

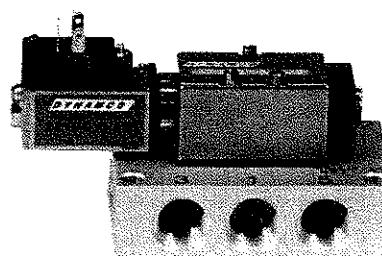
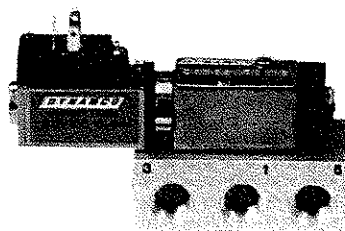
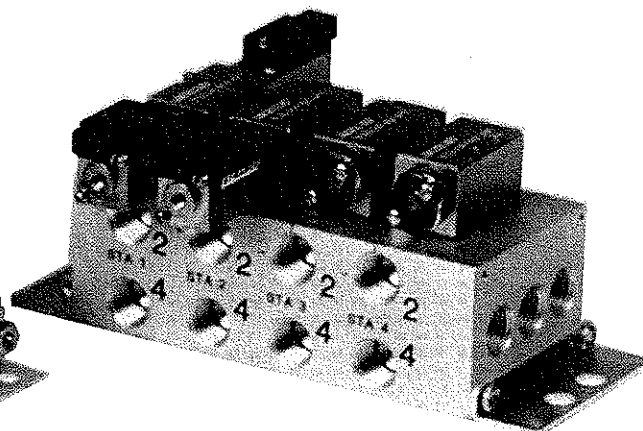
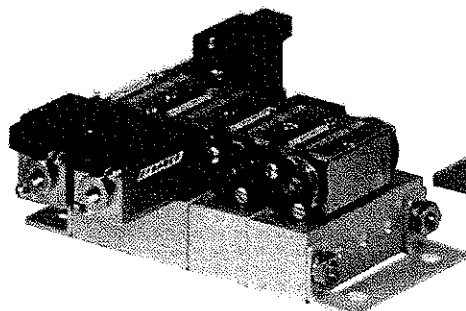
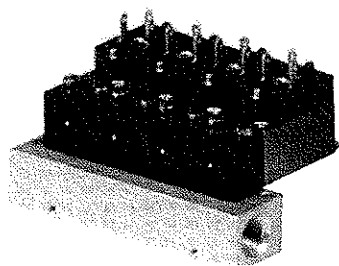
**Dynamco**  
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Catalog DCV94



