB1
ALW2	2" FLGD.	202 FMT BP5-D	10-20	250	RTB1
ALW4	2" FLGD.	204 FMT BP5-D	20-40	250	RTB1
ALW6	2" FLGD.	206 FMT BP5-D	40-65	250	RTB1
ALW9	2" FLGD.	209 FMT BP5-D	65-90	250	RTB1
ALW12	2" FLGD.	212 FMT BP5-D	80-125	250	RTB1

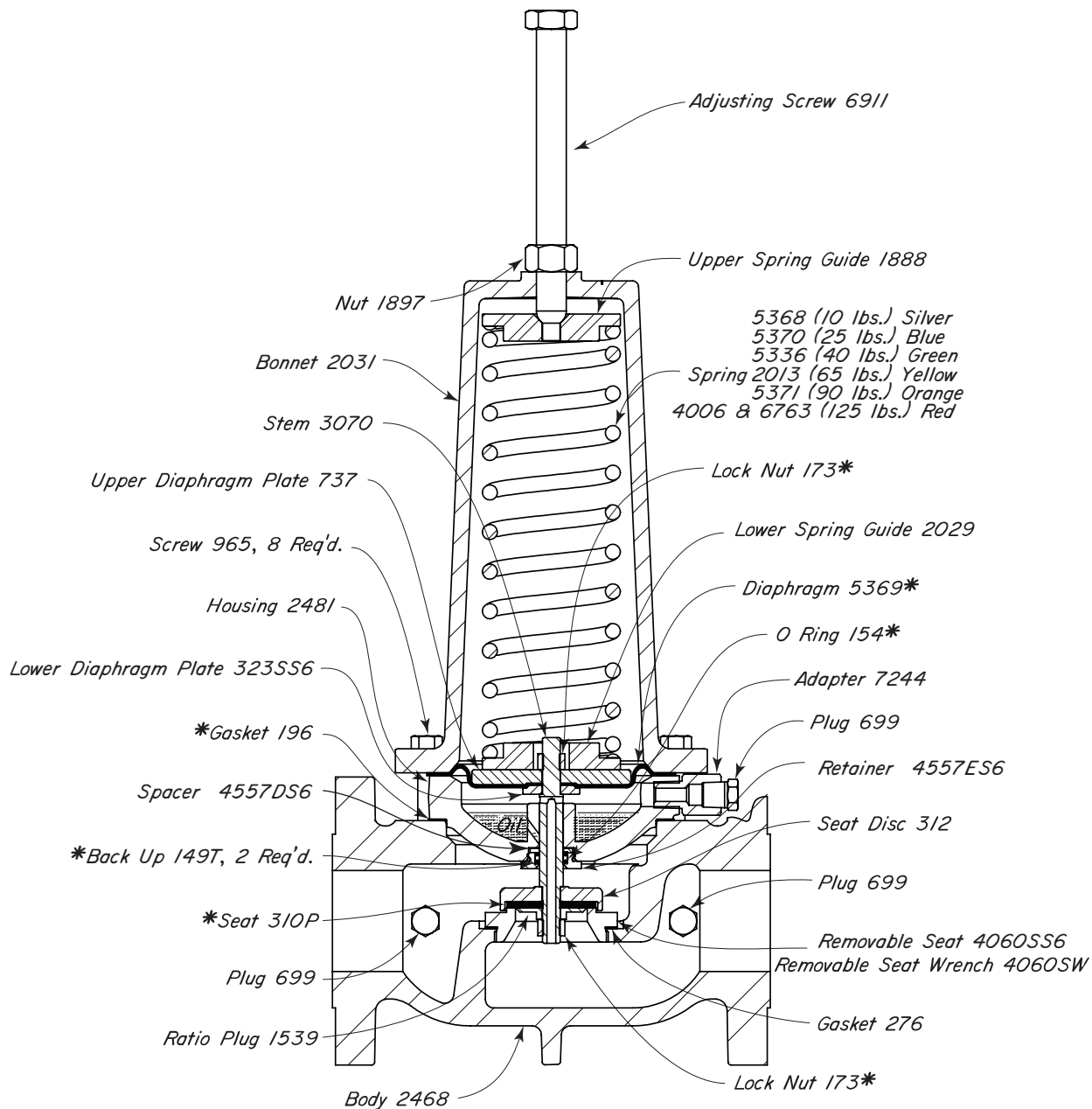
\*These are recommended spare parts and are stocked as repair kits.  
For dimensions refer to Table of Contents.

