

SPECIALITY VALVES

# ngt

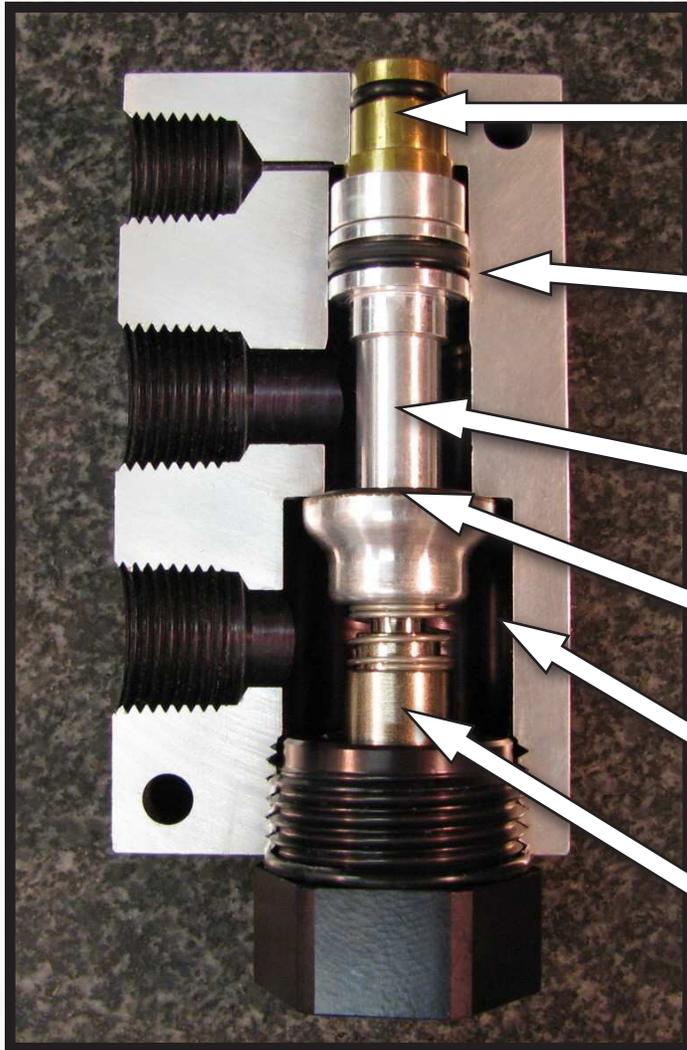


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## NGT Advantages



Manual release and flush manual release option to release trapped air.

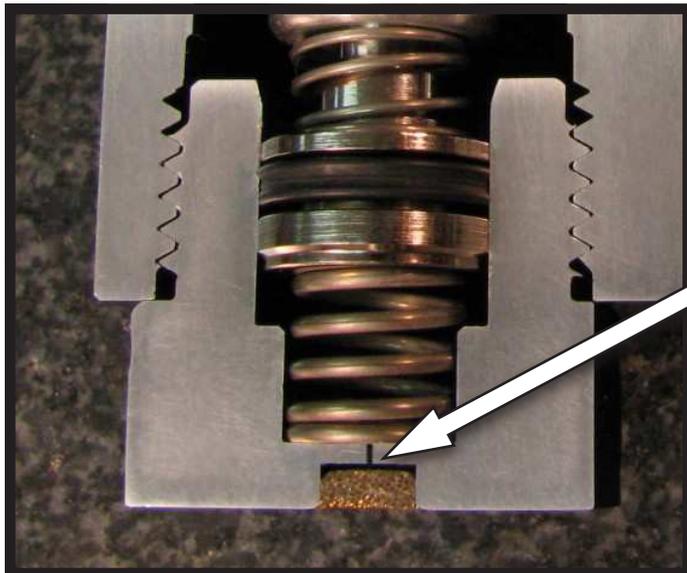
Internally lubricated seals for longer life without lubrication.

Balanced spool reduces impact on the poppet and reduces the size of the pilot piston, for a smaller overall design package.

Seal molded to the poppet.

Hard coated anodized aluminum with teflon coating to reduce wear and increases seal life.

Nickel plated steel piston rod for greater strength and corrosion resistance.



Cushion design reduces impact force on the spool by reducing spool velocity. Air is forced through a small orifice when the spool shifts—causing the spool to slow down before impact.

# NGT Design Advantages

## Air Tight

The poppet is designed for little or no leaking and seals tighter with increased pressure. Leak rates of 1 psi in 30 days are common.

## Less Seal Stress

Lip seal and ucup designs result in bending and flexing of the main seal in order to provide a checking function. The NGT design is a face seal molded to metal, so there is very little bending stress on the seal.

## Lower Pilot Pressure

Pilot ratios of 2:1 (trapped pressure/pilot pressure), that is, 80 psi trapped pressure requires a minimum of 40 psi to pilot the valve open. NGT valves approach ratios of 4:1 with a low pilot spring.

## Manual Release

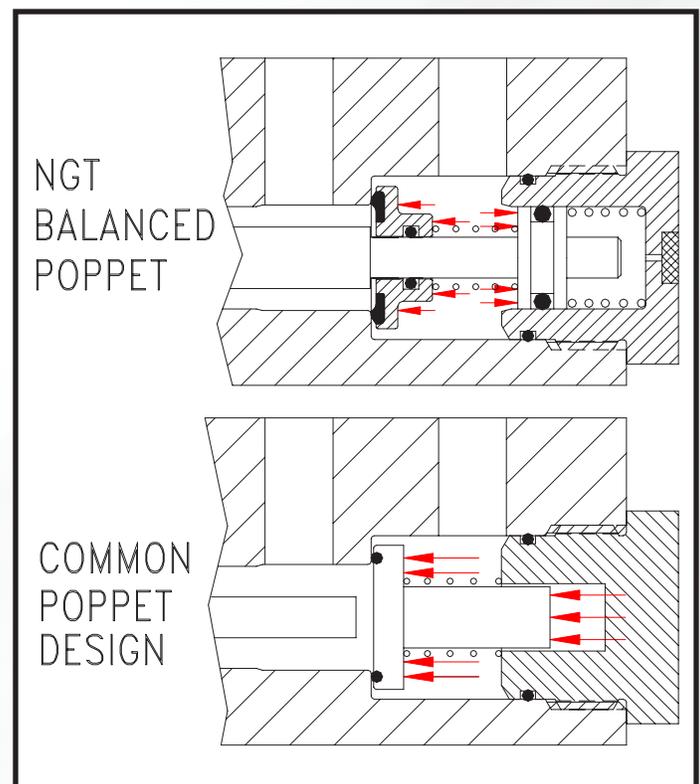
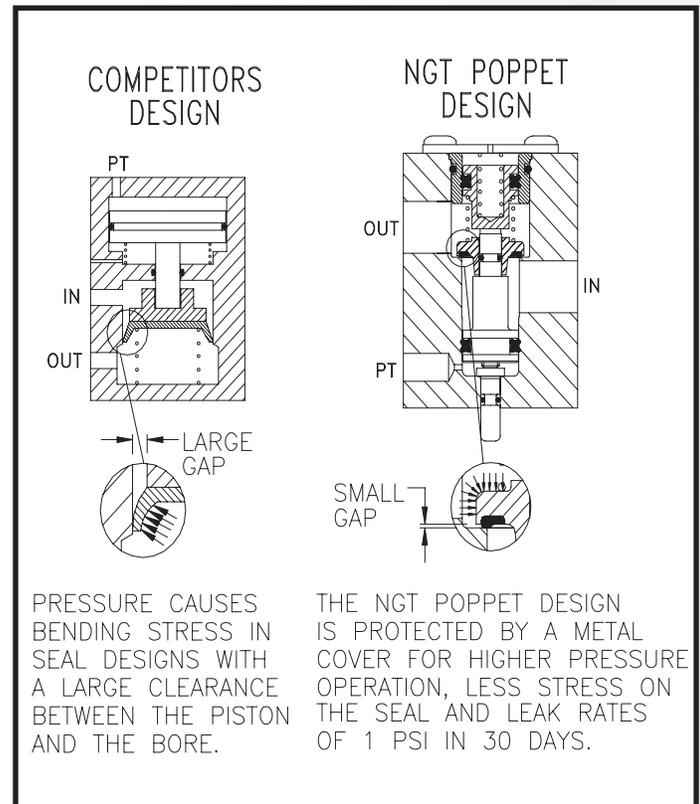
The manual release on the NGT pilot-operated check valve allows you to release the trapped air.

## Higher Operation Pressure

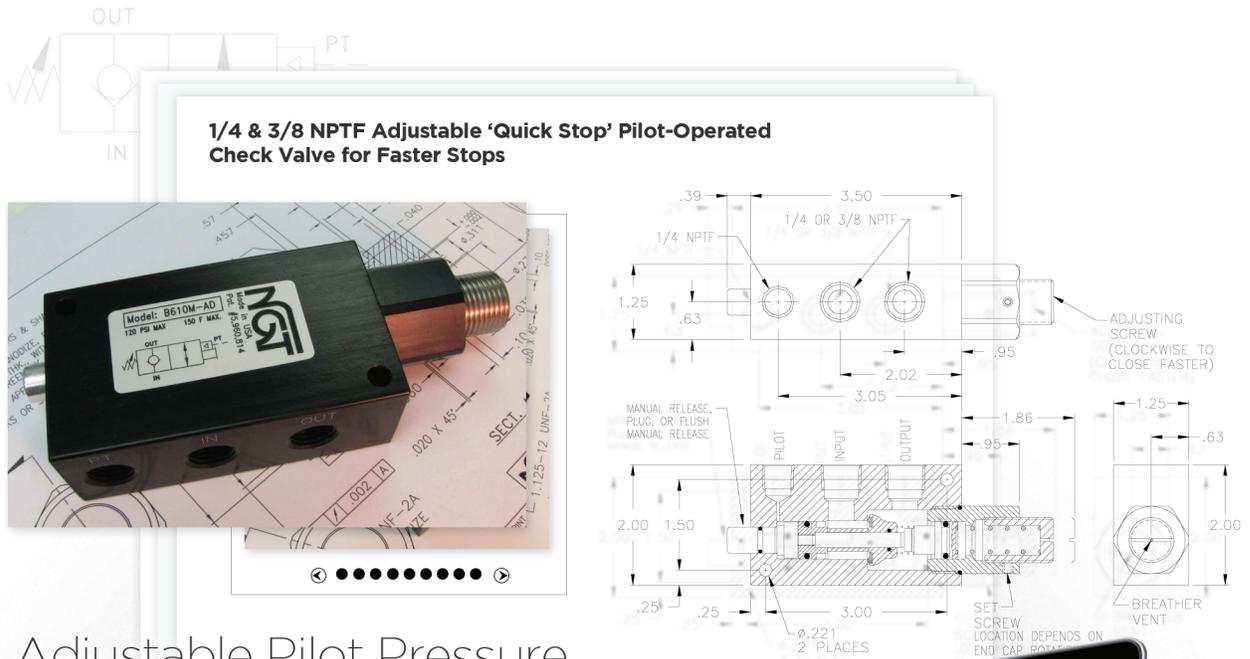
Because of the balanced poppet and the seal bonded to metal design, the NGT pilot-operated check can operate at higher pressures.

## Balanced Poppet

The balanced poppet design reduces the load on the main poppet seal by pulling the poppet away from the face seal as the pressure increases. This reduces the wear on the poppet seal and allows the valve to operate at higher pressures.



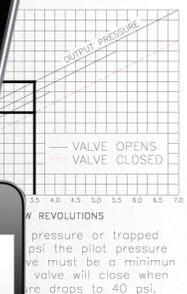
Everything in One Place. **Printable & Mobile**



- Adjustable Pilot Pressure
- Faster Stops
- .0000522 cc/min Leak Rate
- Manual Release Option

**Basic Operation:**

Locks any pneumatic device in position when a pressure drop occurs. Standard pilot operated check valves will not close fast enough when back pressure is present in the pilot line. In this valve, spring pressure causes the valve to close before all the air escapes, resulting in faster stops.



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**D** represents the recently discontinued items

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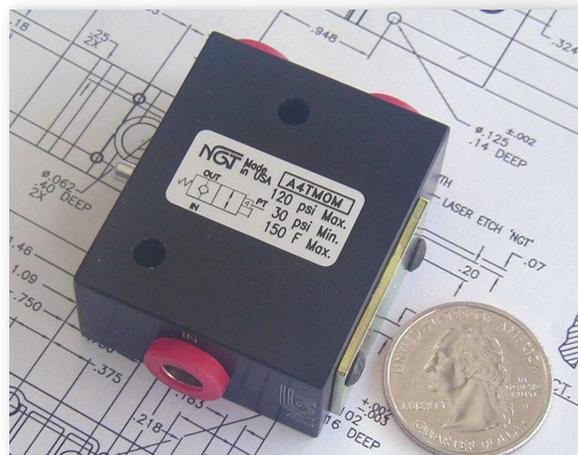
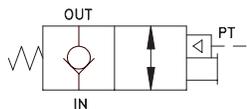
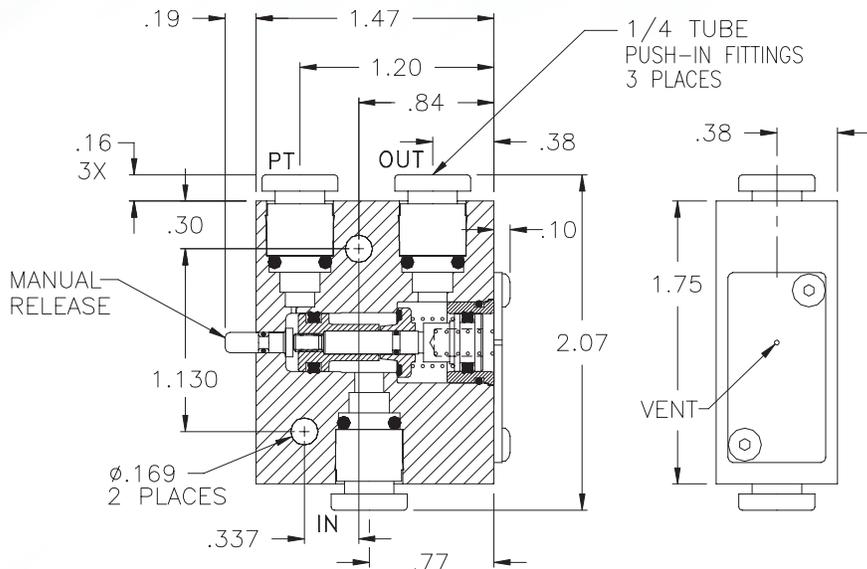
**D** represents the recently discontinued items

**For advanced questions or additional products information please inquire:**

Website [www.NGTValves.com](http://www.NGTValves.com)  
or  
Call (262) 782-6125

# 1/4 Tube Pilot-Operated Check Valve

Patents Pending



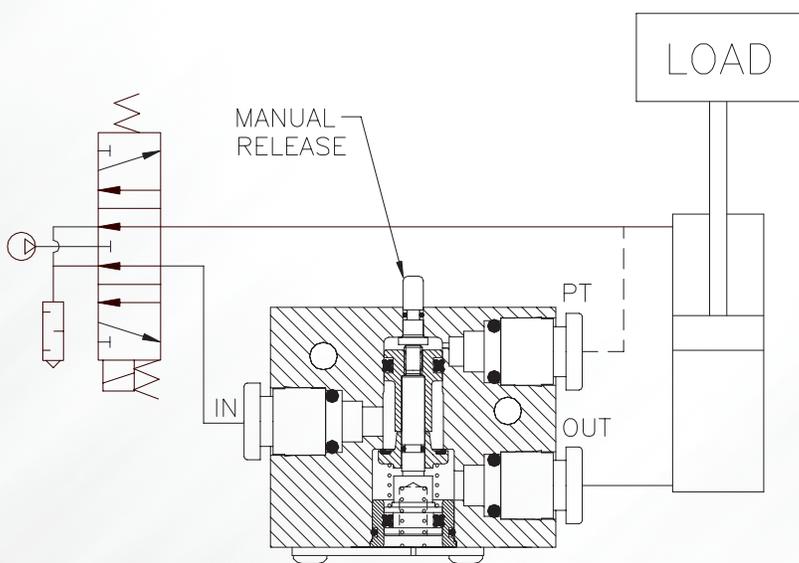
- New Smaller Size
- Push-on Connectors
- Manual Release
- .000113 cc/min Leak Rate

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Manual release for exhausting trapped air before maintaining the system (OSHA Requirement).

## Operating Data:

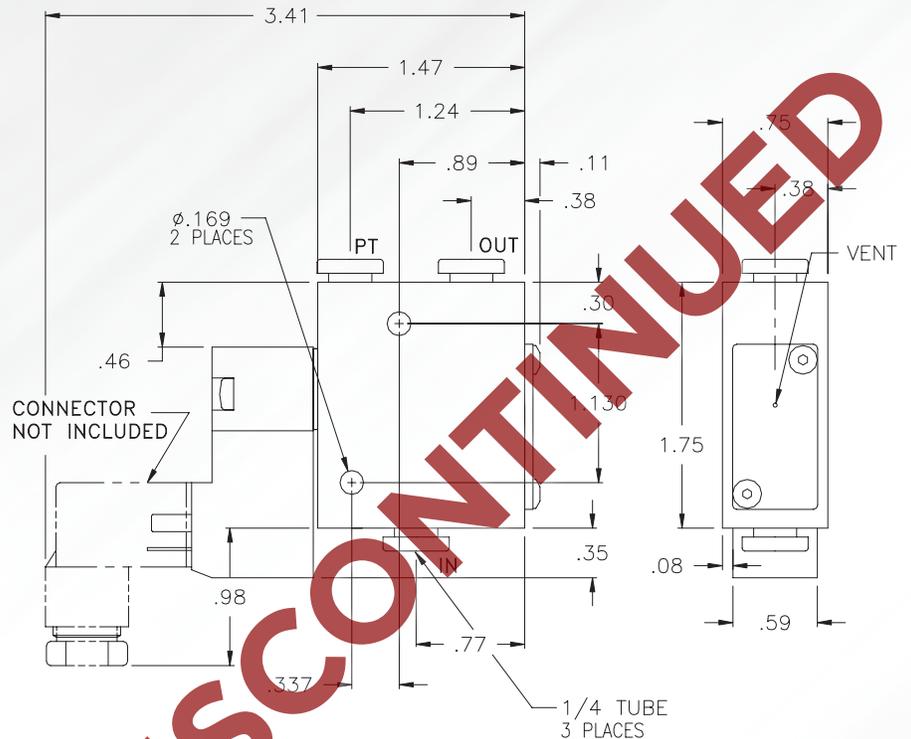
Max. Pressure:	120 psi
Min. Pilot Pressure:	30 psi @ 80 psi
Leak Rate:	.000113 cc/min
Temp. Range:	30 - 150 F
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	.50 max. (or I.D. tube)
Cracking Pressure:	2-3 psi
Service:	Properly filtered dry air or lubricated air.



Model No.	1/4 Tube
Manual Release	A4TM0M

# 1/4 Tube Solenoid Air Pilot-Operated Locking Valves

Patents Pending



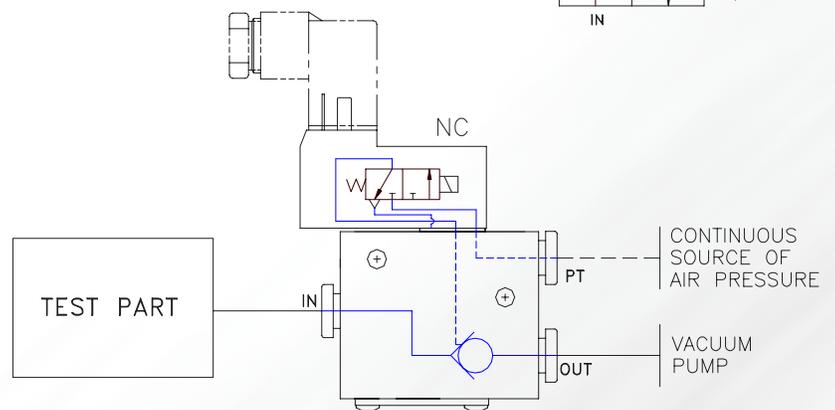
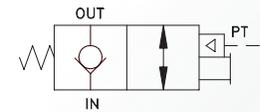
- New Smaller Size
- .000113 cc/min Leak Rate
- Solenoid Air Pilot (3/2 NC)
- No Fittings Required

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. The pilot signal to the valve is controlled by a normally closed 3-way solenoid valve.

## Operating Data:

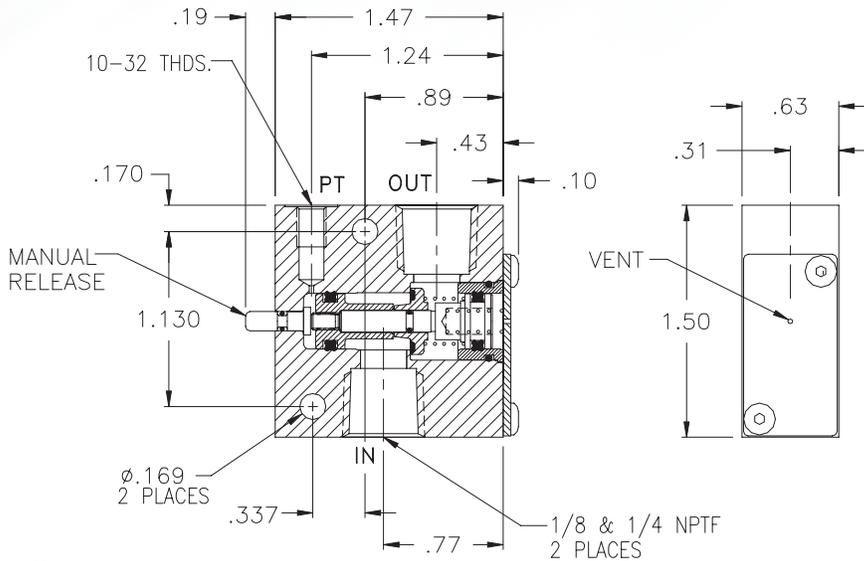
- Max. Pressure: 120 psi  
 Min. Pilot Pressure: 30 psi @ 80 psi  
 Leak Rate: .000113 cc/min  
 Temp. Range: 30 - 150 F  
 Cycle Rate: 1 cyc./sec. max.  
 Flow Capacity (Cv): .50  
 Cracking Pressure: 2-3 psi  
 Service: Properly filtered dry air or lubricated air.
- Solenoid: 3/2 normally closed  
 24 vdc, 2.5 watt
- Temp Range: 14 - 122 F
  - Protection Class: NEMA 4 / IP 65 (EN 60529)
  - Duty Rating: Continuous
  - Connector: 9.4 mm (DIN 43650)
  - Pressure Rating: 145 psi max.



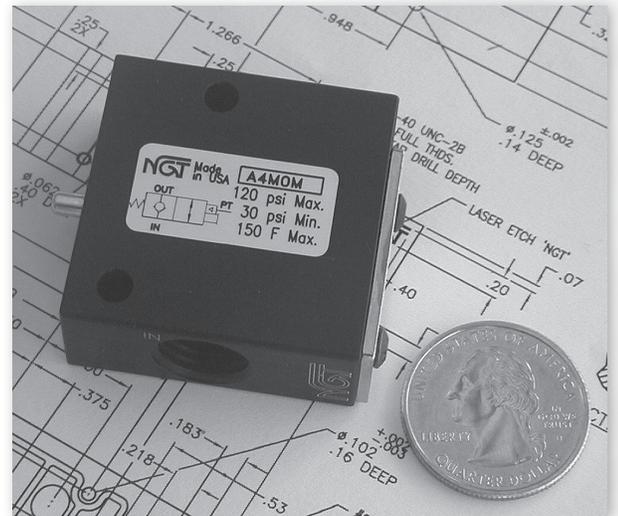
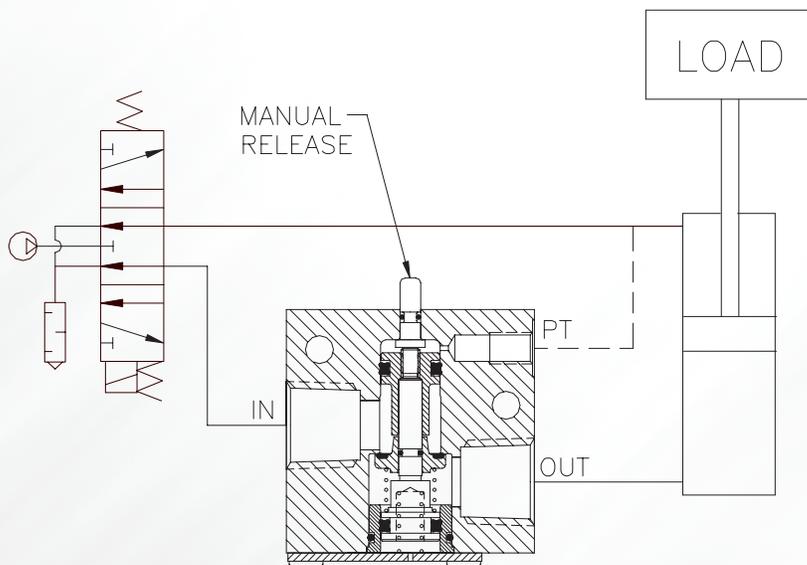
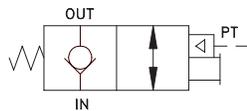
Model No.	1/4 Tube
Manual Release	A4TM00S24

# 1/8 & 1/4 NPTF Pilot-Operated Locking Valves

Patents Pending



DIMENSIONS APPLY FOR BOTH 1/8 AND 1/4 MODELS



- New Smaller Size
- Manual Release
- .000113 cc/min Leak Rate

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Manual release for exhausting trapped air before maintaining the system (OSHA Requirement).

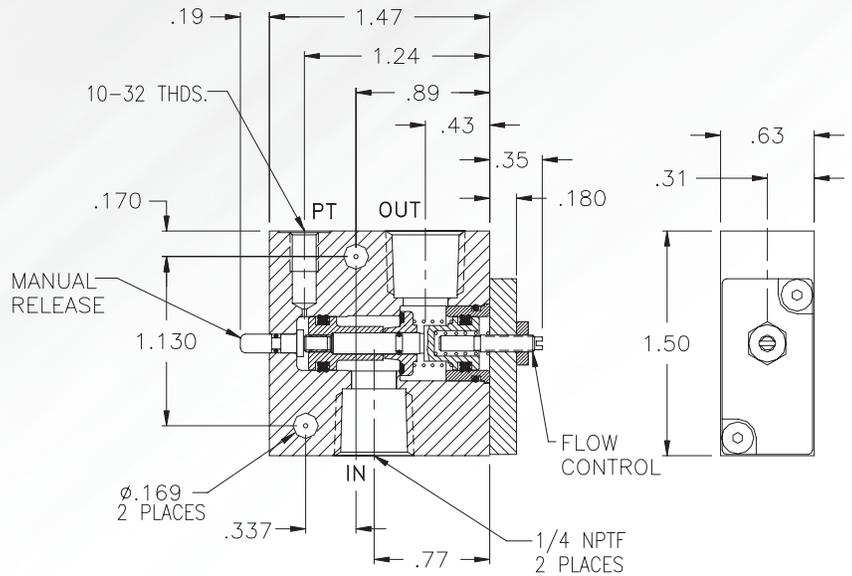
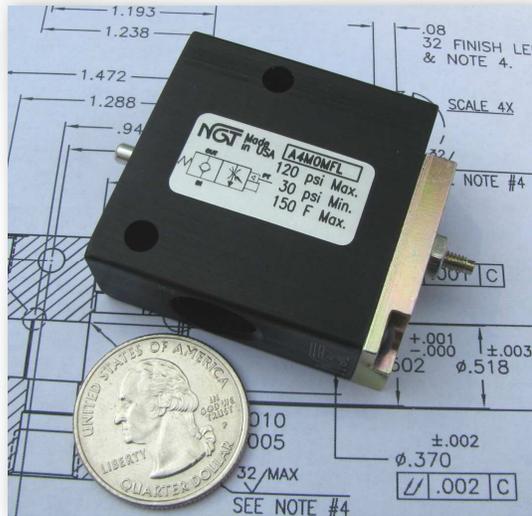
## Operating Data:

Max. Pressure:	120 psi
Min. Pilot Pressure:	30 psi @ 80 psi
Leak Rate:	.000113 cc/min
Temp. Range:	30-150F
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	1.2
Cracking Pressure:	2-3 psi
Service:	Properly filtered dry air or lubricated air.

Model No.	1/8 NPTF	1/4 NPTF
Manual Release	<b>A2M0M</b>	<b>A4M0M</b>

# 1/4 NPTF Pilot-Operated Locking Valves with Flow Controls

Patents Pending



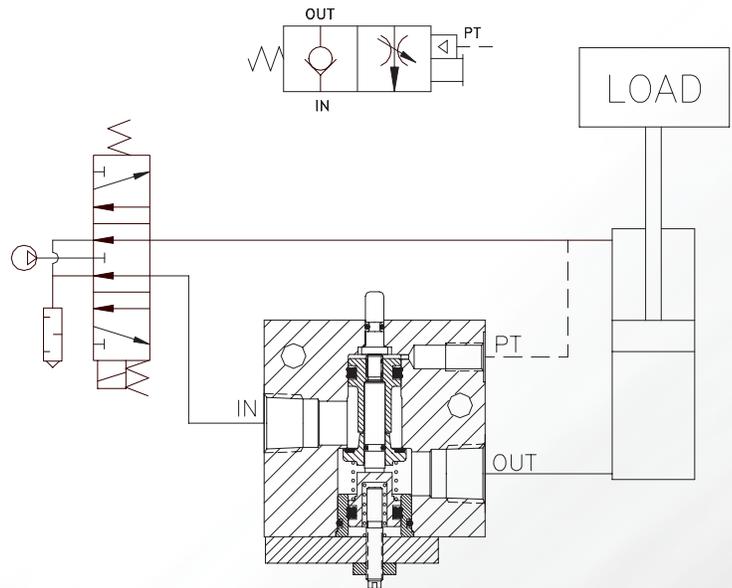
- Manual Release (Metered)
- .000113 cc/min - Leak Rate
- Lower Loads Slowly

## Basic Operation:

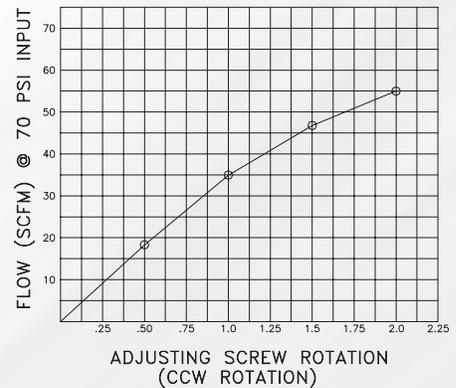
Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Slowly lower the load when the valve is piloted open. The manual release for exhausting trapped air is also metered through the flow control, so the load is lowered slowly when the manual release is depressed.

