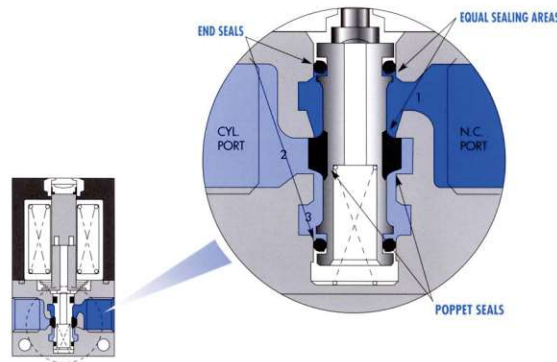
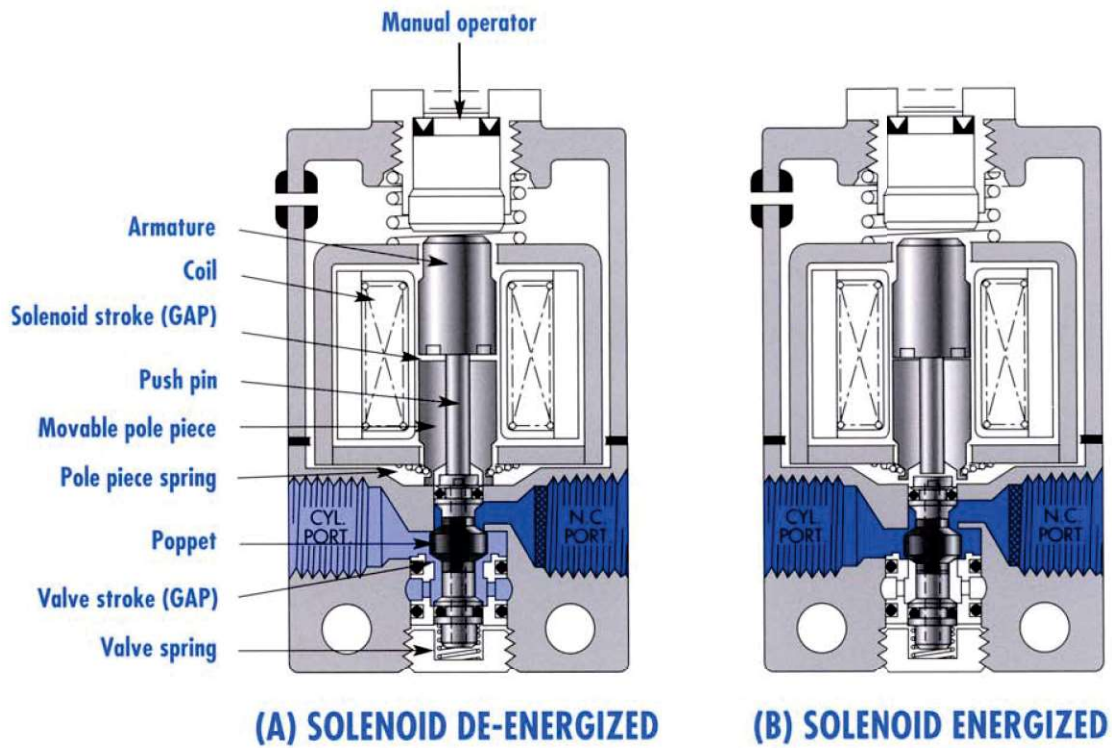




