



# HIGH PRESSURE MOTOR VALVES

## PISTON BALANCED

### APPLICATIONS:

For discharge of liquid or gas from vessels, separators, treaters, knockouts and other similar liquid accumulators.

For back pressure or pressure reducing applications with pressure pilots.

### FEATURES:

- Compact design
- Soft seat with metal to metal backup
- Valve travel indicator
- Field reversible topworks
- Teflon packed stuffing box
- Bubble tight shut-off
- Piston balanced seat assembly

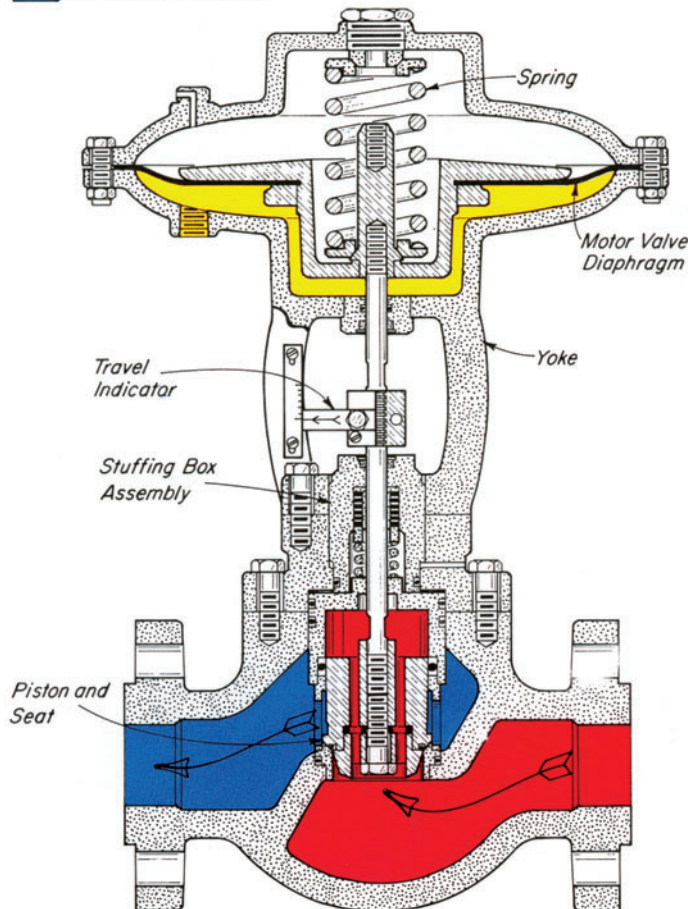
### TOPWORKS:

Unless otherwise specified, all HPMV's will be furnished with ductile topworks, steel topworks available for 2". Specify when ordering.

Effective diaphragm area:

- 2" HPMV PB - 65 square inches
- 3" HPMV PB - 100 square inches
- 4" HPMV PB - 100 square inches
- 6" HPMV PB - 120 square inches
- 8" HPMV PB - 120 square inches

- Motor Valve Diaphragm Assembly
- Motor Valve Diaphragm Pressure
- Upstream Pressure
- Downstream Pressure



### SPRINGS:

HPMV springs are available for diaphragm pressures of 15, 20, and 30 psig in the 2" valve and 30 psig in the 3" and 4" valve.

Unless otherwise specified, all PISTON BALANCED HPMV's will be furnished with 30 lb. springs.

Top Adjusting Screw may be adjusted to vary the spring tension slightly; this affects pressure required to actuate valve.

### STEM TRAVEL:

- 2" HPMV PB - 3/4" nominal
- 3" HPMV PB - 1 3/8" nominal
- 4" HPMV PB - 1 3/4" nominal
- 6" HPMV PB - 2 1/2" nominal
- 8" HPMV PB - 2 1/2" nominal

### ACTUATOR WORKING PRESSURE:

- 15-30 psig normal (see spring ranges)
- 45 psig maximum

### WORKING PRESSURE:

- 2" HPMV PB - 1500, 4000 psig
- 3" HPMV PB - 1500 psig
- 4" HPMV PB - 1500 psig
- 6" HPMV PB - 1500 psig
- 8" HPMV PB - 1500 psig

### INNER VALVE SIZES:

- 2" HPMV PB - 1 1/2" & 2" Equal Percentage
- 3" HPMV PB - 2" & 3" Equal Percentage
- 4" HPMV PB - 4 3/8" Equal Percentage
- 6" HPMV PB - 6 3/4" Equal Percentage
- 8" HPMV PB - 8 1/2" Equal Percentage