Your DYNAMCO Distributor



## DASH 1

3 WAY 3/2

0.6 / 2.5 WATT

Cv=.02 / Cv=.04

3 CFM 85 LPM

.004 SEC RESPONSE

100,000,000 CYCLES

DRY OR LUBRICATED  
NO SLIDING SEALS

SEE PAGE 2

## DASH 2

4 WAY 5/2

0.6 WATT

Cv=.12

7 CFM 200 LPM

.005 SEC RESPONSE

100,000,000 CYCLES

DRY OR LUBRICATED  
NO SLIDING SEALS

SEE PAGE 14

## DASH 3

4 WAY 5/2

0.6 / 7 WATT

Cv=.40

31 CFM 886 LPM

.005 SEC RESPONSE

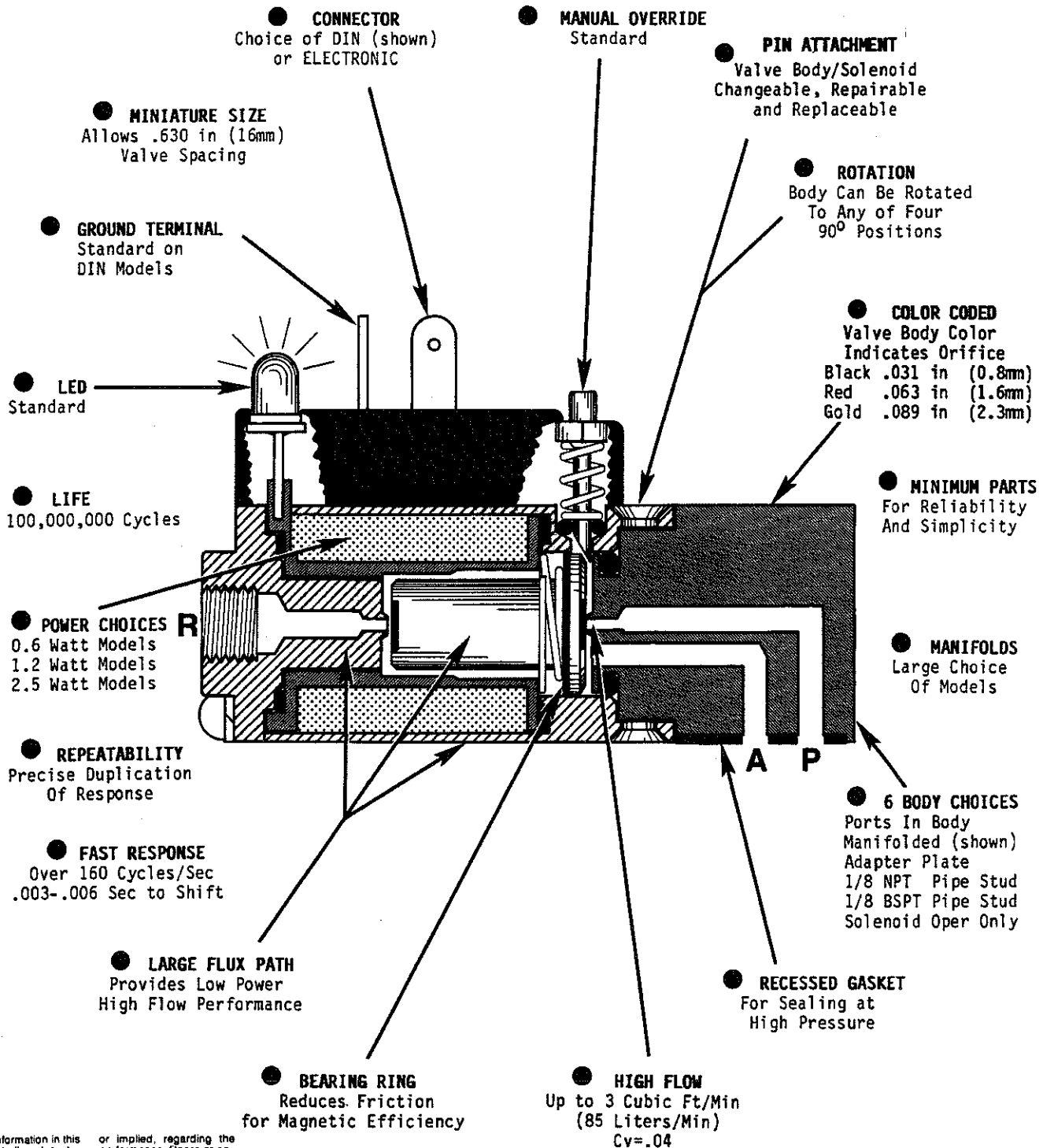
100,000,000 CYCLES

DRY OR LUBRICATED  
NO SLIDING SEALS

SEE PAGE 24

FULL INDEX ON PAGE 13

## DASH 1 QUALITY DESIGN FEATURES

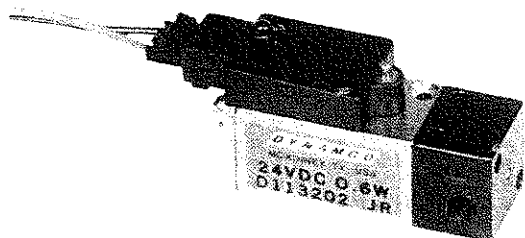


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SEE FOLLOWING PAGES FOR DETAILS

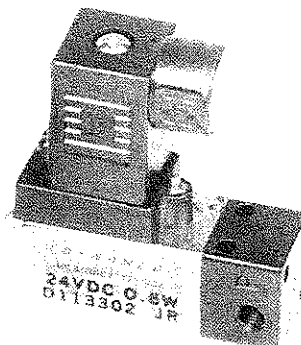
**We Build Pneumatics We Sell Quality**

D113202 Valve  
Shown With 2458-0  
REMOVABLE ELECTRONIC  
CONNECTOR



Valves Shown  
Approximately  
Full Size

D113302 VALVE  
Shown With  
2270-0 REMOVABLE  
DIN CONNECTOR



### INTRODUCTION

DYNAMCO'S DASH 1 valve family is based on a direct solenoid poppet that can be either a three way (3/2) or a two way (2/2) valve. The DASH 1 is a state of the art combination of miniature size, fast response, high flow, low power and long life. In fact the DASH 1 outperforms most competitors in all categories. There are several valve versions in the DASH 1 family. Cataloged models include: ports in body, manifold mount, adapter plate and 1/8 pipe stud output.