# Fortune Automation

Valves That Don't Stick





**BALANCED POPPET = CONSISTENT HIGH SHIFTING FORCES**

**ADVANTAGES**

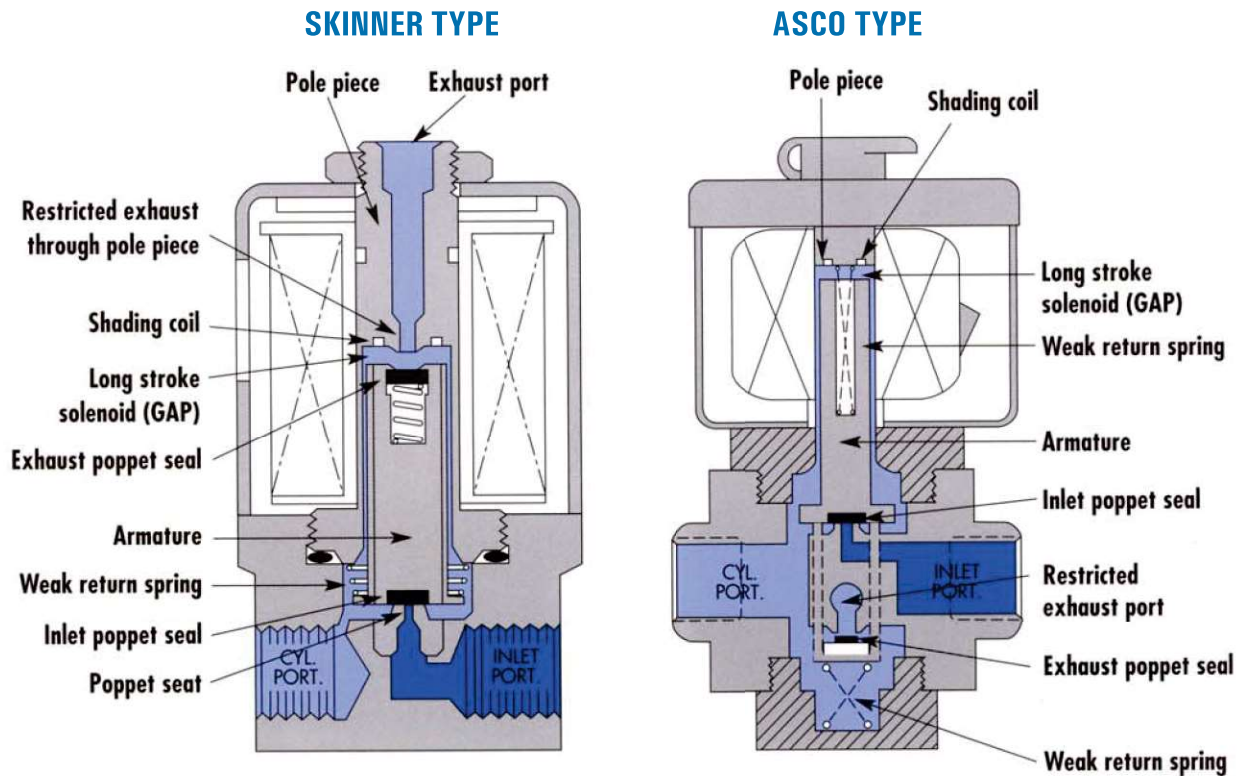
- Valve shifting forces are consistent and independent of pressure fluctuations
- High solenoid and return spring forces ensure high speed and precise repeatability
- Exhaust contaminants are isolated from the solenoid
- Manual override - standard
- Constant high flow maintained throughout the pressure range - including pilot valves
- Full flow exhaust
- Universal porting - 6 functions in one valve

**Valves that don't stick**

Consult our manual for the use, installation and maintenance of our Mac Valves (see general catalog)



# TYPICAL UNBALANCED POPPET 3-WAY AIR VALVE



## UNBALANCED POPPET = INCONSISTENT LOW SHIFTING FORCES

### DISADVANTAGES

- Normal pressure fluctuations cause inconsistent shifting forces
- Air pressure fights return spring, reducing shifting forces
- Weak return spring force
- Exhaust contaminants pass through operating solenoid parts causing sticking and coil burnout ( SKINNER type)
- When air pressure rating is increased, the inlet and exhaust orifice must be reduced thereby decreasing flow through the valve
- Multiple models to cover range of vacuum to 10 Bar, 150 PSI, each with separate flow rating
- Pilot valves rated for 10 Bar, 150 PSI have very low flow
- Exhaust, located in pole piece, is restricted due to core iron requirements (SKINNER type)