### STANDARD TRIM SPECIFICATIONS:

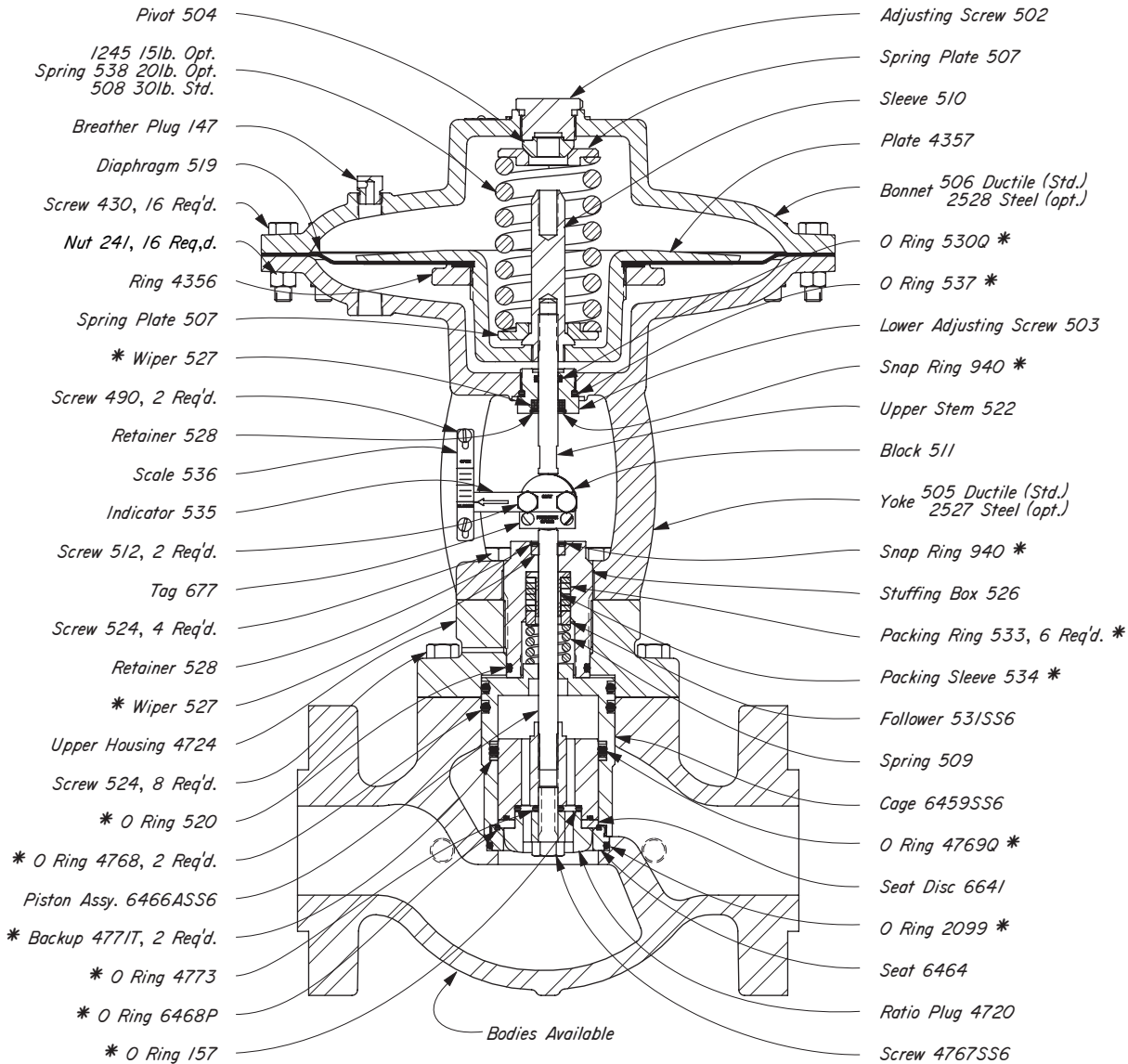
- 316 stainless steel cage
- D-2 tool steel valve plug assembly
- D-2 tool steel seat
- Polyurethane seal with Metal-to-Metal back-up (Other material available on request)



# HIGH PRESSURE MOTOR VALVES



## PISTON BALANCED 2" STEEL BODY DUCTILE TOPWORKS



| BODY TYPE | SCREWED ‡ |      |           | FLANGED |      |            |
|-----------|-----------|------|-----------|---------|------|------------|
|           | SIZE      | BODY | W.P.      | SIZE    | BODY | ANSI CLASS |
| THRU      | 2"        | 4813 | 1500 psig | 2"      | 4712 | 600 RF     |
|           | 2"        | 4764 | 4000 psig | 2"      | 4713 | 600 RTJ    |
|           |           |      |           | 2"      | 4714 | 1500 RF    |
|           |           |      |           | 2"      | 4715 | 1500 RTJ   |
|           |           |      |           | 3"      | 4871 | 600 RF     |
|           |           |      |           | 3"      | 4872 | 600 RTJ    |

