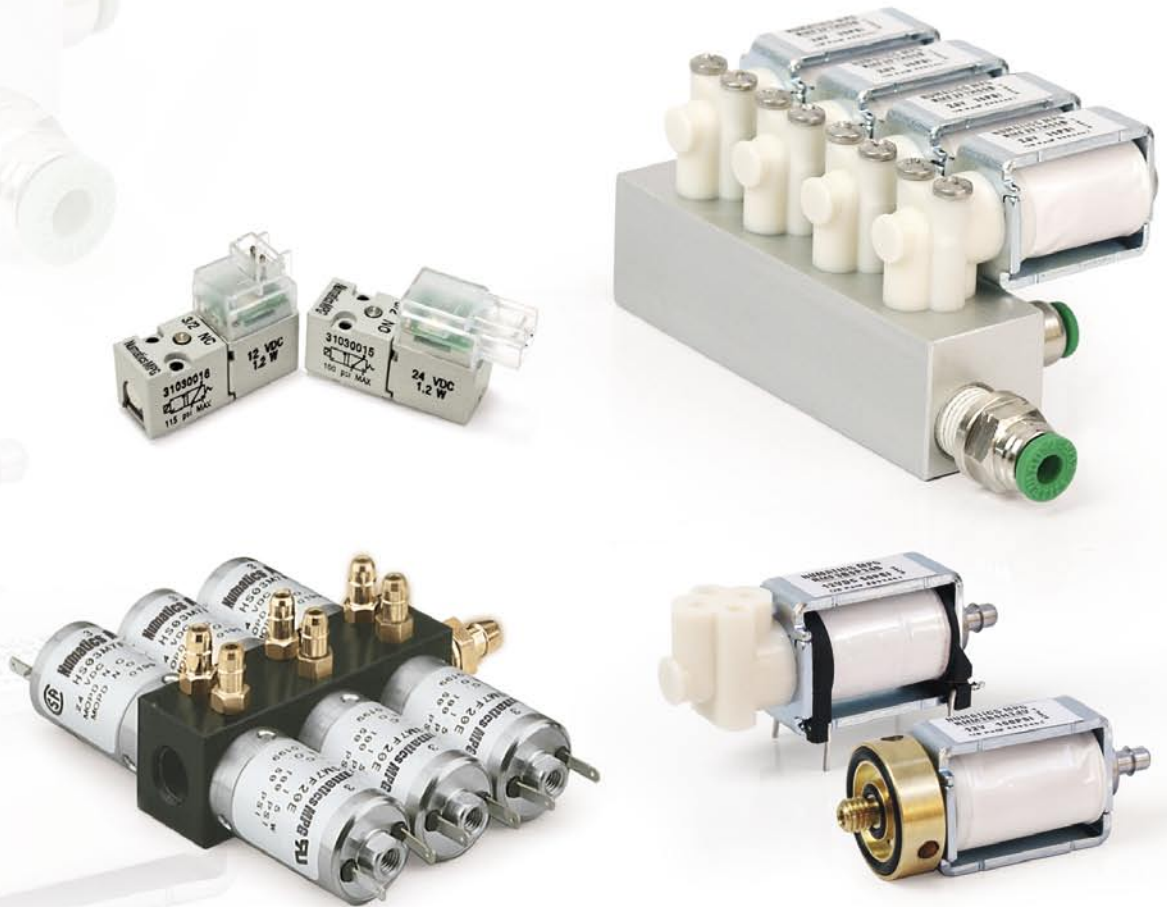


CATALOG

valves

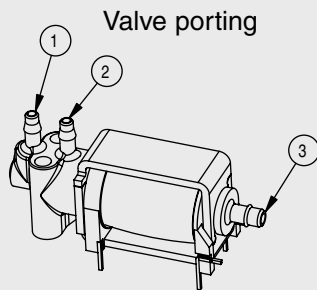
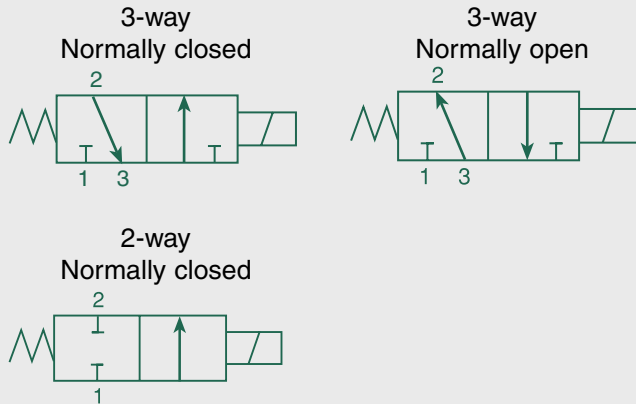
# Miniature Pneumatics



# numatics®

---

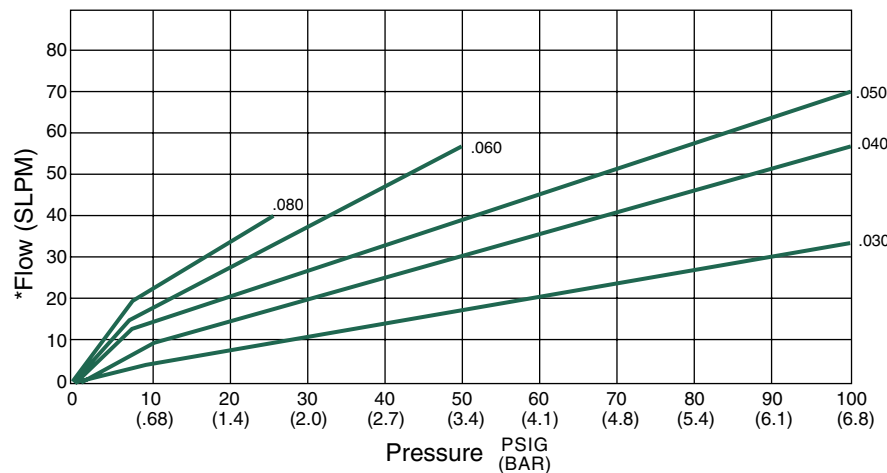
<b>Minature Valve Series</b> .....	3-14
<b>RB Series</b> .....	3-6
Technical Data .....	3
How to Order .....	4
Dimensions .....	5
Inline Mount Valve .....	6
Manifold Dimensions and Part Numbers .....	6
<b>S Series</b> .....	7-9
Technical Data .....	7
How to Order .....	8
Dimensions .....	8
Manifold Dimensions and Part Numbers .....	9
<b>TM Series</b> .....	10-12
Technical Data .....	10
Electrical Circuit Layout .....	10
How to Order .....	11
Dimensions .....	11
Manifold Dimensions and Part Numbers .....	12
Blanking Station .....	12
<b>S Series Standard Circuit Boards</b> .....	13
<i>Valve Added and Custom Assemblies</i> .....	14



### RB Series Miniature Valve

- Tested in excess of 500 Million cycles
- Maximum leakage rate: 0.3 SCCM (Bubble Tight)
- Temperature range: -10°F to 150°F (-23°C to 66°C)
- Class "A" Insulated coils
- All valves 100% factory tested
- #26 AWG Teflon insulated lead wires
- Circuit board mountable
- Built in barbed fittings
- 10 m (Micron) filtration recommended
- Response time < 0.010 Seconds
- All valves rated to 28" Hg. Vac
- Oxygen Clean available
- Recommended for use with dry air, lubricated air, vacuum, non-corrosive, non-toxic, non-flammable dry gases.
- Consult factory for other service applications.