# Direct and Solenoid Pilot Operated Valve

## 3 WAY VALVE



### 25 Series

0.4 Cv  
1/8"- M7  
Inline - Manifold: Plug-in/Non Plug-in



### 36 Series

0.30 Cv  
1/8"  
Inline - Manifold: Plug-in/Non Plug-in



### 31 Series

0.06 Cv  
M3  
Inline - Manifold: Plug-in/Non Plug-in



### 37 Series

0.5 Cv  
1/8"-1/4"  
Inline - Individual Sub Base/Manifold: Plug-in/Non Plug-in



### 32 Series

0.4 Cv  
1/8"-1/4"  
Individual Sub Base/Manifold: Plug-in/Non Plug-in



### 38 Series

1.2 Cv  
1/8"-1/4"  
Individual Sub Base/Manifold: Plug-in/Non Plug-in



### 33 Series

0.08 Cv  
M3  
Inline - Manifold: Plug-in/Non Plug-in



### 72 Series

0.4 Cv  
#10-21, M5, M7  
Inline - Individual Base: Non Plug-in -  
Circuit Bar: Non Plug-in



### 34 Series

0.12 Cv  
M5-10-32  
Manifold: Plug-in/Non Plug-in



### 77 Series

1.0 Cv  
1/8"-1/4"  
Inline - Individual Base: Non Plug-in -  
Circuit Bar: Non Plug-in



### 35 Series

0.17 Cv  
1/8"  
Inline - Stacking - Sub Base/Manifold  
Non Plug-in



### 100 Series

0.18 Cv  
1/8"-1/4"  
Inline - Stacking - Sub Base/Manifold:  
Non Plug-in

## Valves that don't stick

Consult our manual for the use, installation and maintenance of our Mac Valves (see general catalog)

100%  
OF  
PRODUCTION  
TESTED  
100%  
WARRANTY  
18  
MONTHS



# Direct and Solenoid Pilot Operated Valve

## 3 WAY VALVE



### 200 Series

0.50 Cv  
1/8"-1/4"  
Inline - Hazardous Location -  
Manifold: Non Plug-in



### 56 Series

5.7 Cv  
3/8"-3/4"  
Individual Inline



### 1100 Series

0.18 Cv  
1/8"-1/4"  
Inline - Sub Base/Manifold



### 57 Series

17.4 Cv  
1/2"-1"  
Individual Inline



### 52 Series

1.5 Cv  
1/8"-1/4"  
Inline/Sub Base - Manifold: Non Plug-in



### 58 Series

26 Cv  
1"-1 1/2"  
Individual Inline



### 53 Series

2 Cv  
1/4"-3/8"  
Individual Sub Base - Manifold: Non Plug-in



### 59 Series

60 Cv  
2"-2 1/2"  
Individual Inline



### 54 Series

4.1 Cv  
3/8"-3/4"  
Sub-base/Manifold Mount



### 67 Series

20 Cv  
3/4"-1"  
Individual Inline/Manifold



### 55 Series

2.2 Cv  
1/4"-3/8"  
Individual Inline



### 68 Series

31 Cv  
1"-1 1/2"  
Individual Inline/Manifold

## Valves that don't stick

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100%  
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PRODUCTION  
TESTED  
100%  
WARRANTY  
18  
MONTHS



# Direct and Solenoid Pilot Operated Valve

## 4 WAY VALVE



### 24 Series

0.4 Cv  
#10-32-M5-M7  
Inline - Manifold: Plug-in/Non Plug-in



### 44 Series

0.10 Cv  
M5-#10-32  
Inline - Manifold: Plug-in/Non Plug-in



### 26 Series

0.25 Cv  
1/8"-#10-32-M5-M7  
Inline



### 45 Series

0.15 Cv  
#10-32-1/8"  
Inline - Manifold: Plug-in  
Non Plug-in - Stacking



### 27 Series

1.0 Cv  
1/8"-1/4"  
Inline - Individual Base: Non-Plug-in -  
Circuit Bar: Non Plug-in



### 46 Series

0.3 Cv  
01/8"-#10-32  
Inline - Manifold: Plug-in  
Non Plug-in - Stacking



### 41 Series

0.03 Cv  
M3  
Inline - Manifold: Plug-in/Non Plug-in



### 47 Series

0.5 Cv  
1/8"-1/4"  
Inline - Manifold: Plug-in  
Non Plug-in - Stacking



### 42 Series

0.40 Cv  
#10-32-1/4"  
Inline - Manifold: Plug-in/Non Plug-in



### 48 Series

1.1 Cv  
1/8"  
Inline - Manifold: Plug-in/Non Plug-in



### 43 Series

0.07M3- Cv  
#10-32, M5-1/8"  
Inline - Manifold: Plug-in/Non Plug-in



### 400 Series

1.1 Cv  
1/8"-1/4"  
Inline - Manifold: Plug-in/Non Plug-in

## Valves that don't stick

Consult our manual for the use, installation and maintenance of our Mac Valves (see general catalog)