### MINIATURE SIZE

DASH 1 can be mounted on .630 inch (16mm) centers. For dimensions see pages 8,10,11 and 12.

### HIGH SPEED

The two most important measurements of valve response are continuous oscillation speed and time to shift from a standing start. DYNAMCO'S DASH 1 will oscillate at over 160 cycles per second using conventional electronics. Certain customers have enhanced electronics and achieve speeds as high as 500 cycles per second. A DASH 1 valve will shift from a standing start in 3 to 6 milliseconds. This time depends on exact valve type, pressure and exact voltage. Higher supply pressure speeds "on" time and slows "off" time. Higher voltage speeds "on" time and lower voltage slows "on" time.

### REPEATABILITY

Often repeatability is more important than speed. Many applications require very consistent operation. DASH 1 has unmatched repeatability when compared with competitors. This consistency continues month after month, year after year over a broad range of temperature and humidity. While this is a difficult parameter to quantify the best "proof" lies in the reputation of our products with long term customers.

### LOW ELECTRICAL POWER

DASH 1 is offered in three power levels. The lowest is 0.6 watt and the highest is 2.5 watt. Page 7 shows a comparison of performance and power requirements. Electrical Specifications are shown on page 6.

### HIGH FLOW

The .063 inch (1.6mm) orifice has a  $C_v$  of .04 and provides air flow of over 3 cubic feet per minute (85 liters per minute). The .031 inch (0.8mm) model has a  $C_v$  of .02 and provides air flow of 1.25 cubic feet per minute (35 liters per minute). See flow curves on page 7.

### LONG LIFE

The design life of DYNAMCO's DASH 1 valves is 100,000,000 cycles. Laboratory tests and field experience have confirmed life well in excess of this. Of course the valve must be operated within its recommended operating specifications.

### LED INDICATOR

DASH 1 valves have a standard LED indicator. When attaching the signal wires to the connector be careful to connect the positive wire (red) to the #1 or + terminal and the negative wire (black) to the #2 or - terminal. If connected backwards the valve will work but the LED will not light. If the LED glows but is dim check the voltage level supplied to the solenoid. It is probably below the minimum rated level.

### MANUAL OVERRIDE

A manual override is standard on all cataloged DASH 1 valves. Depress the operator with your finger or a small screwdriver and the armature is mechanically actuated just as if the solenoid is energized. It is non-locking and spring returned.

### QUALITY

Quality must be present in both design and in manufacturing. A thorough study of the opposite page shows a marked design contrast with competitive valves. Such features make the DASH 1 valve the highest quality design available.

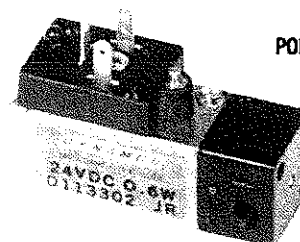
DYNAMCO manufactures practically all the parts for DASH 1 in its own manufacturing facility. Every DASH 1 is given a complete battery of tests at various stages of manufacture. DYNAMCO's thoroughness and attention to detail mean you receive a thoroughly proven product when it is finally given the DYNAMCO name and packed for shipment.

## DASH 1 VALVES

# DYNAMCO

### PORTS IN BODY

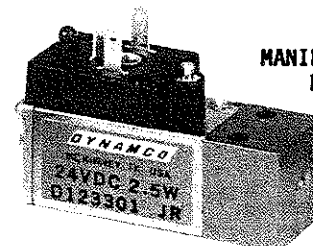
The DASH 1 ports in body valve provides inlet, outlet and exhaust ports suitable for either 10-32 or M5 fittings. There are also two sets of holes provided for mounting the valve to the machine. See drawing on page 8.