### Technical Data



.080 orifices are not available in .080 barbed body styles.

\*FLOW: (SLPM) Standard liters per minute Port 1-2 (normally closed)

Note: Flow test are based on average readings and nominal components. All outlets are vented to atmosphere. Results may vary.

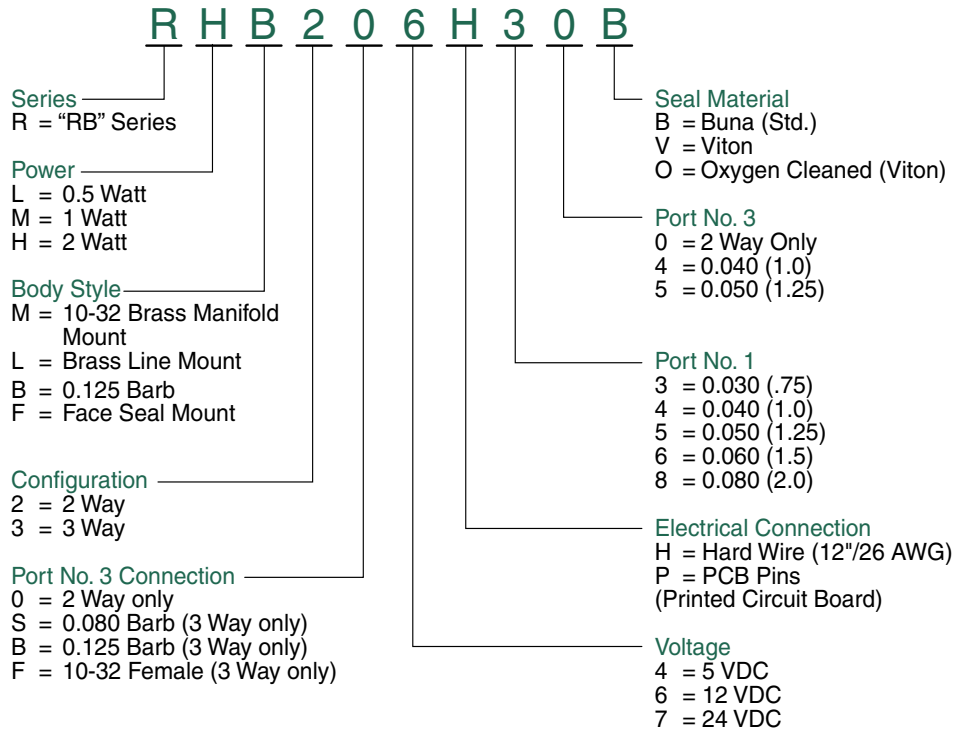
VALVE SERIES	WATTAGE	ORIFICE	CV	MAXIMUM PRESSURE	
				BRASS	PLASTIC
RB	0.5 Watt	0.030 (0.75)	0.025	50 psi (3.4)	15 psi (1.0)
RB	0.5 Watt	0.040 (1.0)	0.035	50 psi (3.4)	10 psi (0.68)
RB	0.5 Watt	0.050 (1.25)	0.055	25 psi (1.7)	10 psi (0.68)
RB	1.0 Watt	0.030 (0.75)	0.025	100 psi (6.8)	50 psi (3.4)
RB	1.0 Watt	0.040 (1.0)	0.035	50 psi (3.4)	50 psi (3.4)
RB	1.0 Watt	0.050 (1.25)	0.055	50 psi (3.4)	35 psi (2.4)
RB	2.0 Watt	0.030 (0.75)	0.025	100 psi (6.8)	100 psi (6.8)
RB	2.0 Watt	0.040 (1.0)	0.035	100 psi (6.8)	70 psi (4.8)
RB	2.0 Watt	0.050 (1.25)	0.055	100 psi (6.8)	70 psi (4.8)
RB	2.0 Watt	0.060 (1.5)	0.060	50 psi (3.4)	50 psi (3.4)
RB	2.0 Watt	0.080 (2.0)	0.080	25 psi (1.7)	25 psi (1.7)

For other pressure ranges and orifice sizes please contact factory  
Numbers in parentheses ( ) equivalent to Millimeters or BAR where applicable.



## RB Series

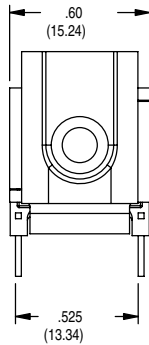
### How to Order



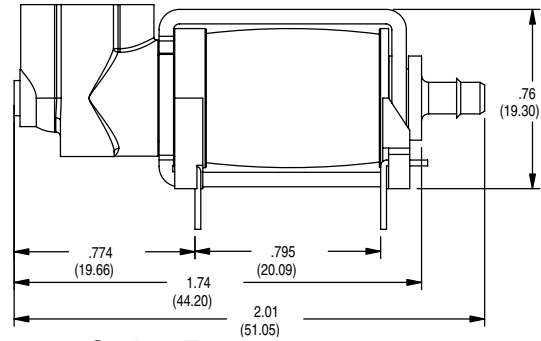
Consult chart (page 7) for allowable combinations of wattage, orifice sizes, and pressure range.