100%  
OF  
PRODUCTION  
TESTED  
100%  
WARRANTY  
18  
MONTHS



# Direct and Solenoid Pilot Operated Valve

## 4 WAY VALVE



### 700 Series

0.8 Cv  
1/8"-1/4"  
Inline - Manifold: Plug-in/Non Plug-in



### 800 Series

1.4 Cv  
1/4"  
Inline - Manifold: Non Plug-in - Stacking



### 900 Series

1.2 Cv  
1/8"-1/4"  
Inline - Stacking



### 1300 Series

15.9 Cv  
3/4"-1 1/2"  
Individual Sub-base - Plug-in



### 82 Series

1.3 Cv  
1/8"-3/8"  
Individual Sub base/Manifold:  
Plug-in/Non Plug-in



### 2700 Series

15.9 Cv  
3/4"-1 1/2"  
Individual Sub-base



### 83 Series

1.5 Cv  
1/4" - 3/8"  
Individual Sub base/Manifold:  
Non Plug-in



### 6300 Series

3.0 Cv  
1/4"-1/2"  
Individual Sub-base/Manifold:  
Plug-in/Non Plug-in



### 92 Series

1.2 Cv  
1/8"-3/8"  
Individual Sub base/Manifold:  
Plug-in/Non Plug-in



### 6500 Series

5.1 Cv  
3.8"-3/4"  
Individual Sub-base/Manifold:  
Plug-in/Non Plug-in



### 93 Series

3.8 Cv  
3/8"-1/2"  
Inline - Manifold: Plug-in  
Non Plug-in - Stacking



### 6600 Series

9.6 Cv  
3/4"-1"  
Individual Sub-base/Manifold:  
Plug-in/Non Plug-in

## Valves that don't stick

Consult our manual for the use, installation and maintenance of our Mac Valves (see general catalog)

100%  
OF  
PRODUCTION  
TESTED  
100%  
WARRANTY  
18  
MONTHS



# PULSE VALVE

### 7 KEY ADVANTAGES



#### Energy savings

Powerful pulse action extends time needed between pulses, lowering energy costs.

#### Access

Access to valves in the dust collection system is difficult. The MAC spool valve's long life reduces lost labor and safety concerns attributed with repairs.

#### Downtime

When dust collection systems fail, plant operations come to a halt. MAC spool valves reduce downtime.

#### Product

Weak pulses cause excess waste to build up in the system and can cause a reduction in waste removal resulting in product contamination or a reduction in product yield.

#### Maintenance Costs

Diaphragm valves cause daily maintenance issues and increased labor costs. Spool valves allow for better use of labor throughout the plant.

#### Filter baglife

More efficient and effective pulses lead to cleaner filters/bags increasing overall filter life by reducing pulse frequency, lowering costs.

#### Ease of use

Only the MAC solenoid pilot offers a manual override to test the pulse valve.

It is currently available in (4) sizes:

- Pv03: ¾" and 1"
- PV06: 1 ½"
- PV09: 2" and 2 ½"
- PV12: 2 ½" and 3"



### Valves that don't stick

Consult our manual for the use, installation and maintenance of our Mac Valves (see general catalog)

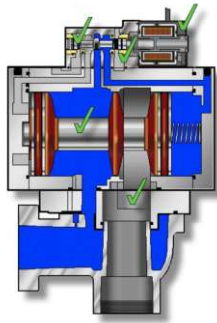






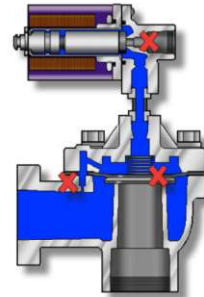
# PULSE VALVE

### MAC Design

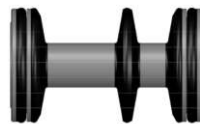


Vs

### Competition Design



### Mac Spool Design



### Diaphragm Design



- ✓ **D-Seal Technology**  
Isolates Solenoid  
- Longer Life -

- ✓ **Lifting Solenoid**  
- Consistent Response -

- ✗ **Contaminated Air Passes**  
Through Unbalanced Solenoid  
- Sticking & Burnout -

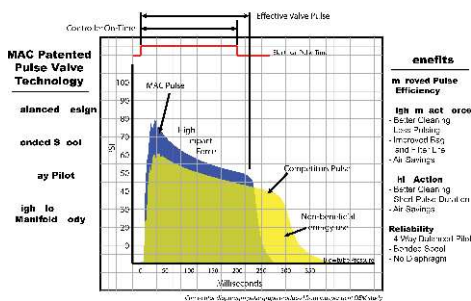
- ✓ **Dynamic Bonded Rubber Spool**  
- Balanced -  
- Wiping Action -