Kimray is an ISO 9001- certified manufacturer.

## LOW PRESSURE MOTOR VALVES

MT BP5 SPRING LOADED BACK PRESS. w/REDUCED INNER VALVE  
STEEL

# KIMRAY<sup>®</sup>



### THRU VALVES AVAILABLE:

CAT. NO.	SIZE TYPE	MOTOR VALVES	OPER. PRESS.	MAX. W.P.	KIT
ALY1	2" FLGD.	201 FMT BP5-S	0-10	285	RTC1
ALY2	2" FLGD.	202 FMT BP5-S	10-20	285	RTC1
ALY4	2" FLGD.	204 FMT BP5-S	20-40	285	RTC1
ALY6	2" FLGD.	206 FMT BP5-S	40-65	285	RTC1
ALY9	2" FLGD.	209 FMT BP5-S	65-90	285	RTC1
ALY12	2" FLGD.	212 FMT BP5-S	80-125	285	RTC1

### NOTES:

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

For dimensions refer to Table of Contents.

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#### APPLICATION:

Gas burner supply lines where line pressures are less than 45psi.




Any system which requires a valve to be electrically controlled with operating pressures up to 45psi.

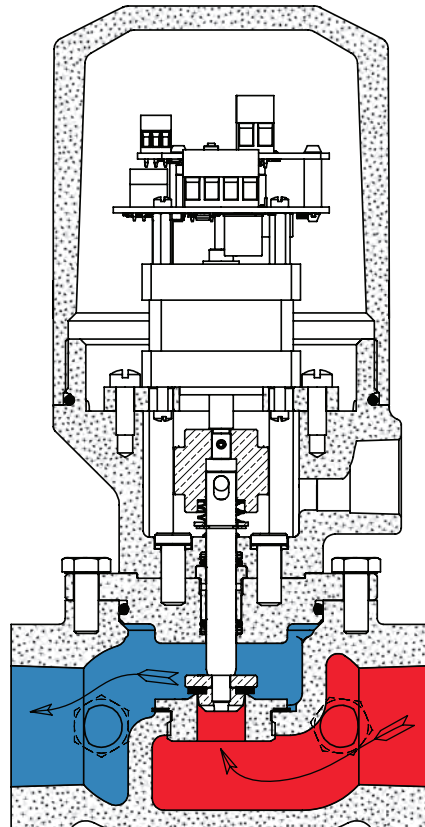
#### FEATURES

- Proof of Closure Indication (NFPA 87)
- Single soft seat
- Mechanical overdrive to insure full closure.
- Removable valve seat
- Minimum maintenance
- All internal parts can be removed with valve in line
- Integrated double seal to isolate electronics from process gas/fluids.
- Brushless Stepper motor design for precise control
- Modular Input Accessories
  - Analog 4-20mA module for proportional control
  - Discrete input module for on/off control
  - Optional RS485 module for MODBUS communication

#### CONSTRUCTION:

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

-  Motor Valve Stem Assembly
-  Upstream Pressure
-  Downstream Pressure



#### OPERATION:

When powered up, the valve closes fully including an overtravel of at least 0.040 inches to ensure that the valve is fully seated.

Discrete Input module: When a discrete input (dry contact only) is applied, then valve opens to full travel. Removal of the input will close the valve.

Analog Input module: When an analog input (4.5-20mA) signal is applied, the valve opens proportionally to that input. Any signal less than 4.5mA will cause the valve to close completely.

#### CERTIFICATIONS:

Hazardous Location (CSA): pending

ELECTRICAL RATINGS			
	Min	Max	Units
Input Voltage	10	30	VDC
Input Current	0.01	0.6	ADC
Ambient Temperature	-40	85	°C
	-40	185	°F
Analog input Module	4	20	mA
Discrete input Module	Dry Contacts only		
Communications Module	RS-485 (MODBUS RTU)		
Duty Cycle	Vin ≤ 24V	TA ≤ -40 to +85C	100% max
	Vin > 24V	TA > 60C	75% max

Note: 100% duty cycle is possible across the temperature range for input voltages up to 24V. Above 24V, the duty cycle must be reduced (75% or less) to prevent intermittent operation due to internal thermal shutdown.