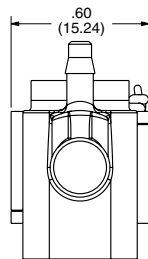
### Dimensions



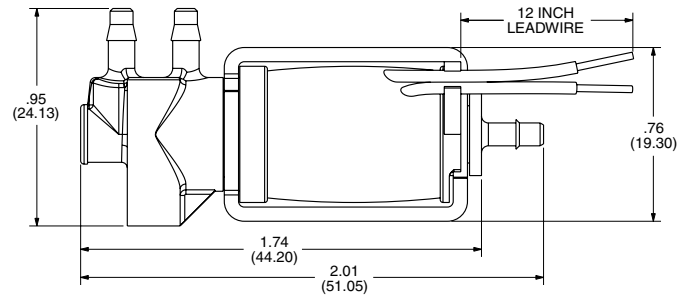
#### Face Seal RB Valve Dimensions



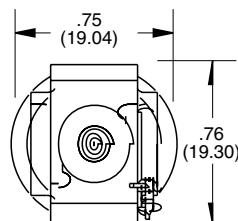
Option F



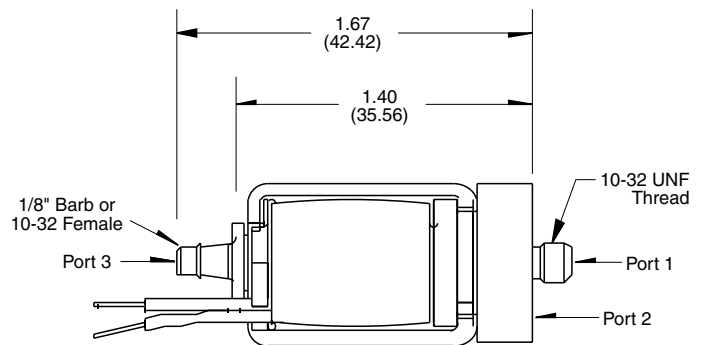
#### Body Ported RB with Mounting Holes



Option B



#### RB Manifold Mount Valve



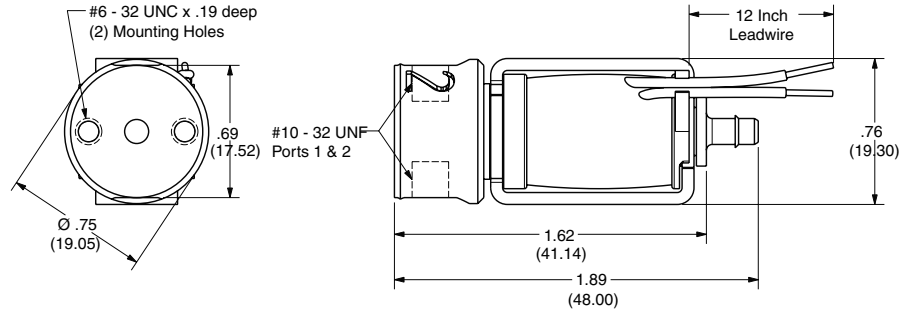
Option M

Manifold Dimensions / Part Numbers (Manifold Mount)  
See "S" Series Section

Numbers in parentheses ( ) equivalent to Millimeters or BAR where applicable.

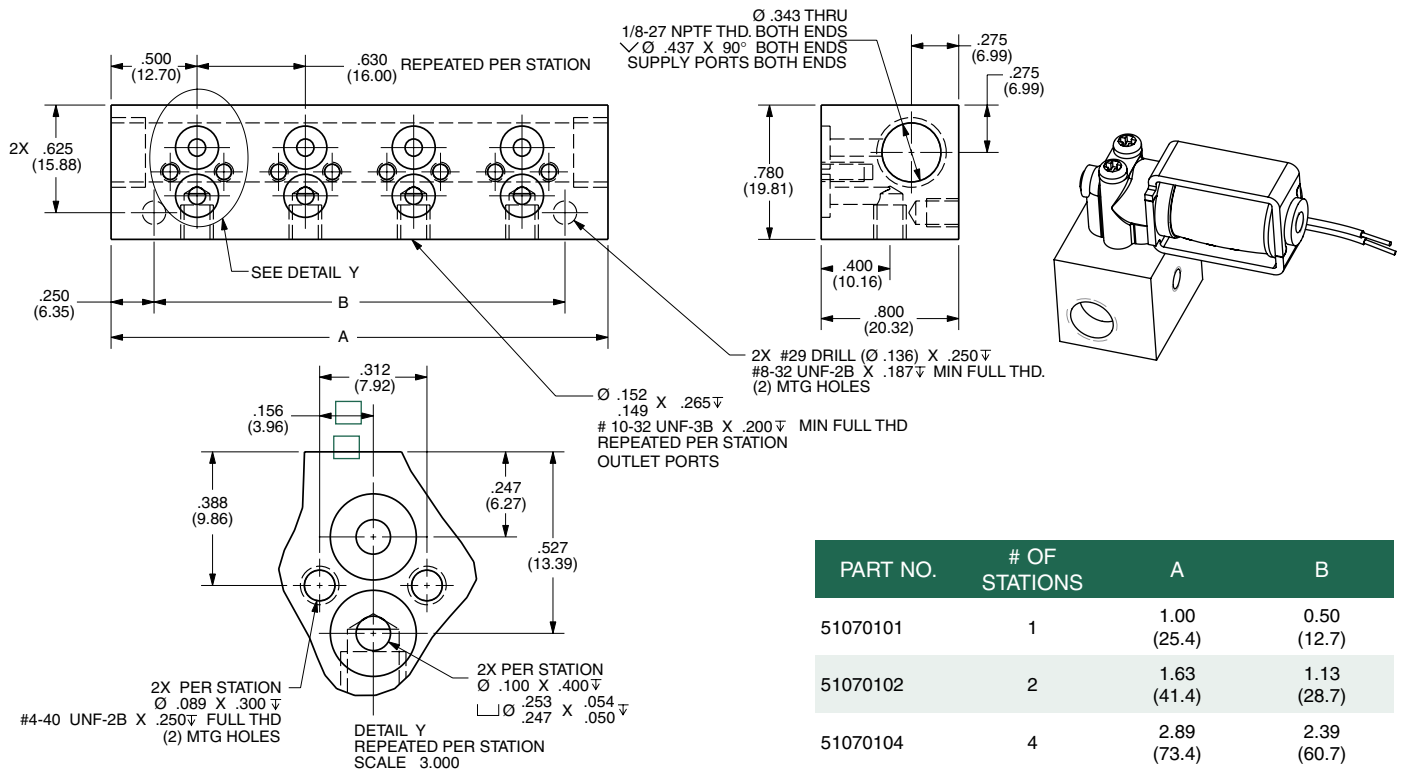


### Inline Mount Valve



Option L

### Manifold Dimensions and Part Numbers (Face Seal Mount)

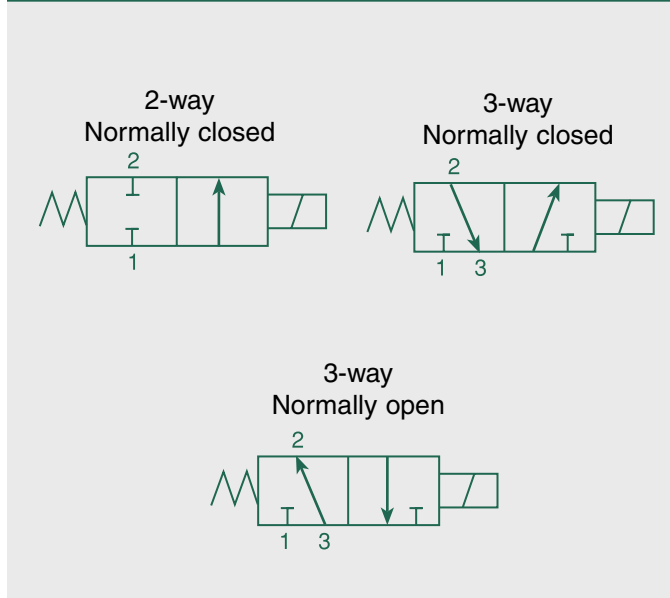


PART NO.	# OF STATIONS	A	B
51070101	1	1.00 (25.4)	0.50 (12.7)
51070102	2	1.63 (41.4)	1.13 (28.7)
51070104	4	2.89 (73.4)	2.39 (60.7)
51070106	6	4.15 (105.4)	3.65 (92.7)
51070108	8	5.41 (137.4)	4.91 (124.7)
51070110	10	6.67 (169.4)	6.17 (156.7)
51070112	12	7.93 (201.4)	7.43 (188.7)

Numbers in parentheses ( ) equivalent to Millimeters or BAR where applicable.



