

TECHNICAL BULLETIN

Takasago Zero Internal Volume Option

Prevents Cross-Contamination, Reduces Sample And Reagent Volumes

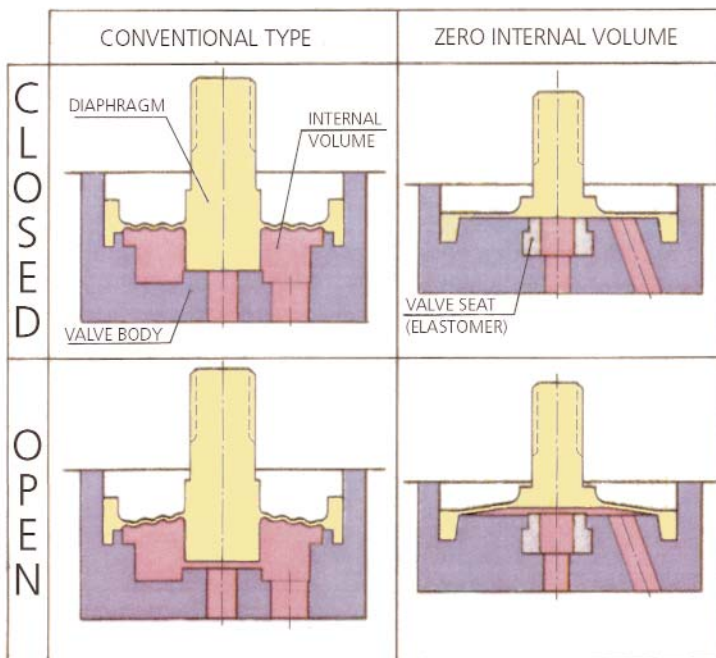
TYPICAL APPLICATIONS

The internal volume is the space between the isolation diaphragm and the valve body. When the valve closes, this volume is trapped, often reducing the sensitivity of the instrument. In a conventional valve seat design, the protruding valve seat is hard and prevents the Teflon diaphragm from flattening against the valve body.

In the zero internal volume system, a special soft inert elastomer (perfluoroelastomer) is used for the valve seat. When the valve closes the soft protrusion presses flat, eliminating the internal volume.



Typical Takasago Teflon Valve



FEATURES

- CROSS- CONTAMINATION PREVENTION**
- FASTER FLUSHING**
- PERFECT EJECTION OF AIR BUBBLES**
- REDUCE USE OF SAMPLE AND REAGENTS**

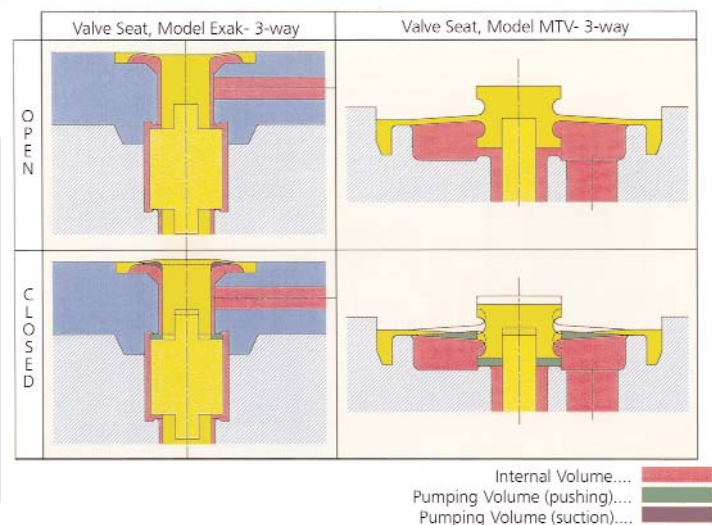
The zero internal volume option is available for 2-way valve model types STV and MTV.

| Model | Type | Internal Volume |
|-------|----------------------|-----------------|
| MTV | Conventional | 87 µl |
| MTV | Zero Internal Volume | *34µl |
| STV | Conventional | 87µl |
| STV | Zero Internal Volume | *16µl |

*Passage Volumes Only

Takasago Diaphragm Pumping Volume

| Typical Pumping Volume µl | | | |
|---------------------------|-------|--------|--------|
| Model | Port | On | Off |
| MTV- 3 way | Comm. | -0.64 | -0.34 |
| | N.C. | -0.64 | +2.01 |
| | N.O. | 0.00 | -0.034 |
| EXAKN- 3 way | Comm. | +0.015 | -0.015 |
| | N.C. | +0.007 | 0.000 |
| | N.O. | 0.000 | 0.000 |



Internal Volume.... ■
 Pumping Volume (pushing).... ■
 Pumping Volume (suction).... ■