

# ACTUATOR VOLUME

## VALVE ACTUATOR GAS VOLUME

The following is a simple table listing the volume of the actuator of various Kimray valves and regulators. Both old and new Product Series have been provided. The limitations of this information need to be recognized. There is additional information which must be supplied :

- The frequency of actuation of the valves
- The extent of actuation travel that regulators may require. (Often there is almost no movement required)
- The pressure of the actuating gas supplied
- The volume of the tubing involved

### REGULATORS

| Size | Max Volume at Full Stem Travel |
|------|--------------------------------|
| 1"   | 1.1in <sup>3</sup>             |
| 2"   | 17in <sup>3</sup>              |
| 3"   | 33in <sup>3</sup>              |
| 4"   | 48.7in <sup>3</sup>            |
| 6"   | 185in <sup>3</sup>             |

### LOW PRESSURE CONTROL VALVES

| Size | Max Volume at Full Stem Travel |
|------|--------------------------------|
| 1"   | 1.1in <sup>3</sup>             |
| 2"   | 9in <sup>3</sup>               |
| 3"   | 33in <sup>3</sup>              |
| 4"   | 67in <sup>3</sup>              |
| 6"   | 215in <sup>3</sup>             |

### LOW PRESSURE HIGH VOLUME VALVES

| Size | Max Volume at Full Stem Travel |                    |
|------|--------------------------------|--------------------|
|      | Close                          | Open               |
| 1"   | 20in <sup>3</sup>              | 38in <sup>3</sup>  |
| 2"   | 50in <sup>3</sup>              | 110in <sup>3</sup> |

### HIGH PRESSURE CONTROL VALVES

| Size        | Max Volume at Full Stem Travel |                    |
|-------------|--------------------------------|--------------------|
|             | Close                          | Open               |
| 1"          | 20in <sup>3</sup>              | 38in <sup>3</sup>  |
| 2"          | 50in <sup>3</sup>              | 110in <sup>3</sup> |
| 3"          | 116in <sup>3</sup>             | 253in <sup>3</sup> |
| 4"          | 116in <sup>3</sup>             | 287in <sup>3</sup> |
| 6", 8", 10" | 319in <sup>3</sup>             | 820in <sup>3</sup> |

### PNEUMATIC LIQUID DUMP VALVES

| Size | Max Volume at Full Stem Travel |                     |                     |                     |
|------|--------------------------------|---------------------|---------------------|---------------------|
|      | Pressure Close                 |                     | Pressure Open       |                     |
|      | Close                          | Open                | Close               | Open                |
| 2"   | 3.6in <sup>3</sup>             | 8.5in <sup>3</sup>  | 8.1in <sup>3</sup>  | 3.5in <sup>3</sup>  |
| 3"   | 9.8in <sup>3</sup>             | 27.3in <sup>3</sup> | 30.2in <sup>3</sup> | 15.7in <sup>3</sup> |
| 4"   | 9.8in <sup>3</sup>             | 27.3in <sup>3</sup> | 30.2in <sup>3</sup> | 15.7in <sup>3</sup> |
| 6"   | 16.3in <sup>3</sup>            | 50.5in <sup>3</sup> | OBS                 |                     |