## S Series

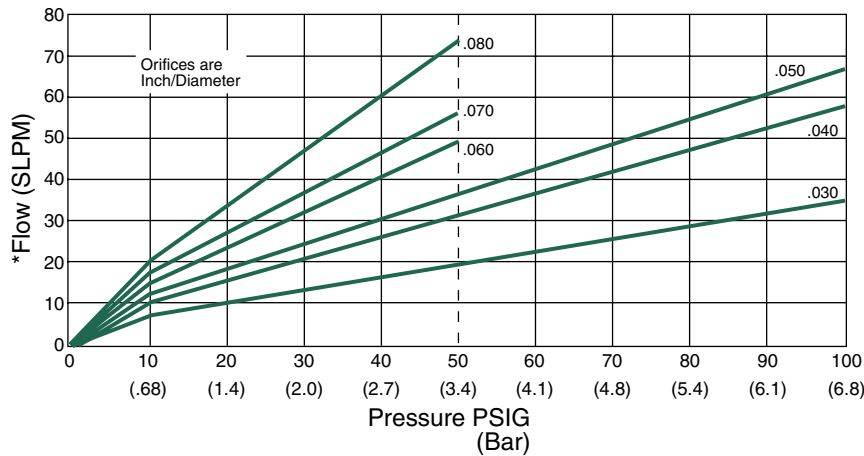


### “S” Series Miniature Stainless Steel Valve

- Tested in excess of 500 Million cycles
- Maximum leakage rate: 0.3 SCCM (Bubble Tight)
- Temperature range: -10°F to 150°F (-23°C to 66°C)
- Class “A” Insulated coils
- All valves 100% factory tested
- #20 AWG & #24 AWG Teflon insulated lead wires
- Tin plated brass .110 x .020 Fast-on terminals
- 10 m (Micron) filtration recommended
- Response time < .010 Seconds
- All valves rated to 28" Hg. Vac
- Oxygen Clean available
- Recommended for use with dry air, lubricated air, vacuum, non-corrosive, non-toxic, non-flammable dry gases.
- Consult factory for other service applications.



### Technical Data



\*Flow (SLPM) Standard liters per minute port 1→2. (Normally closed)  
 NOTE: Flow tests are based on average readings and nominal components.  
 All Outlets are vented to atmosphere. Results may vary.

VALVE SERIES	WATTAGE	ORIFICE	CV	MAXIMUM PRESSURE			
				N.C.		N.O.	
LS	0.65 watt	0.030 (0.75)	0.025	100 PSI	(6.8)	50 PSI	(3.4)
	1.5 watt	0.030 (0.75)	0.025	100 PSI	(6.8)	100 PSI	(6.8)
	1.5 watt	0.040 (1.00)	0.035	100 PSI	(6.8)	50 PSI	(3.4)
HS	1.5 watt	0.050 (1.25)	0.055	100 PSI	(6.8)	50 PSI	(3.4)
	1.5 watt	0.060 (1.50)	0.065	50 PSI	(3.4)	50 PSI	(3.4)
	1.5 watt	0.070 (1.80)	0.075	50 PSI	(3.4)	50 PSI	(3.4)
	1.5 watt	0.080 (2.00)	0.100	40 PSI	(3.4)	40 PSI	(3.4)

Numbers in parentheses ( ) equivalent to Millimeters or BAR where applicable.



## S Series

### How to Order

**H S O 3 M 7 H 0 0 B**

**Power**

H = High Power Coil 1.5 W  
L = Low Power Coil 0.65 W

**Service**

S = Standard valve  
O = Oxygen Cleaned  
F = Food Grade\*

**Port Threads**

O = Standard I0-32 Stud  
M = Metric M5 Stud  
N = 1/8" NPT (mounting option "C")

**Configuration**

2 = 2 Way Valve  
3 = 3 Way Valve

**Mounting**

L = Line Mounted  
M = Manifold Mounted (10-32 stud only)  
C = Cylinder Mounted (10-32, 0.030 orifice only)

**Voltages**

1 = 120 VAC 50/60 Hz  
2 = 230 VAC 50/60 Hz  
3 = 24 VAC 50/60 Hz  
4 = 5 VDC  
5 = 6 VDC  
6 = 12 VDC  
7 = 24 VDC

**Seal Material**

B = Buna-N (Std.)  
V = Viton  
E = EPR  
N = Neoprene

**Port No. 3**

0 = 0.40 (1.00) Std.  
1 = 0.50 (1.25)

**Port No. 1**

0 = 0.030 (0.75) Std.  
1 = 0.040 (1.00)  
2 = 0.050 (1.25)  
3 = 0.060 (1.50)  
4 = 0.070 (1.80)  
5 = 0.080 (2.00)

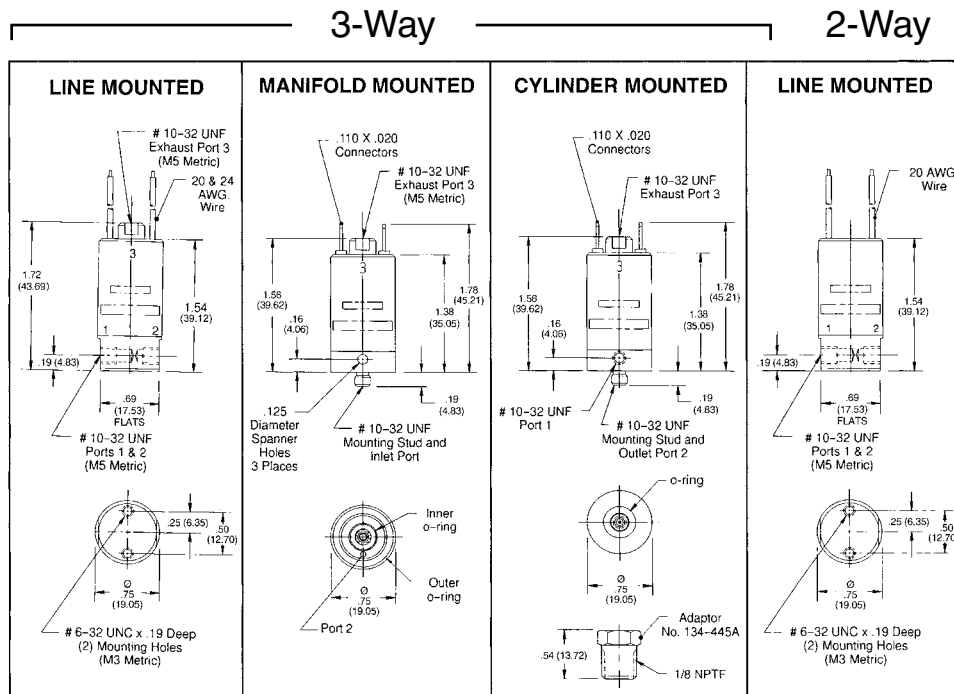
**Connectors**

H = Hardwire (12"/ 20 AWG)  
F = 0.110 Faston  
S = Hardwire (12" / 24 AWG).