‡ 2" NPT ANSI THREADS

### THRU VALVES AVAILABLE:

| CAT. NO. | SIZE TYPE | VALVE                      | MAX W.P. | KIT |
|----------|-----------|----------------------------|----------|-----|
| EFG      | 2" SCRD.  | 2150 SMT PB 2 IV           | 1500     | RUR |
| EFH      | 2" SCRD.  | 2400 SMT PB 2 IV           | 4000     | RUR |
| EFI      | 2" FLGD.  | 2150 FMT PB 600 RF- 2 IV   | 1480     | RUR |
| EFJ      | 2" FLGD.  | 2150 FMT PB 600 RTJ- 2 IV  | 1480     | RUR |
| EFK      | 2" FLGD.  | 2150 FMT PB 1500 RF- 2 IV  | 3705     | RUR |
| EFL      | 2" FLGD.  | 2150 FMT PB 1500 RTJ- 2 IV | 3705     | RUR |
| EFM      | 3" FLGD.  | 3150 FMT PB 600 RF- 2 IV   | 1480     | RUR |
| EFO      | 3" FLGD.  | 3150 FMT PB 600 RTJ- 2 IV  | 1480     | RUR |

†For working pressure vs. working temperature of these flanges see ANSI B16.5.

### NOTES:

All standard HPMV's have a Cat. No. Seats, stems, cages, stuffing boxes and valve bodies are available in 316 stainless steel. Inner valves can be made from a wide selection of materials. Specify when ordering.

Dimensions refer to E1:100.3

For BOTTOM WORKS only refer to Bulletin No. E105357

For TOP WORKS only refer to Bulletin No. E106025

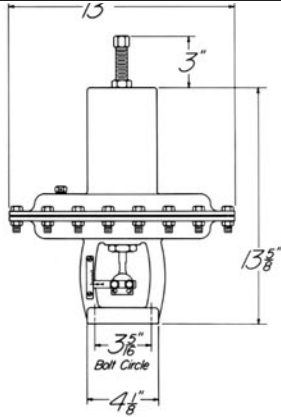
\*These are recommended spare parts and are stocked as repair kits.

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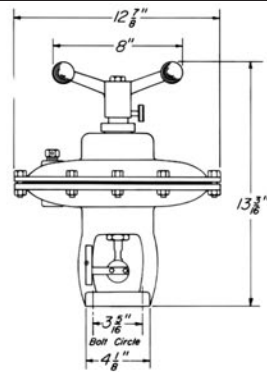
## 2" HPMV DIMENSIONS