Cf & Cv VALUES			
Line Size	Trim Size	Cf	Cv
1"	.50"	0.86	5.6



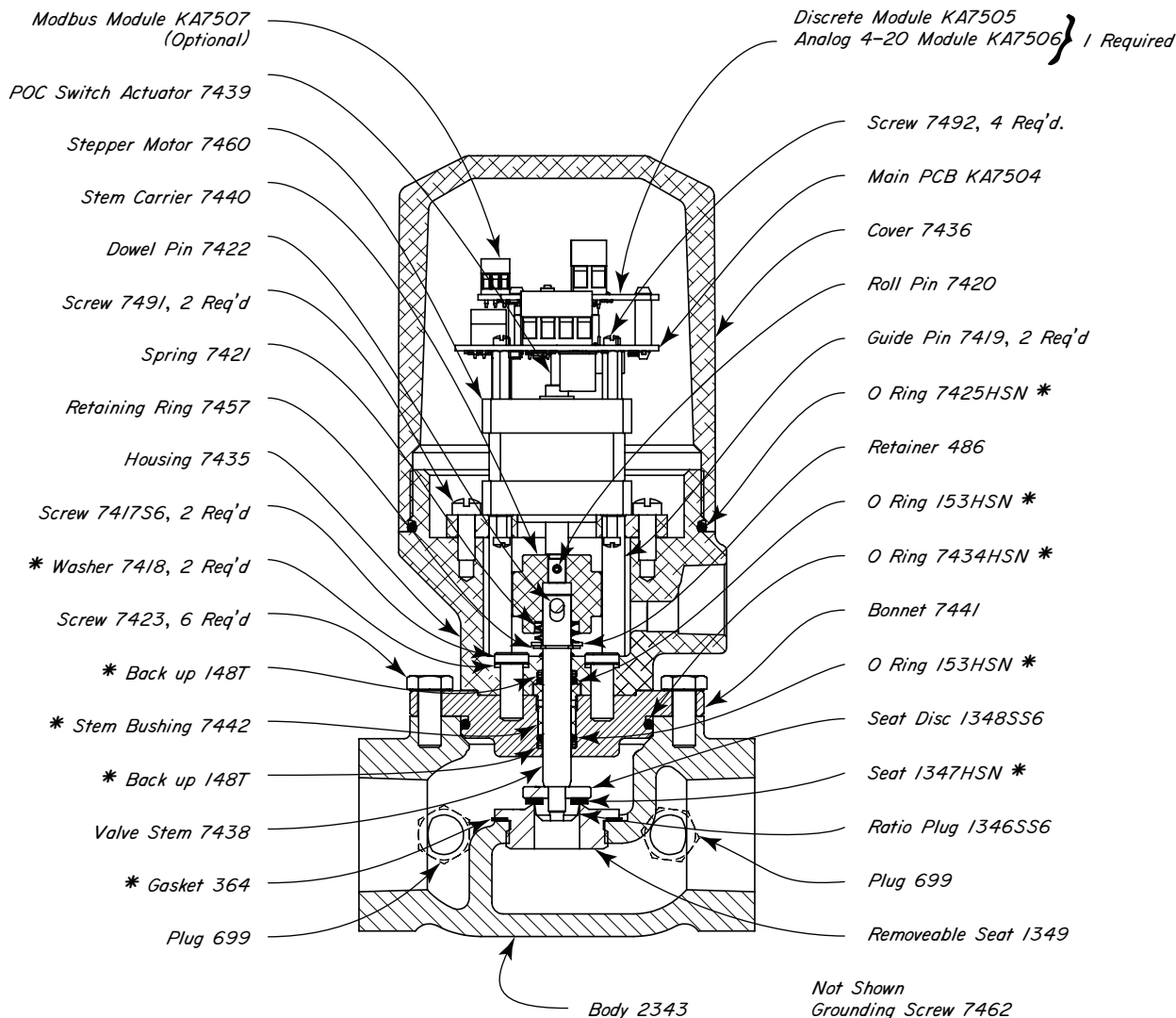
Kimray is an ISO 9001- certified manufacturer.

