

Classic Diaphragm-Poppet Series

Humphrey®

**Solenoid, Air-Piloted, Manual,
Mechanical and Vacuum Valves**

Humphrey's Classic Diaphragm-Poppet Series features valves that **"CANNOT STICK. WILL NOT LEAK."** making them perfect for difficult and critical applications.

Due to a unique design, valves have no sliding seals to stick or wear, even in poor, unstable conditions. Construction is rugged, simple and reliable.

This series offers exceptional multi-purpose functionality and a broad product offering with models and configurations for almost every environment and application.

FEATURES

- Valves seal tight and have no sliding seals. **CANNOT STICK. WILL NOT LEAK.**
- Impervious to air quality; no lubricant required.
- 2-, 3- and 4-Way Types
Port Sizes: 1/8, 1/4, 1/2 and 3/4.
- Solenoid, Air-Piloted, Manual, Mechanical and Vacuum models available.
- Brass and Stainless Steel bodies are options for alternate gases and liquids, and corrosive environments



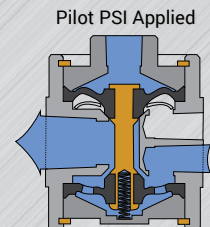
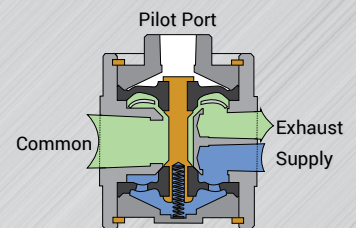
HOW IT WORKS

Compressed air to the SUPPLY port, fills bottom cavity (BLUE), and underside of the bottom diaphragm, causing the poppet to seat and seal. **VALVE WILL NOT LEAK.**

Valve actuation (at top) overcomes force to the underside of the bottom diaphragm, and opens flow to the COMMON port. High flow, no sliding seals. **VALVE CANNOT STICK.**

Releasing the actuation permits bottom diaphragm to begin valve closing. Compressed air assists valve shift. Exhausting pressure under the top diaphragm (GREEN) assists the position change and creates "Quick Dump" feature to EXHAUST.

NOTE: Design provides an excellent, leak free, 2-way function with plugged Exhaust port.



Scan for additional
product details on our
online catalog.



Applications

MEDICAL

Inert construction and leak proof. Ideal for clean/alternate media.

TRANSPORTATION

Long history of reliability in extreme conditions and climates.

PETROCHEMICAL

Simple design works well in demanding media and harsh environments.

FOOD AND BEVERAGE

Performs well with moisture laden air. No sticking.

INDUSTRIAL

AUTOMATION

Rugged, Reliable. Withstands difficult conditions.



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Solenoid, Air-Piloted, Manual, Mechanical and Vacuum Valves

| SPECIFICATIONS | 125 SERIES 1/8 PIPE | 250 SERIES 1/4 PIPE | 500 SERIES 1/2 PIPE | 590 SERIES 3/4 PIPE |
|--------------------------|---|--------------------------------|------------------------|----------------------------|
| MEDIA | Compressed Air and Inert Gases (consult factory for others) | | | |
| MAXIMUM PRESSURE | 125 PSI | | | |
| FLOW - SCFM | 18 | 50 | 160 | 260 |
| FLOW - CV | 0.3 | 0.8 | 2.7 | 3.7 |
| OPERATING SPEEDS | 600 CPM | | | |
| LUBRICATION | Not Required | | | |
| TEMPERATURE RANGE | 0-225° F | | | |
| WETTED MATERIALS | Zinc Plated Steel, Brass, Buna, SST | Zinc Diecast, Brass, Buna, SST | Brass, Buna, SST | Aluminum, Buna, Brass, SST |
| STANDARD VOLTAGES (VOLT) | 12VDC, 24VDC, 120/50/60, 240/50/60, 24/50/60 | | | |