## Operating Data:

Max. Pressure: 120 psi  
 Min. Pilot Pressure: 30 psi @ 80 psi  
 Leak Rate: .000113 cc/min  
 Temp. Range: 30 - 150 F  
 Cycle Rate: 1 cyc./sec. max.  
 Flow Capacity (Cv): 1.2  
 Cracking Pressure: 2-3 psi  
 Service: Properly filtered dry air or lubricated air.



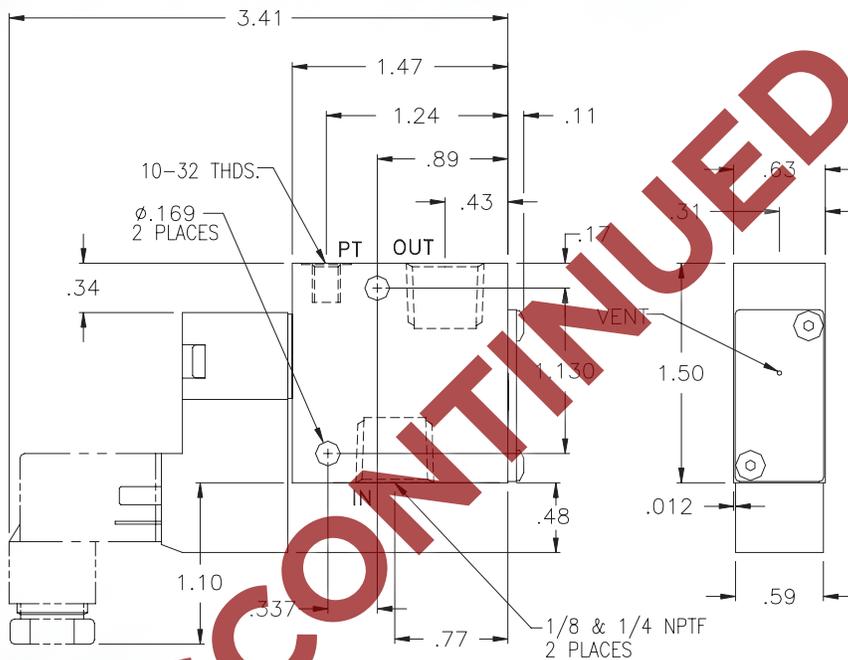
No. of Turns	Equivalent Dia (in.)
.5	.12
1.0	.17
1.5	.21
2.0	.24
2.5	.27
3.0	.30



70 PSI INLET AT FULL PRESSURE DROP

# 1/8 & 1/4 NPTF Solenoid Air Pilot-Operated Locking Valves

Patents Pending



DIMENSIONS APPLY FOR BOTH 1/8 AND 1/4 MODELS



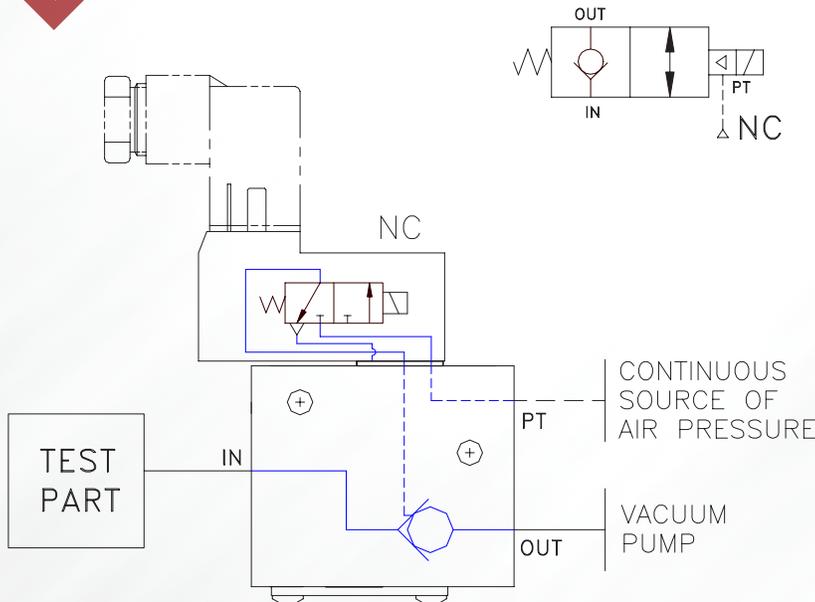
- New Smaller Size
- .000113 cc/min Leak Rate
- Solenoid Air Pilot (3/2 NC)

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. The pilot signal to the valve, is controlled by a normally closed 3-way solenoid valve. The flow is metered from output to input.

## Operating Data:

- |                      |  |
|----------------------|--|
| Max. Pressure:       | 120 psi                                      |
| Min. Pilot Pressure: | 30 psi @ 80 psi                              |
| Leak Rate:           | .000113 cc/min                               |
| Temp. Range:         | 30 - 150 F                                   |
| Cycle Rate:          | 1 cyc./sec. max.                             |
| Flow Capacity (Cv):  | 1.2  |
| Cracking Pressure:   | 2-3 psi                                      |
| Service:             | Properly filtered dry air or lubricated air. |
| Solenoid:            | 3/2 normally closed<br>24 vdc, 2.5 watt      |
- Temp Range: 14 - 122 F
  - Protection Class: NEMA 4 / IP 65 (EN 60529)
  - Duty Rating: Continuous
  - Connector: 9.4 mm (DIN 43650)
  - Pressure Rating: 145 psi max.

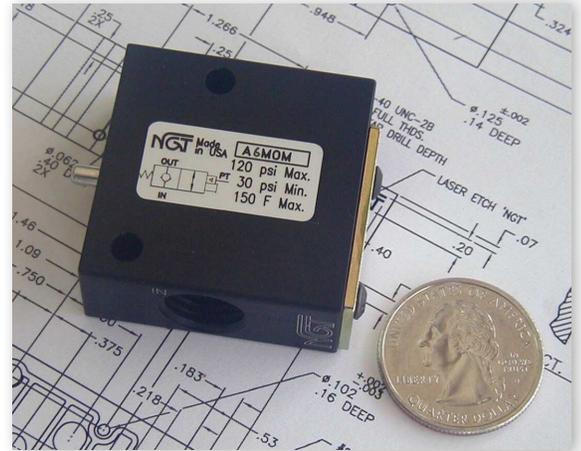
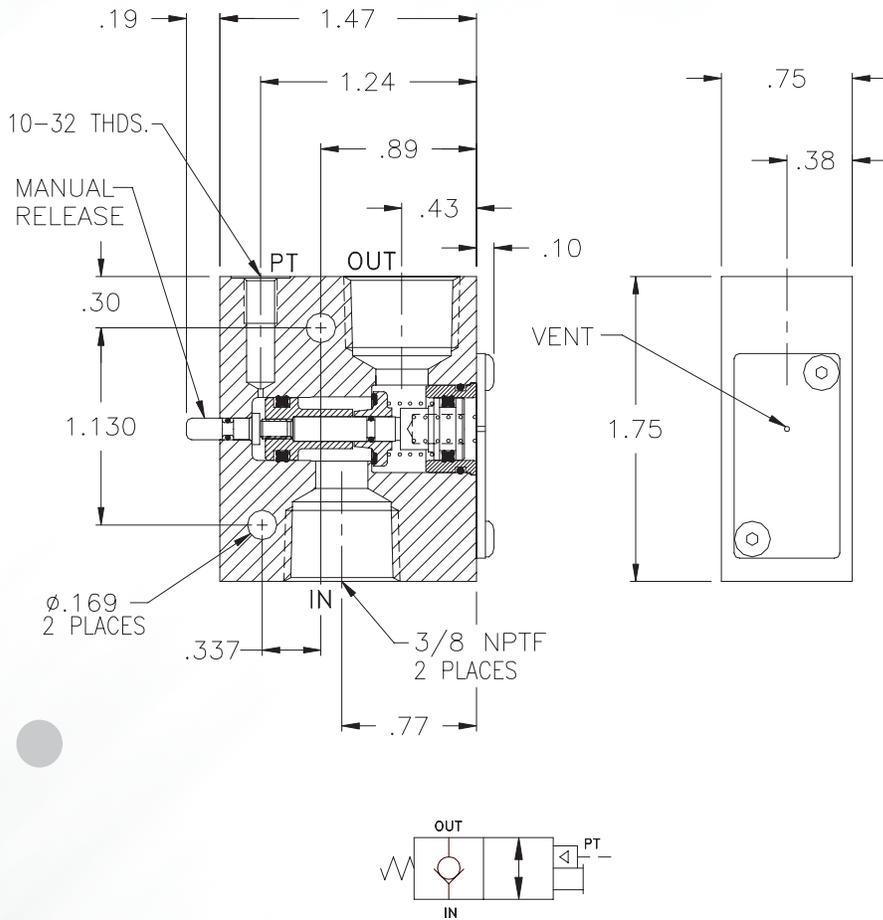


Model No.	1/8 NPTF	1/4 NPTF
24 vdc Solenoid	A2M00S24	A4M00S24



# 3/8 NPTF Pilot Operated Locking Valves

Patents Pending



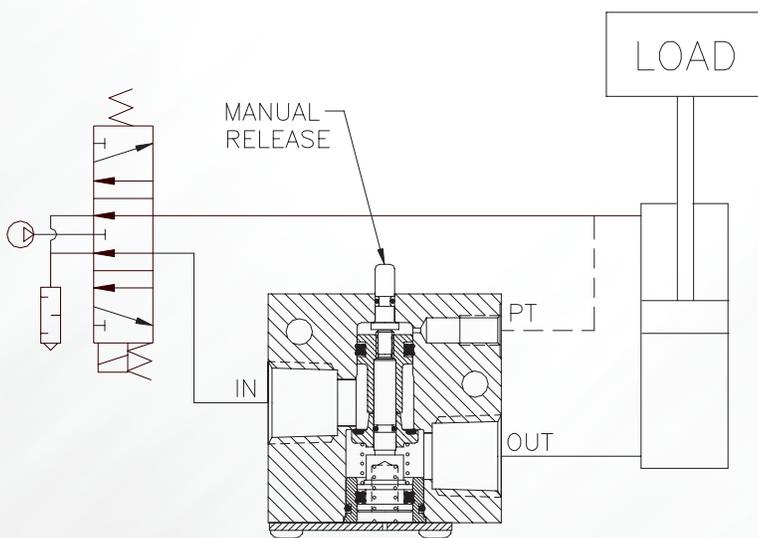
- New Smaller Size
- Manual Release
- .000113 cc/min Leak Rate

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Manual release for exhausting trapped air before maintaining the system (OSHA Requirement).

## Operating Data:

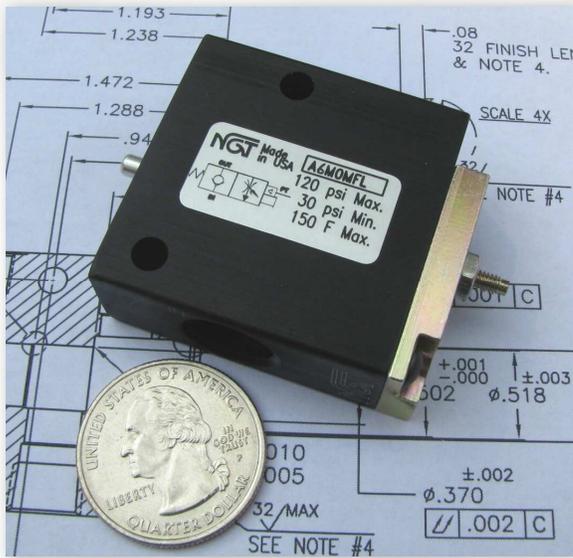
Max. Pressure:	120 psi
Min. Pilot Pressure:	30 psi @ 80 psi
Leak Rate:	.000113 cc/min
Temp. Range:	30 - 150 F
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	1.2
Cracking Pressure:	2-3 psi
Service:	Properly filtered dry air or lubricated air.



Model No.	3/8 NPTF
Manual Release	A6MOM

# 3/8 NPTF Pilot-Operated Locking Valve with Flow Control

Patents Pending



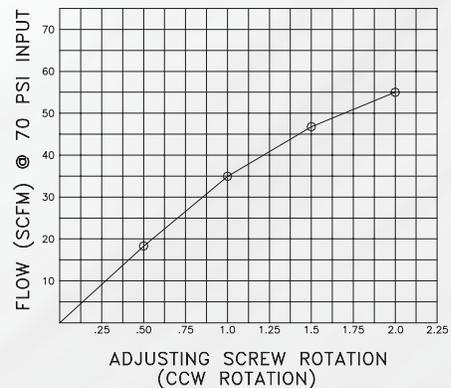
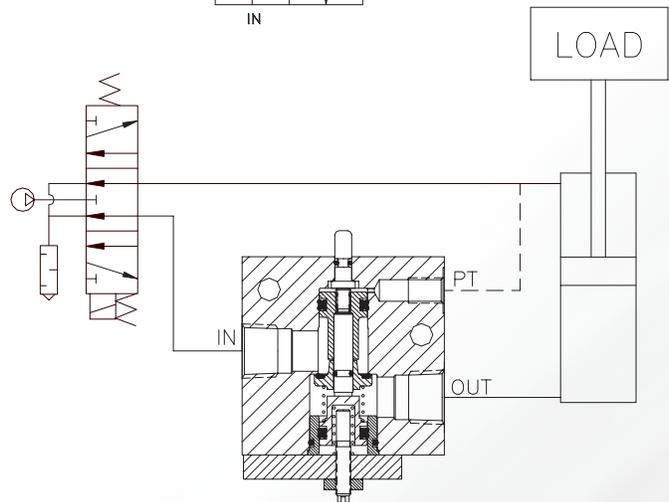
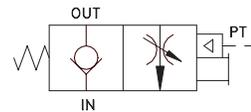
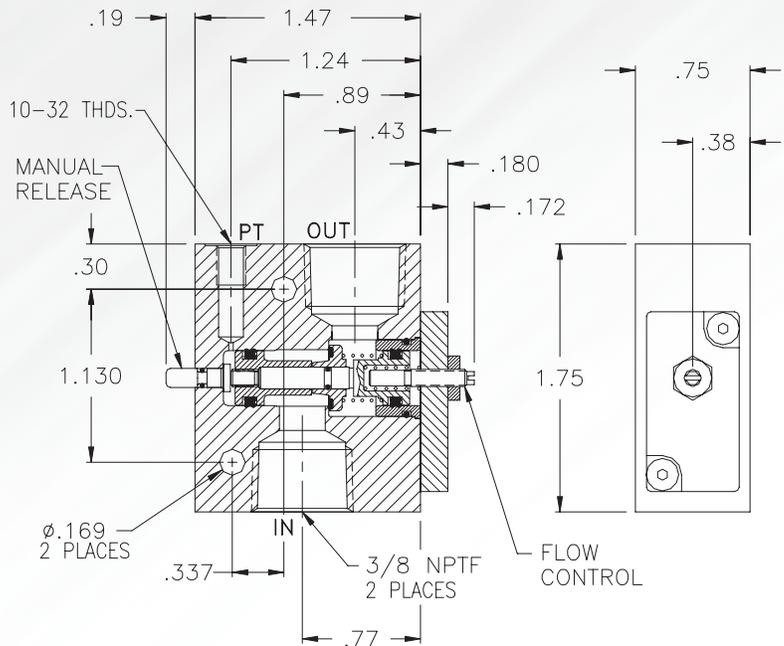
- Lower Loads Slowly
- Manual Release (metered flow)
- .000113 cc/min - Leak Rate

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Slowly lower the load when the valve is piloted open. The manual release for exhausting trapped air is also metered through the flow control, so the load is lowered slowly when the manual release is depressed.

## Operating Data:

Max. Pressure:	120 psi
Min. Pilot Pressure:	30 psi @ 80 psi
Leak Rate:	.000113 cc/min
Temp. Range:	30 - 150 F
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	1.2
Cracking Pressure:	2-3 psi
Service:	Properly filtered dry air or lubricated air.



70 PSI INLET AT FULL PRESSURE DROP

P.O. Box 5223, Elm Grove, WI 53122-5223

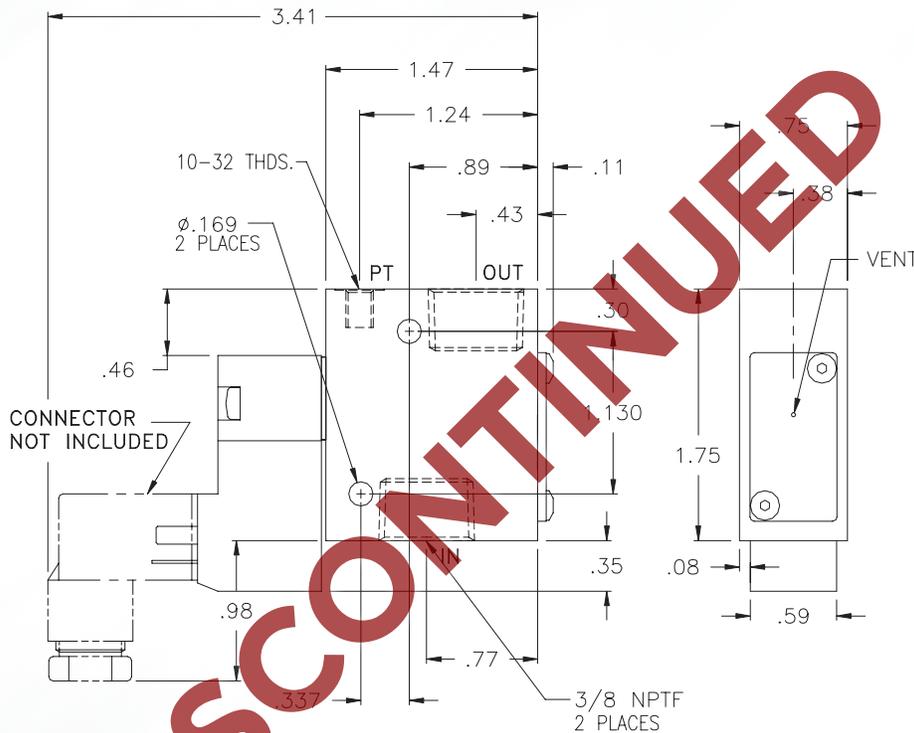


Model No.	3/8 NPTF
Manual Release	A6M0MFL

No. of Turns	Equivalent Dia (in.)
.5	.12
1.0	.17
1.5	.21
2.0	.24
2.5	.27
3.0	.30

# 3/8 NPTF Solenoid Air Pilot-Operated Locking Valves

Patents Pending



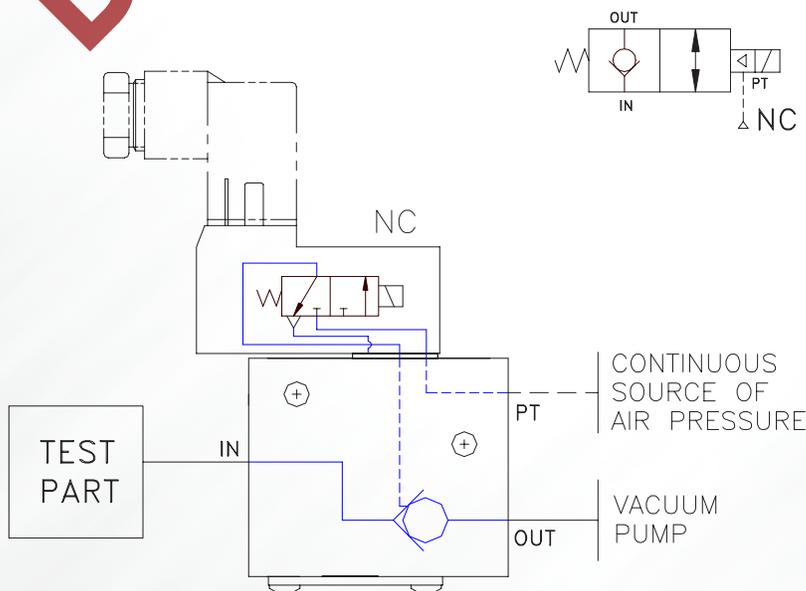
- New Smaller Size
- .000113 cc/min Leak Rate
- Solenoid Air Pilot (3/2 NC)

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. The pilot signal to the valve is controlled by a normally closed 3-way solenoid valve.

## Operating Data:

- Max. Pressure: 120 psi
- Min. Pilot Pressure: 30 psi @ 80 psi
- Leak Rate: .000113 cc/min
- Temp. Range: 30 - 150 F
- Cycle Rate: 1 cyc./sec. max.
- Flow Capacity (Cv): 1.2
- Cracking Pressure: 2-3 psi
- Service: Properly filtered dry air or lubricated air.
- Solenoid: 3/2 normally closed  
24 vdc, 2.5 watt
- Temp Range: 14 - 122 F
- Protection Class: NEMA 4 / IP 65 (EN 60529)
- Duty Rating: Continuous
- Connector: 9.4 mm (DIN 43650)
- Pressure Rating: 145 psi max.



Model No.	3/8 NPTF
24 vdc Solenoid	A6M00S24

# 3/8 NPTF Solenoid Air Pilot-Operated Locking Valves with Flow Control

Patents Pending



- New Smaller Size
- .000113 cc/min Leak Rate
- Solenoid Air Pilot (3/2 NC)
- Lower Loads Slowly

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. The pilot signal to the valve is controlled by a normally closed 3-way solenoid. The flow is metered from output to input.

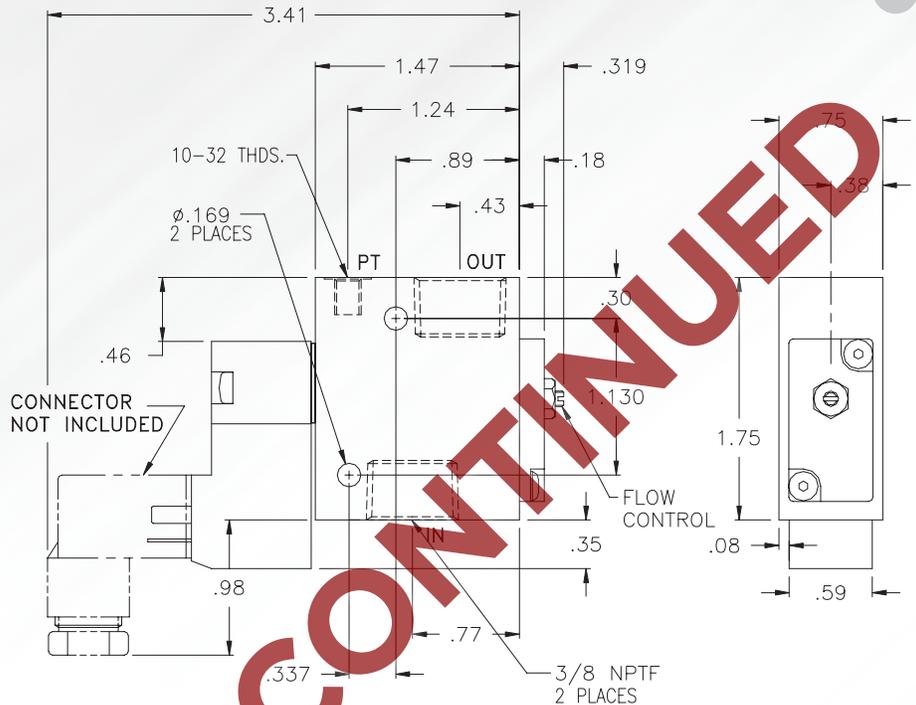
## Operating Data:

Max. Pressure: 120 psi  
 Min. Pilot Pressure: 30 psi @ 80 psi  
 Leak Rate: .000113 cc/min  
 Temp. Range: 30 - 150 F  
 Cycle Rate: 1 cyc./sec. max.  
 Flow Capacity (Cv): 1.2  
 Cracking Pressure: 2-3 psi  
 Service: Properly filtered dry air or lubricated air.

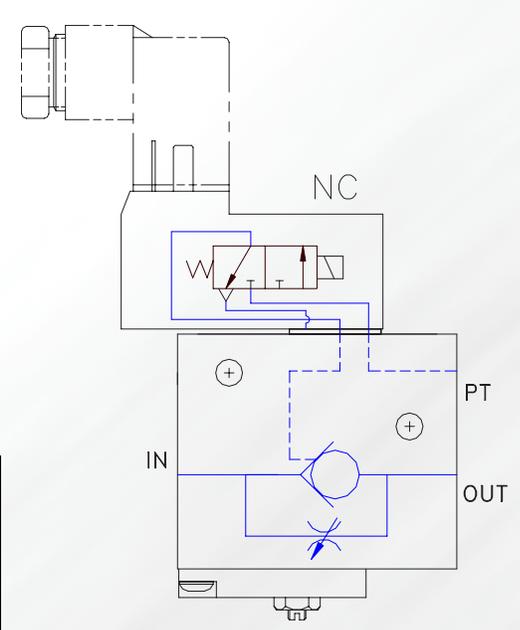
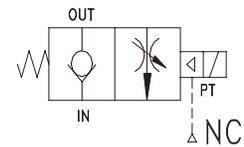
Solenoid: 3/2 normally closed  
 24 vdc, 2.5 watt

- Temp Range: 14 - 122 F
- Protection Class: NEMA 4 / IP 65 (EN 60529)
- Duty Rating: Continuous
- Connector: 9.4 mm (DIN 43650)
- Pressure Rating: 145 psi max.

Model No.	3/8 NPTF
24 vdc Solenoid	A6M00FLS24



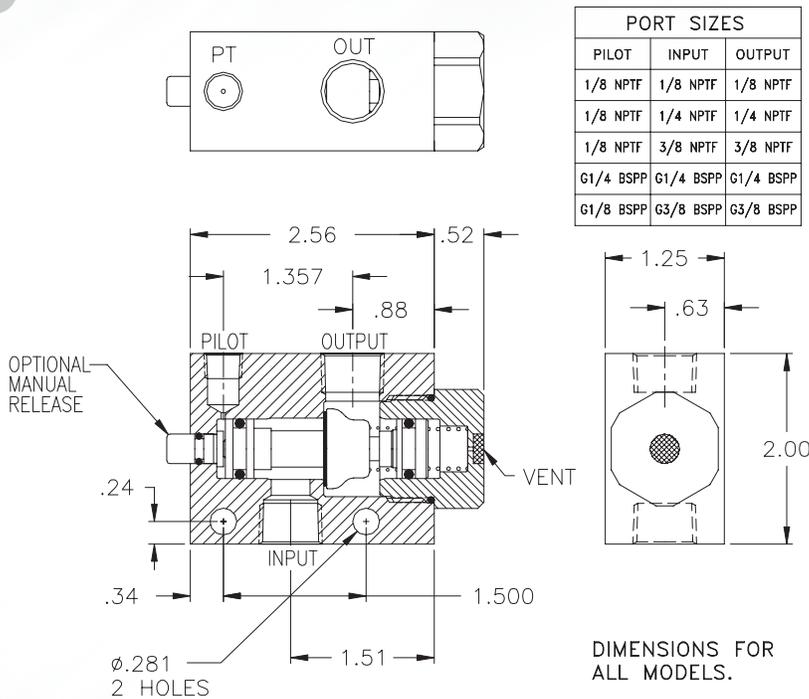
DISCONTINUED



No. of Turns	Equivalent Dia (in.)
.5	.12
1.0	.17
1.5	.21
2.0	.24
2.5	.27
3.0	.30

# 1/8, 1/4, 3/8 NPTF & G1/4, G3/8 BSPP Balanced Pilot Operated Check Valves

Patent 5960814



PORT SIZES		
PILOT	INPUT	OUTPUT
1/8 NPTF	1/8 NPTF	1/8 NPTF
1/8 NPTF	1/4 NPTF	1/4 NPTF
1/8 NPTF	3/8 NPTF	3/8 NPTF
G1/4 BSPP	G1/4 BSPP	G1/4 BSPP
G1/8 BSPP	G3/8 BSPP	G3/8 BSPP



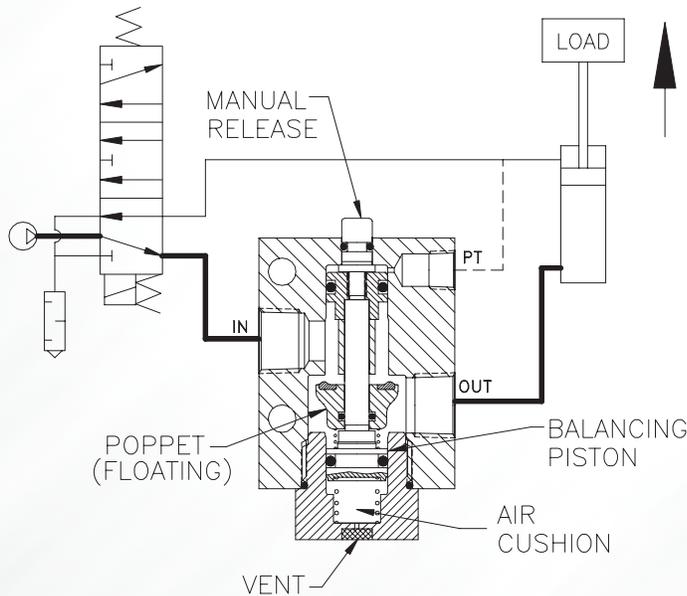
- Immediate Checking
- Optional Manual Release
- .000052 cc/min Leak Rate
- 316 Stainless Available
- Low & High Temp
- G1/4 & G3/8 BSPP In Stock
- Non-Ferrous In Stock

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Manual release for exhausting trapped air before maintaining the system (OSHA Requirement).

## Operating Data:

Max. Pressure:	150 psi
Min. Pilot Pressure:	40 psi
	25 psi (see table '-K18')
Leak Rate:	.0000522 cc/min
Temp. Range:	30-150 F
	30-350 F (see table '-V')
	-40 -150 F (see table '-T40')
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	1.7 (1/8 model)
	2.6 (1/4 and 3/8 models)
Cracking Pressure:	1-2 psi
Service:	Properly filtered dry air or lubricated air.



Model No.	1/8 NPTF	1/4 NPTF	3/8 NPTF	1/4 BSPP	3/8 BSPP
No Manual Release	<b>B2M00</b>	<b>B4M00</b>	<b>B6M00</b>	<b>BG4M00-1</b>	<b>BG6M00</b>
Manual Release	<b>B2M0M</b>	<b>B4M0M</b>	<b>B6M0M</b>	<b>BG4M0M-1</b>	<b>BG6M0M</b>
Flush Manual Release	<b>B2MFM</b>	<b>B4MFM</b>	<b>B6MFM</b>	<b>BG4MFM-1</b>	<b>BG6MFM</b>

For high temp seals add (-V) to the model # (ex. B2M0M-V).  
 For low temp seals add (-T40) to the model # (ex. B2M0M-T40).  
 For a lower pilot pressure add (-K18) to the model # (ex. B2M0M-K18).  
 For the non-ferrous model add (-NF) to the model # (ex. B2M0M-NF).