PORTS IN BODY VALVE  
D113302 Shown

### MANIFOLD MOUNTING

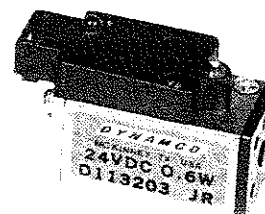
DASH 1 offers a manifold version which can be mounted as close as .630 inch (16mm) center distance. It has a recessed gasket that will not blow out. The DASH 1 valve can be removed from a manifold by unscrewing the two M3 valve mounting screws. See drawings on pages 10, 11 and 12.



MANIFOLD MOUNT VALVE  
D123301 Shown

### ADAPTER MOUNTING

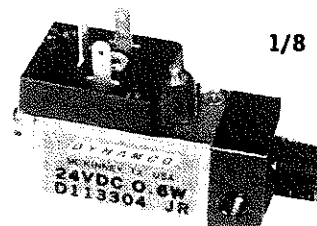
The adapter mounting is useful when you want to mount the shortest length DASH 1 to a flat mounting surface. The adapter is also useful in adapting the DASH 1 as the operator on another valve. See drawing on page 8.



ADAPTER MOUNTING VALVE  
D113203 Shown

### 1/8 PIPE STUD OUTPUT

The DASH 1 valve can be ordered with either a 1/8 NPT or a 1/8 BSPT male stud output. This configuration is ideal for both mounting and making a pneumatic connection to such devices as pneumatic cylinders, actuators and to the pilot port of larger valves. See drawing on page 8.



1/8 PIPE STUD OUTPUT  
D113304 Shown

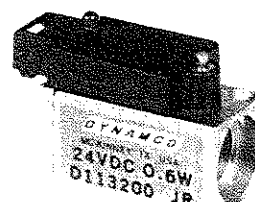
### COLOR CODING

You can tell the orifice size of a DASH 1 valve by the color of the valve body. The color coding system is:

- Black means .031 inch (0.8mm) orifice
- Red means .063 inch (1.6mm) orifice

### FUTURE BODIES AND SPECIAL BODIES

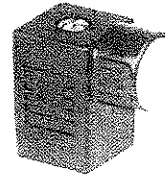
DYNAMCO's unique body attachment design means we can add other valve body configurations in the future. Also if you have a volume requirement DYNAMCO can probably make a special design for your application. Contact DYNAMCO or your authorized distributor for further information.



SOLENOID OPERATOR ONLY  
D113200 Shown

**DIN CONNECTOR**

Use the DIN connector where maximum ruggedness is needed. The terminals on the solenoid operator are also compatible with fast-on type wire terminals. The removable DIN connector must be ordered separately.

**REMOVABLE DIN CONNECTOR P/N 2270-0****ELECTRONIC CONNECTOR**

Use the electronic connector for low profile compact applications. The positive wire is red and the negative wire is black. The removable Electronic Connector must be ordered separately.

**ALTERNATING CURRENT (AC) OPERATION**

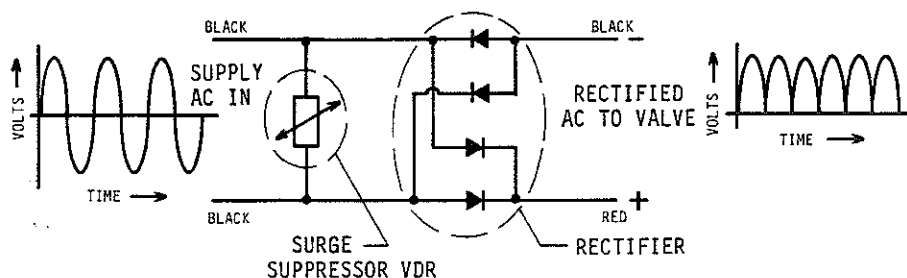
When AC electrical signals are to be connected to a DASH 1 valve (or DASH 2 or DASH 3 valves using a DASH 1 solenoid operator) use one of DYNAMCO's AC lead wires. DYNAMCO's AC lead wires contain a full wave bridge rectifier and a surge suppressor. This converts the AC to rectified AC with circuit protection which is suitable for use with a DASH 1 DC solenoid operator of the same voltage. See schematic below. Note the AC connections have no polarity. The rectified AC is color coded red for + and black for -.

**ELECTRONIC CONNECTOR 16 IN ( 40CM) P/N 2458-0  
80 IN (200CM) P/N 2458-2****AC LEAD WIRES**

For DIN connector applications attach DYNAMCO's AC Lead Wires to the terminal strip of the electronic controller and splice the other ends to a cord leading to the DIN connector. Fast-on terminals can simply be crimped on the valve end of the AC Lead Wires.