Air Piloted 3- and 4-Way Valves

| ORDERING CODE | FUNCTION | TYPE-OPERATOR |
|---------------|-----------|-----------------------------|
| 125A-3-10-21 | 3-way, NC | Air Piloted |
| 125A-3-11-21 | 3-way, NO | Air Piloted |
| 125AA-3-10-21 | 3-way, NC | Air Piloted - Interlock |
| 250A-3-10-21 | 3-way, NC | Air Piloted |
| 250A-3-11-21 | 3-way, NO | Air Piloted |
| 250AA-3-10-21 | 3-way, NC | Air Piloted - Interlock |
| SS250A | 3-way, NC | Single Pilot, SST Materials |
| 250-4A-21 | 4-way | Air Piloted |
| 250-4AA-21 | 4-way | Air Piloted - Interlock |
| 500A-3-10 | 3-way, NC | Air Piloted |
| 590A-3-10 | 3-way, NC | Air Piloted |

Mechanical 3-Way Valves

| ORDERING CODE | FUNCTION | TYPE-OPERATOR |
|---------------|----------|----------------------|
| 125B-3-10-21 | NC | Ball - Mechanical |
| 125MP-3-10-21 | NC | Plunger - Mechanical |
| 125MC-3-10-21 | NC | Cam - Mechanical |
| 250C-3-10-21 | NC | Cam - Mechanical |
| 500C-3-10 | NC | Cam - Mechanical |

Manual 3- and 4-Way Valves

| ORDERING CODE | FUNCTION | TYPE-OPERATOR |
|-----------------|-----------|---------------------------|
| 125PLG | 3-way, NC | Easy Push w/Shroud |
| 125P-3-10-21-40 | 3-way, NC | Push Button |
| 125P-3-11-21-40 | 3-way, NO | Push Button |
| 125V-3-10-21 | 3-way | Toggle - Detent |
| 125HO-3-10-21 | 3-way | Push Turn - Detent |
| 125T-3-10-21 | 3-way, NC | Lever |
| 250P-3-10-21 | 3-way, NC | Push Button |
| 250P-3-11-21 | 3-way, NO | Palm Button |
| 250PL-3-10-21 | 3-way, NC | Palm Button |
| 250HO-3-10-21 | 3-way | Hold On - Detent |
| 250F-3-10 | 3-way, NC | Foot |
| 250F-3-11 | 3-way, NO | Foot |
| 250V-3-10-21 | 3-way | Toggle - Detent |
| 250T-3-10-21 | 3-way, NC | Lever |
| 250-4F | 4-way | Foot |
| 250-4H-21 | 4-way | 3 Position Lever - Detent |

Vacuum Service (Consult factory for order codes)

- Diaphragm Poppet valves can be configured at the factory to be outstanding vacuum valves.
- All Air Piloted and Solenoid 3-Way Valves, and some Manual 3-Way valves, can be available as vacuum valves.

Solenoid 3- and 4-Way Valves

| BASE MODEL | FUNCTION | TYPE-OPERATOR |
|----------------------|-----------|--------------------------|
| 250E1-3-10-21-36-(V) | 3-way, NC | Single Solenoid |
| 250E2-3-21-(V) | 3-way | Double Solenoid - Detent |
| 250AE1-3-10-21-(V) | 3-way, NC | Single Solenoid |
| 250AE2-3-21-(V) | 3-way | Double Solenoid - Detent |
| 250-4E1-21-(V) | 4-way | Single Solenoid |
| 250-4E2-21-(V) | 4-way | Double Solenoid - Detent |
| 500E1-3-10-36-(V) | 3-way, NC | Single Solenoid |
| 500E2-3-36-(V) | 3-way | Double Solenoid - Detent |
| 500AE1-3-10-36-(V) | 3-way, NC | Single Solenoid |
| 500AE2-3-36-(V) | 3-way | Double Solenoid - Detent |
| 590E1-3-10-36-(V) | 3-way, NC | Single Solenoid |
| 590E2-3-36-(V) | 3-way | Double Solenoid - Detent |
| 590AE1-3-10-36-(V) | 3-way, NC | Single Solenoid |
| 590AE2-3-36-(V) | 3-way | Double Solenoid - Detent |

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