Consult chart (page 7) for allowable combinations of wattage orifice size, and pressure range.

\* Note: Food Grade Valves **Must** be manifold mount w/EPR seals only!

### Dimensions



Numbers in parentheses ( ) equivalent to Millimeters or BAR where applicable.

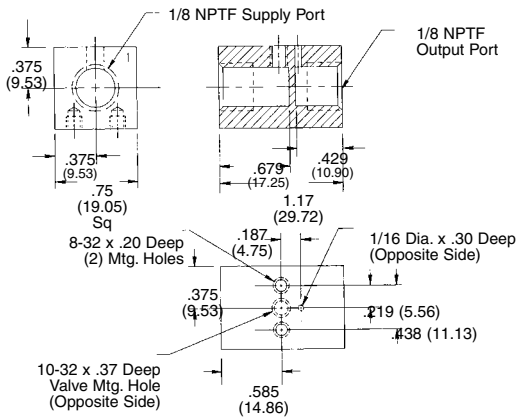




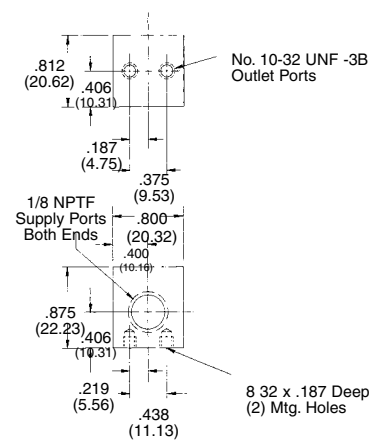
### Manifold Dimensions and Part Numbers (Manifold Mount)

PART NUMBER	NO. OF STATIONS	A	B
106-423	1	1.175	N/A
106-410	2	0.812	N/A
106-411	4	1.593	N/A
106-422	6	2.375 (60.33)	0.845 (21.46)
106-412	8	3.156 (80.16)	1.625 (41.28)
106-413	10	3.937 (99.99)	2.406 (61.11)
106-414	12	4.718 (119.84)	3.187 (80.95)

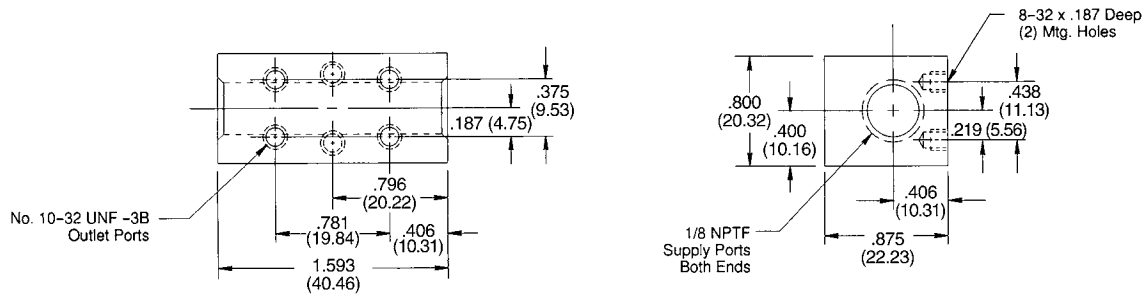
#### SINGLE STATION MANIFOLD No. 106-423



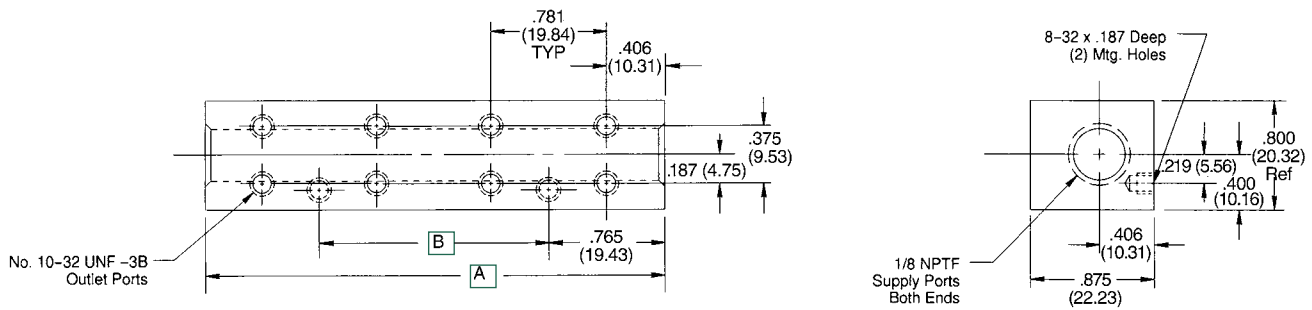
#### 2-STATION MANIFOLD No. 106-410



#### 4-STATION MANIFOLD No. 106-411



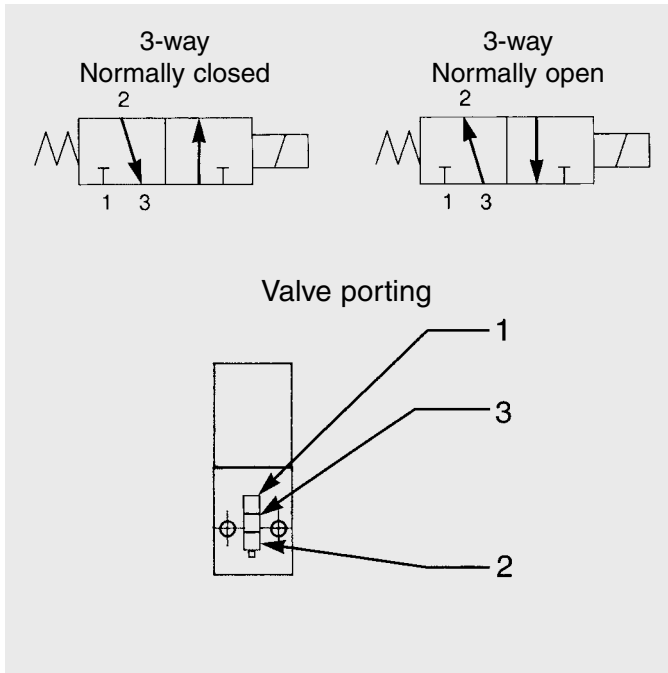
#### MULTI-STATION MANIFOLD



Numbers in parentheses ( ) equivalent to Millimeters or BAR where applicable.