**AC LEAD WIRES 16 IN ( 40CM) P/N 2588-7  
80 IN (200CM) P/N 2598-7****AC ELECTRONIC CONNECTOR**

Electronic Connector AC Lead Wires are supplied complete with electronic connector, circuit module and lead wires. The AC ends should be attached to the terminal strip of the electronic controller and the Electronic Connector plugged into a DYNAMCO DASH 1 Solenoid Operator.

**AC ELECTRONIC CONNECTOR 16 IN ( 40CM) P/N 2587-7  
80 IN (200CM) P/N 2597-7****ALTERNATING CURRENT  
CIRCUIT MODULE DIAGRAM**

## DASH 1 VALVES

# DYNAMCO

### NORMALLY CLOSED (NORMALLY NOT PASSING)

The DASH 1 valve is most often applied as a normally closed NC (normally not passing) valve. In this configuration a pneumatic supply should be connected to port P and the output port A should be connected to the device to be pressurized. The exhaust port R is the port at the end of the solenoid. The valve symbol is shown below.

### NORMALLY OPEN (NORMALLY PASSING)

The DASH 1 valve can be used as a normally open NO (normally passing) valve by connecting the supply air to port R in the end of the solenoid and using port A for the output. The valve symbol is shown below.

### VACUUM APPLICATIONS

The DASH 1 valve is suitable for use in vacuum applications as shown on page 7. Connect the vacuum source to port P for normally closed applications and to port R for normally open applications.

### PRESSURE RANGE

DASH 1 valves can be operated over the pressure ranges shown on page 7. Note, in order to achieve the highest operating performance, care should be taken to choose the optimum model for the application.

### TEMPERATURE RANGE

For DASH 1 Models Below 1 Watt  
0° to 150°F (-18° to 65°C)

For DASH 1 Models Above 1 Watt  
0° to 122°F (-18° to 50°C)

### SERVICE, FILTRATION AND LUBRICATION

DASH 1 valves are designed for service on air and inert gasses. DYNAMCO recommends 40 micron filtration. The DASH 1 valve is a direct acting poppet and is very forgiving for contamination. Lubrication is not required but may be used.

### MOUNTING

Dash 1 valves can be mounted in any orientation and still achieve excellent performance.

### ALTERNATIVE VOLTAGES AND POWER LEVELS

DYNAMCO can supply most any DC voltage and lower power levels at reduced operating pressures. If your requirements cannot be met by DYNAMCO's standard Dash 1 valves contact DYNAMCO or any of our authorized distributors throughout the world.

### MATERIALS

Solenoid Housing.....electroless nickel  
Pole Piece.....electroless nickel  
Armature.....430F solenoid stainless  
Seals.....Buna N and Neoprene  
Valve Body.....Anodized Aluminum

ELECTRICAL SPECIFICATIONS			
VOLTAGE (VOLTS)	POWER (WATTS)	RESISTANCE (OHMS)	CURRENT (AMPS)
5*	0.6	45	.111
5*	1.2	23	.210
5*	2.5	10	.500
12*	0.6	260	.050
12*	1.2	120	.100
12*	2.5	60	.185
24*	0.6	1100	.027
24*	1.2	500	.052
24*	2.5	235	.100
115*	2.5	5500	.021

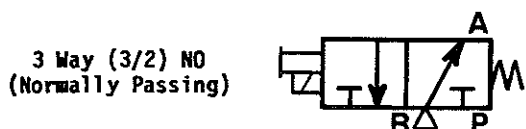
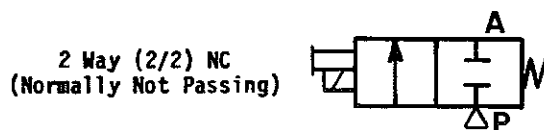
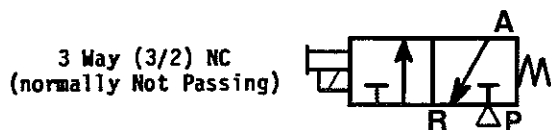
\*The voltage can be AC (50/60 Hz) or DC. For AC operation use AC lead wires (described on page 5) and the proper voltage DC DASH 1 valve. Voltage tolerance is +15% -10% of rated. Solenoids are rated for continuous duty.