# 1/4, 3/8 NPTF & G1/4, G3/8 BSPP Pilot Operated Check Valves with Flow Controls Fast Advance and Slow Retract - Avoid Crash Landings



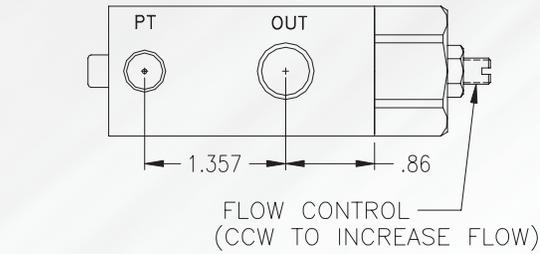
- Avoid Crash Landings
- Optional Manual Release
- .000052 cc/min Leak Rate
- Non-Ferrous Available

## Basic Operation:

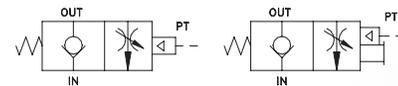
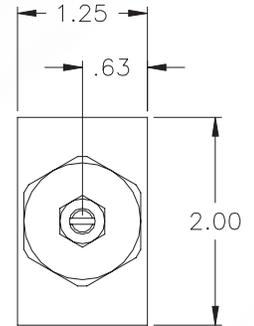
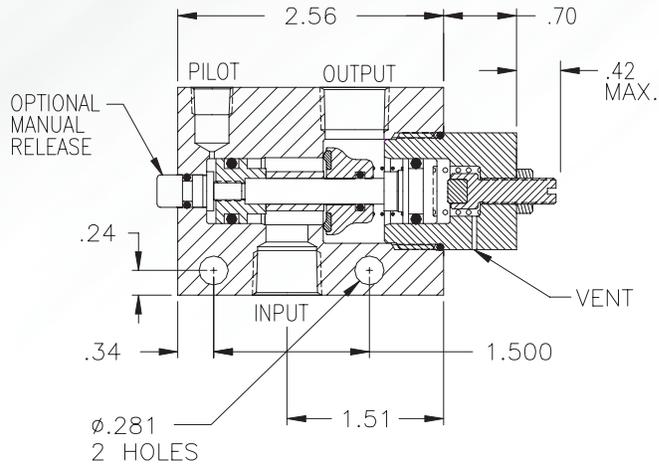
Hold position when a pressure drop or total loss of pressure occurs. Flow control meters air from the output to the input port. Manual release to exhaust trapped air before maintaining the system (OSHA Requirement).

## Operating Data:

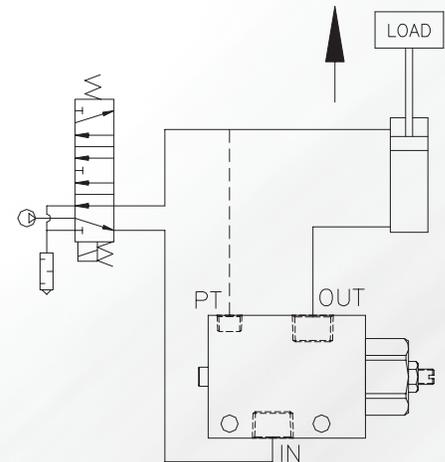
Max. Pressure:	150 psi
Min. Pilot Press.:	40 psi
	25 psi (see table)
Temp. Range:	30 - 150 F
Cycle Rate:	1 cycles/sec max.
Flow Capacity (Cv):	2.6 max
Cracking Pressure:	1-2 psi
Service:	Properly filtered dry or lubricated air.



PORT SIZES		
PILOT	INPUT	OUTPUT
1/8 NPTF	1/4 NPTF	1/4 NPTF
1/8 NPTF	3/8 NPTF	3/8 NPTF
G1/4 BSPP	G1/4 BSPP	G1/4 BSPP
G1/8 BSPP	G3/8 BSPP	G3/8 BSPP



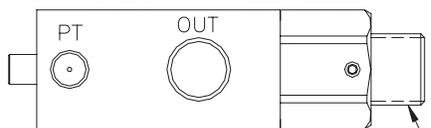
No. of Turns	Equivalent Dia (in.)
.25	.15
.50	.21
.75	.26
1.0	.30
1.25	.34
1.50	.37
1.75	.40



Model No.	1/4 NPTF	3/8 NPTF	1/4 BSPP	3/8 BSPP
No Manual Release	<b>B4M00FL</b>	<b>B6M00FL</b>	<b>BG4M00FL-1</b>	<b>BG6M00FL</b>
Manual Release	<b>B4M0MFL</b>	<b>B6M0MFL</b>	<b>BG4M0MFL-1</b>	<b>BG6M0MFL</b>
Flush Manual Release	<b>B4MFMFL</b>	<b>B6MFMFL</b>	<b>BG4MFMFL-1</b>	<b>BG6MFMFL</b>

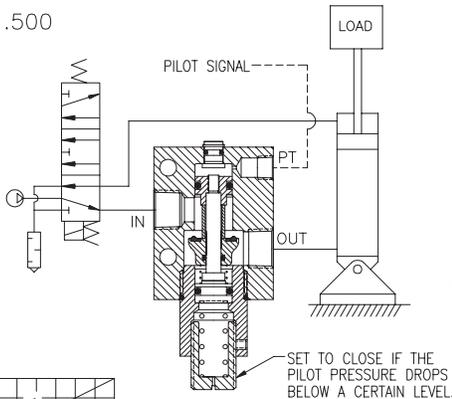
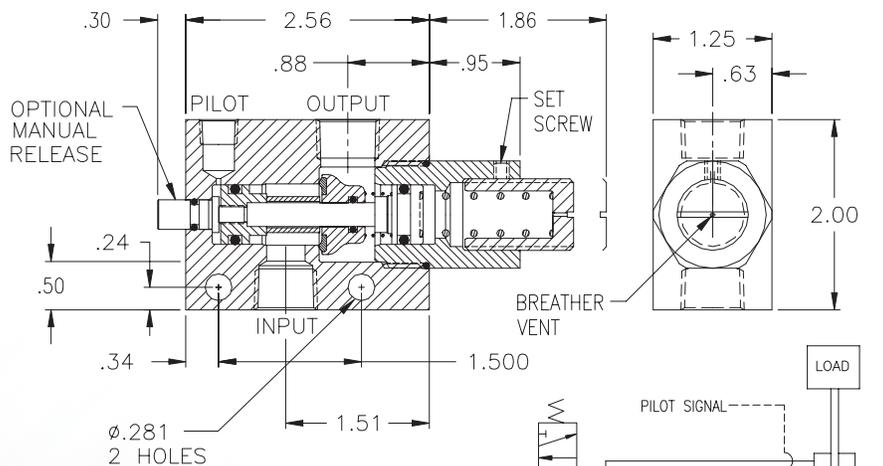
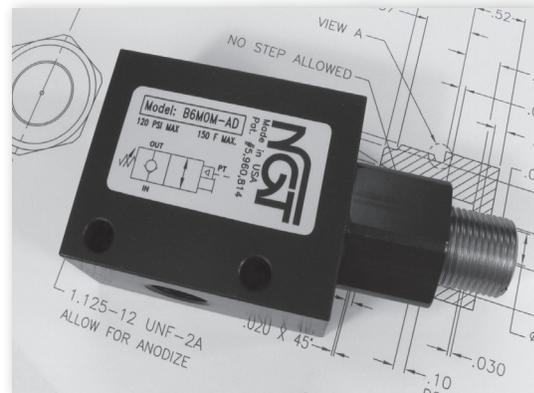
For a lower pilot pressure add (-K18) to the model # (ex. B4M0MFL-K18).

# 1/8, 1/4, 3/8 NPTF & G1/4, G3/8 BSPP Adjustable Pilot-Operated Check Valve for Faster Stops or to Close at a Set Pressure.



TURN CW TO CLOSE AT A HIGHER PRESSURE

PORT SIZES		
PILOT	INPUT	OUTPUT
1/8 NPTF	1/4 NPTF	1/4 NPTF
1/8 NPTF	3/8 NPTF	3/8 NPTF
G1/4 BSPP	G1/4 BSPP	G1/4 BSPP
G1/8 BSPP	G3/8 BSPP	G3/8 BSPP



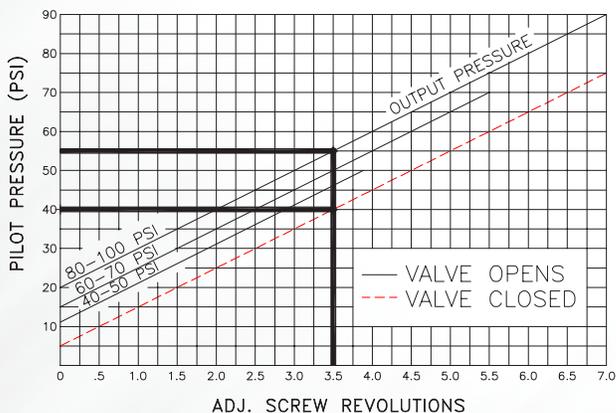
- Adjustable Pilot Pressure
- Faster Stops
- .000052 cc/min Leak Rate
- Manual Release Option

## Basic Operation:

Locks any pneumatic device in position when a pressure drop or total loss of pressure occurs. Set the valve to close at a certain pressure. The pilot line reads the pressure and closes the valve when the pressure drops below the set pressure.

## Operating Data:

- Max. Pressure: 120 psi
- Min. Pilot Pressure: Adjustable
- Leak Rate: .0000522 cc/min.
- Temp. Range: 30-150 F
- Cycle Rate: 1 cyc./sec.
- Flow Capacity (Cv): 1.7 max. (1/8)  
2.6 max. (1/4 & 3/8)
- Cracking Pressure: 1-2 psi
- Service: Properly filtered dry air and lubricated air.



EXAMPLE: With the output pressure or trapped pressure at 80 psi the pilot pressure to open the valve must be a minimum of 55 psi. The valve will close when the back pressure drops to 40 psi.

Model No.	1/8 NPTF	1/4 NPTF	3/8 NPTF	1/4 BSPP	3/8 BSPP
No Manual Release	B2M00AD	B4M00AD	B6M00AD	BG4M00AD-1	BG6M00AD
Manual Release	B2M0MAD	B4M0MAD	B6M0MAD	BG4M0MAD-1	BG6M0MAD
Flush Manual Release	B2MFMAD	B4MFMAD	B6MFMAD	BG4MFMAD-1	BG6MFMAD

# 1/4 & 3/8 NPTF Balanced Pilot Operated Check Valves - All Ports on One Side

Patent 5960814



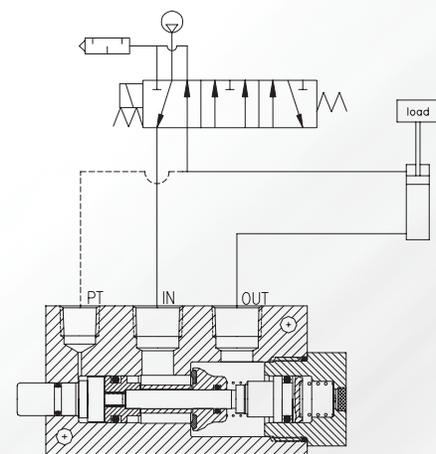
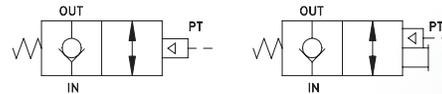
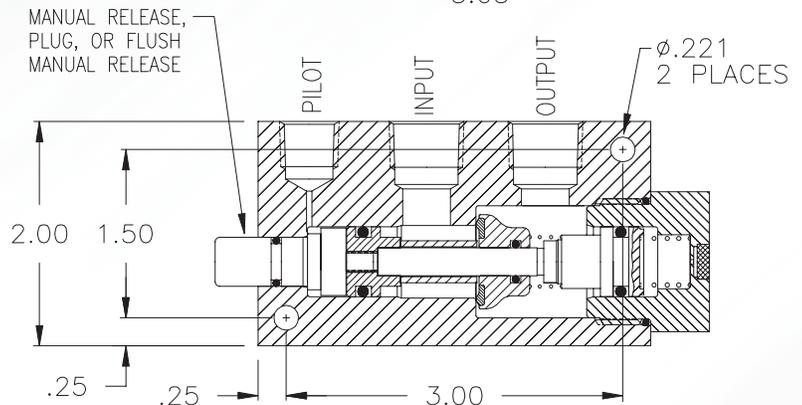
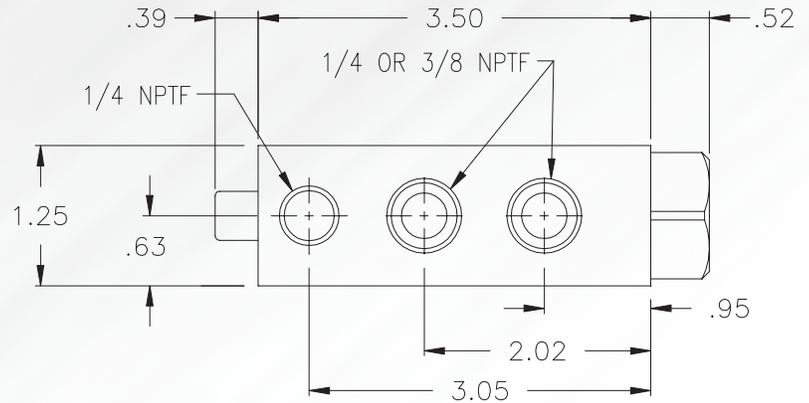
- Immediate Checking
- Optional Manual Release
- .0000522 cc/min Leak Rate
- Low & High Temp

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Manual release for exhausting trapped air before maintaining the system (OSHA Requirement).

## Operating Data:

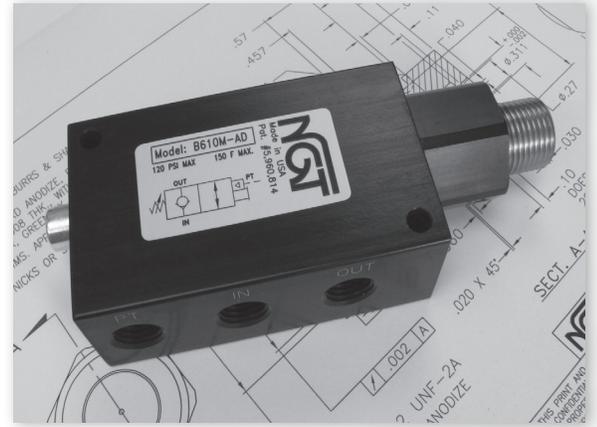
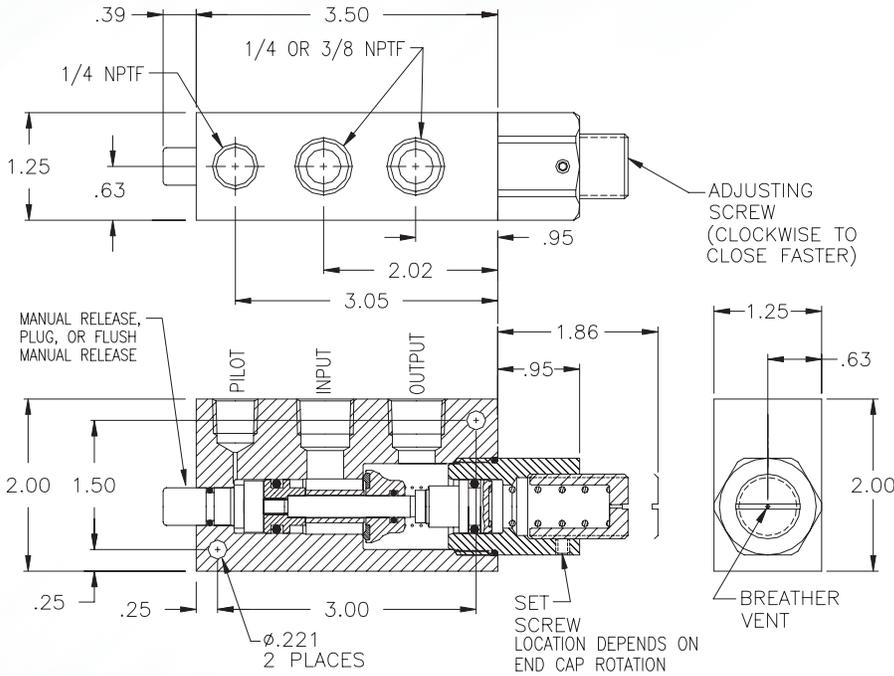
- Max. Pressure: 150 psi
- Min. Pilot Pressure: 40 psi
- 25 psi (see table '-K18')
- Leak Rate: .0000522 cubic cm/min
- Temp. Range: 30 -150 F
- 30 - 350 F (see table '-V')
- Cycle Rate: -40 -150 F (see table '-T40')
- Flow Capacity (Cv): 1 cyc./sec. max.
- Cracking Pressure: 2.6
- Service: 1-2 psi
- Properly filtered dry air or lubricated air.



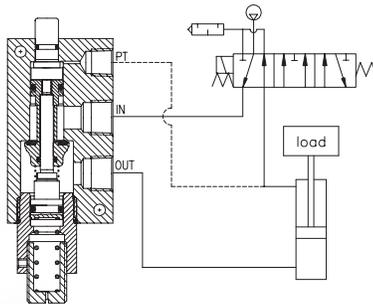
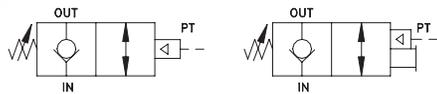
Typical Locking Circuit

Model No.	1/4 NPTF	3/8 NPTF
No Manual Release	<b>B4100</b>	<b>B6100</b>
Manual Release	<b>B410M</b>	<b>B610M</b>
Flush Manual Release	<b>B41FM</b>	<b>B61FM</b>
For a lower pilot pressure add (-K18) to the model # (ex. B610M-K18) For high temp seals add (-V) to the model # (ex. B4100-V) For low temp seals add (-T40) to the model # (ex. B4100-T40)		

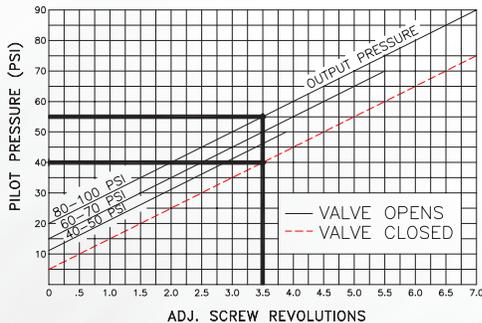
# 1/4 & 3/8 NPTF Adjustable 'Quick Stop' Pilot-Operated Check Valve for Faster Stops



- Adjustable Pilot Pressure
- Faster Stops
- .0000522 cc/min Leak Rate
- Manual Release Option



TYPICAL LOCKING CIRCUIT



EXAMPLE: With the output pressure or trapped pressure at 80 psi the pilot pressure to open the valve must be a minimum of 55 psi. The valve will close when the back pressure drops to 40 psi.

## Basic Operation:

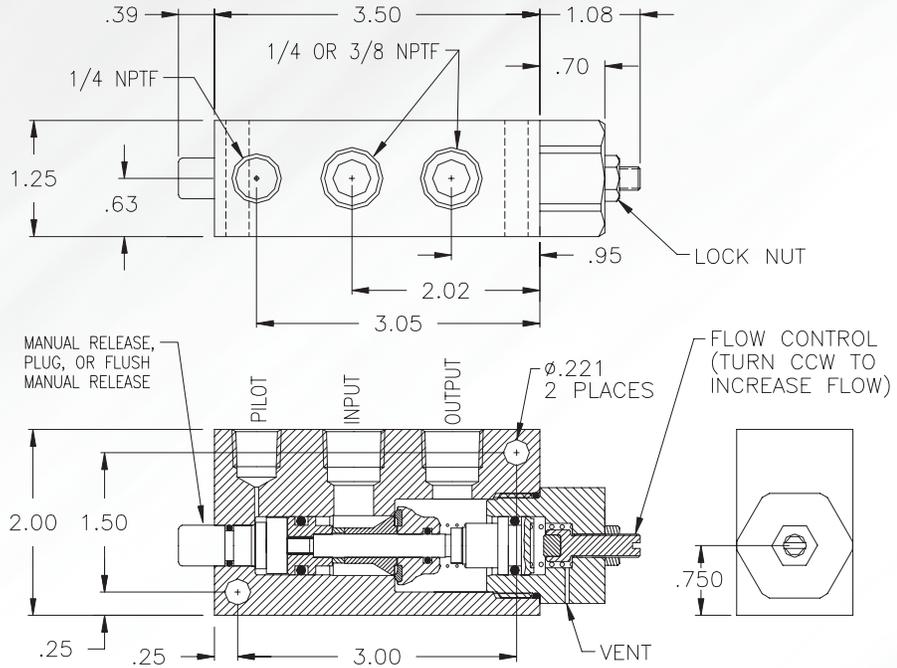
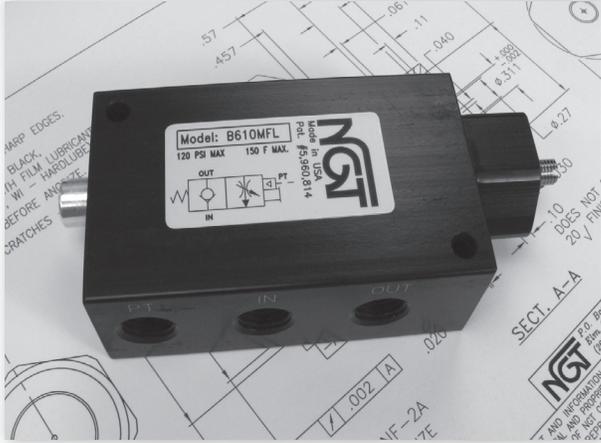
Locks any pneumatic device in position when a pressure drop or total loss of pressure occurs. Standard pilot-operated check valves will not close fast enough when back pressure is present in the pilot line. Increasing the spring pressure causes the valve to close before all the air exhausts, resulting in faster stops.

## Operating Data:

- Max. Pressure: 120 psi
- Pilot Pressure: Adjustable
- Temp. Range: 30-150 F
- Cycle Rate: 1 cyc./sec.
- Flow Capacity (Cv): 2.6
- Cracking Pressure: 1-2 psi
- Service: Properly filtered dry or lubricated air.

Model No.	1/4 NPTF	3/8 NPTF
No Manual Release	B4100AD	B6100AD
Manual Release	B410MAD	B610MAD
Flush Manual Release	B41FMAD	B61FMAD

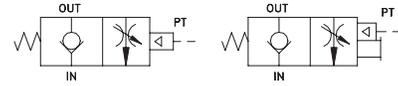
# 1/4 & 3/8 NPTF Pilot Operated Check Valves with Flow Controls Fast Advance and Slow Retract - Avoid Crash Landings



- Lower Loads Slowly
- Optional Manual Release
- .0000522 cc/min Leak Rate

## Basic Operation:

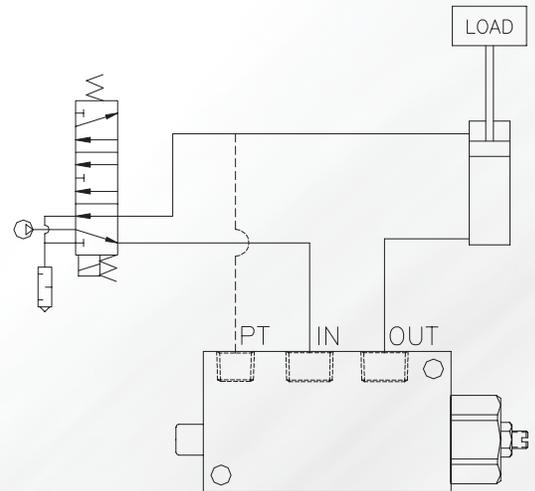
Hold position when a pressure drop or total loss of pressure occurs. Flow control meters air from the output to the input port. Manual release to exhaust trapped air before maintaining the system (OSHA Requirement).



## Operating Data:

- Max. Pressure: 150 psi
- Min. Pilot Press.: 40 psi
- 25 psi (see table)
- Temp. Range: 30 - 150 F
- Cycle Rate: 1 cycles/sec max.
- Flow Capacity (Cv): 2.6 max.
- Cracking Pressure: 1-2 psi
- Service: Properly filtered dry or lubricated air.

No. of Turns	Equivalent Dia (in.)
.25	.15
.50	.21
.75	.26
1.0	.30
1.25	.34
1.50	.37
1.75	.40



Model No.	1/4 NPTF	3/8 NPTF
No Manual Release	<b>B4100FL</b>	<b>B6100FL</b>
Manual Release	<b>B410MFL</b>	<b>B610MFL</b>
Flush Manual Release	<b>B41FMFL</b>	<b>B61FMFL</b>
For a lower pilot pressure add (-K18) to the model # (ex. B610MFL-K18).		



# 1/4, 3/8 & 1/2 NPTF Swivel Mounted Pilot-Operated Check Valves



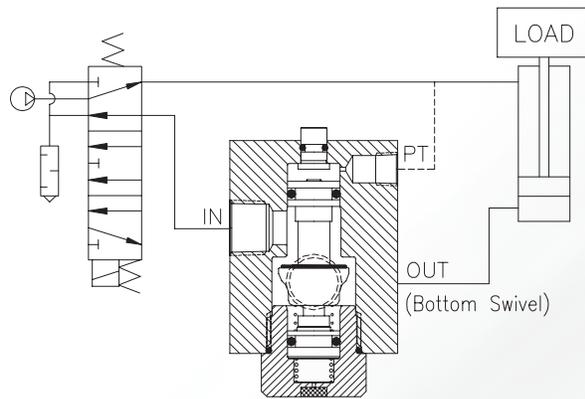
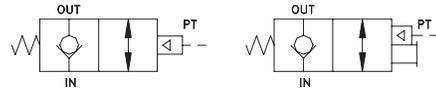
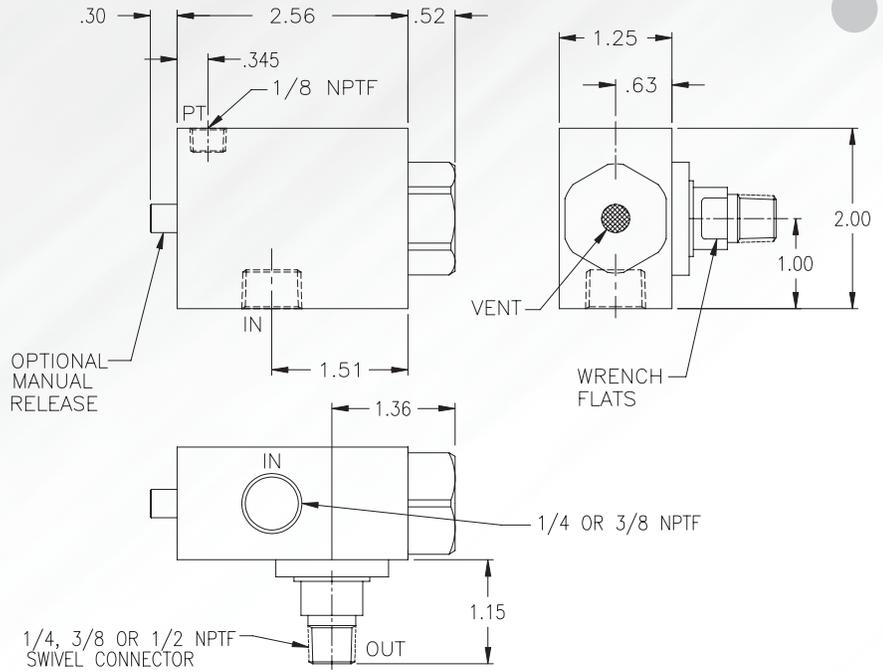
- Optional Manual Release
- .0000522 cc/min Leak Rate
- Direct Mounting Swivel

## Basic Operation:

Locks any pneumatic device in position when a pressure drop or total loss of pressure occurs. Manual release removes trapped air before maintaining the system (OSHA requirement).

## Operating Data:

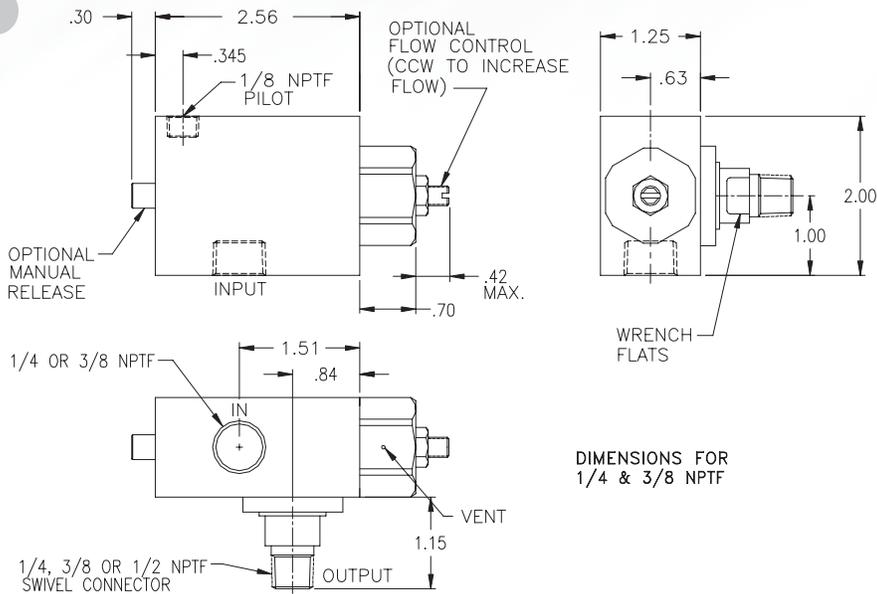
Max. Pressure:	150 psi
Min. Pilot Pressure:	40 psi
	25 psi (see table)
Temp. Range:	30-150 F
	-40-150 F (low temp)
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	2.6
Cracking Pressure:	1-2 psi
Service:	Properly filtered dry air or lubricated air.



MODELS	1/4 Swivel	3/8 Swivel	1/2 Swivel
<b>1/4 NPTF Input Port</b>			
No Manual Release	<b>B4S00-25</b>	<b>B4S00-38</b>	<b>B4S00-50</b>
Manual Release	<b>B4S0M-25</b>	<b>B4S0M-38</b>	<b>B4S0M-50</b>
Flush Manual Release	<b>B4SFM-25</b>	<b>B4SFM-38</b>	<b>B4SFM-50</b>
<b>3/8 NPTF Input Port</b>			
No Manual Release	<b>B6S00-25</b>	<b>B6S00-38</b>	<b>B6S00-50</b>
Manual Release	<b>B6S0M-25</b>	<b>B6S0M-38</b>	<b>B6S0M-50</b>
Flush Manual Release	<b>B6SFM-25</b>	<b>B6SFM-38</b>	<b>B6SFM-50</b>

For low temp version add a (-T40) to the end of the model # (Ex: B4S00-25-T40).  
For low pilot pressure add a (-K18) to the end of the model # (Ex: B4S00-K18).