- ✓ **Adapter Plate**  
- Drop-in Replacement  
to Existing Manifold

- ✗ **Small Fixed Orifice**  
- Blocked By Contaminants

- ✗ **Diaphragm Ruptures**  
- Air Leaks -

### Pulse Valve Performance Curve MAC Valves = Energy Savings



Before



After

## Valves that don't stick

Consult our manual for the use, installation and maintenance of our Mac Valves (see general catalog)





# ISO VALVES

## ISO Valves



SERIES	ISO 01	ISO 02	ISO1	ISO2	ISO3
FLOW CV	1.0	0.43	1.8	3.0	6.1
PORT SIZE	1/4"	1/8"	1/4-3/8"	3/8-1/2"	1/2-3/4"

## PROPORTIONAL PRESSURE CONTROLLER (PPC)



Series	Cv	Port
PPC10A	0.05	1/8" - 5/32"
PPC5C	0.07	1/8"
PPC34B	0.07	1/8"
LPC35A	0.10	1/8"
PPC36A	0.25	1/8" - 1/4"

Series	Cv	Port
PPC36B	0.25	1/8" - 1/4"
PPC47A	0.72	1/4"
PPC400	1.3	1/4"
PPC92B	2.0	3/8"
PPC93A	6.2	1/2" - 3/4"



# ISO VALVES

## ISO VALVES

### PRESSURE REGULATOR

#### SERIES

- PR37A • PR42A • PR46A • PR47A • PR48A
- PR82A • PR63D • PR65C • PR92C • PR93A
- PRA01A • PRA02A • PRA1A • PRA2A • PRP1A
- PRP2A • PRA3C • PRP3B • PR125A • PR250B



### REMOTE AIR VALVE

- 55 SERIES • 56 SERIES • 57 SERIES • 58 SERIES • 59 SERIES
- 400 SERIES • 900 SERIES • 1100 SERIES • 1800 SERIES
- 2700 SERIES • 6300 SERIES • ISO 1 SERIES • ISO 2 SERIES
- ISO 3 SERIES



### MANUAL OPERATED VALVE

- Series 1100, 1800



## Valves that don't stick

Consult our manual for the use, installation and maintenance of our Mac Valves (see general catalog)



## LIQUID VALVE

### LBV Single Diaphragm

- Virtually no dead space
- Use when there is consistent pressure
- Balanced inlet
- Good for applications flowing to atmosphere
- 0-80 PSI pressure range
- Liquids or gases
- Variety of metals
- Variety of rubber – no poppet bonding required
- 2-way only
- Accurate, precise & repeatable

### APPLICATIONS / MEDIA

- Food / Beverage – syrup/water
- Medical – aggressive medias that require FFKM rubber and PEEK plastics



### LBV Double Diaphragm

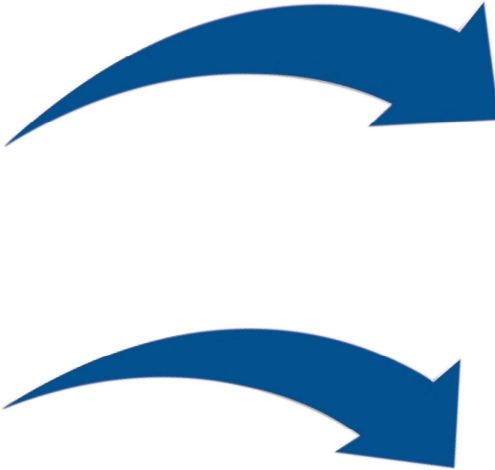
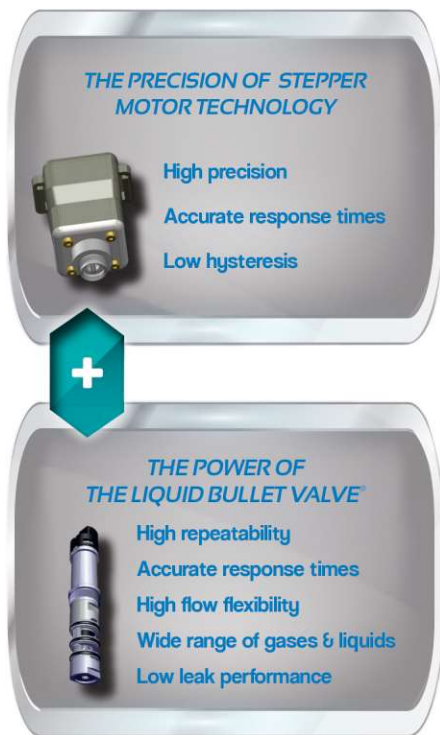
- Balanced Design
- 0-120 PSI pressure range (200 with mod on some series)
- Good for applications with a varying pressures
- Liquids or gases
- Variety of metals, plastics and rubbers
- 3 way, 2 way
- Extremely accurate liquid dispensing
- Different flows available
- Compatible with different kind of gases and liquids