### REPLACEMENT SOLENOIDS FOR DASH 1

To determine the model number for a DASH 1 replacement solenoid take the model number of the entire valve and change the last two numbers to 00. Example:

For valve D112304  
Order replacement solenoid D112300

## DASH 1 VALVE SYMBOLS



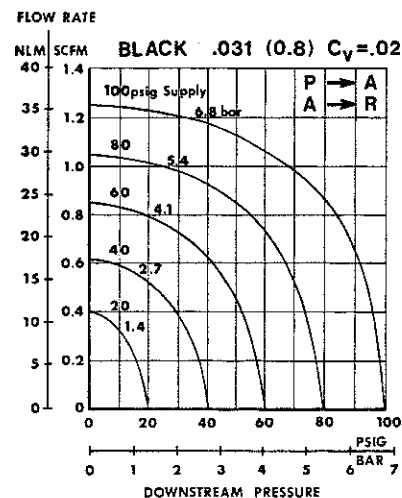
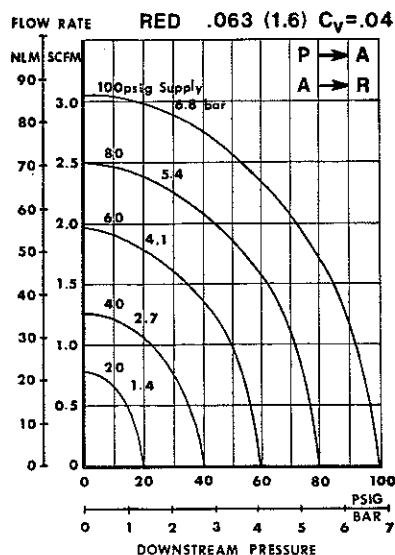
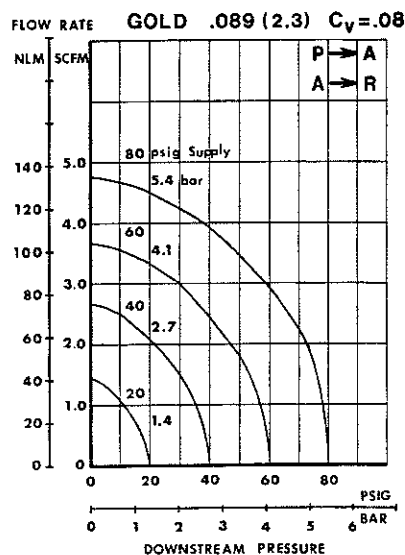
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EXAMPLE: D11 3 3 01				VALVE PORTS AND MOUNTING	
VALVE TYPE (SEE VALVE CHARACTERISTICS BELOW)				SOLENOID OPERATOR ONLY.....00	
VOLTAGE				MANIFOLD MOUNTING.....01	
CONNECTOR				PORTS IN BODY.....02	
5 VDC.....1				ADAPTER BASE.....03	
12 VDC.....2				1/8 NPT MALE OUTPUT.....04	
24 VDC.....3				1/8 BSPT MALE OUTPUT.....05	
115 VDC.....5					
SEE NOTES 2 AND 3					

- NOTES: 1. REMOVABLE CONNECTORS AND LEAD WIRES MUST BE ORDERED SEPARATELY. SEE PAGE 5.  
 2. ALL VOLTAGE CAN BE USED ON EITHER AC OR DC ELECTRICAL SERVICE BY ORDERING THE PROPER AC OR DC LEAD WIRES. SEE PAGE 5.  
 3. 115V ONLY AVAILABLE IN 2.5 WATT MODELS.  
 4. .089 GOLD SERIES NOT AVAILABLE IN 03 ADAPTER STYLE.