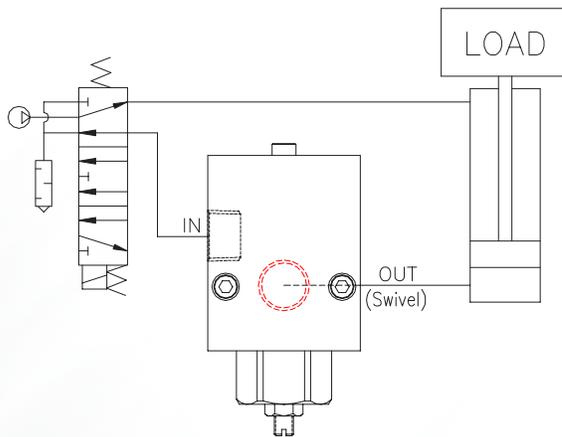
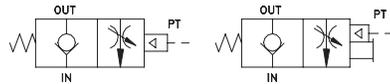
# 1/4 & 3/8 NPTF Swivel Mount Pilot-Operated Check Valves with Flow Controls



DIMENSIONS FOR 1/4 & 3/8 NPTF



- Optional Manual Release
- .0000522 cc/min Leak Rate
- Swivel Mount
- Lower Loads Slowly



## Basic Operation:

Hold position when a pressure drop or total loss of pressure occurs. Fast advance and slow retract to avoid crash landings. Manual release to exhaust trapped air before maintaining the system (OSHA Requirement).

## Operating Data:

- Max. Pressure: 150 psi
- Min. Pilot Pressure: 40 psi
- 25 psi (see table)
- Cycle Rate: 1 cyc./sec.
- Temp. Range: 30-150 F
- Flow Capacity (Cv): 2.6 max.
- Cracking Pressure: 1-2 psi
- Service: Properly filtered and lubricated air or dry air.

MODELS	1/4 Swivel	3/8 Swivel	1/2 Swivel
<b>1/4 NPTF Input Port</b>			
No Manual Release	<b>B4S00FL-25</b>	<b>B4S00FL-38</b>	<b>B4S00FL-50</b>
Manual Release	<b>B4S0MFL-25</b>	<b>B4S0MFL-38</b>	<b>B4S0MFL-50</b>
Flush Manual Release	<b>B4SFMFL-25</b>	<b>B4SFMFL-38</b>	<b>B4SFMFL-50</b>
<b>3/8 NPTF Input Port</b>			
No Manual Release	<b>B6S00FL-25</b>	<b>B6S00FL-38</b>	<b>B6S00FL-50</b>
Manual Release	<b>B6S0MFL-25</b>	<b>B6S0MFL-38</b>	<b>B6S0MFL-50</b>
Flush Manual Release	<b>B6SFMFL-25</b>	<b>B6SFMFL-38</b>	<b>B6SFMFL-50</b>
For a lower pilot pressure add (-K18) to the model # (Ex: B6S0MFL-25-K18)			

# 1/4, 3/8 and 1/2 NPTF Swivel Mount Pilot-Operated Check Valves with 'Quick Close' Adjustment



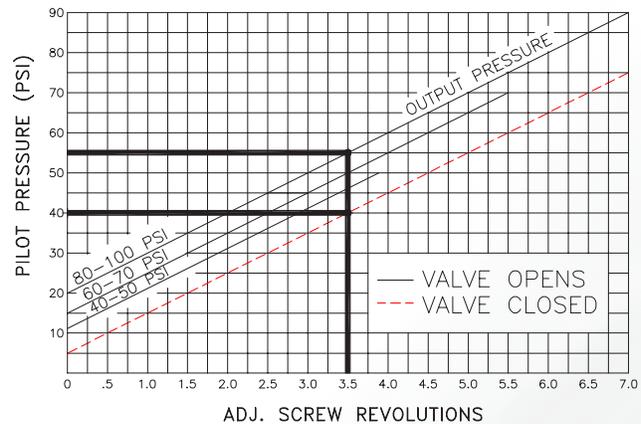
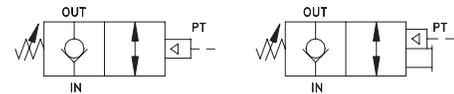
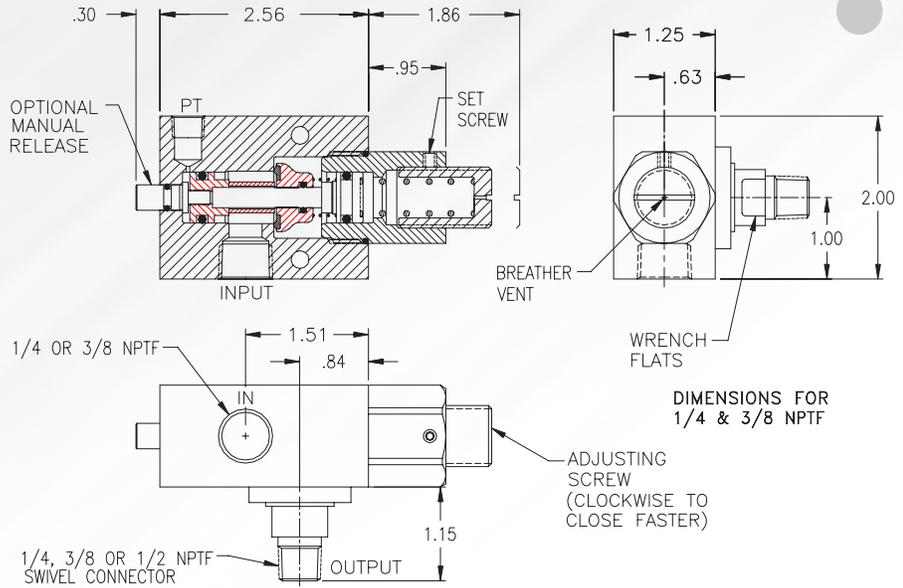
- Optional Manual Release
- .0000522 cc/min Leak Rate
- 'Quick Close' Operation
- Direct Mounting Swivel

## Basic Operation:

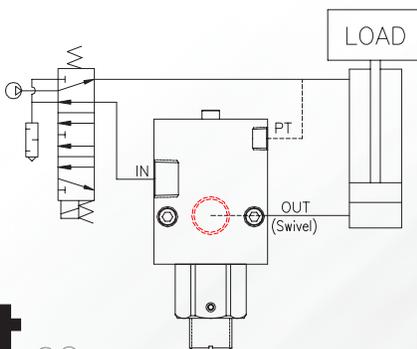
Locks any pneumatic device in position when a pressure drop or total loss of pressure occurs. Standard pilot-operated check valves will not close fast enough when back pressure is present in the pilot line. Increasing the spring pressure causes the valve to close at a higher pilot pressure or before all the air exhausts, resulting in faster stops. Optional manual and flush manual.

## Operating Data:

Max. Pressure:	120 psi
Min. Pilot Pressure:	Adjustable
Temp. Range:	30-150 F
Cycle Rate:	1 cyc./sec.
Flow Capacity (Cv):	2.6
Cracking Pressure:	1-2 psi
Service:	Properly filtered and lubricated air.

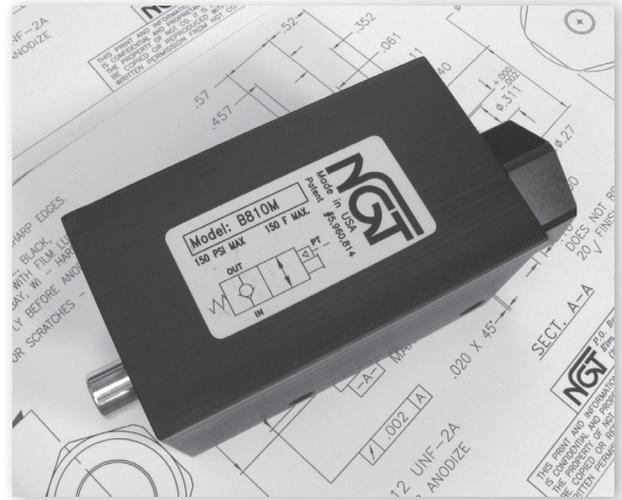
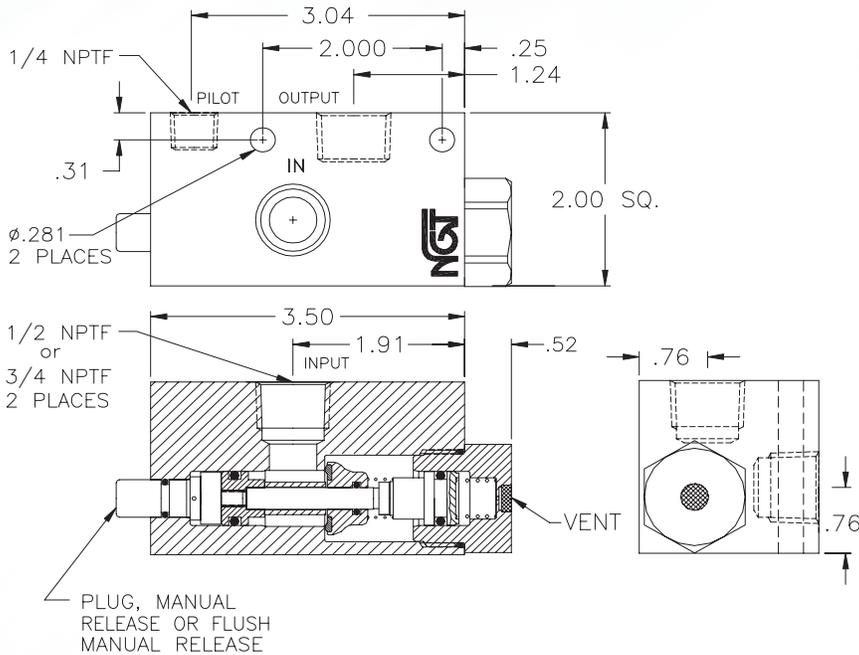


EXAMPLE: With the output pressure or trapped pressure at 80 psi the pilot pressure to open the valve must be a minimum of 55 psi. The valve will close when the back pressure drops to 40 psi.



MODELS	1/4 Swivel	3/8 Swivel	1/2 Swivel
1/4 NPTF Input Port			
No Manual Release	<b>B4S00AD-25</b>	<b>B4S00AD-38</b>	<b>B4S00AD-50</b>
Manual Release	<b>B4S0MAD-25</b>	<b>B4S0MAD-38</b>	<b>B4S0MAD-50</b>
Flush Manual Release	<b>B4SFMAD-25</b>	<b>B4SFMAD-38</b>	<b>B4SFMAD-50</b>
3/8 NPTF Input Port			
No Manual Release	<b>B6S00AD-25</b>	<b>B6S00AD-38</b>	<b>B6S00AD-50</b>
Manual Release	<b>B6S0MAD-25</b>	<b>B6S0MAD-38</b>	<b>B6S0MAD-50</b>
Flush Manual Release	<b>B6SFMAD-25</b>	<b>B6SFMAD-38</b>	<b>B6SFMAD-50</b>

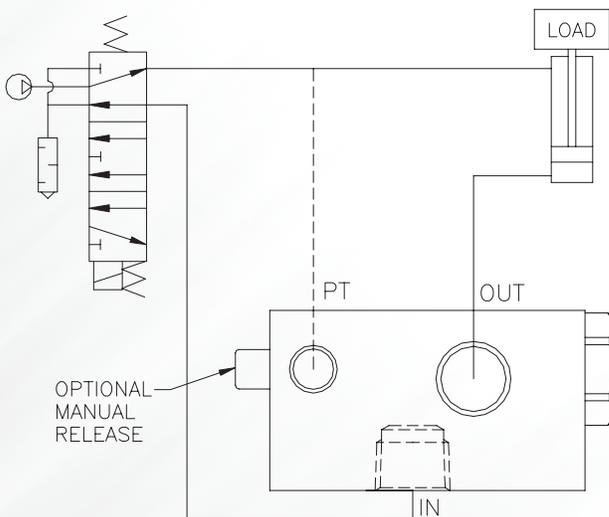
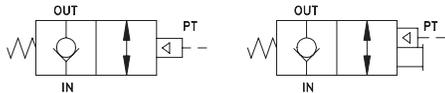
# 1/2 & 3/4 NPTF Balanced Pilot Operated Check Valves



- Immediate Checking
- Optional Manual Release
- .0000522 cc/min Leak Rate
- Low & High Temp

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Manual release for exhausting trapped air before maintaining the system (OSHA Requirement).



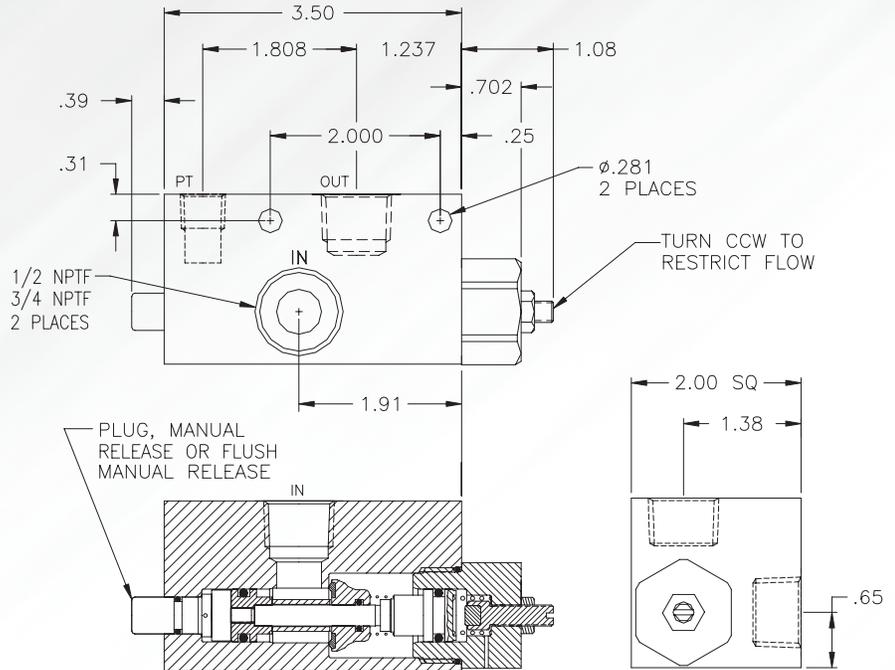
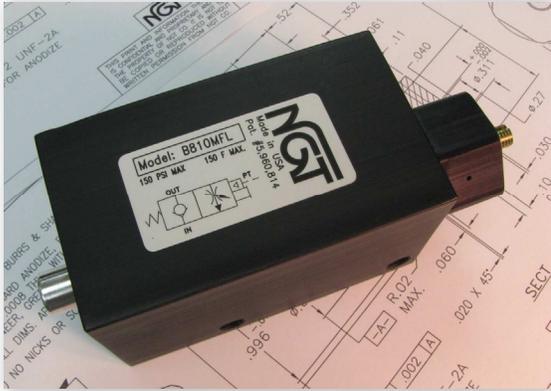
## Operating Data:

- Max. Pressure: 150 psi  
 Min. Pilot Pressure: 40 psi  
 25 psi (see table '-K18')
- Leak Rate: .0000522 cc/min
- Temp. Range: 30-150 F  
 30-350 F (see table '-V')
- Cycle Rate: -40-150 F (see table '-T40')
- Flow Capacity (Cv): 1 cyc./sec. max.
- Cracking Pressure: 3.8
- Service: 1-2 psi  
 Properly filtered dry air or lubricated air.

MODELS	1/2 NPTF	3/4 NPTF
No Manual Release	<b>B8100</b>	<b>B12100</b>
Manual Release	<b>B810M</b>	<b>B1210M</b>
Flush Manual Release	<b>B81FM</b>	<b>B121FM</b>

For a lower pilot pressure add (-K18) to the model # (ex. B810M-K18).  
 For high temp seals add (-V) to the model # (ex. B810M-V).  
 For low temp seal add (-T40) to the model # (ex. B810M-T40).

# 1/2 & 3/4 NPTF Pilot Operated Check Valves with Flow Controls Fast Advance and Slow Retract - Avoid Crash Landings



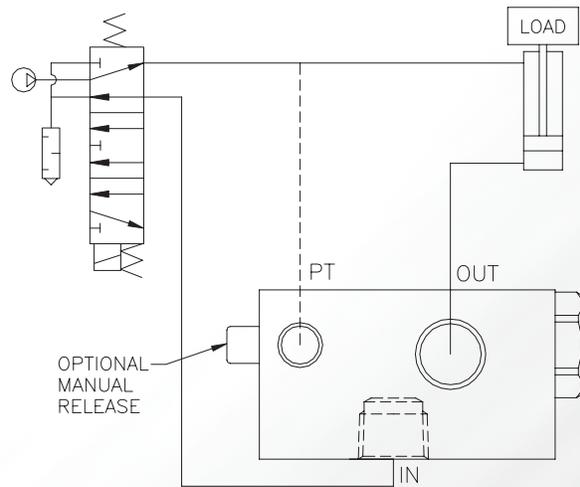
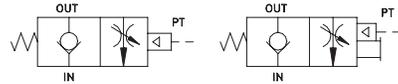
- Lower Loads Slowly
- Optional Manual Release
- .0000522 cc/min Leak Rate

## Basic Operation:

Hold position when a pressure drop or total loss of pressure occurs. Flow control meters air from the output to the input port. Manual release to exhaust trapped air before maintaining the system (OSHA Requirement).

## Operating Data:

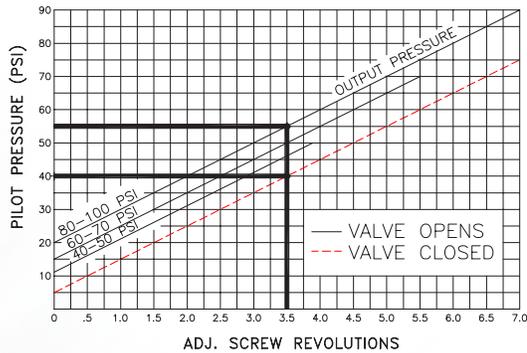
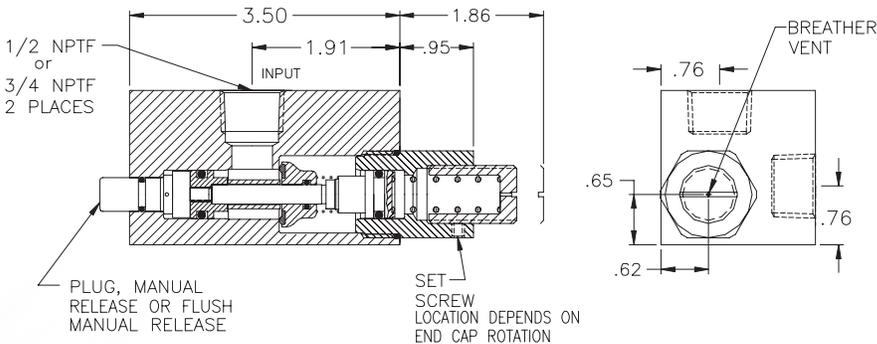
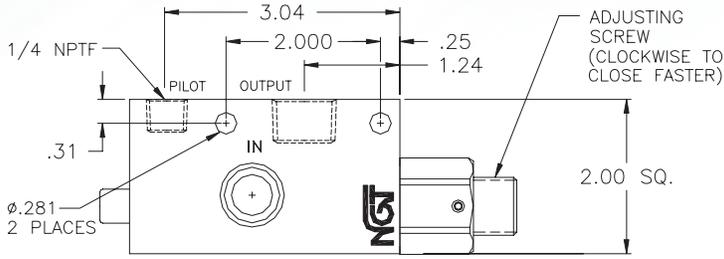
- Max. Pressure: 150 psi
- Min. Pilot Press.: 40 psi
- 25 psi (see table)
- Temp. Range: 30 - 150 F
- Cycle Rate: 1 cycles/sec max.
- Flow Capacity (Cv): 3.8 max.
- Cracking Pressure: 1-2 psi
- Service: Properly filtered dry or lubricated air.



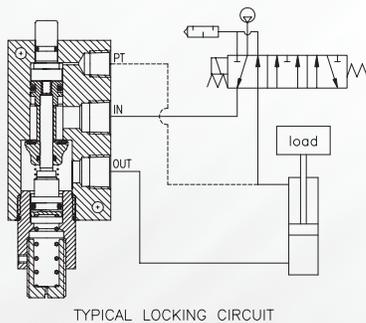
MODELS	1/2 NPTF	3/4 NPTF
No Manual Release	<b>B8100FL</b>	<b>B12100FL</b>
Manual Release	<b>B810MFL</b>	<b>B1210MFL</b>
Flush Manual Release	<b>B81FMFL</b>	<b>B121FMFL</b>
For a lower pilot pressure add (-K18) to the model # (ex: B810MFL-K18).		

No. of Turns	Equivalent Dia (in.)	No. of Turns	Equivalent Dia (in.)
<b>.25</b>	<b>.15</b>	<b>1.75</b>	<b>.40</b>
<b>.50</b>	<b>.21</b>	<b>2.00</b>	<b>.43</b>
<b>.75</b>	<b>.26</b>	<b>2.25</b>	<b>.45</b>
<b>1.0</b>	<b>.30</b>	<b>2.50</b>	<b>.48</b>
<b>1.25</b>	<b>.34</b>	<b>2.75</b>	<b>.50</b>
<b>1.50</b>	<b>.37</b>		

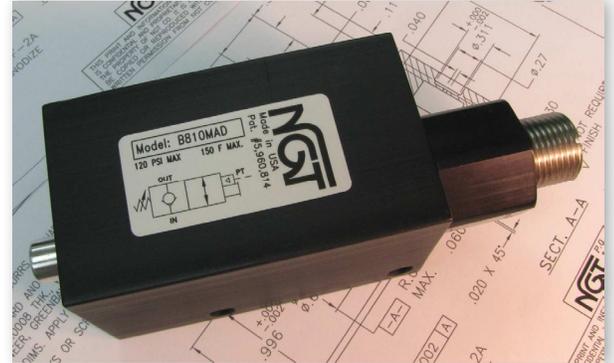
# 1/2 & 3/4 NPTF Adjustable 'Quick Stop' Pilot-Operated Check Valve for Faster Stops



EXAMPLE: With the output pressure or trapped pressure at 80 psi the pilot pressure to open the valve must be a minimum of 55 psi. The valve will close when the back pressure drops to 40 psi.



TYPICAL LOCKING CIRCUIT



- Adjustable Pilot Pressure
- Faster Stops
- .0000522 cc/min Leak Rate
- Manual Release Option

## Basic Operation:

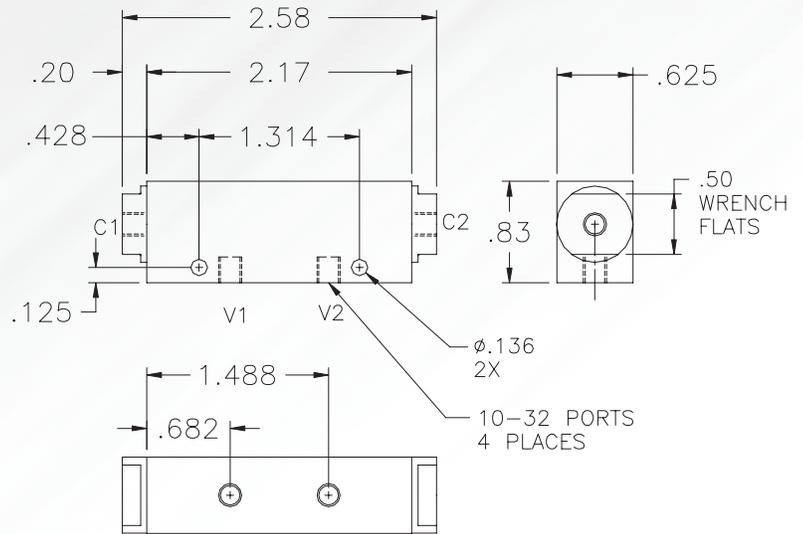
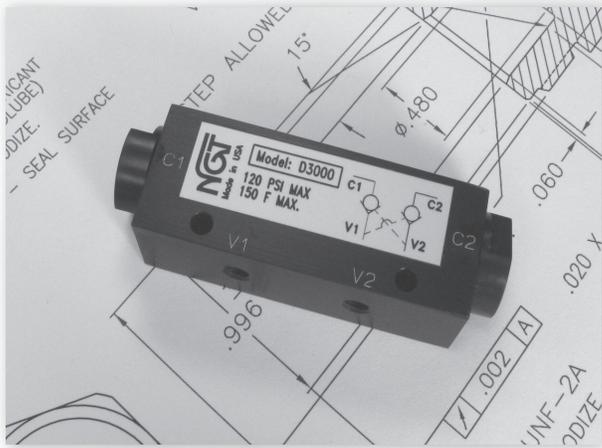
Locks any pneumatic device in position when a pressure drop or total loss of pressure occurs. Standard pilot-operated check valves will not close fast enough when back pressure is present in the pilot line. Increasing the spring pressure causes the valve to close before all the air exhausts, resulting in faster stops.

## Operating Data:

Max. Pressure:	120 psi
Pilot Pressure:	Adjustable
Temp. Range:	30-150 F
Cycle Rate:	1 cyc./sec.
Flow Capacity (Cv):	3.8 max.
Cracking Pressure:	1-2 psi
Service:	Properly filtered and lubricated air.

MODELS	1/2 NPTF	3/4 NPTF
No Manual Release	B8100AD	B12100AD
Manual Release	B810MAD	B1210MAD
Flush Manual Release	B81FMAD	B121FMAD

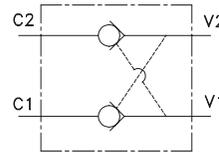
# Miniature Dual Check Valve with 10-32 Ports



- Air Tight Locking
- Small Package
- Faster Stops
- Less Bounce

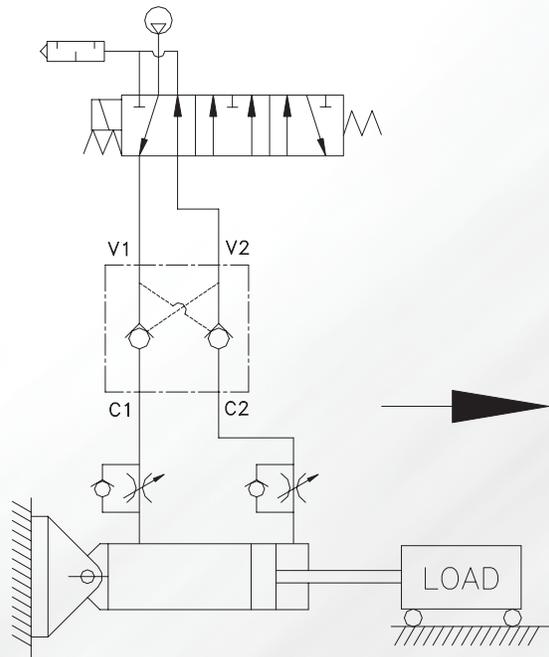
## Basic Operation:

In the event of a pressure loss this unique valve maintains cylinder position by locking air in both cylinder ports. Eliminate drift due to leaky spool valves.



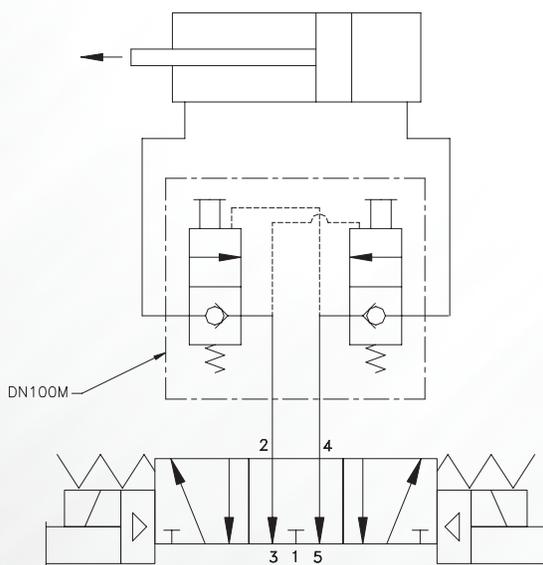
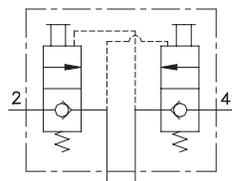
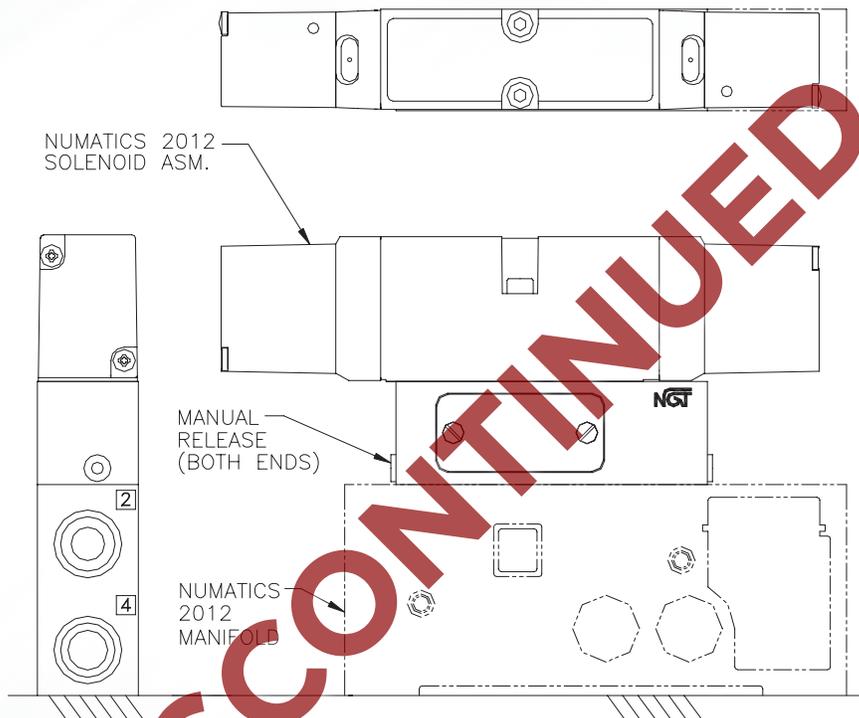
## Operating Data:

Min / Max. Pressure:	25-120 psi
Temp. Range:	30-150 F
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	.25
Cracking Pressure:	1-2 psi
Service:	Properly filtered dry air or lubricated air.