### APPLICATIONS / MEDIA

- Medical – Dialysis
- Printing – Ink
- Test Equipment – Gases
- Food & Beverage – Water/CO2
- Agriculture – Water / Fertilizer
- And Many Others



## LIQUID VALVE



### TECHNICAL DATA

Function	: 2-way and 3-way
Type	: Cartridge style
Command	: 4 to 20 mA - 0 to 10 VDC (with optional driver circuit)
Manifold mounting:	Very flexible cartridge style
Media	: Liquids / fluids D-Flex™ (MAC patented diaphragm technology)

### LBV Flow Thru

- Large flow ranges
- Minimize Foam at output
- Laminar flow
- Perfect solution for filling applications (Beer or soft drinks)
- Removable parts for ease of cleaning (some models)
- Variety of rubber seals
- Great for direct filling applications
- Good for gravity fill

### APPLICATIONS / MEDIA

- Food & Beverage – Water
- Food & Beverage – Carbonated beverages
- Applications where foaming is an issue with traditional right angle flow paths



**MI/O-67®**


- MI/O-67® utilizes existing MACConnect® technology with MI/O-67® specific part numbers
- 5 protocols offered for flexibility of different customer systems
- Digital, Analog and PowerPlus™ modules to accommodate any I/O or additional valves needed
- Designed to meet IP67 washdown specifications (with appropriate valve series modifications)

**BViQ®**


The BViQ® is available in B314 and BV414 configurations featuring these innovative characteristics:

- Dual Bullet Valve® Cartridge slices – reducing overall footprint
- Dual 4-way slices
- Intermixing of 3-way & 4-way valve slices in a common assembly
- MACConnect® – available for wire-free manifold interconnects
- Single fastener BV mounting – provides quick and simple assembly
- Adapts via MACConnect® to several interface adapter types – including MI/O-67®
- Many of the Bullet Valve® modifications available – optimized rubbers, flows, etc.



## BULLET VALVE



### MAC ADVANTAGE FEATURES

- 2-WAY (BV210) AND 3-WAY (BV310) CONFIGURATIONS AVAILABLE
- VERY FEW PARTS
- LONG LIFE LIFTING SOLENOID
- ONE PIECE POPPET / ARMATURE
- BALANCED DESIGN
- SOLENOID ISOLATED FROM CONTAMINATED AIR
- UNIQUE MOUNTING



#### BV10

10mm Bullet Valve®

Cv (Max): 2-Way up to 0.08, 3-Way up to 0.09

Configurations: Cartridge - Manifold: Non Plug-in

#### BV14

Cv (Max): Up to 0.24 Cv

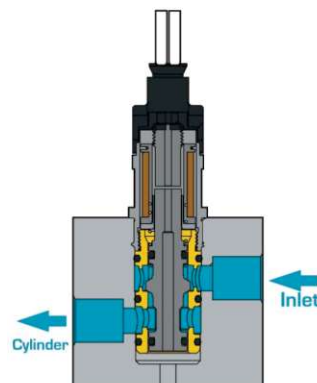
Configurations: Cartridge Plug-in

#### BV21

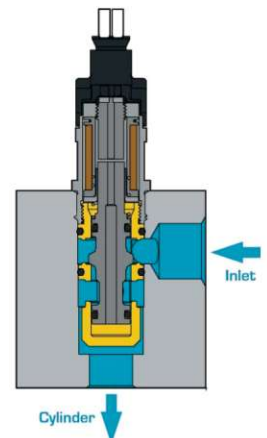
Cv (Max): Up to 0.60 Cv

Configurations: Cartridge

Standard 2 Way Bullet



Axial 2 Way Bullet



# INDUSTRIES



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