# LOW PRESSURE MOTOR VALVES

ELECTRIC BURNER VALVE  
DUCTILE IRON.

# KIMRAY

INC.®



## THRU VALVES AVAILABLE:

PART NO.	BODY CONNECTION	MODEL NO.	OPER. PRES.	MAX <sup>††</sup> W.P.	REP. KIT
MXA	1" NPT	130 SET EBV DA5	0-45	300	RZKHSN

## NOTES:

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

<sup>††</sup> Max W.P. valves based on -20°F to 100°F.

## ACCESSORIES: (ONE REQUIRED)

PART NO.	MODULAR INPUT TYPE
KA7505	Discrete
KA7506	Analog 4-20
KA7507	RS-485

Kimray is an ISO 9001- certified manufacturer.

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

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.

# LOW PRESSURE MOTOR VALVES

## LIQUID CAPACITY CHART



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

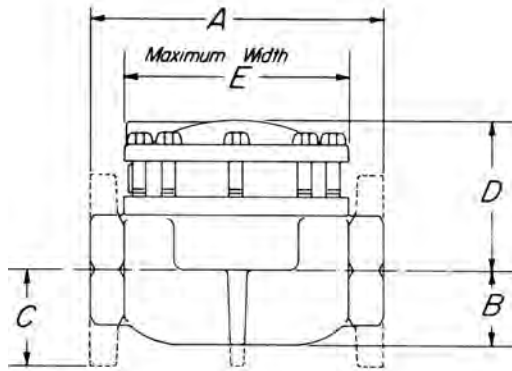
### ADJUSTABLE DOUBLE ACTING WITH REDUCED INNER VALVES

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

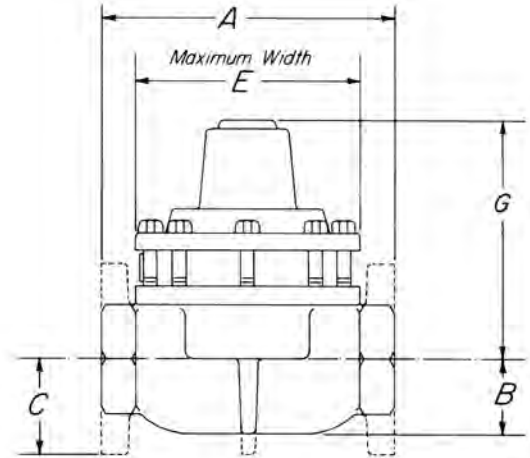
For gravity correction, multiply the above figures by  $\sqrt{\frac{1}{G}}$   
Where "G" is the specific gravity of the flowing liquid.



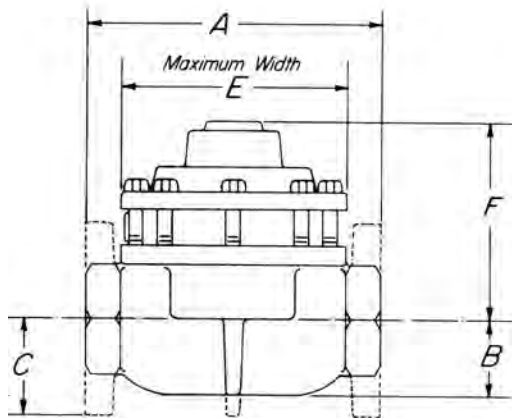
MT (SINGLE ACTING MOTOR VALVE)  
MT-5 (WITH REDUCED INNER VALVES)



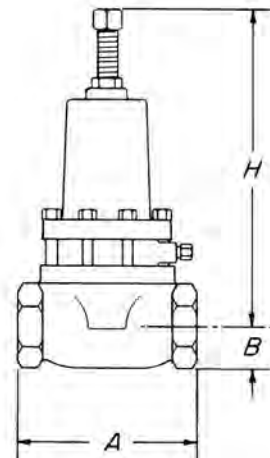
MT-2DA, MT-4DA (DOUBLE ACTING MOTOR VALVE)  
MT-2DA5, MT-4DA5 (WITH REDUCED INNER VALVES)



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	
	FLGD	12 3/16		3 3/4	5 7/8	8	8	8	
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.

NOTES:



Kimray is an ISO 9001- certified manufacturer.