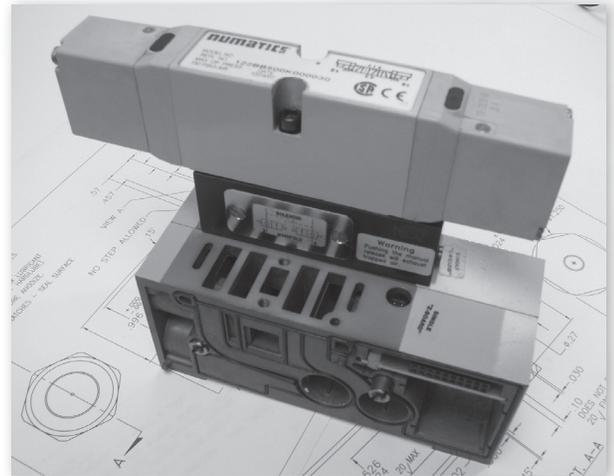


# Dual Locking Valve w/ Manual Release for Numatics 2012 & ISO 15407 Manifold

Patents Pending



DOUBLE SOLENOID AIR PILOT  
3 POSITION 4-WAY OPEN CENTER



- Dual Manual Release (to Atm.)
- .000113 cc/min. Leak Rate
- Direct Mount to 2012 Manifold
- Locks in 2 Directions
- Compact Design
- No Extra Plumbing
- Quick Assembly (3 min)

## Basic Operation:

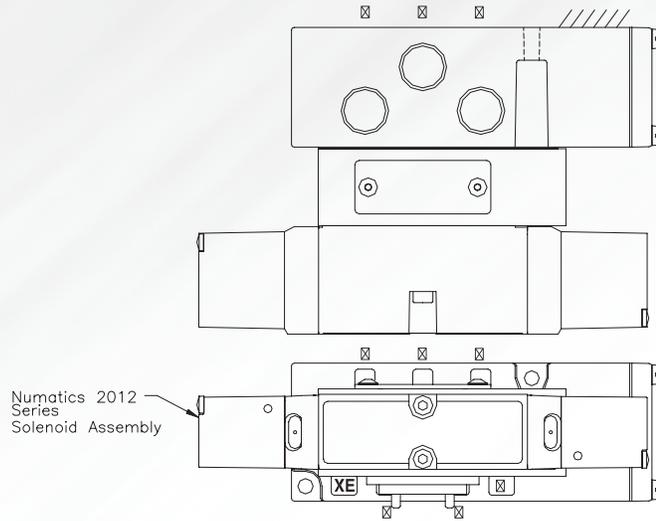
In the event of a pressure loss air pressure is locked in both the output ports (2 and 4). Eliminates drift due to leaky spools. The manual release allows the release of trapped air from both ports independently to atmosphere (OSHA requirement).

## Operating Data:

Min. / Max. Pressure:	30-150 psi
Temp. Range:	20-150 F
Leak Rate:	.000113 cc/min.
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	1.0
Cracking Pressure:	2-3 psi
Service:	Properly filtered dry air or lubricated air.
Solenoid:	3-position 4-way open center

# Dual Locking Valve w/ Manual Release - For Numatics 2012 Series Valves

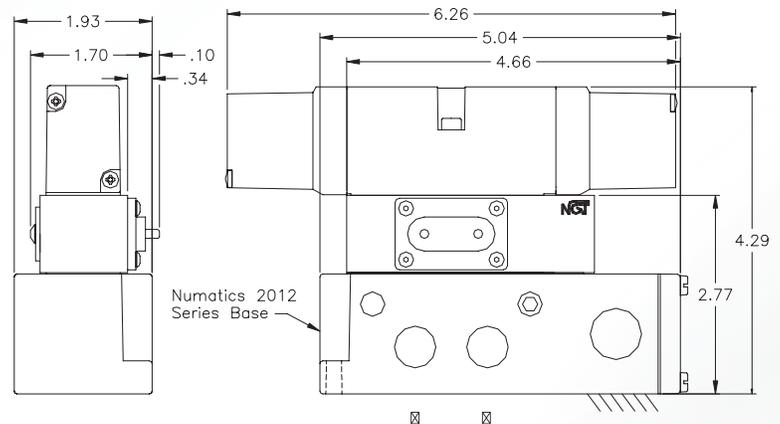
Patents Pending



- Dual Manual Release
- .000113 cc/min. Leak Rate
- Direct Mount to 2012 Base
- Locks in 2 Directions
- Compact Design
- No Extra Plumbing
- Quick Assembly (5 min)

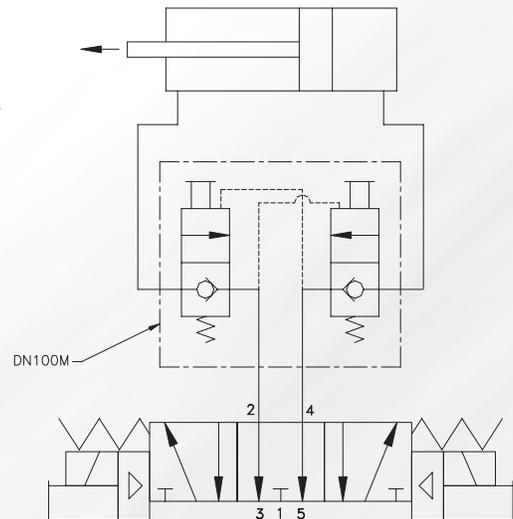
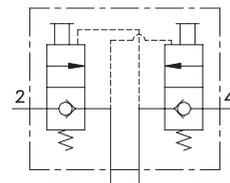
## Basic Operation:

In the event of a pressure loss air pressure is locked in both the output ports (2 and 4). Eliminates drift due to leaky spools. The manual release allows the release of trapped air from both ports independently (OSHA requirement).



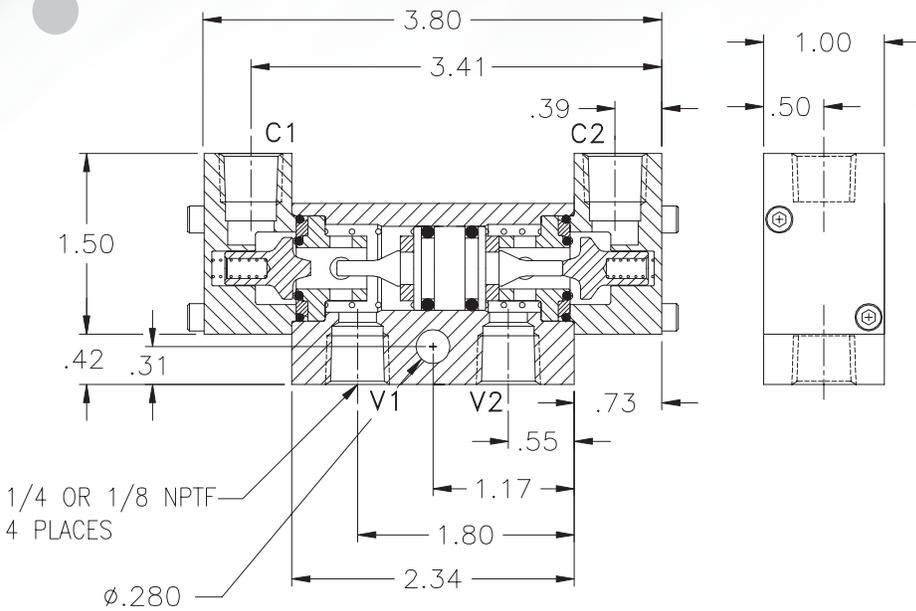
## Operating Data:

Min. / Max. Pressure:	30-150 psi
Temp. Range:	20-150 F
Leak Rate:	.000113 cc/min.
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	1.2
Cracking Pressure:	2-3 psi
Service:	Properly filtered dry air or lubricated air.
Solenoid:	3-position 4-way open center

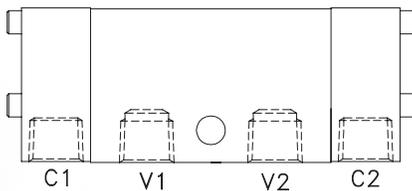
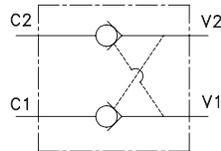


DOUBLE SOLENOID AIR PILOT  
3 POSITION 4-WAY OPEN CENTER

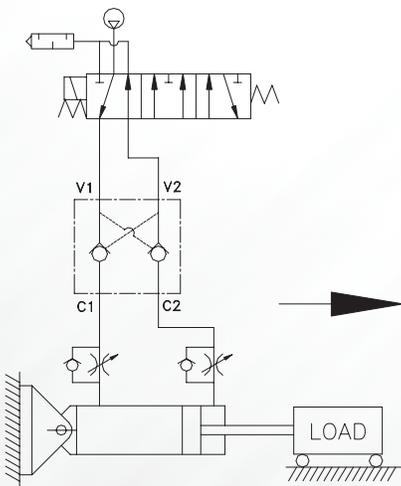
# 1/4 NPTF Dual Check Valves



- Air Tight Locking
- Small Package
- Faster Stops
- Less Bounce



All ports on one side



## Basic Operation:

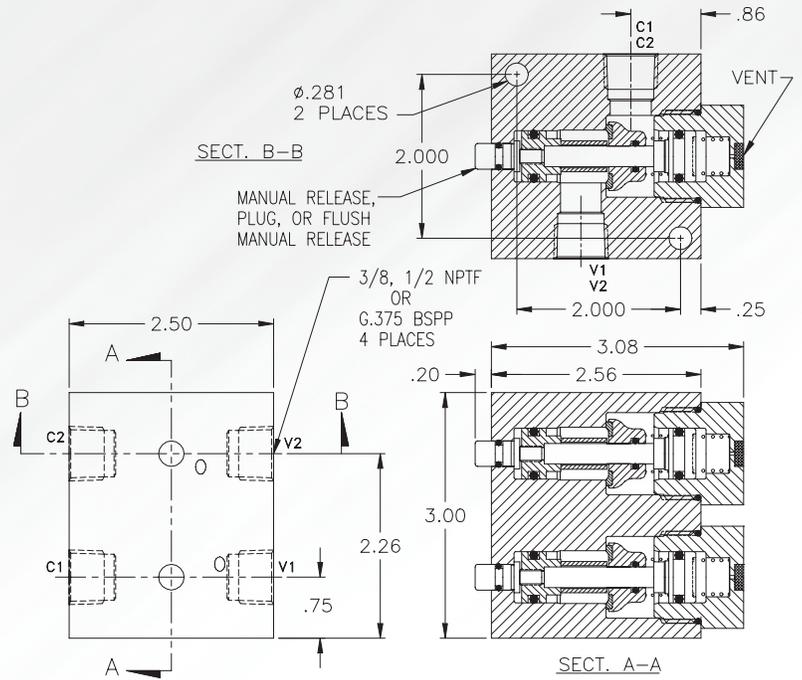
In the event of a pressure loss this unique valve maintains cylinder position by locking air in both cylinder ports. Eliminate drift due to leaky spool valves.

## Operating Data:

Min / Max. Pressure:	20-120 psi
Temp. Range:	30-150 F
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	1.5
Cracking Pressure:	1-2 psi
Service:	Properly filtered dry air or lubricated air.

MODEL NO.	1/4 NPTF
Ports Opposite Sides	<b>D4A000</b>
Ports Same Side	<b>D4AS00</b>

# 3/8 & 1/2 NPTF & 3/8 BSPP Dual Check Valves



DIMS. APPLY TO BOTH 3/8 & 1/2 NPTF & BSPP MODELS

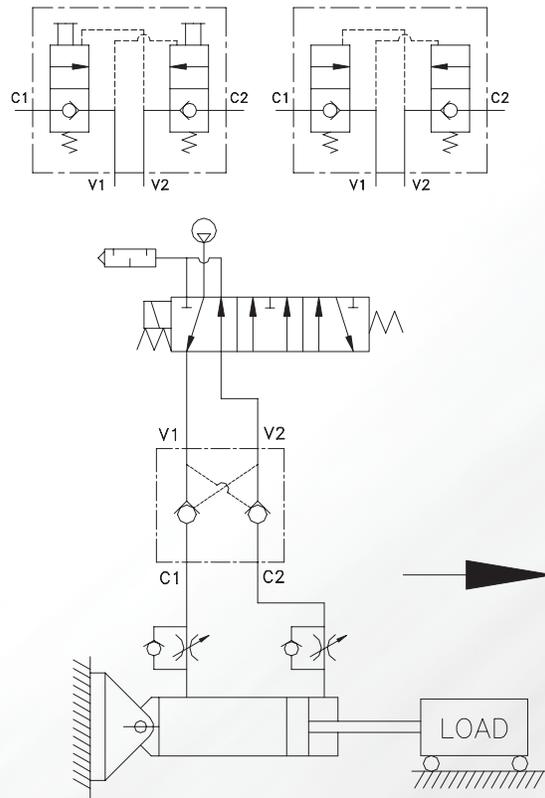
- Dual Manual Release
- .0000522 cc/min Leak Rate
- High Temp Available
- G.375 BSPP In Stock

## Basic Operation:

In the event of a pressure loss this unique valve maintains cylinder position by locking air in both cylinder ports. Eliminate drift due to leaky spool valves. A manual release is available to release trapped air from both ports independently.

## Operating Data:

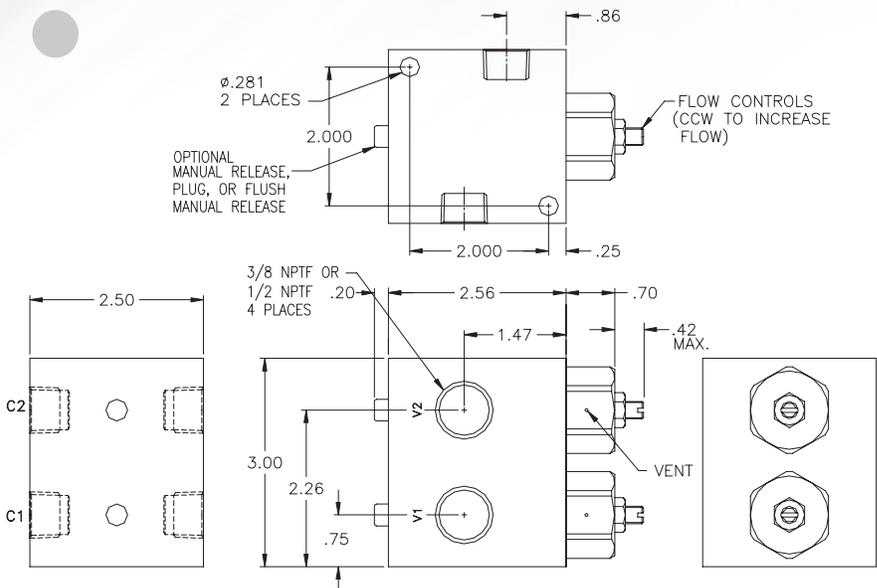
- Max. Pressure: 150 psi
- Min. Pilot Pressure: 40 psi  
20 psi (see table '-K18')
- Adv & Retract Ratio: The pressure ratio of advance/retract or retract/advance should not be greater than 2.
- Temp. Range: -20 -150 F  
30-350 F (see table)
- Cycle Rate: 1 cyc./sec. max.
- Flow Capacity (Cv): 3.8
- Cracking Pressure: 1-2 psi
- Service: Properly filtered dry air or lubricated air.



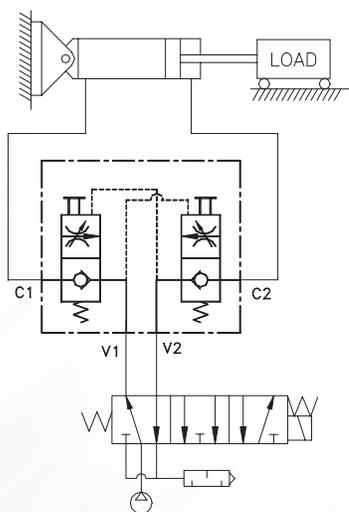
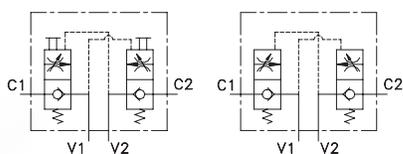
MODELS	3/8 NPTF	3/8 BSPP	1/2 NPTF
No Manual Release	<b>D6C00</b>	<b>DG6C00</b>	<b>D8C00</b>
Manual Release	<b>D6C0M</b>	<b>DG6C0M</b>	<b>D8C0M</b>
Flush Manual Release	<b>D6CFM</b>	<b>DG6CFM</b>	<b>D8CFM</b>

For high temp seals add (-V) to the model # (ex. D6C0M-V).  
For low pilot pressure add (-K18) to the model # (ex. D6C0M-K18)

# 3/8 & 1/2 NPTF & 3/8 BSPP Dual Check Valves with Flow Controls



DIMS. APPLY TO BOTH 3/8 & 1/2 NPTF MODELS



No. of Turns	Equivalent Dia (in.)	No. of Turns	Equivalent Dia (in.)
.25	.15	1.75	.40
.50	.21	2.00	.43
.75	.26	2.25	.45
1.0	.30	2.50	.48
1.25	.34	2.75	.50
1.50	.37		



- Dual Manual Release
- .0000522 cc/min Leak Rate
- G.375 BSPP In Stock
- Lower Loads Slowly

## Basic Operation:

In the event of a pressure loss this unique valve maintains cylinder position by locking air in both cylinder ports. The internal flow controls meter air out of the cylinder. A manual release is available to release trapped air from both ports independently.

## Operating Data:

- Max. Pressure: 150 psi
- Min Pilot Pressure: 40
- 25 (see table '-K18')
- Temp. Range: -20 -150 F
- Adv & Retract Ratio: The pressure ratio of advance/retract or retract/advance should not be greater than 2.
- Cycle Rate: 1 cyc./sec. max.
- Flow Capacity (Cv): 3.8 max.
- Cracking Pressure: 1-2 psi
- Service: Properly filtered dry air or lubricated air.

MODELS	3/8 NPTF	3/8 BSPP	1/2 NPTF
No Manual Release	D6C00FL	DG6C00FL	D8C00FL
Manual Release	D6C0MFL	DG6C0MFL	D8C0MFL
Flush Manual Release	D6CFMFL	DG6CFMFL	D8CFMFL

For 25 psi pilot pressure add (-K18) to the model # (ex. D6C0MFL-K18)

# 3/8 & 1/2 NPTF Dual Check Valves with Remote Release



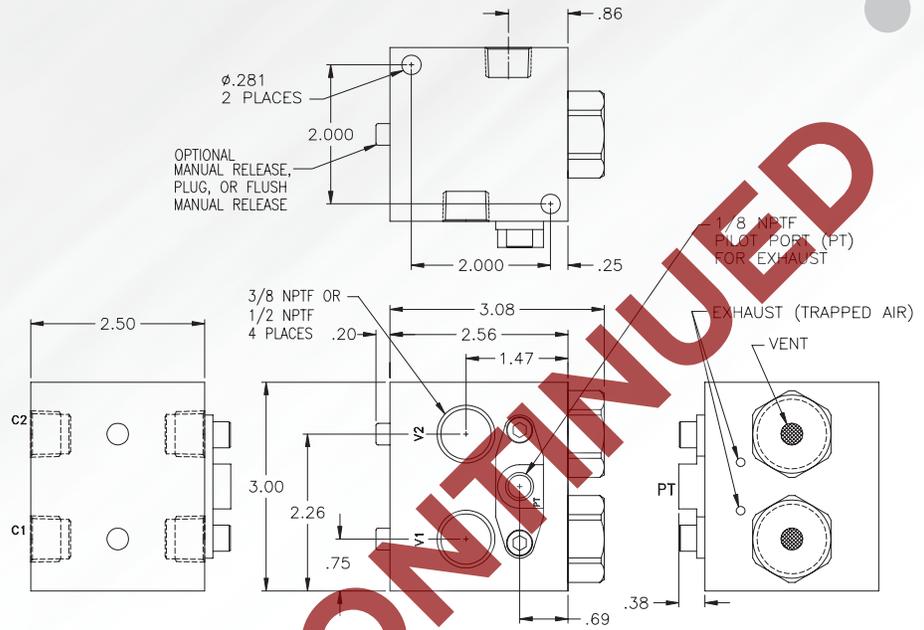
- Dual Manual Release
- .0000522 cc/min Leak Rate
- Remote Release

## Basic Operation:

This valve was designed for equipment where the valve cannot be easily accessed. In the event of a pressure loss, both output ports will lock bubble tight, as long as pressure is applied to the pilot port 'PT'. Releasing pressure to the pilot port 'PT' will release trapped air to atmosphere. Optional manual release and flow controls are also available with this model.

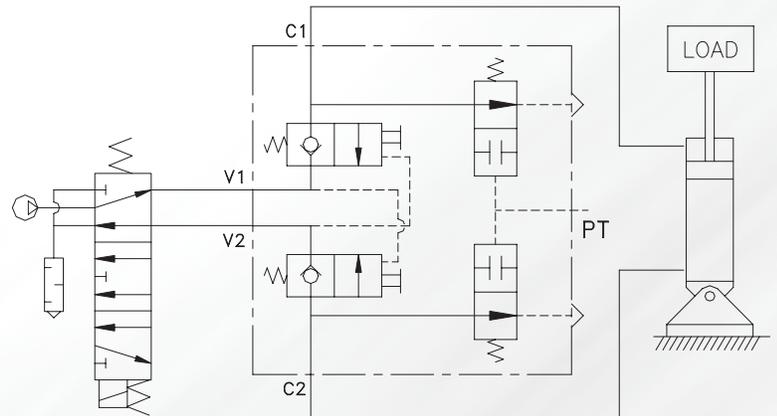
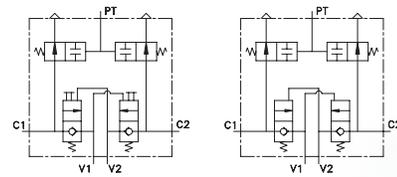
## Operating Data:

- Max. Pressure: 150 psi  
 Min. Pressure: 40 psi - standard unit  
 25 psi - low pressure (see table '-K18')
- Adv & Retract Ratio: The pressure ratio of advance/retract or retract/advance should not be greater than 2.
- Temp. Range: -30 -150 F  
 Cycle Rate: 1 cyc./sec. max.  
 Flow Capacity (Cv): 3.9  
 Cracking Pressure: 1-2 psi  
 Auto Exhaust: At 80 psi trapped air, the pilot port 'PT' must drop to 30 psi to exhaust.
- Service: Properly filtered dry air or lubricated air.



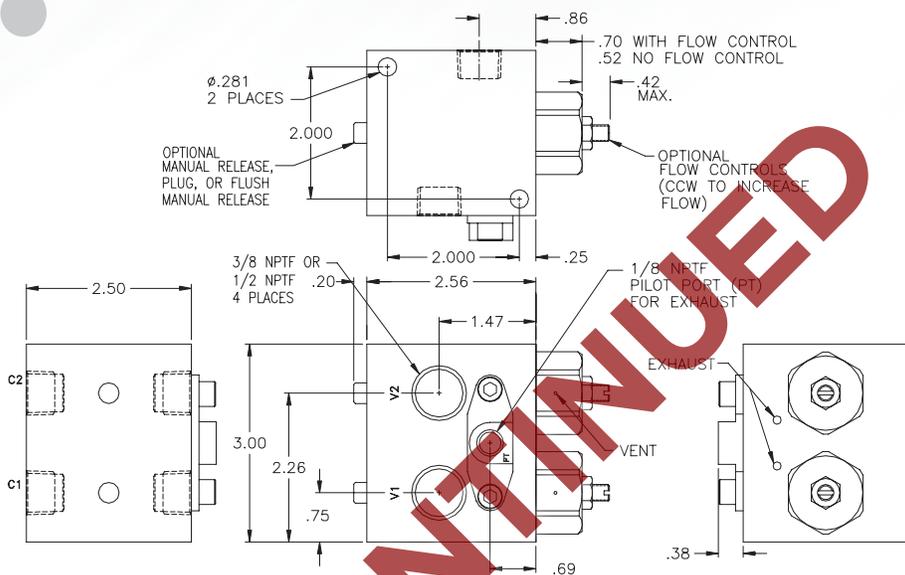
DIMS. APPLY TO BOTH 3/8 & 1/2 NPTF MODELS

DISCONTINUED



MODELS	3/8 NPFT	1/2 NPFT
No Manual Release	<b>D6C00EA</b>	<b>D8C00EA</b>
Manual Release	<b>D6C0MEA</b>	<b>D8C0MEA</b>
Flush Manual Release	<b>D6CFMEA</b>	<b>D8CFMEA</b>
For a lower pilot pressure add (-K18) to the model # (ex. D6C0MEA-K18).		

# 3/8 & 1/2 NPTF Dual Check Valves with Remote Release and Flow Controls



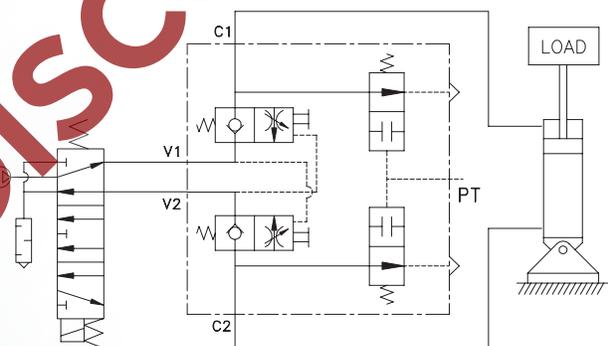
DIMS. APPLY TO BOTH 3/8 & 1/2 NPTF MODELS



- Dual Manual Release
- .0000522 cc/min Leak Rate
- Remote Release
- Dual Flow Controls

## Basic Operation:

This valve was designed for equipment where the valve cannot be easily accessed. In the event of a pressure loss, both output ports will lock bubble tight, as long as pressure is applied to the pilot port 'PT'. Releasing pressure to the pilot port 'PT' will release trapped air to atmosphere. Manual release is also available with this model.



## Operating Data:

- Max. Pressure: 150 psi
- Min. Pressure: 40 psi
- 25 psi (see table '-K18')
- Adv & Retract Ratio: The pressure ratio of advance/retract or retract/advance should not be greater than 2.
- Temp. Range: -30 -150 F
- Cycle Rate: 1 cyc./sec. max.
- Flow Capacity (Cv): 3.9 max.
- Cracking Pressure: 1-2 psi
- Auto Exhaust: At 80 psi trapped air, the pilot port 'PT' must drop to 30 psi to exhaust.
- Service: Properly filtered dry air or lubricated air.

No. of Turns	Equivalent Dia (in.)	No. of Turns	Equivalent Dia (in.)
.25	.15	1.75	.40
.50	.21	2.00	.43
.75	.26	2.25	.45
1.0	.30	2.50	.48
1.25	.34	2.75	.50
1.50	.37		

MODELS	3/8 NPFT	1/2 NPFT
No Manual Release	D6C00EAFL	D8C00EAFL
Manual Release	D6C0MEAFL	D8C0MEAFL
Flush Manual Release	D6CFMEAFL	D8CFMEAFL
For a lower pilot pressure add (-K18) to the model # (ex. D6C0MEAFL-K18).		

# 3/8 NPTF Dual Pneumatic Valve to Prevent Runaway Movement & Reduce Bounce



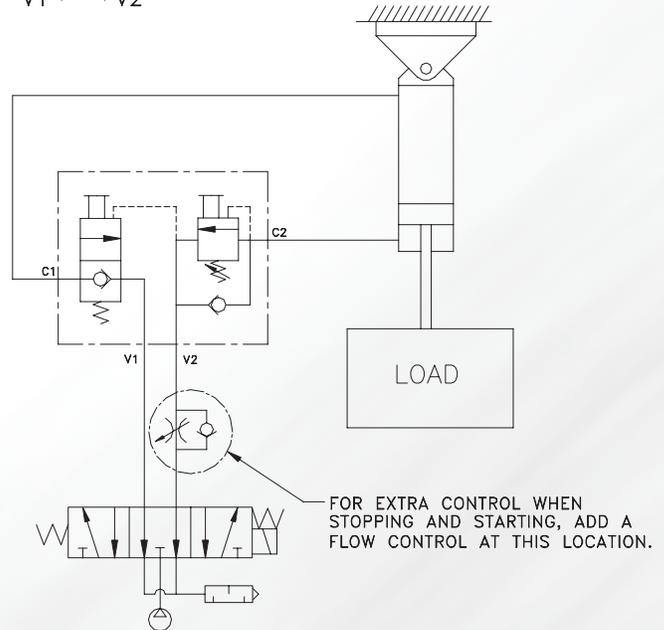
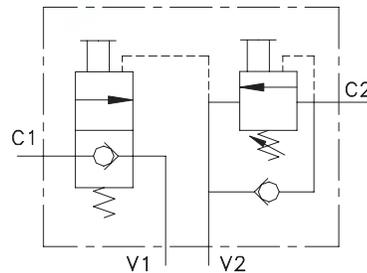
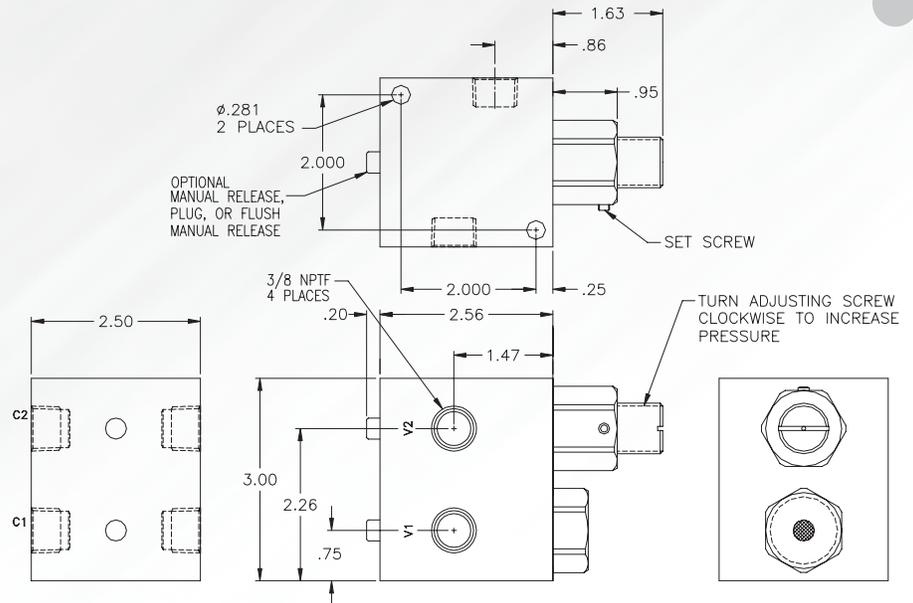
- Dual Manual Release
- .0000522 cc/min Leak Rate
- Applies Constant Back Pressure to One Side of the Cylinder.
- Prevents Runaway Condition

## Basic Operation:

This valve is used to reduce jerky motion in pneumatic systems. Back pressure is constantly applied to the air cylinder piston in order to prevent a runaway condition, where the cylinder will take off quickly and then stop when the back pressure builds up enough pressure to stop cylinder movement.

## Operating Data:

- Max. Pressure: 150 psi  
 Leak Rate: 40 psi  
 Counterbalance: The counterbalance should be on the load side where gravity is added to the pressure  
 Temp. Range: -20-150 F  
 Cycle Rate: 1 cyc./sec. max.  
 Flow Capacity (Cv): 3.8  
 Cracking Pressure: 1-2 psi (floating check)  
 Service: Properly filtered dry and lubricated air.