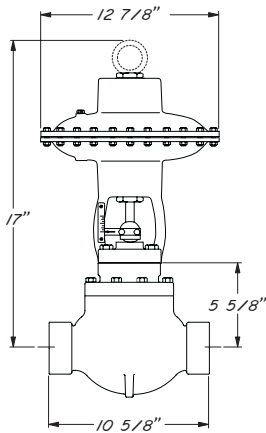
2" -65 TOPWORKS



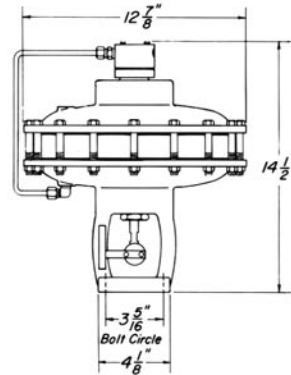
2" MVP TOPWORKS



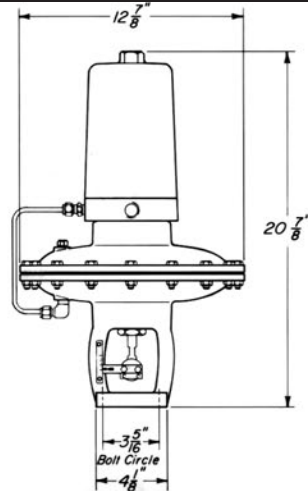
2" HPMV PB



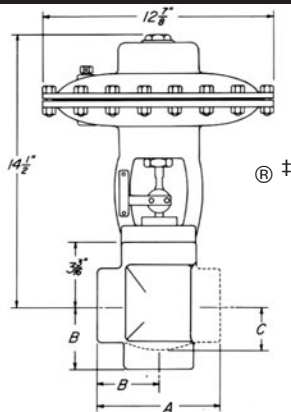
2" PVP TOPWORKS



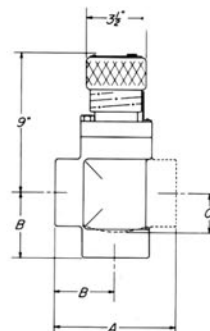
2" EPVP TOPWORKS



2" HPMV



2" SMVA/T TOPWORKS



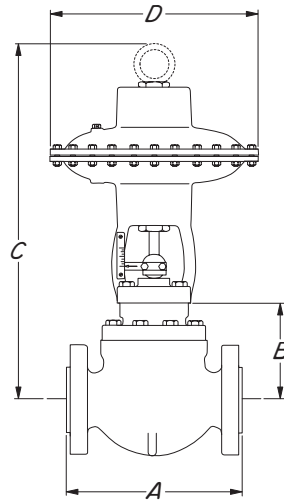
| VALVE MODEL No. | TYPE OF CONNECTION SCREWED |        |        |
|-----------------|----------------------------|--------|--------|
|                 | A                          | B      | C      |
| 2100            | 6 5/16"                    | 3 1/4" | 2"     |
| 2200            | 6 9/16"                    | 3 3/8" | 2 1/8" |
| 2400            | 6 7/8"                     | 3 1/2" | 2 1/4" |

All dimensions are in inches.  
Flanged body dimensions available on request.



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## PISTON BALANCED DIMENSIONS



|                 | SIZE    | BODY STYLE | A        | B        | C        | D        |
|-----------------|---------|------------|----------|----------|----------|----------|
| STANDARD        | 1"      | 150RF      | 8 3/16"  | 1 15/16" | 10 1/2"  | 9 1/8"   |
|                 |         | 150RTJ     | 8 3/16"  | 1 15/16" | 10 1/2"  | 9 1/8"   |
|                 |         | 300RF      | 8 3/4"   | 1 15/16" | 10 1/2"  | 9 1/8"   |
|                 |         | 300RTJ     | 8 3/4"   | 1 15/16" | 10 1/2"  | 9 1/8"   |
|                 |         | 600RF      | 8 1/2"   | 1 15/16" | 10 1/2"  | 9 1/8"   |
|                 |         | 600RTJ     | 8 1/2"   | 1 15/16" | 10 1/2"  | 9 1/8"   |
|                 |         | 1500RF     | 9 29/32" | 1 15/16" | 10 1/2"  | 9 1/8"   |
|                 | 1500RTJ | 9 29/32"   | 1 15/16" | 10 1/2"  | 9 1/8"   |          |
|                 | 2"      | 150RF      | 10 1/4"  | 3 3/16"  | 14 1/2"  | 12 7/8"  |
|                 |         | 150RTJ     | 12 3/8"  | 3 3/16"  | 14 1/2"  | 12 7/8"  |
|                 |         | 300RF      | 10 1/2"  | 3 3/16"  | 14 1/2"  | 12 7/8"  |
|                 |         | 300RTJ     | 11 1/8"  | 3 3/16"  | 14 1/2"  | 12 7/8"  |
|                 |         | 600RF      | 11 1/4"  | 3 3/16"  | 14 1/2"  | 12 7/8"  |
|                 |         | 600RTJ     | 11 3/8"  | 3 3/16"  | 14 1/2"  | 12 7/8"  |
| 1500RF          |         | 12 1/4"    | 3 3/16"  | 14 1/2"  | 12 7/8"  |          |
| 1500RTJ         | 12 3/8" | 3 3/16"    | 14 1/2"  | 12 7/8"  |          |          |
| PISTON BALANCED | 2"      | 150RF      | 10 1/4"  | 5 5/8"   | 17"      | 12 7/8"  |
|                 |         | 300RF      | 10 1/2"  | 5 5/8"   | 17"      | 12 7/8"  |
|                 |         | 600RF      | 11 1/4"  | 5 5/8"   | 17"      | 12 7/8"  |
|                 |         | 1500RF     | 12 1/4"  | 5 5/8"   | 17"      | 12 7/8"  |
|                 |         | 1500RTJ    | 12 3/8"  | 5 5/8"   | 17"      | 12 7/8"  |
|                 | 3"      | 300RF      | 12 1/2"  | 7 1/4"   | 27"      | 15 3/4"  |
|                 |         | 600RF      | 13 1/4"  | 7 1/4"   | 27"      | 15 3/4"  |
|                 |         | 600RTJ     | 13 3/8"  | 7 1/4"   | 27"      | 15 3/4"  |
|                 | 4"      | 300RF      | 14 1/2"  | 11"      | 30"      | 15 3/4"  |
|                 |         | 600RF      | 15 1/2"  | 11"      | 30"      | 15 3/4"  |
|                 | 6"      | 300RF      | 18 5/8"  | 11 3/16" | 34 1/2"  | 20 7/16" |
| 600RF           |         | 20"        | 11 3/16" | 34 1/2"  | 20 7/16" |          |
| 8"              | 600RF   | 24"        | 11 9/32" | 34 1/2"  | 20 7/16" |          |