## TM Series



### “TM” Ten Millimeter Miniature Valve

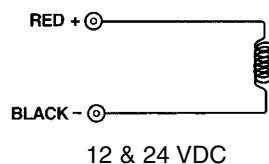
- Tested in excess of 200 Million cycles
- Maximum leakage rate: 0.3 SCCM (Bubble Tight)
- Epoxy Impregnated, Nylon Encapsulated Class “F” continuous duty (ED 100%)
- All valves 100% factory tested
- Circuit board mountable
- All valves rated to 28" Hg. Vac
- Oxygen Clean available
- Female locking connector or hardwire leads available

### Technical Data

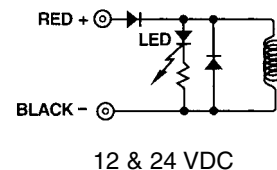
Flow Capacity:	Standard Cv 0.0100 Quick Exhaust Cv 0.0137
Operating Pressure:	Vacuum to 100 PSIG (6.9 Bar)
Operating Temperature:	23° F to 120° F (-5° C to 50° C)
Fluid Temperature:	32° F to 120° F (0° C to 50° C)
Voltage:	12 and 24 VDC
Power:	1.2 Watt (1.35-Watt w/LED)
Response Time:	< .010 Seconds
Filtration:	10 m (Micron) recommended
Wire Gauge:	#24 AWG Teflon Insulated lead wires
Seal Material:	Viton
Service:	Recommended for use with dry air, lubricated air, vacuum, non-corrosive, non-toxic, non-flammable dry gases. Consult factory for other service applications.

### Electrical Circuit Layout

Hardwire Circuit Board Mountable Coils

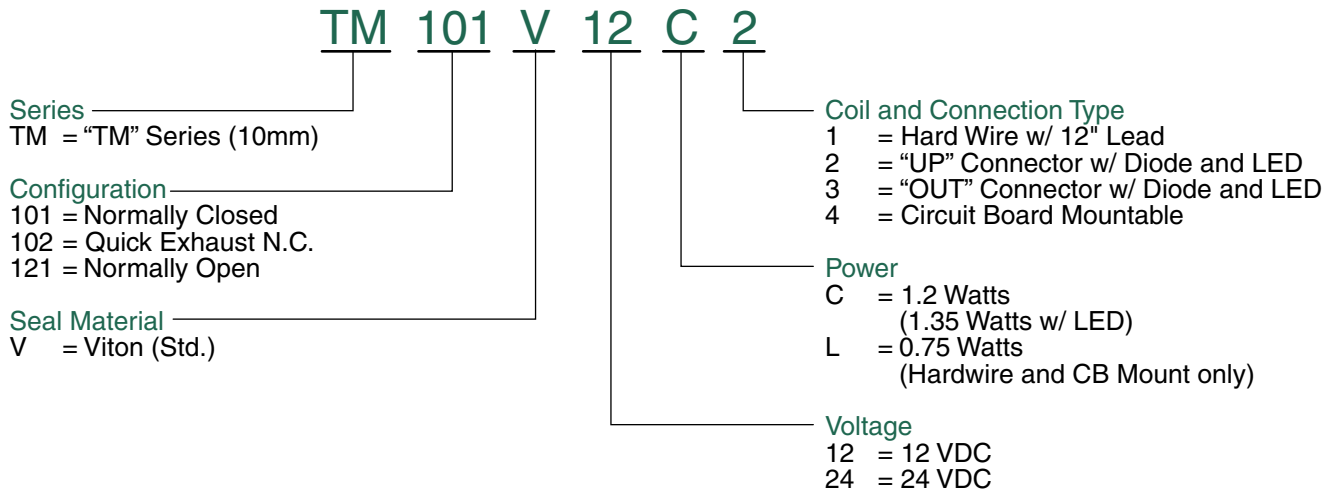


“up” & “out” Coils



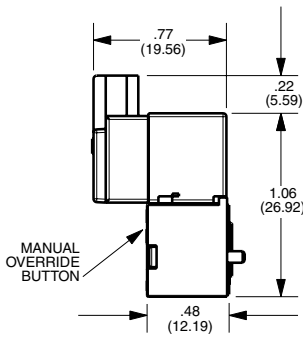


### How to Order

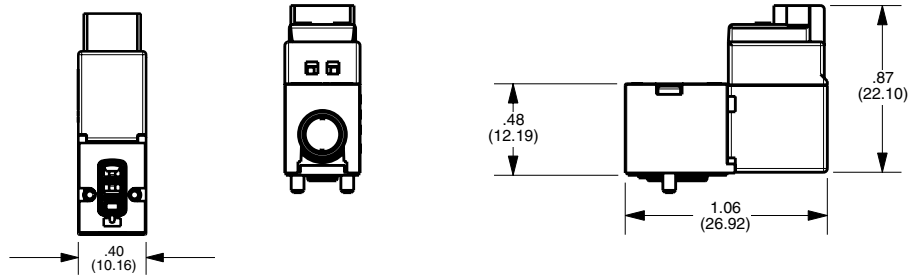


### Dimensions

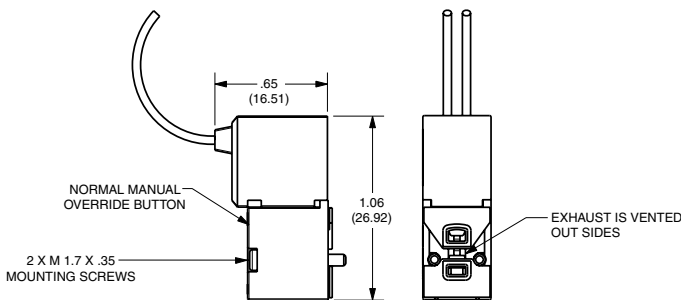
Straight/Out Coil  
with Normally Closed Valve