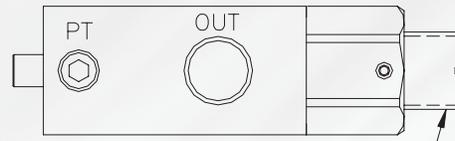
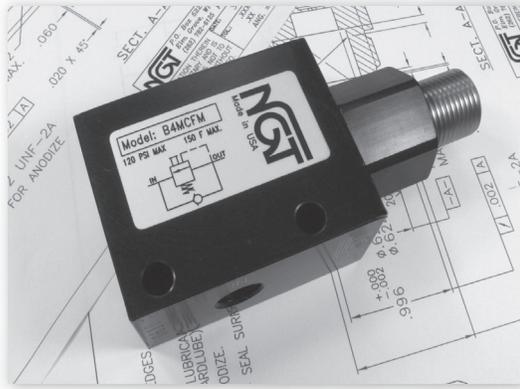
MODEL NO.	3/8 NPTF
Flush Manual Release	<b>D6CFMC</b>
Manual Release	<b>D6C0MC</b>

# New Product Announcement

Ordinary dual locking or dual check valves will fully open when changing direction, causing the load to take off in a runaway condition, until back pressure increases enough to stop the motion. The new NGT valve supplies a continuous back pressure, in order to keep the load from falling or prevent the load from suddenly accelerating. Constant back pressure will also help reduce load bounce but will not fully eliminate bounce, because of the compressibility of air.

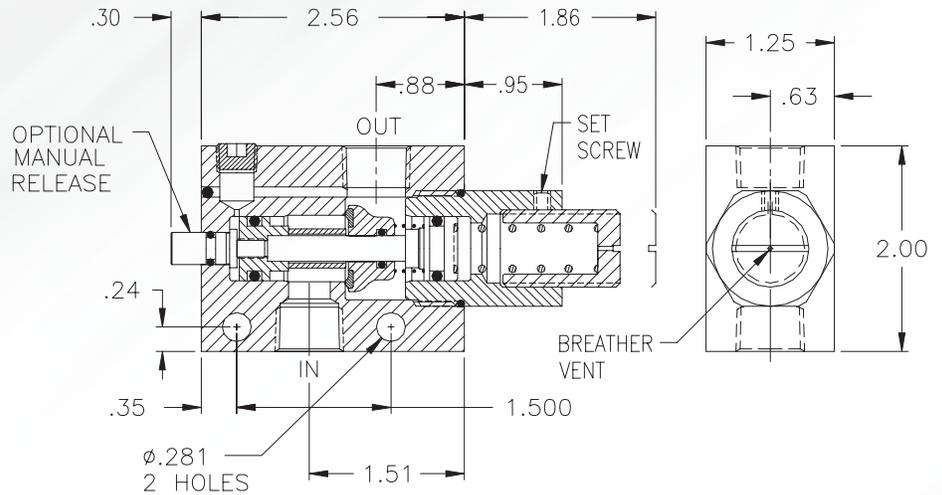
**Heavy loads will tend to drift a small amount before stopping because of momentum. In heavy loading conditions, momentum causes the back pressure to delay closing the valve resulting in a slight drift before stopping.**

# 1/4, 3/8 NPTF & G1/4, G3/8 BSPP Pneumatic Counterbalance Valves



TURN CW TO INCREASE  
LOAD HOLDING CAPACITY

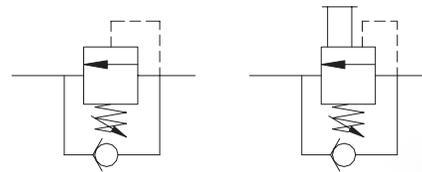
PORT SIZES	
INPUT	OUTPUT
1/4 NPTF	1/4 NPTF
3/8 NPTF	3/8 NPTF
G1/4 BSPP	G1/4 BSPP
G3/8 BSPP	G3/8 BSPP



- Optional Manual Release
- .0000522 cc/min Leak Rate
- Adjustable Load Setting

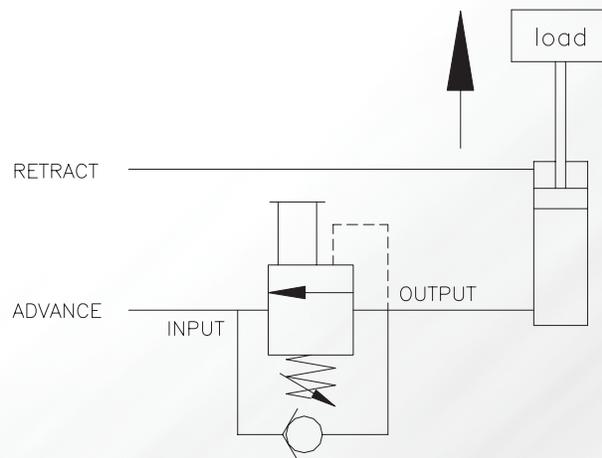
## Basic Operation:

The counterbalance valve will hold a load in position until pressure or an external force is applied to move the load. Turning the adjusting screw clockwise will increase the load carrying capacity of the valve. Optional manual and flush manual release.



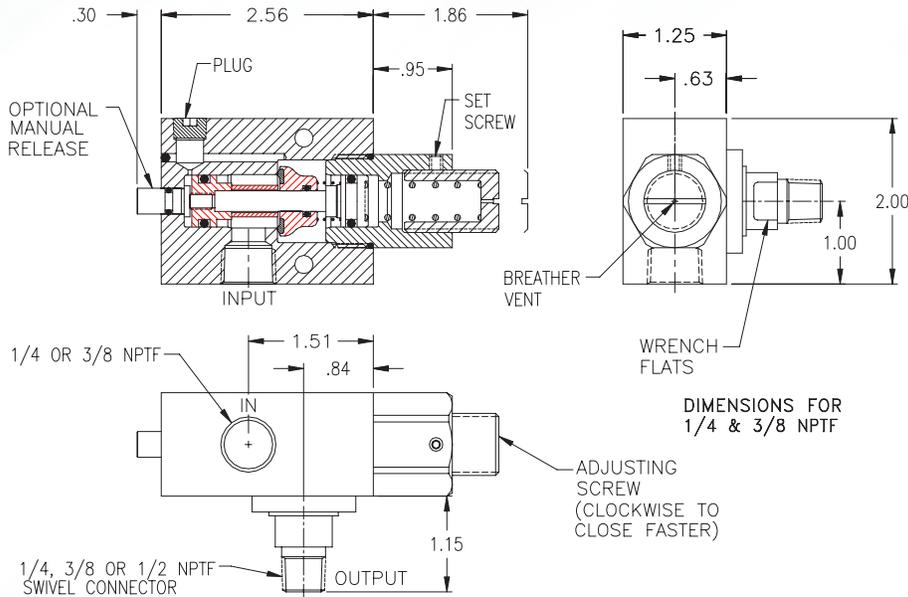
## Operating Data:

Max. Pressure:	120 psi
Leak Rate:	.0000522 cc/min.
Temp. Range:	30-150 F
Cycle Rate:	1 cyc./sec.
Flow Capacity (Cv):	2.6
Cracking Pressure:	1-2 psi
Service:	Properly filtered dry and lubricated air.



MODELS	1/4 NPFT	3/8 NPFT	1/4 BSPP	3/8 BSPP
No Manual Release	<b>B4MC00</b>	<b>B6MC00</b>	<b>BG4MC00</b>	<b>BG6MC00</b>
Manual Release	<b>B4MC0M</b>	<b>B6MC0M</b>	<b>BG4MC0M</b>	<b>BG6MC0M</b>
Flush Manual Release	<b>B4MCFM</b>	<b>B6MCFM</b>	<b>BG4MCFM</b>	<b>BG6MCFM</b>

# 1/4, 3/8 NPTF Swivel Mount Counterbalance Valves



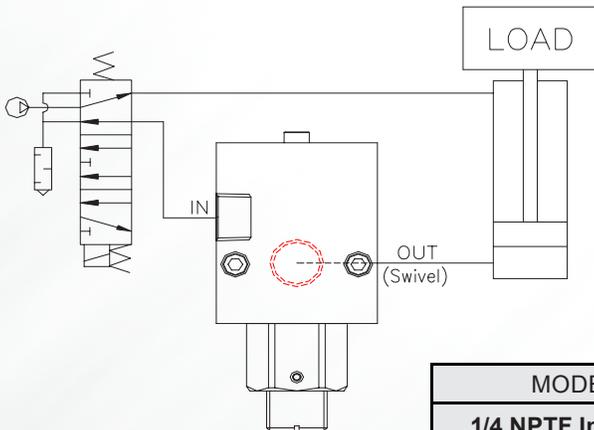
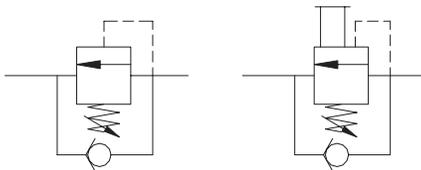
- Optional Manual Release
- .0000522 cc/min Leak Rate
- Adjustable Load Setting
- Direct Mounting Swivel

## Basic Operation:

The counterbalance valve will hold a load in position until pressure or an external force is applied to move the load. Turning the adjusting screw clockwise will increase the load carrying capacity of the valve. Optional manual and flush manual release.

## Operating Data:

Max. Pressure: 120 psi  
 Leak Rate: .0000522 cc/min.  
 Temp. Range: 30-150 F  
 Cycle Rate: 1 cyc./sec.  
 Flow Capacity (Cv): 2.6  
 Cracking Pressure: 1-2 psi  
 Service: Properly filtered dry and lubricated air.



MODELS	1/4 Swivel	3/8 Swivel	1/2 Swivel
<b>1/4 NPTF Input Port</b>			
No Manual Release	<b>B4SC00-25</b>	<b>B4SC00-38</b>	<b>B4SC00-50</b>
Manual Release	<b>B4SC0M-25</b>	<b>B4SC0M-38</b>	<b>B4SC0M-50</b>
Flush Manual Release	<b>B4SCFM-25</b>	<b>B4SCFM-38</b>	<b>B4SCFM-50</b>
<b>3/8 NPTF Input Port</b>			
No Manual Release	<b>B6SC00-25</b>	<b>B6SC00-38</b>	<b>B6SC00-50</b>
Manual Release	<b>B6SC0M-25</b>	<b>B6SC0M-38</b>	<b>B6SC0M-50</b>
Flush Manual Release	<b>B6SCFM-25</b>	<b>B6SCFM-38</b>	<b>B6SCFM-50</b>

# 1/4 and 3/8 NPTF Pneumatic Counterbalance Valves



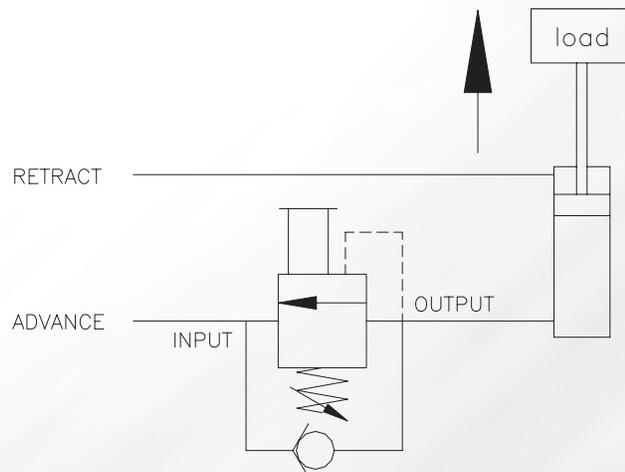
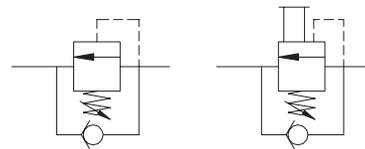
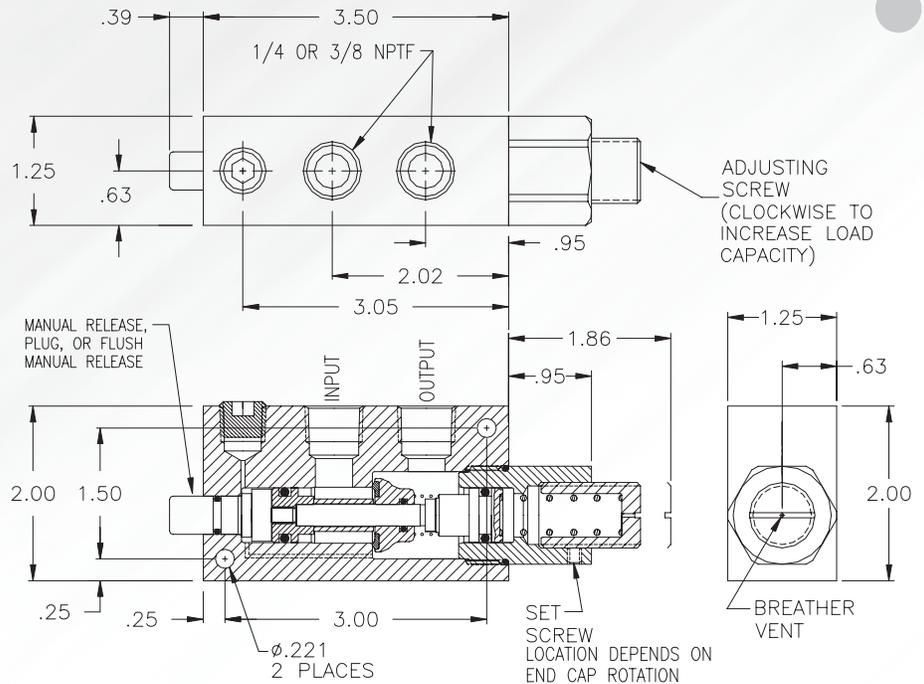
- Optional Manual Release
- .0000522 cc/min Leak Rate
- Adjustable Load Setting

## Basic Operation:

The counterbalance valve will hold a load in position until pressure or an external force is applied to move the load. Turning the adjusting screw clockwise will increase the load carrying capacity of the valve. Optional manual and flush manual release.

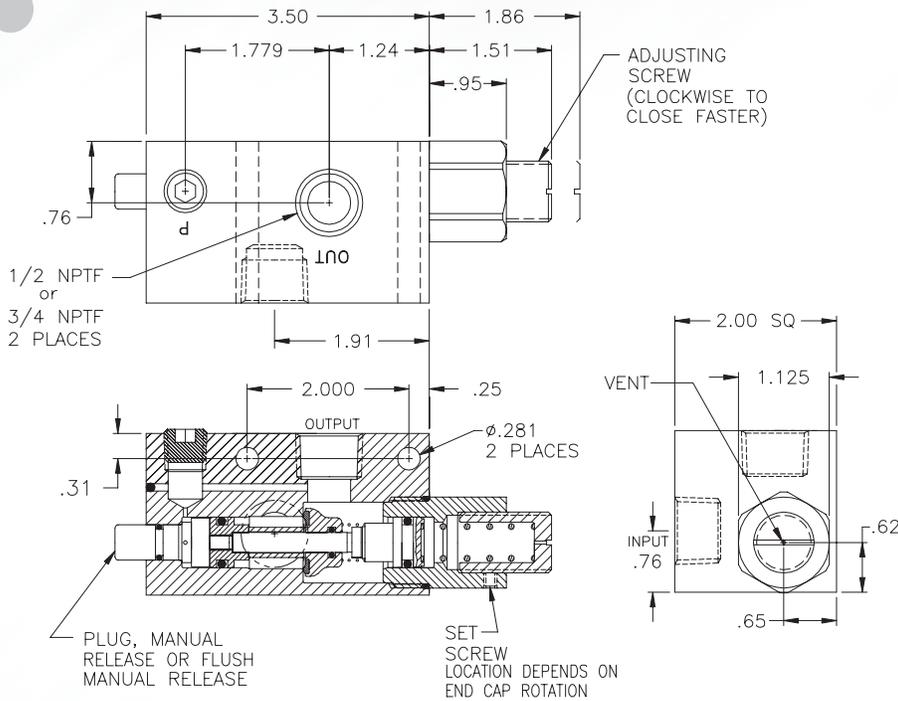
## Operating Data:

Max. Pressure: 120 psi  
 Leak Rate: .0000522 cc/min.  
 Temp. Range: 30-150 F  
 Cycle Rate: 1 cyc./sec.  
 Flow Capacity (Cv): 2.6  
 Cracking Pressure: 1-2 psi  
 Service: Properly filtered dry and lubricated air.



MODELS	1/4 NPFT	3/8 NPFT
No Manual Release	<b>B41C00</b>	<b>B61C00</b>
Manual Release	<b>B41C0M</b>	<b>B61C0M</b>
Flush Manual Release	<b>B41CFM</b>	<b>B61CFM</b>

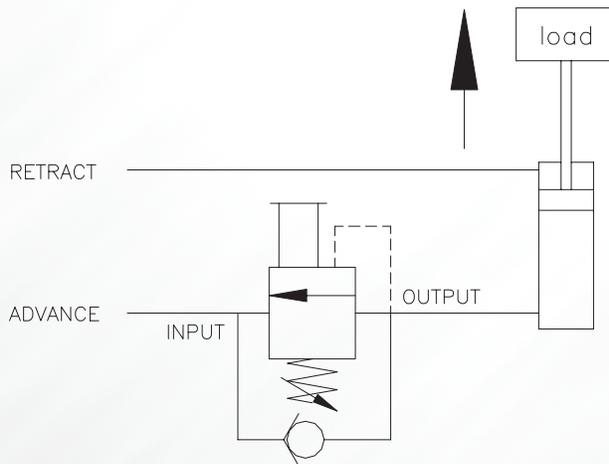
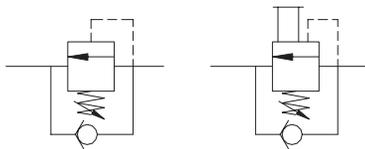
# 1/2 and 3/4 NPTF Pneumatic Counterbalance Valves



- Optional Manual Release
- .0000522 cc/min Leak Rate
- Adjustable Load Setting

## Basic Operation:

The counterbalance valve will hold a load in position until pressure or an external force is applied to move the load. Turning the adjusting screw clockwise will increase the load carrying capacity of the valve. Optional manual and flush manual release.

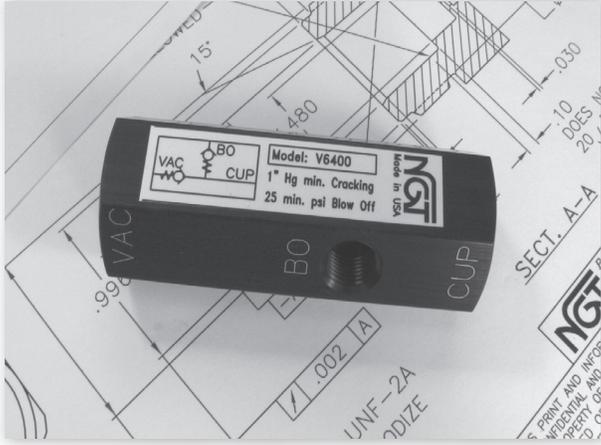


## Operating Data:

Max. Pressure:	120 psi
Leak Rate:	.0000522 cc/min.
Temp. Range:	30-150 F
Cycle Rate:	1 cyc./sec.
Flow Capacity (Cv):	3.8
Cracking Pressure:	1-2 psi
Service:	Properly filtered dry and lubricated air.

MODELS	1/2 NPFT	3/4 NPFT
No Manual Release	<b>B81C00</b>	<b>B121C00</b>
Manual Release	<b>B81C0M</b>	<b>B121C0M</b>
Flush Manual Release	<b>B81CFM</b>	<b>B121CFM</b>

# 3/8 NPTF Vacuum-Loc Valve



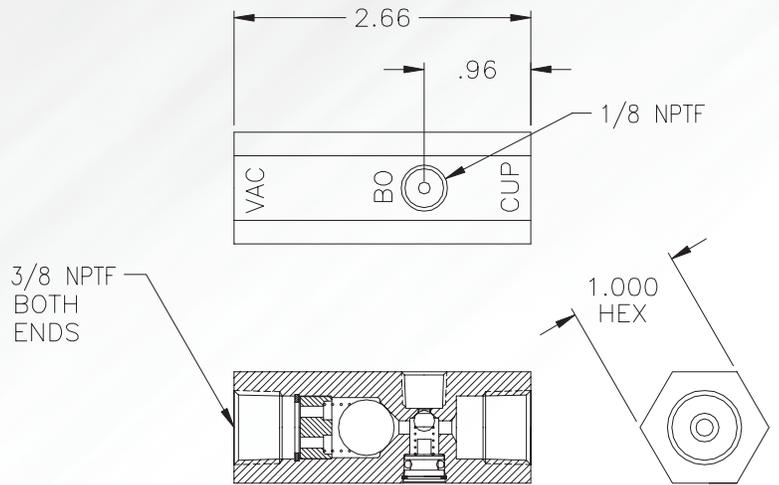
- Air-Tight
- Small Package

## Basic Operation:

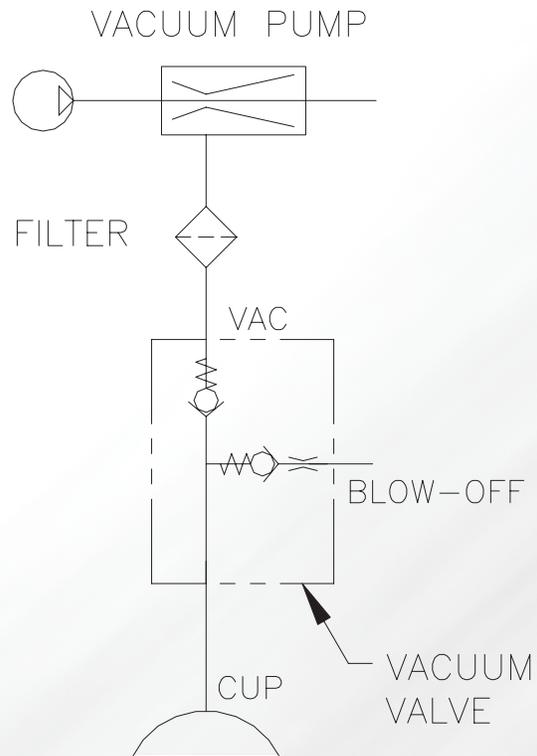
Vacuum is applied to the vacuum port in order to pick up a part. Pressure is applied to eject the part from the vacuum cup. The internal check maintains vacuum when the supply is removed.

## Operating Data:

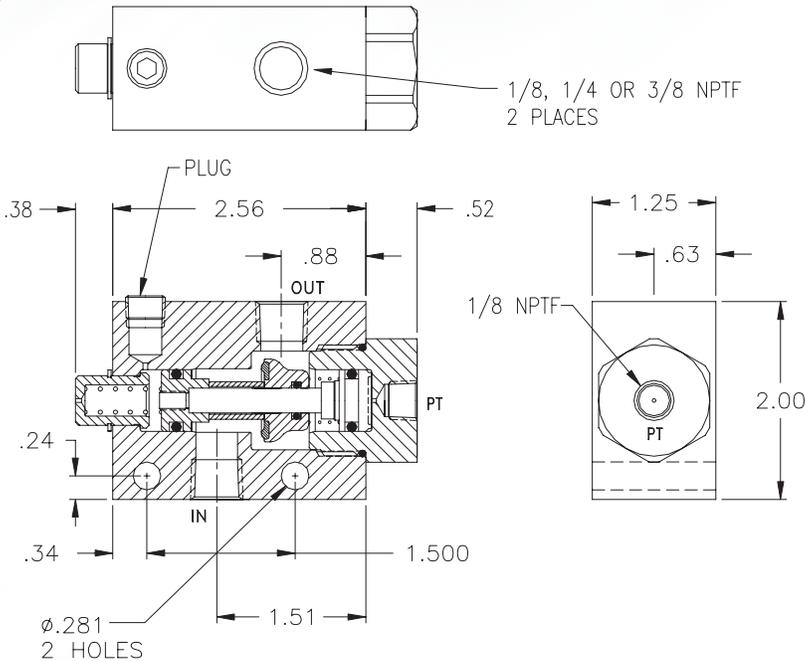
Min Blow Off:	25 psi
Temp. Range:	30-150 F
Vacuum Cracking:	1 in Hg.
Flow Capacity (Cv):	.6
Service:	Properly filtered dry air or lubricated air.



THIS MODEL REPLACES THE V6000



# 1/8, 1/4 & 3/8 NPTF 2-Way Normally Open, Pilot to Close with Floating Check



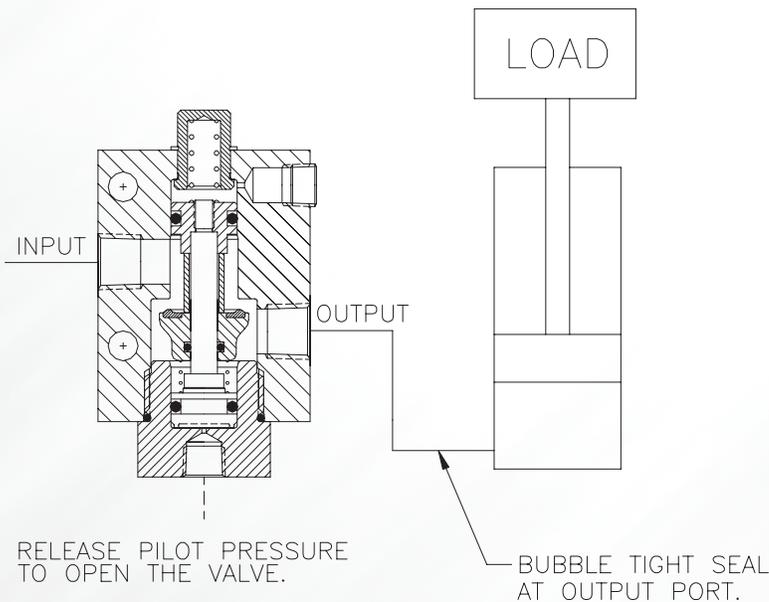
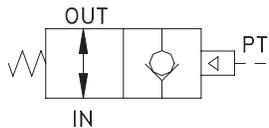
- .000052 cc/min Leak Rate
- Pilot to Close
- Checks in One Direction

## Basic Operation:

Normally open valve that closes when pressure is applied to the pilot port. To open the valve, release the pilot pressure. Internal check allows free flow from input to output.

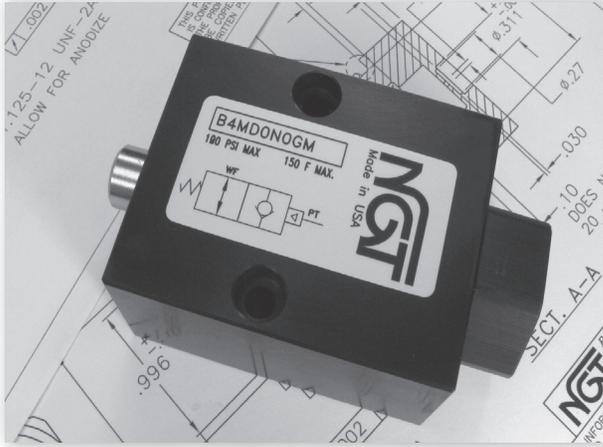
## Operating Data:

- Max. Pressure: 120 psi
- Pilot to Close: 45 psi min.
- Leak Rate: .0000522 cubic cm/min
- Temp. Range: -20 F to 150 F
- Cycle Rate: 1 cyc./sec. max.
- Flow Capacity (Cv): 1.7 (1/8 model)  
2.6 (1/4 and 3/8 models)
- Cracking Pressure: 1-2 psi
- Service: Properly filtered dry air or lubricated air.



MODELS		
1/8 NPFT	1/4 NPFT	3/8 NPFT
<b>B2M00N0</b>	<b>B4M00N0</b>	<b>B6M00N0</b>

# 1/4 NPTF Direct Mount Normally Open Valve



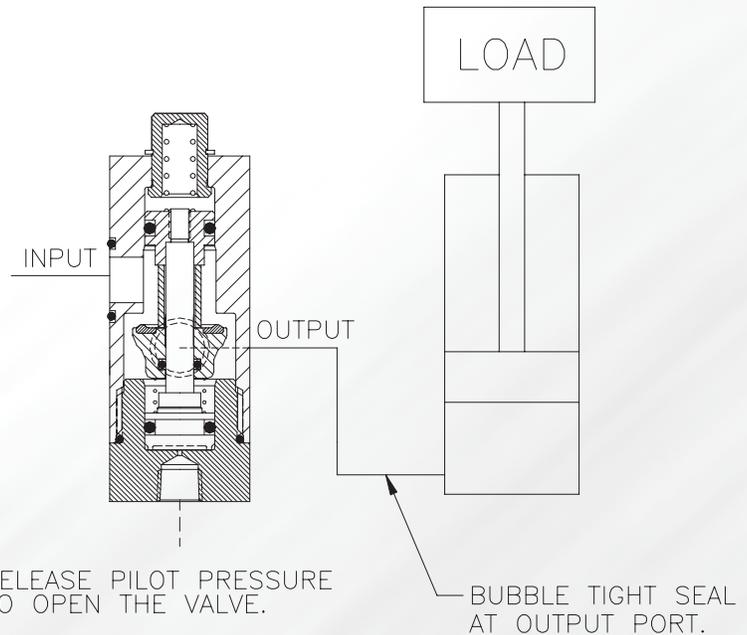
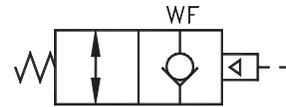
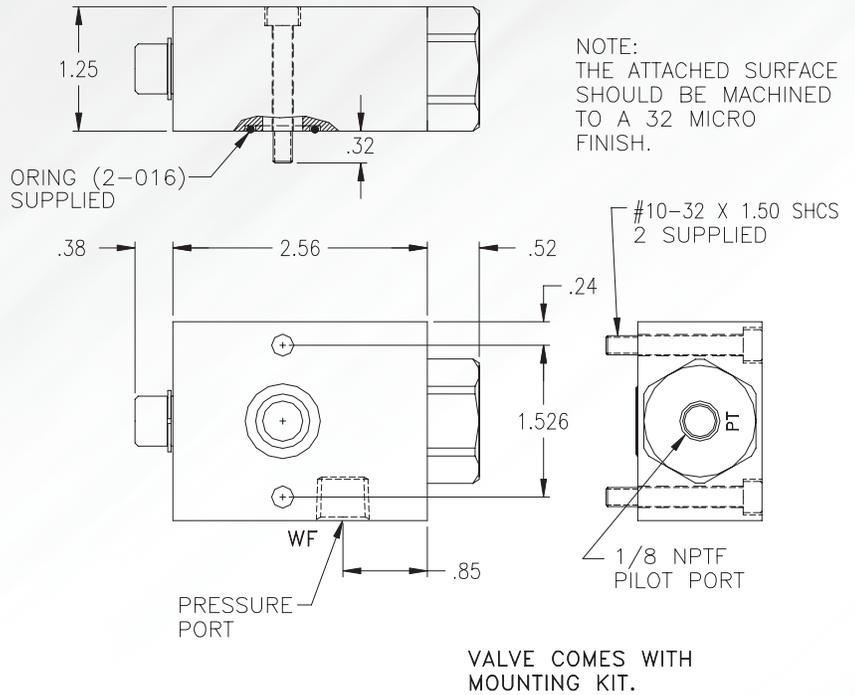
- Direct Mount
- .000522 cc/min Leak Rate
- High Flow
- Air Pilot to Close
- Checks in One Direction

## Basic Operation:

Normally open valve can be mounted directly to a manifold, air cylinder or any pneumatic device with a flat surface. Use where air tight operation is required. Pilot to close the valve. Internal check allows free flow in one direction.