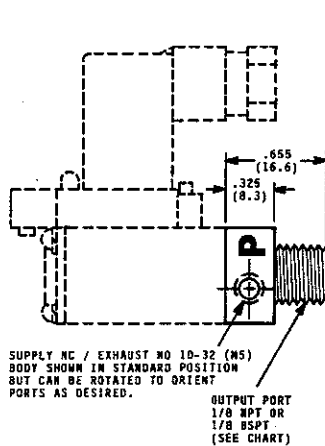
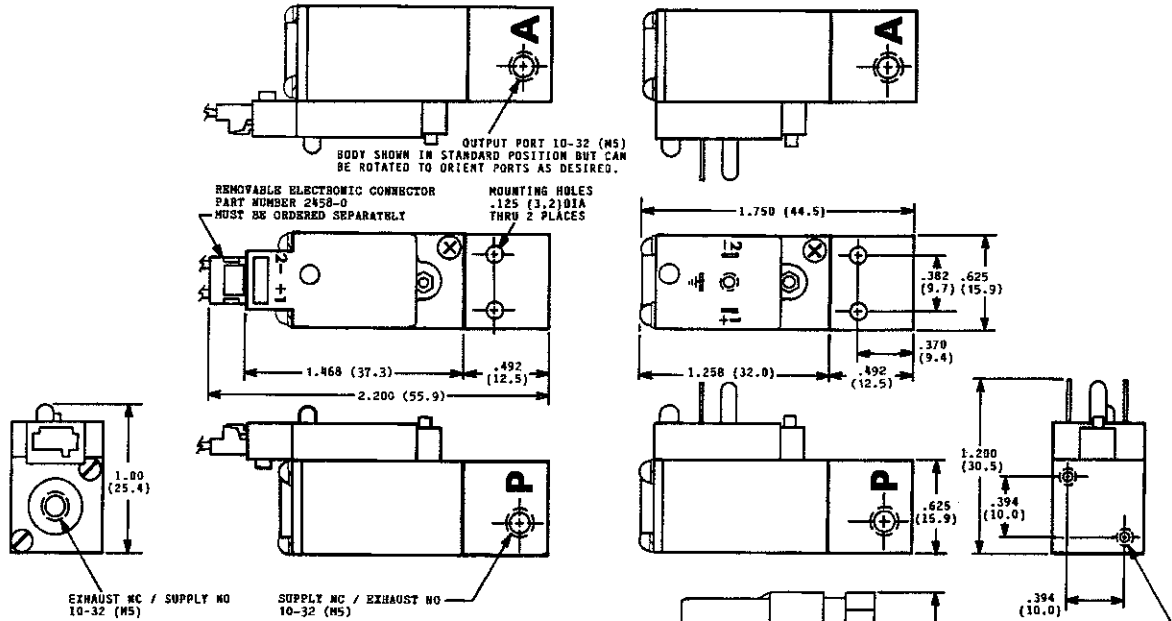
### DASH 1 VALVE CHARACTERISTICS

VALVE TYPE	VALVE FUNCTION	ORIFICE IN (MM)	POWER (WATTS)	REM	NORMALLY OPEN VAC NORMALLY CLOSED											
					BARS							PSIG				
					7	6	5	4	3	2	1	0	1	2	3	4
D11	3 WAY (3/2)	.031(0.8)	0.6	BLACK												
D12	3 WAY (3/2)	.062(1.6)	2.5	RED												
D13	3 WAY (3/2)	.062(1.6)	1.2	RED												
D14	3 WAY (3/2)	.031(0.8)	0.6	BLACK												
D15	3 WAY (3/2)	.062(1.6)	2.5	RED												
D16	3 WAY (3/2)	.031(0.8)	2.5	BLACK												
D1A	2 WAY (2/2)	.031(0.8)	0.6	BLACK												
D1B	2 WAY (2/2)	.062(1.6)	2.5	RED												
D1C	2 WAY (2/2)	.062(1.6)	1.2	RED												
D1F	2 WAY (2/2)	.031(0.8)	2.5	BLACK												
D17	3 WAY (3/2)	.031(0.8)	0.3	BLACK												
D18	3 WAY (3/2)	.062(1.6)	0.6	RED												
D19	3 WAY (3/2)	.089(2.3)	1.2	GOLD												
D1N	3 WAY (3/2)	.089(2.3)	1.2	GOLD												
D1G	3 WAY (3/2)	.031(0.8)	0.3	BLACK												
D1H	3 WAY (3/2)	.031(0.8)	0.3	BLACK												
D1J	3 WAY (3/2)	.062(1.6)	1.2	RED												
D1K	3 WAY (3/2)	.062(1.6)	2.5	RED												
D1L	3 WAY (3/2)	.089(2.3)	2.5	GOLD												
D1M	3 WAY (3/2)	.089(2.3)	2.5	GOLD												