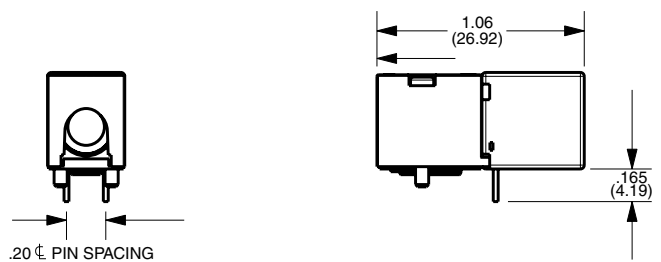
Right Angle/Up Coil



Hardwire Coil  
with Quick Exhaust Valve



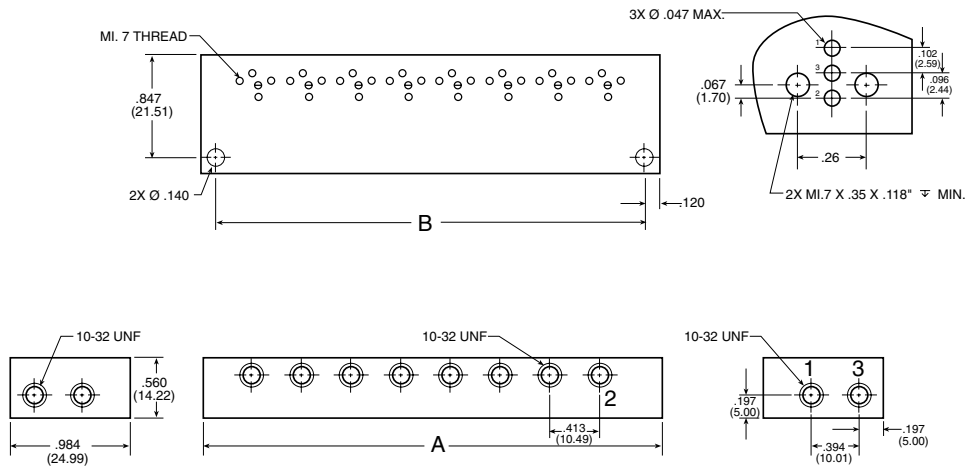
Circuit Board Mountable Coil





## TM Series

### Manifold Dimensions and Part Numbers



#### Manifold Sub Base Overall Dimensions

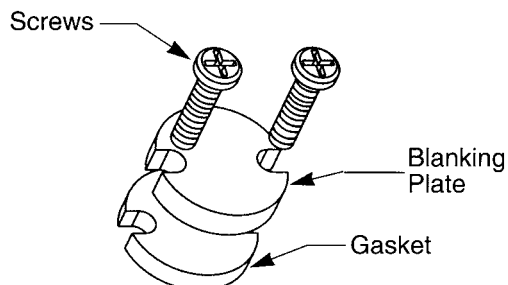
PART NO.	# OF STATIONS	A	B
51030101	1	0.91 (23.1)	0.67 (17.0)
51030102	2	1.32 (33.5)	1.08 (27.4)
51030104	4	2.15 (54.6)	1.91 (48.5)
51030106	6	2.97 (75.4)	2.74 (69.6)
51030108	8	2.97 (75.4)	2.74 (69.6)
51030110	10	4.63 (117.6)	4.39 (111.5)
51030112	12	5.45 (138.4)	5.22 (132.6)

Numatics Miniature Pneumatic Group will assemble valves on manifolds upon request. To specify, add ASM to the end of the manifold part number. Valves are specified separately.

For example: A 4 station assembly

Part#	Qty
51030104ASM	1
TM101V12C1	4

### Blanking Station



Mating Connector Assembly for "out" and "up" coils.

TM10- XX

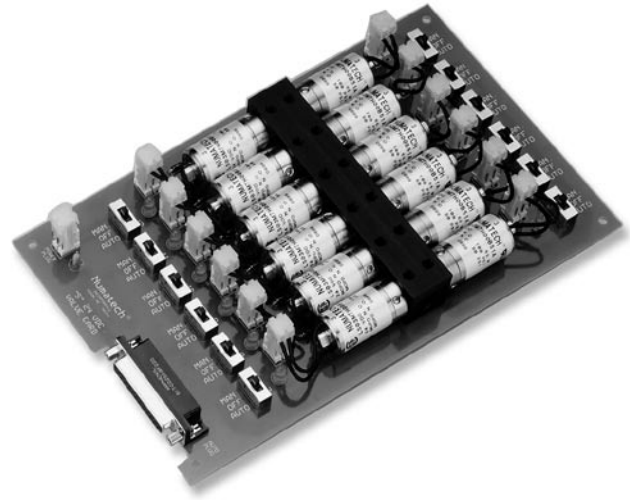
Part #	Wire Length
TM10- <u>12</u>	12" (300mm)
TM10- <u>24</u>	24" (600mm)
TM10- <u>40</u>	40" (1000mm)

\*Part Number 31030005

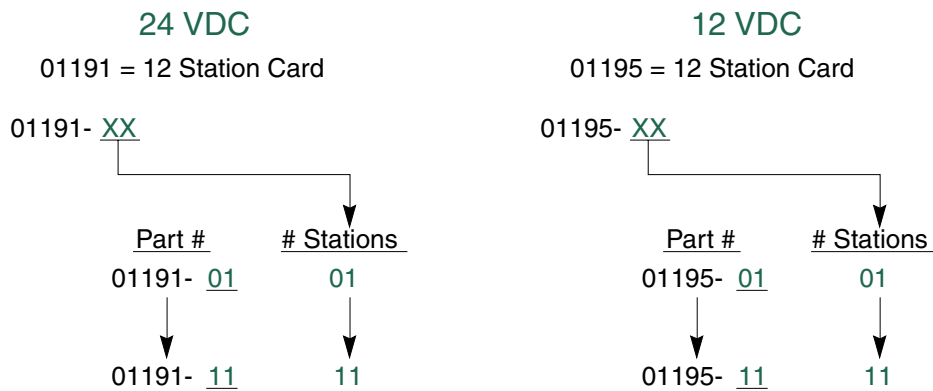


### Circuit Boards - "S" Series Standard

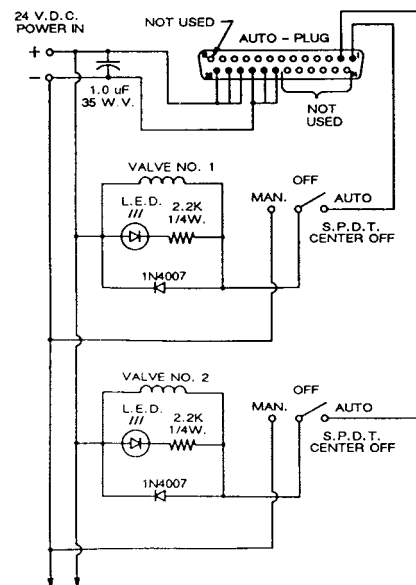
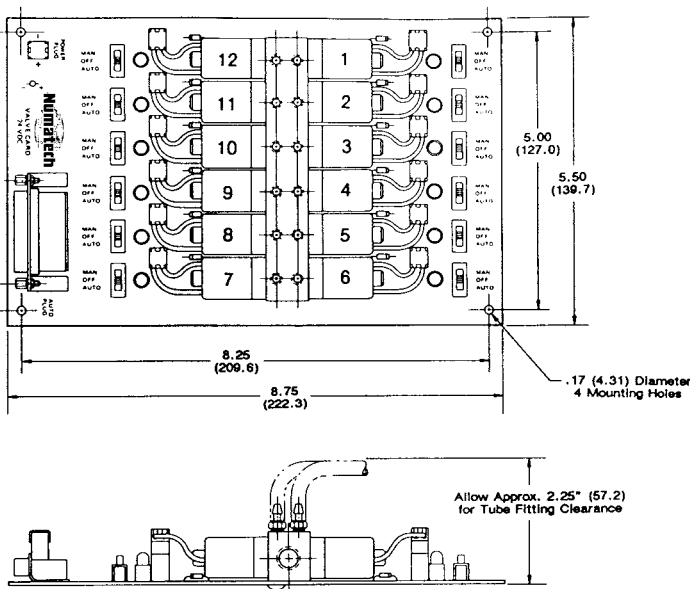
- All stainless steel construction
- High Flow - Cv 0.03 - double the flow of similar valves
- Wide pressure ranges 28" Hg. Vacuum - 100 PSIG
- Unmatched Repeatability
- Multi-fluid compatibility
- Low power draw 0.65 W D.C.
- Cool running
- Fast response time - 5ms
- Durable, Effective, Reliable