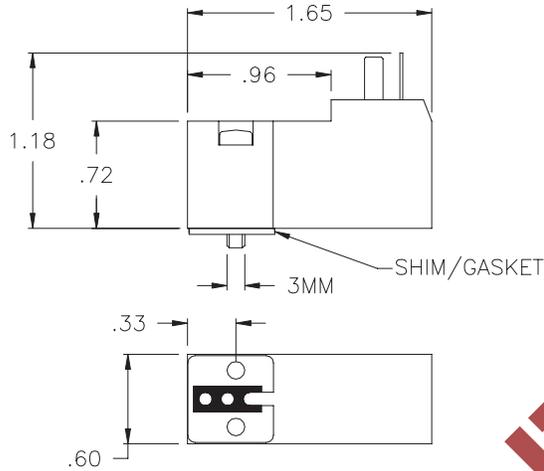
## Operating Data:

Max. Pressure:	120 psi
Min. Pilot Pressure:	45 psi
Leak Rate:	.000522 cc/min.
Temp. Range:	30-150 F
Cycle Rate:	1 cyc./sec. max.
Flow Capacity (Cv):	2.6
Cracking Pressure:	1-2 psi
Service:	Properly filtered dry air or lubricated air.



# Coils, Connectors & Repair Kits

## Coil for 1/8, 1/4, 3/8 and 1/2 Tube Model Valves

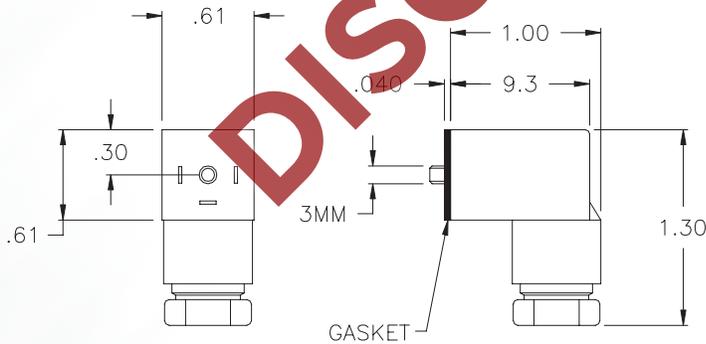


### Description:

Temp range: 14-122 F  
 NEMA 4 / IP 65 (EN 60529)  
 Continuous Duty  
 Normally Closed  
 Filtered lubricated or dry air operation  
 9.4 mm Pin Spacing

MODEL NO.	Watt	Max Pressure	Voltage
A4M13	2.5	145 psi	24 VDC

## Connector for 9.4 mm Pin Spacing



### Description:

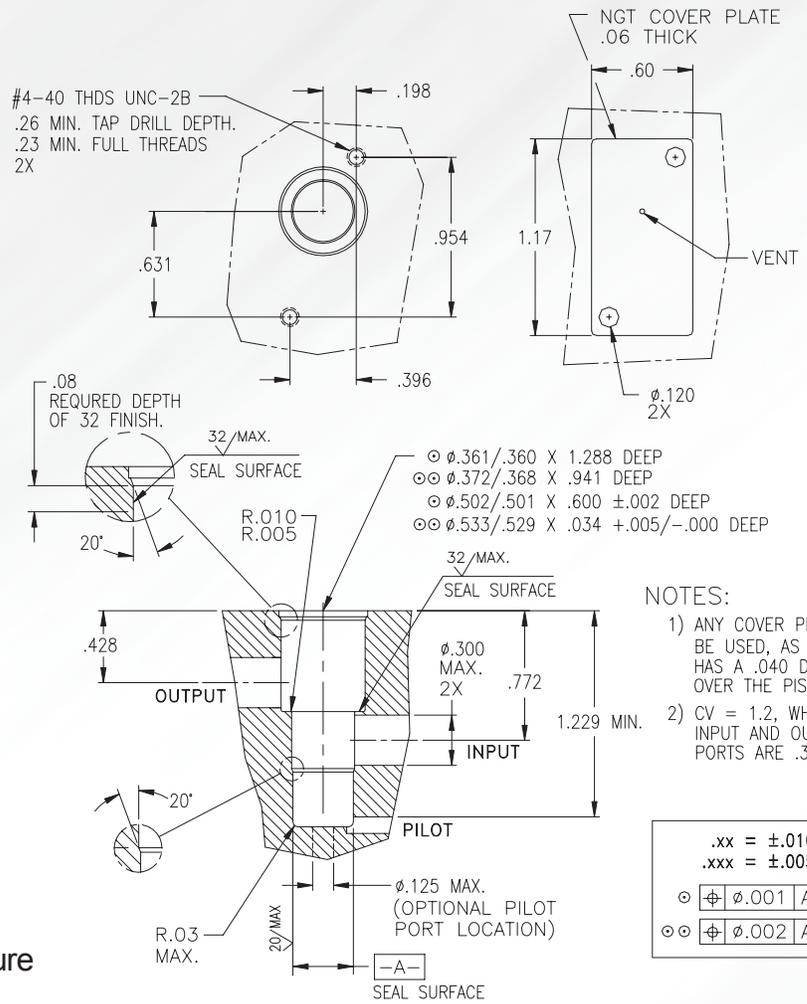
9.4 mm pin spacing  
 Will accept .16 to .26 diameter cable

MODEL NO.	Description
A4M16	Standard Black
A4M17	24 VDC, transparent with LED

## Replacement Kits for A, B & D Series Valves

First 3 Characters of Model Number	MODEL NO.		
	Standard	High Temp	Low Temp
A2M, A4M, A6M, A4TM	BC100	-	-
B2M, B4M, B6M, BG6	BC400	BC400V	BC400T40
B41, B61, B81, B12	BC510	BC510V	-
D6C, D8C - (2 Required)	BC400	BC400V	BC400T40

# Pneumatic Cartridge Valve for a Manifold, Cv=1.2



- .000113 cc/min Leak Rate
- Inserts From One Side
- Easy Repair
- Small Size
- 100% Tested

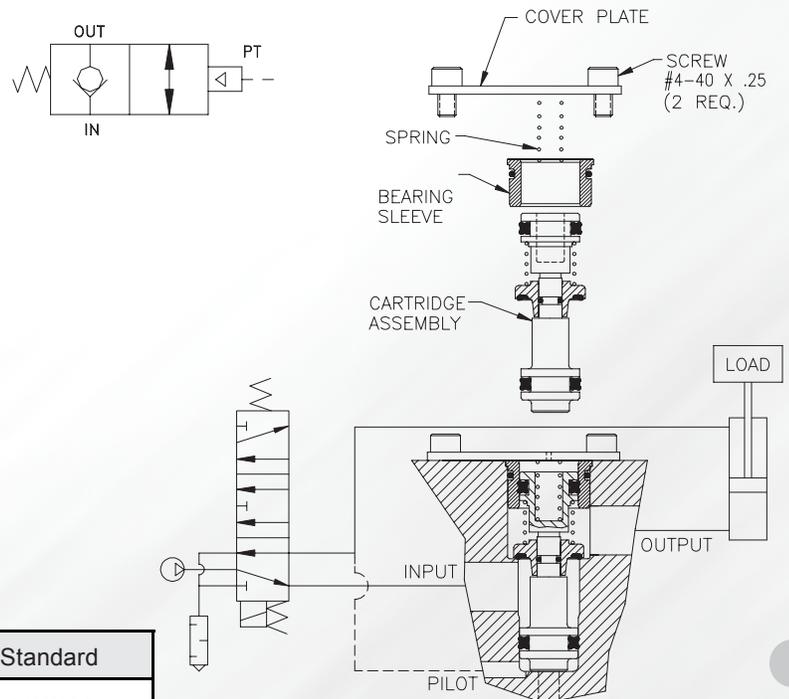
## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Good for leak testing. Insert a cartridge assembly into a machined cavity and attach a cover for easy assembly.

## Operating Data:

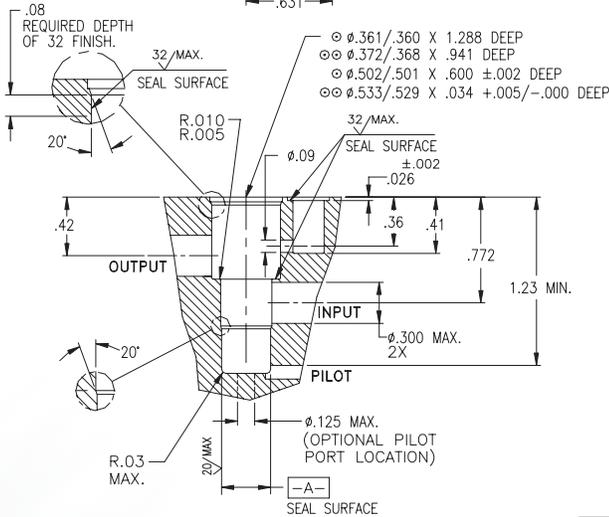
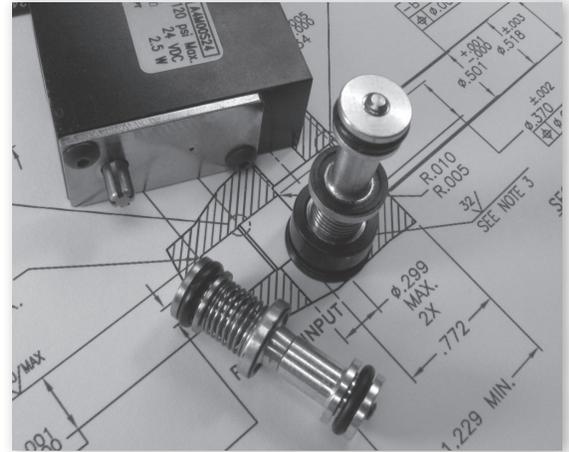
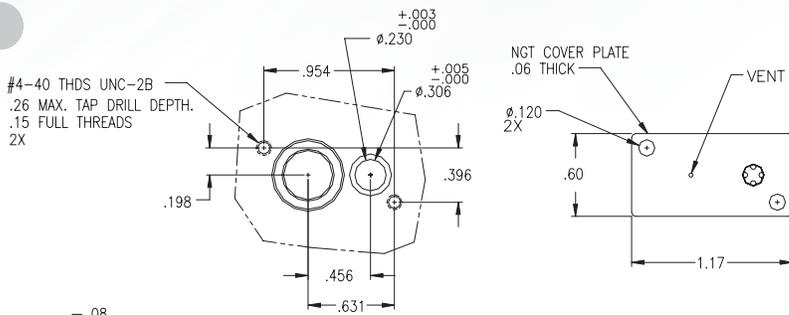
Max. Pressure: 120 psi  
Min. Pilot Pressure: 30 psi @ 80 psi  
Leak Rate: .000113 cc/min  
Temp. Range: 30 - 150 F  
Cycle Rate: 1 cyc./sec. max.  
Max. Flow  
Capacity (Cv): 1.2

Cracking Pressure: 2-3 psi  
Service: Properly filtered dry air or lubricated air.



Description	Standard
Cartridge, Bearing, Cover, Spring & Screws	<b>BC1MNAS</b>
Cartridge, Bearing & Spring	<b>BC1MNB</b>
Cartridge & Spring	<b>BC1MN</b>

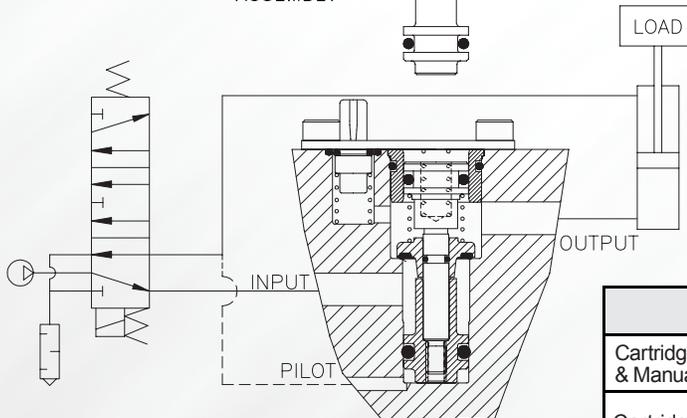
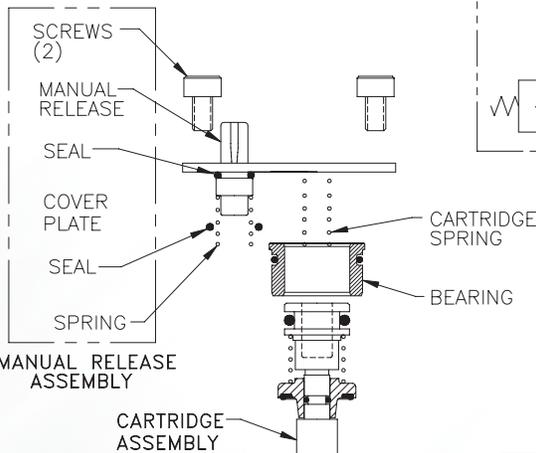
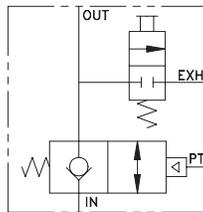
# Pneumatic Cartridge Valve for a Manifold, Cv=1.2, with Manual Release



## NOTES:

- 1) ANY COVER PLATE CAN BE USED, AS LONG AS IT HAS A .040 DIA VENT OVER THE PISTON BORE.
- 2) CV = 1.2, WHEN INPUT AND OUTPUT PORTS ARE .300 DIA.
- 3) INPUT, OUTPUT & PILOT LOCATIONS CAN VARY FROM THE DRAWING.

.xx	= ±.010
.xxx	= ±.005
⊕	⊕ .001 A
⊗	⊗ .002 A



- Leak Rate .000113 cc/min
- Inserts From One Side
- Easy Repair
- Small Size
- Manual Release to Atm.

## Basic Operation:

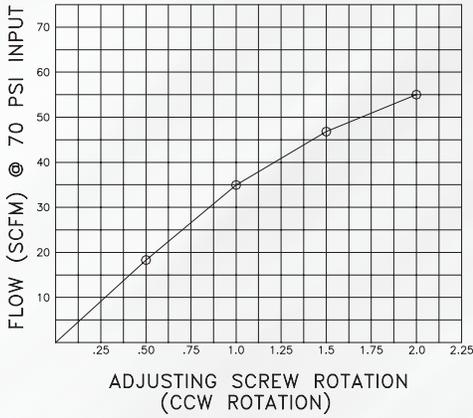
Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Insert a cartridge assembly into a machined cavity and attach a cover for easy assembly. The manual release exhausts trapped air to atmosphere.

## Operating Data:

Max. Pressure:	120 psi
Min. Pilot Pressure:	30 psi @ 80 psi
Leak Rate:	.000113 cc/min
Temp. Range:	30 - 150 F
Cycle Rate:	1 cyc./sec. max.
Max. Flow Capacity (Cv):	1.2
Cracking Pressure:	2-3 psi
Service:	Properly filtered dry air or lubricated air.

Description	MODEL
Cartridge Asm., Bearing, Cartridge Spring & Manual Release Asm.	<b>BC1MNAS-1</b>
Cartridge Asm., Bearing & Cartridge Spring	<b>BC1MNB</b>
Cartridge Asm. & Cartridge Spring	<b>BC1MN</b>

# Pneumatic Cartridge Valve for a Manifold, Cv=1.2, with Flow Control



70 PSI INLET AT FULL PRESSURE DROP

- Leak Rate .000113 cc/min
- Inserts From One Side
- Easy Repair
- Compact Size
- Metered Output to Input

## Basic Operation:

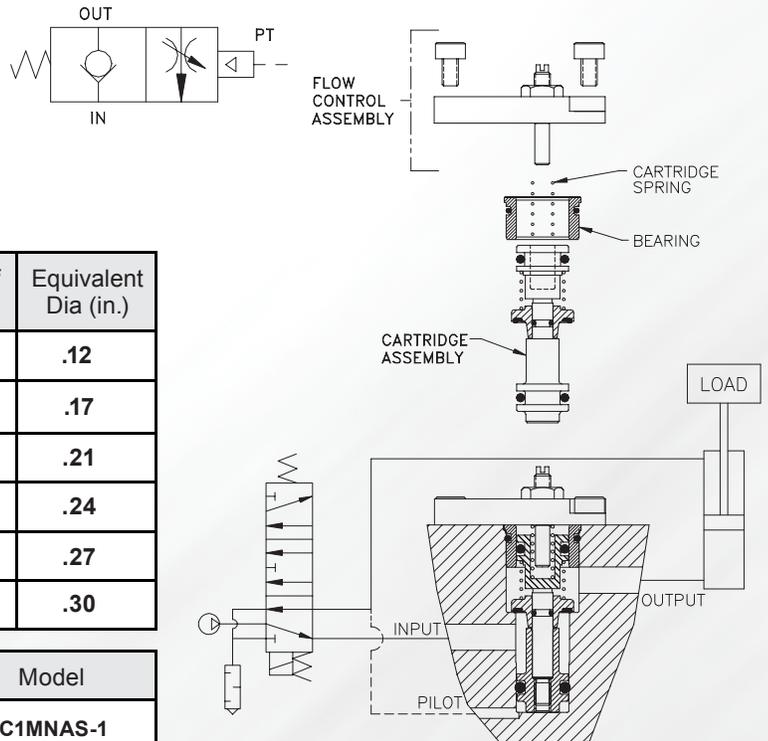
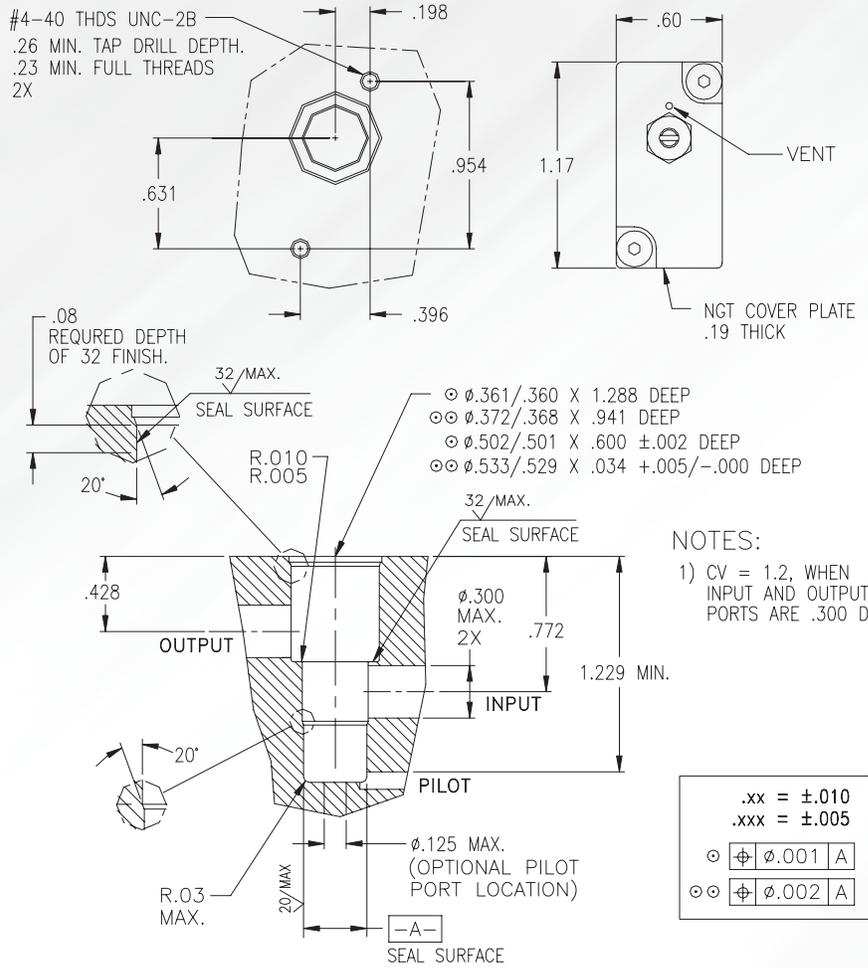
Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Control the speed of the air device with the flow control.

## Operating Data:

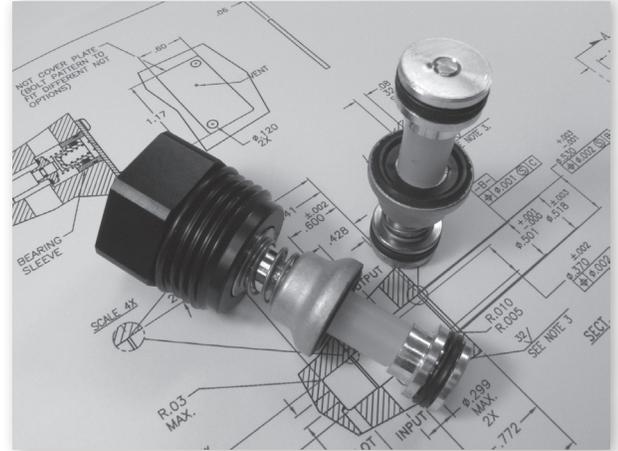
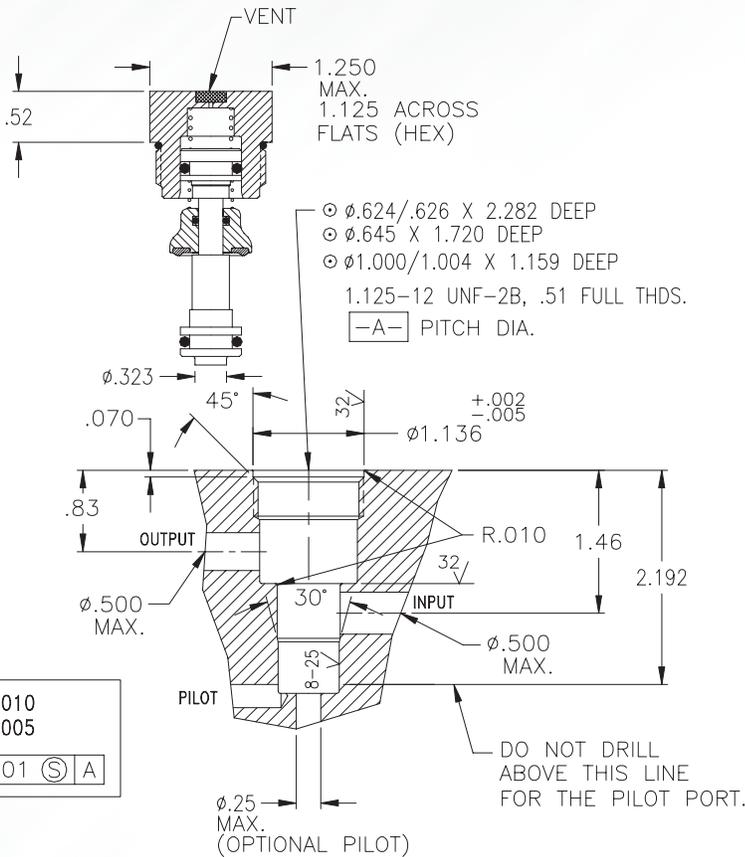
- Max. Pressure: 120 psi  
 Min. Pilot Pressure: 30 psi @ 80 psi  
 Leak Rate: .000113 cc/min  
 Temp. Range: 30 - 150 F  
 Cycle Rate: 1 cyc./sec. max.  
 Max. Flow Capacity (Cv): 1.2  
 Cracking Pressure: 2-3 psi  
 Service: Properly filtered dry air or lubricated air.

No. of Turns	Equivalent Dia. (in.)
.5	.12
1.0	.17
1.5	.21
2.0	.24
2.5	.27
3.0	.30

Description	Model
Cartridge Asm., Bearing, Cartridge Spring & Manual Release Asm.	<b>BC1MNAS-1</b>
Cartridge Asm., Bearing & Cartridge Spring	<b>BC1MNB</b>
Cartridge Asm. & Cartridge Spring	<b>BC1MN</b>



# Pneumatic Cartridge Valve for a Manifold, Cv=2.6



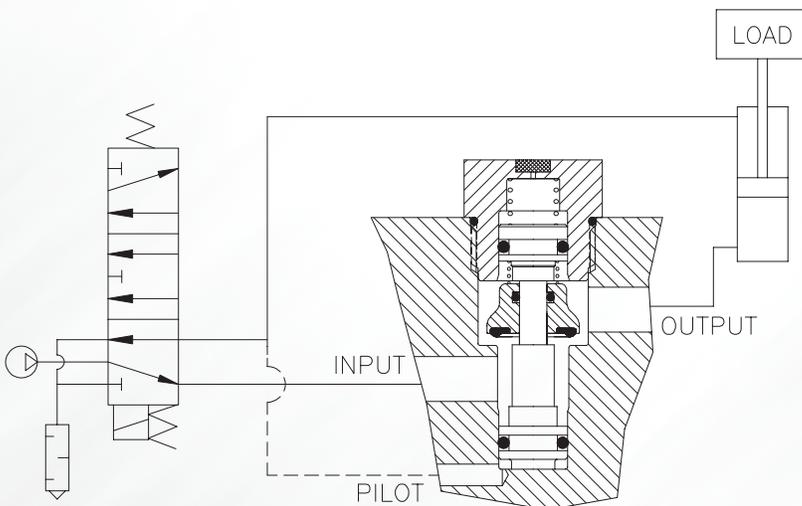
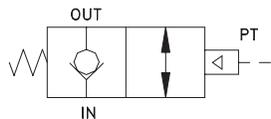
- High Flow
- High & Low Temp
- .000113 cc/min Leak Rate
- Insert From One Side
- Easy Repair

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs.

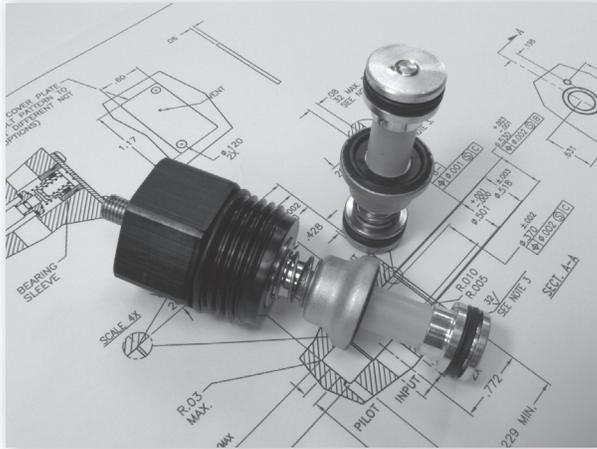
## Operating Data:

Max. Pressure:	150 psi
Min. Pilot Pressure:	40 psi
	25 psi (see table)
Leak Rate:	.000113 cc/min
Temp. Range:	-20 to 150 F (Nitrile)
	30 to 350 F (FKM)
	-40 to 150 F (EPDM)
Cycle Rate:	1 cyc./sec. max.
Max. Flow Capacity (Cv):	2.6
Cracking Pressure:	1-3 psi
Service:	Properly filtered dry air or lubricated air.



Description	Standard	Low Temp*	High Temp
Cartridge, End Cap & Spring	BC4MNAS	BC4MNAS40	BC4MNASV
Cartridge & Spring	BC4MN	BC4MNT40	BC4MNV
*No petroleum based lubricants. Comes lubricated with a silicone based lubricant. Add (-K18) to the model number for a lower pilot pressure (Ex: BC4MNAS-K18).			

# Pneumatic Cartridge Valve with Flow Control for a Manifold, Cv=2.6



- High Flow
- Flow Control
- .000113 cc/min Leak Rate
- Insert From One Side
- Easy Repair

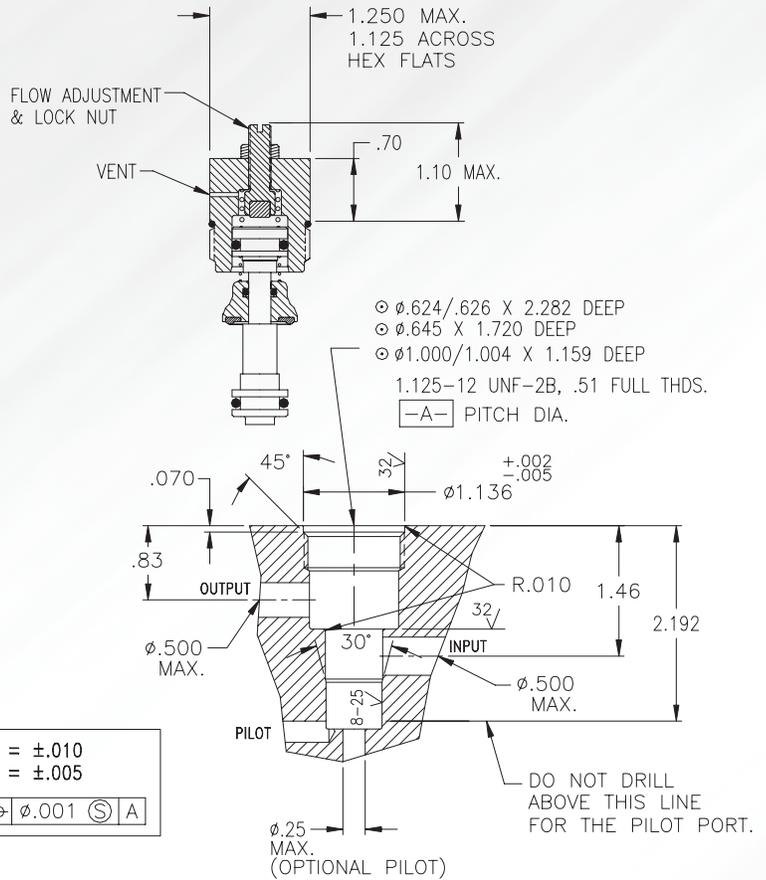
## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Air flow is metered from the Output to the Input port.

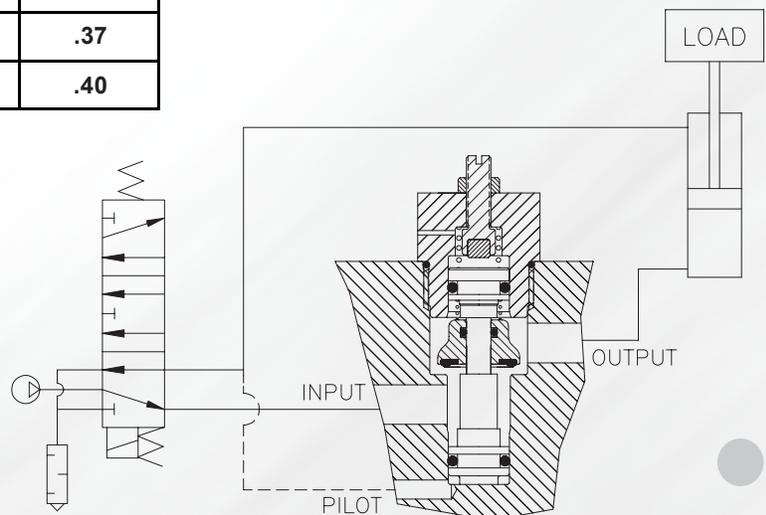
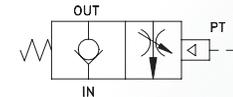
## Operating Data:

Max. Pressure:	150 psi
Min. Pilot Pressure:	40 psi
	25 psi (K18 suffix)
Leak Rate:	.000113 cc/min
Temp. Range:	-20 to 150 F (Nitrile)
Cycle Rate:	1 cyc./sec. max.
Max. Flow Capacity (Cv):	2.6
Cracking Pressure:	1-3 psi
Service:	Properly filtered dry air or lubricated air.

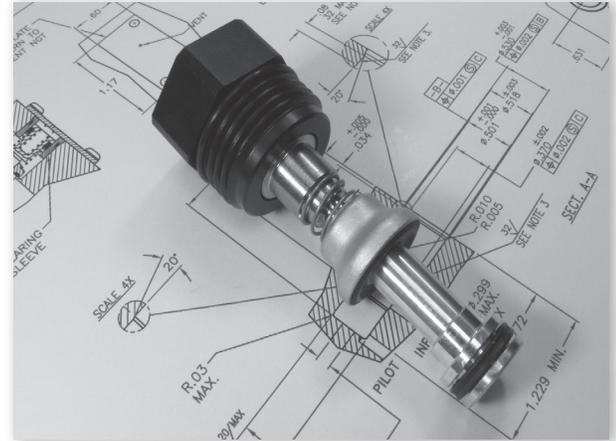
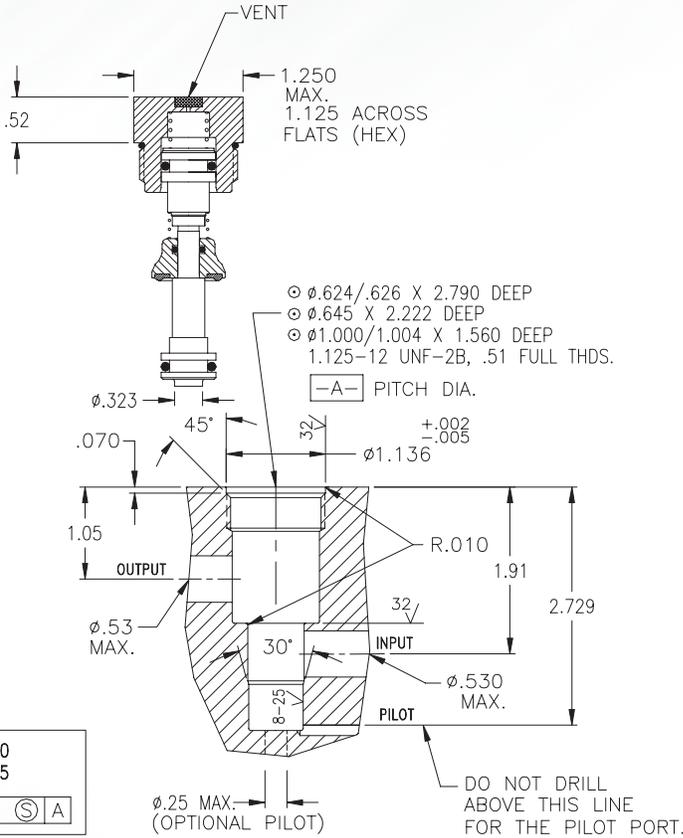
Description	Model
Cartridge, Adjustable Cap & Spring	<b>BC4MNFL</b>
Cartridge, Adjustable Cap & Low Pressure Spring	<b>BC4MNFLK18</b>



No. of Turns	Equivalent Dia (in.)
.25	.15
.50	.21
.75	.26
1.0	.30
1.25	.34
1.50	.37
1.75	.40



# Pneumatic Cartridge Valve for a Manifold, Cv=4



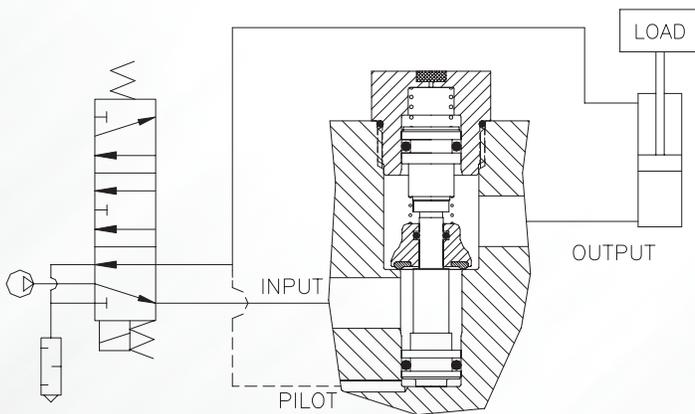
- High Flow
- High & Low Temp
- .000113 cc/min Leak Rate
- Insert From One Side
- Easy Repair

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs.

## Operating Data:

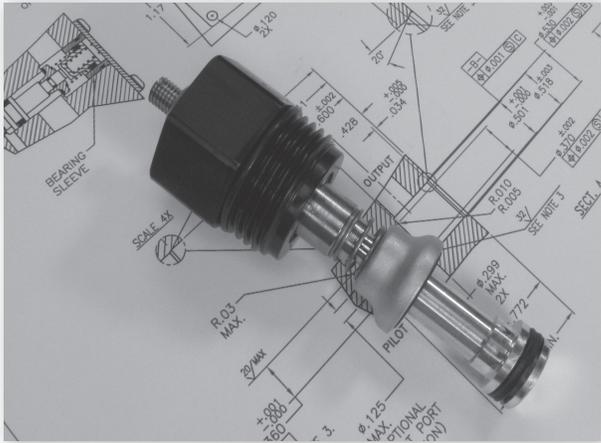
Max. Pressure:	150 psi
Min. Pilot Pressure:	40 psi
	25 psi (see table)
Leak Rate:	.000113 cc/min
Temp. Range:	-20 to 150 F (Nitrile)
	30 to 350 F (FKM)
	-40 to 150 F (EPDM)
Cycle Rate:	1 cyc./sec. max.
Max. Flow Capacity (Cv):	4.0
Cracking Pressure:	1-3 psi
Service:	Properly filtered dry air or lubricated air.



Description	Standard	Low Temp*	High Temp
Cartridge, End Cap & Spring	BC5MNAS	BC5MNAST40	BC5MNASV
Cartridge & Spring	BC5MN	BC5MNT40	BC5MNV

\*No petroleum based lubricants. Comes lubricated with a silicone based lubricant. Add (-K18) to the model number for a lower pilot pressure (Ex: BC5MNAS-K18).

# Pneumatic Cartridge Valve with Flow Control for a Manifold, Cv=4



- High Flow, Cv=4 Max.
- Flow Control
- .000113 cc/min Leak Rate
- Insert From One Side
- Easy Repair

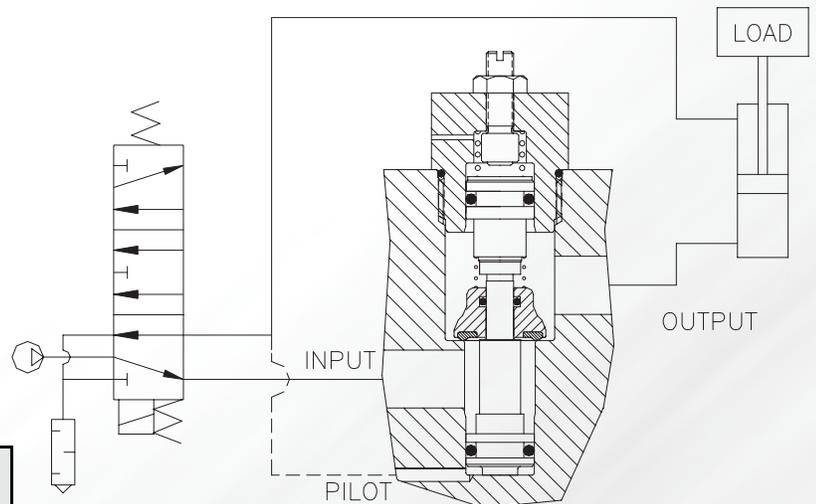
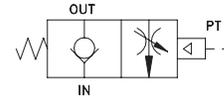
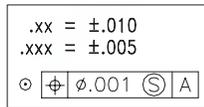
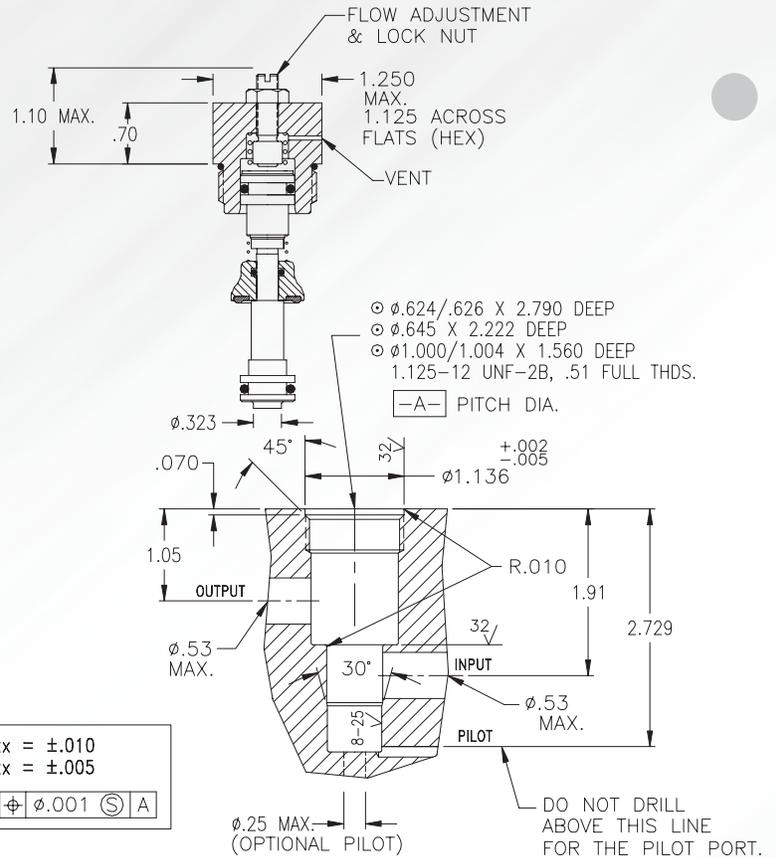
## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. Air flow is metered from the Output to the Input port.

## Operating Data:

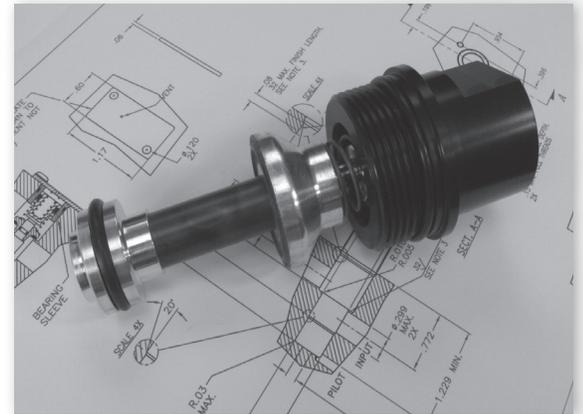
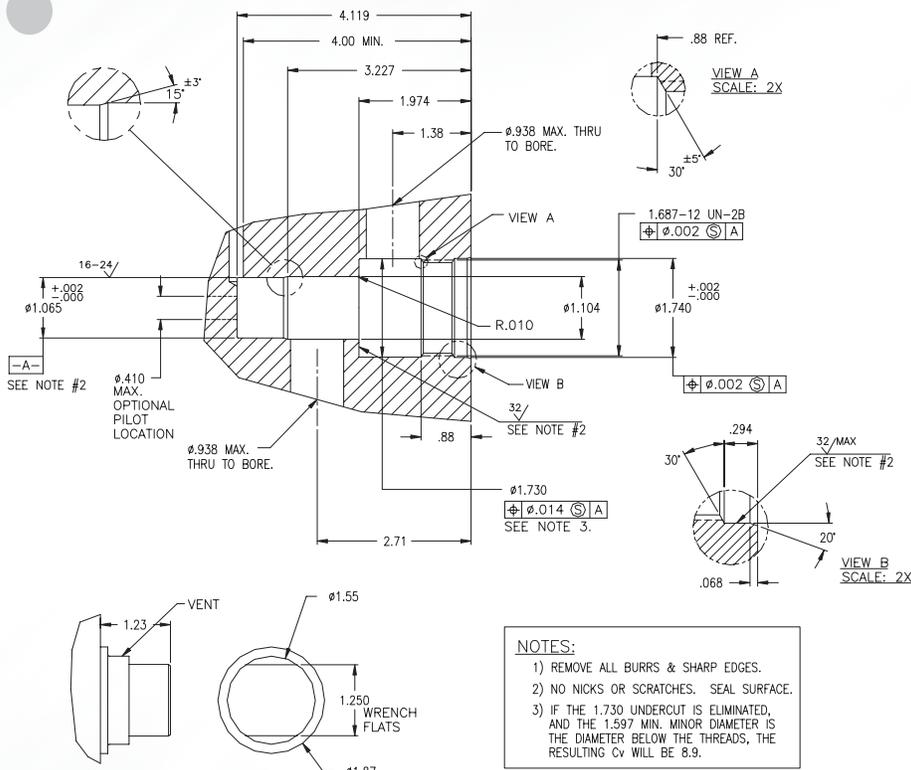
Max. Pressure:	150 psi
Min. Pilot Pressure:	40 psi
	25 psi (K18 suffix)
Leak Rate:	.000113 cc/min
Temp. Range:	-20 to 150 F (Nitrile)
Cycle Rate:	1 cyc./sec. max.
Max. Flow Capacity (Cv):	4.0
Cracking Pressure:	1-3 psi
Service:	Properly filtered dry air or lubricated air.

No. of Turns	Equivalent Dia (in.)	No. of Turns	Equivalent Dia (in.)
.25	.15	1.75	.40
.50	.21	2.00	.43
.75	.26	2.25	.45
1.0	.30	2.50	.48
1.25	.34	2.75	.50
1.50	.37	3.00	.53



Description	Model
Cartridge, Adjustable Cap & Spring	<b>BC5MNFL</b>
Cartridge, Adjustable Cap & Low Pressure Spring	<b>BC5MNFLK18</b>

# Pneumatic Cartridge Valve for a Manifold, Cv=16



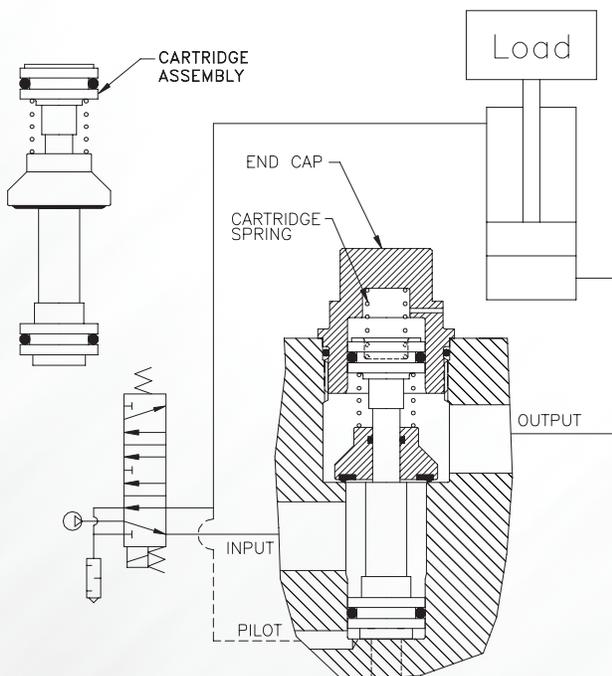
- High Flow
- Insert From One Side
- Easy & Quick Repair

## Basic Operation:

Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. The valve only allows air flow from the input to the output port unless air is supplied to the pilot to open the valve. The pilot line is usually connected to the opposite side of the air cylinder that is locked.

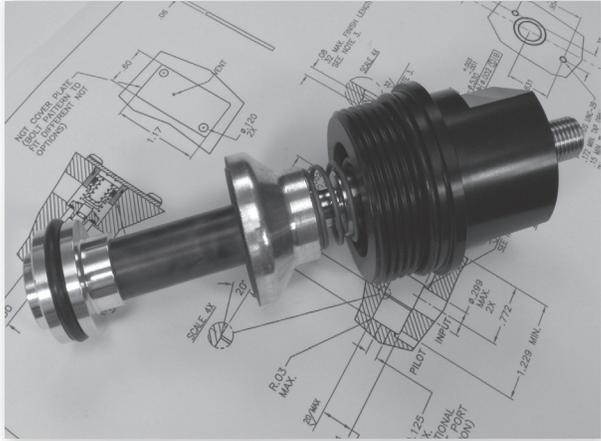
## Operating Data:

Max. Pressure:	120 psi
Min. Pilot Pressure:	20 psi @ 80 psi
Temp. Range:	0 to 150 F
Cycle Rate:	1 cyc./sec. max.
Max. Flow Capacity (Cv):	16
Cracking Pressure:	3.5 psi
Service:	Properly filtered dry air or lubricated air.



Description	Model
Cartridge, Eng Cap & Cartridge Spring	<b>BC16MNAS</b>
Cartridge & Cartridge Spring	<b>BC16MN</b>

# Pneumatic Cartridge Valve for a Manifold, Cv=16, with Flow Control



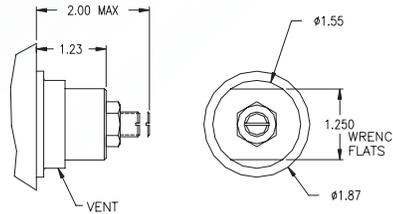
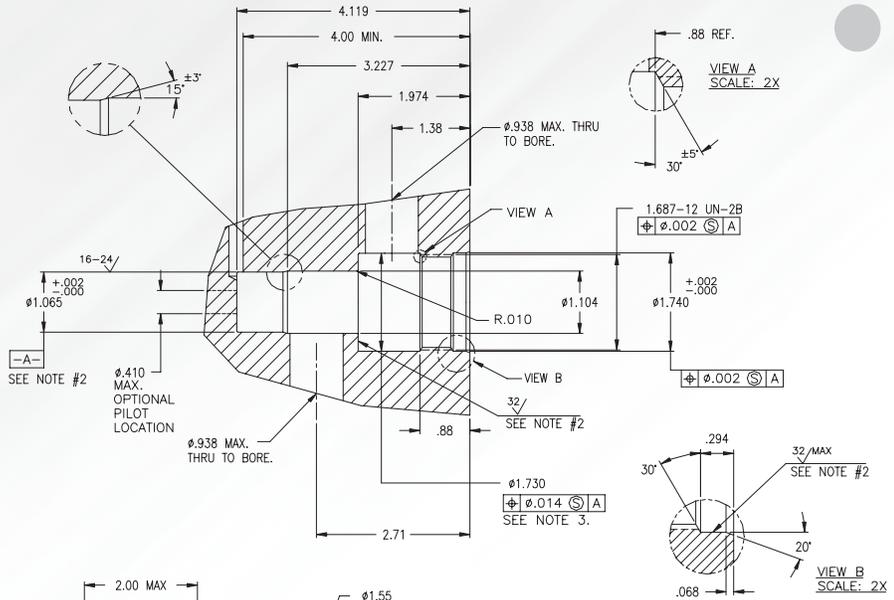
- High Flow
- Insert From One Side
- Easy & Quick Repair
- 100% Tested

## Basic Operation:

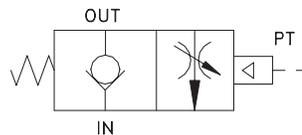
Lock your pneumatic device in position when a pressure drop or total loss of pressure occurs. The valve only allows air flow from the input to the output port unless air is supplied to the pilot to open the valve. The pilot line is usually connected to the opposite side of the air cylinder that is locked.

## Operating Data:

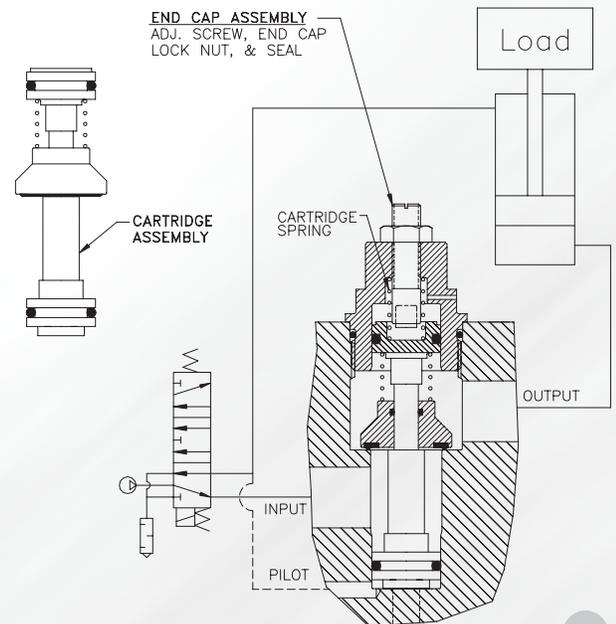
Max. Pressure:	120 psi
Min. Pilot Pressure:	20 psi @ 80 psi
Temp. Range:	0 to 150 F
Cycle Rate:	1 cyc./sec. max.
Max. Flow Capacity (Cv):	16
Cracking Pressure:	3.5 psi
Service:	Properly filtered dry air or lubricated air.



- NOTES:**
- 1) REMOVE ALL BURRS & SHARP EDGES.
  - 2) NO NICKS OR SCRATCHES. SEAL SURFACE.
  - 3) IF THE 1.730 UNDERCUT IS ELIMINATED, AND THE 1.597 MIN. MINOR DIAMETER IS THE DIAMETER BELOW THE THREADS, THE RESULTING Cv WILL BE 8.9.



No. of Turns	Equivalent Dia (in.)
.5	.33
1.0	.47
1.5	.58
2.0	.66
2.5	.74
3.0	.81
3.5	.88
4.0	.94

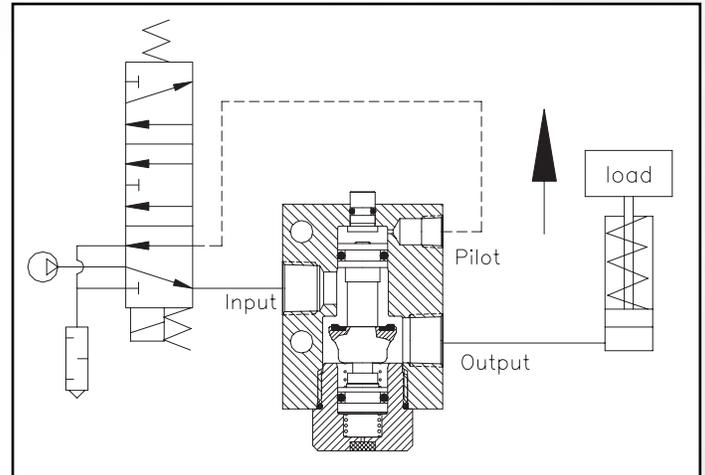


Description	Model
Cartridge Asm., Eng Cap Asm. & Cartridge Spring	<b>BC16MNFL</b>
Cartridge Asm. & Cartridge Spring	<b>BC16MN</b>

# Engineering Tips

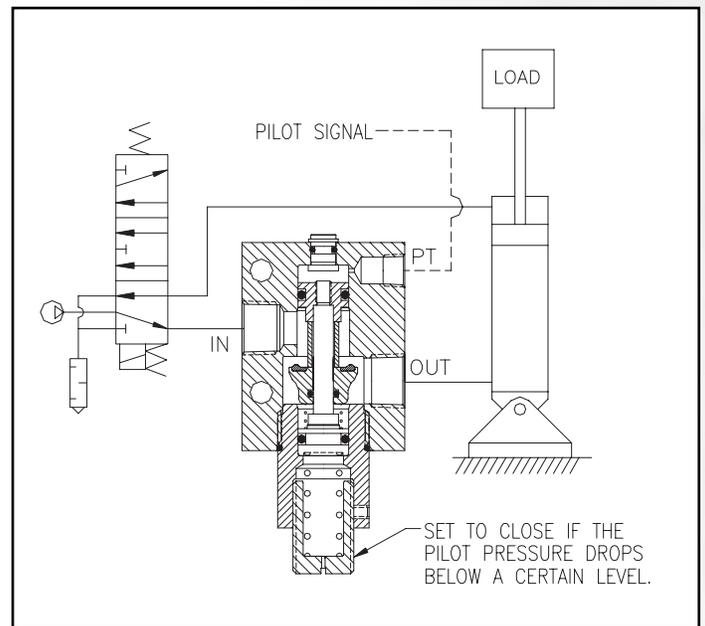
## Single Acting Circuit

A cylinder with a spring or gravity return can be locked in place with this circuit. Air pressure advances the cylinder and gravity or the spring will retract the cylinder.



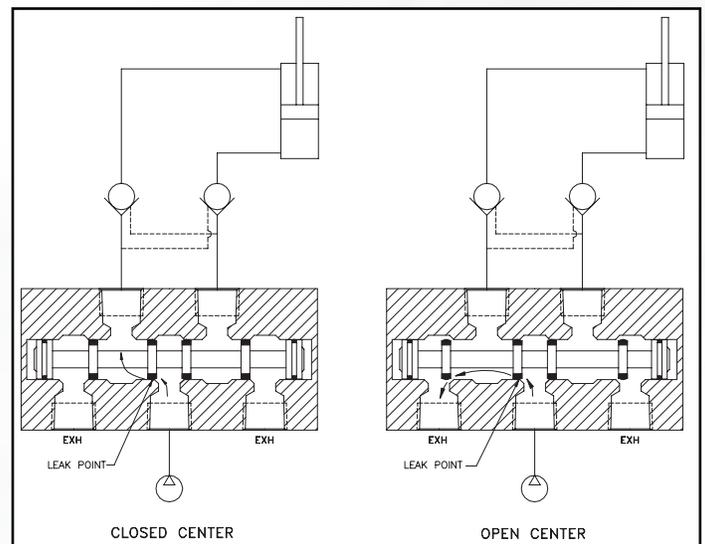
## Quick Stop

Back pressure in the pilot line may cause the poppet to remain open longer, resulting in the cylinder drifting a small amount before stopping. Using a pilot-operated check valve with an adjustable spring can decrease drift, by closing the valve faster. This will also increase the pilot pressure required to open the valve.

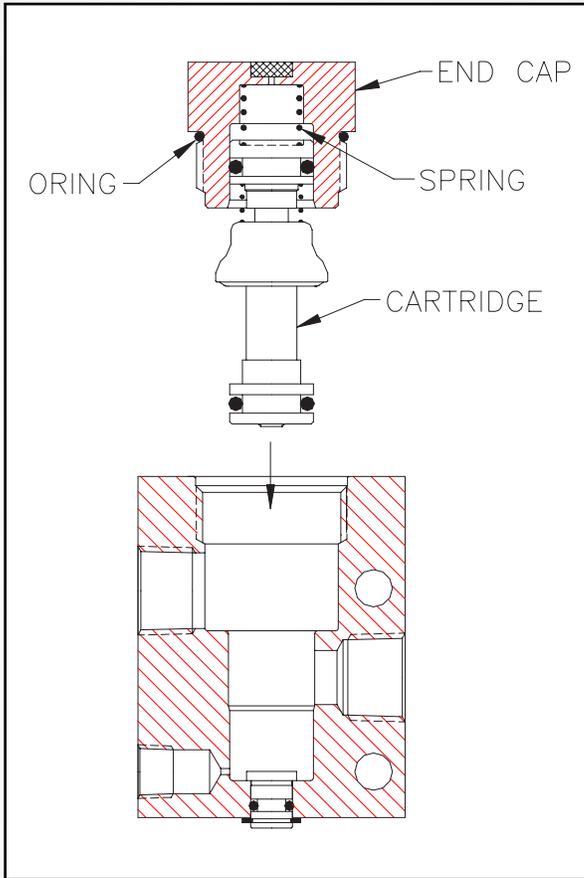


## Why Use a Center Exhaust Control Valve?

The control valve should be a center exhaust unless you can guarantee that the spool in the control valve does not leak. A leaking control valve with a center exhaust will not affect the NGT valve because the leak goes to atmosphere. A leaking closed center valve may cause the NGT valve to slowly pilot open resulting in cylinder drift.

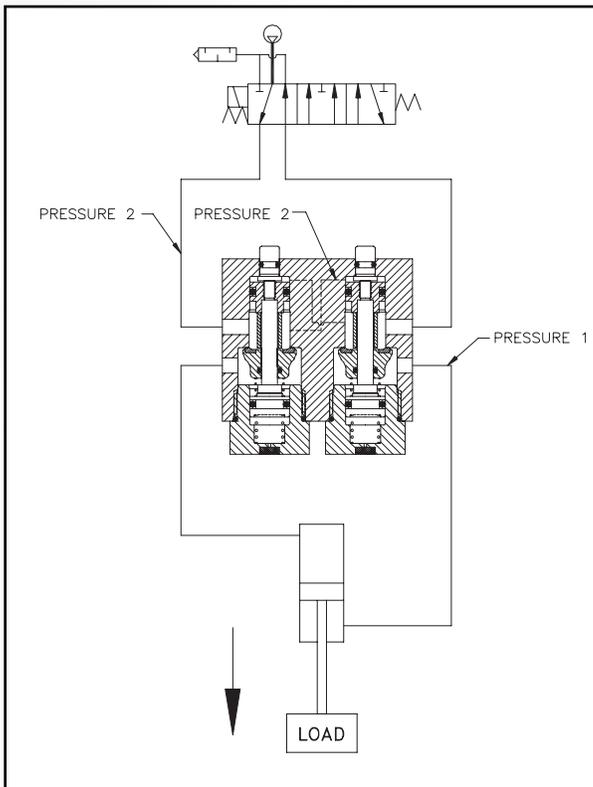


## Engineering Tips



### Cartridge & Spring Replacement

To replace the cartridge & spring, make sure all the pressure is released from the circuit. Remove the end cap, spring, and cartridge. Clean out any debris in the valve body and end cap. Inspect for excessive wear and scratches in the valve body and end cap. If there is excessive wear then the entire valve needs to be replaced. Lubricate the 2 piston seals. The main poppet seal does not require lubrication. Insert the new spring and cartridge into the end cap. The seal friction will hold the whole assembly together. Screw the entire assembly back into the valve body and tighten to 20 ft lb.



### Dual Check Circuit Ratio

A dual check should not be used if the difference between the advance and retract pressures is 50% (2:1). If pressure #1 on the rod side is 80 psi, you will need a minimum pressure of 40 psi on the advance side of the cylinder, a ratio of 2 to 1, in order to function properly.





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