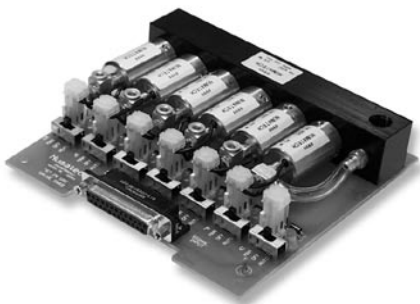
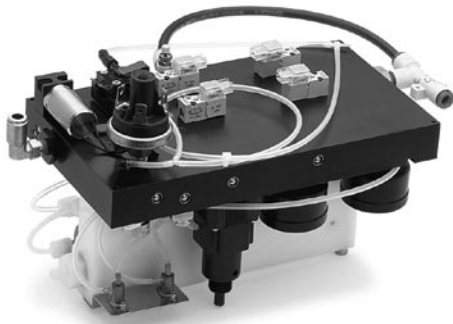
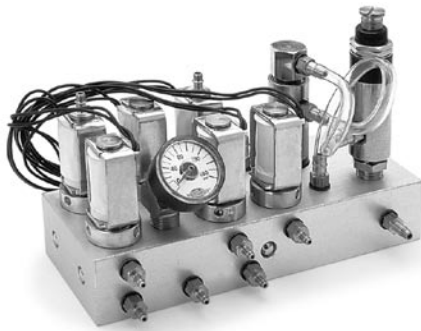
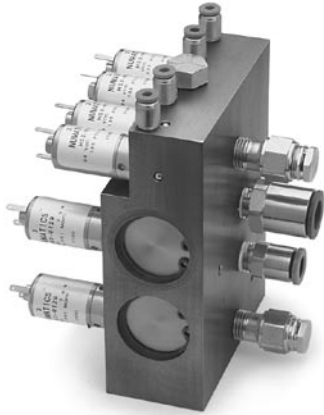
### Model Selection Chart



\*Standard "S" Valve cards utilize LS03MXH00B with electrical connector.



### Specialize in “Value Added” and Custom Built Assemblies



Numatics MPG continues to be “Everywhere you need us to be” when it comes to OEM custom and “Value Added” assemblies. Our commitment towards total product management allows for one on one engineering, innovative design and cost-effective manufacturable products to be provided to our customers. This unique approach encourages close customer/supplier interaction, dramatically reducing the lead-times associated with the process of taking concepts to production.

“We’re everywhere you need us to be”

- Custom Engineering of manifold assemblies
- Serial interfacing
- Custom wire harness assemblies
- Rapid prototype turnaround
- State of the art testing capabilities
- Pioneered in the area of specifically designed plastic valve components
- Special valve performance capabilities
- Application specific valve designs
- Custom labeling
- Custom Circuit boards

# NUMATICS®

*World Class Supplier  
of Pneumatic Components*



## World Headquarters

**Numatics Incorporated**  
Phone: 248-887-4111  
Fax: 248-887-9190

## UNITED STATES

**Numatics – Air Preparation**  
Phone: 810-667-3900  
Fax: 810-667-3902

## Numatics – Valves

Phone: 248-887-4111  
Fax: 248-887-9190

## Numatics – Miniature Valves

Phone: 248-960-1400  
Fax: 248-960-2160

## Numatics – Cylinders

Phone: 615-771-1200  
Fax: 615-771-1201

## Numatics – Rodless Cylinders

Phone: 519-452-1777  
Fax: 519-452-3995

## Numatics – Automation

Phone: 440-934-3200  
Fax: 440-934-2288

## CANADA

**Ontario**  
Numatics, Ltd.  
Phone: 519-452-1777  
Fax: 519-452-3995

## Quebec

Numatics, Ltd.  
Phone: 514-332-6444  
Fax: 514-332-9273

## British Columbia

Numatics, Ltd.  
Phone: 604-574-0401  
Fax: 604-574-3713

## EUROPE

### Germany – European Headquarters

Numatics GmbH  
Phone: 011-49-22 41-31 60-0  
Fax: 011-49-22 41-31 60 40

### Hungary

Numatics Kft.  
Phone: 011-36-13 82 21 35  
Fax: 011-36-12 04 39 47

## EUROPE

**England**  
Numatics Limited  
Phone: 011-44-1525-37 07 35  
Fax: 011-44-1525-38 25 67

### France

Numatics s.a.r.l.  
Phone: 011-33-1 41 21 48 88  
Fax: 011-33-1 41 21 48 89

### Italy

Numatics srl  
Phone: 011-39-030-373 19 99  
Fax: 011-39-030-373 19 81

### Netherlands

Numatics B.V.  
Phone: 011-31-418-65 29 50  
Fax: 011-31-418-65 29 43

### Spain

Numatics Spain S.L.  
Phone: 011-34-93-221 21 96  
Fax: 011-34-93-221 35 14

## AFRICA

**South Africa**  
Numatics SA (Pty) Ltd.  
Phone: 011-27-11-8 65 44 52  
Fax: 011-27-11-8 65 42 90

## LATIN & SOUTH AMERICA

**Mexico**  
Numatics de Mexico S.A. de C.V.  
Phone: 011-52-222-284 6176  
Fax: 011-52-222-284 6179

### Brazil

Valvair Comercial Ltda.  
Phone: 011-55-12-351 2874  
Fax: 011-55-12-351 1958

## ASIA & PACIFIC

**Australia**  
Numatics Australia Pty. Ltd.  
Phone: 011-61-3-95 63 86 00  
Fax: 011-61-3-95 63 85 11

### Taiwan – Asian Headquarters

Numatics Co, Ltd. Asia  
Phone: 011-886-2-29 15 16 05  
Fax: 011-886-2-29 14 18 97

For a comprehensive listing of all Numatics production and distribution facilities worldwide, visit [www.numatics.com](http://www.numatics.com)