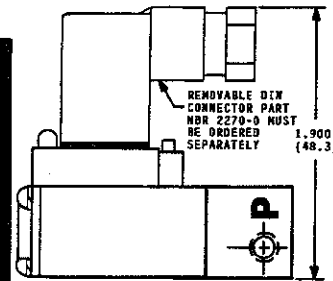
# DASH 1 VALVES

# DYNAMCO



DASH 1 VALVE BODY 1/8 PIPE STUD		
PART NUMBER	ORIFICE SIZE	PIPE THREAD
2523-4	.031	1/8 NPT
BLACK	(0.8)	
2524-4	.063	1/8 NPT
RED	(1.6)	
2523-5	.031	1/8 BSPT
BLACK	(0.8)	
2524-5	.063	1/8 BSPT
RED	(1.6)	

NOTE: PART NUMBER IS FOR BODY ONLY IT DOES INCLUDE 910-1 O-RING AND 626-6 SCREWS.

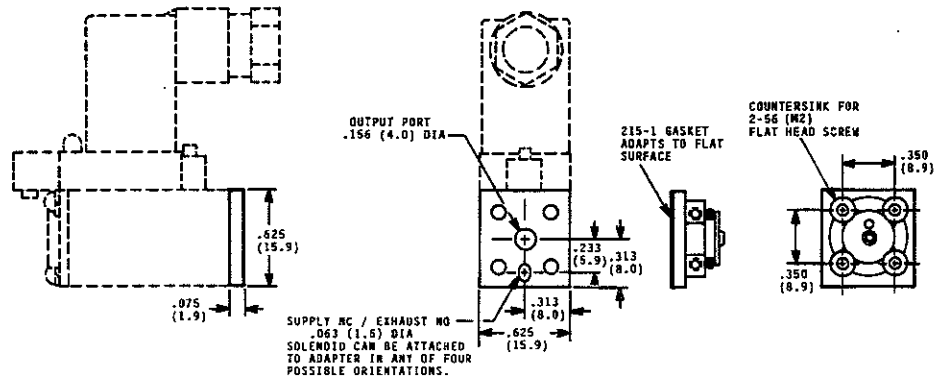


DASH 1 VALVE BODY PORTS IN BODY	
PART NUMBER	ORIFICE SIZE
2523-2	.031
BLACK	(0.8)
2524-2	.063
RED	(1.6)

NOTE: PART NUMBER IS FOR BODY ONLY IT DOES INCLUDE 910-1 O-RING AND 626-6 SCREWS.

DASH 1 VALVE ADAPTER PLATE	
PART NUMBER	ORIFICE SIZE
2523-3	.031
BLACK	(0.8)
2524-3	.063
RED	(1.6)

NOTE: PART NUMBER IS FOR ADAPTER ONLY IT DOES INCLUDE 910-1 O-RING, 626-6 SCREWS, 215-1 GASKET AND 624-8 SCREWS



DIMENSIONS SHOWN IN INCHES (MM)

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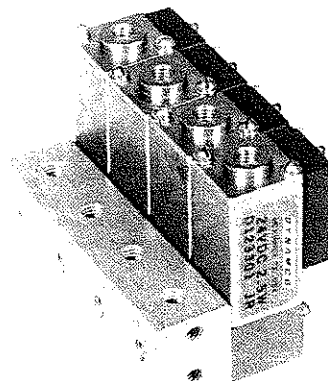


**MANIFOLDS**

There are three styles of manifolds cataloged in the DASH 1 family. Drawings, model numbers and dimensions are shown on pages 10, 11 and 12.

**10-32 (M5) SUPPLY MANIFOLD**

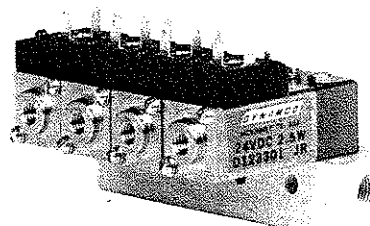
This manifold is designed for smaller applications of up to 6 valves. The supply can be fed from both ends to provide adequate air flow. There is also an auxiliary gallery that can be used to capture the exhaust of the valves by making a tubing connection to the auxiliary gallery. Part numbers and dimensions are shown on page 10.



**4 STATION 10-32 (M5) SUPPLY MANIFOLD**  
Shown With 4 Each D123301 Valves

**1/8 NPT OR 1/8 BSPP SUPPLY SINGLE SIDED**

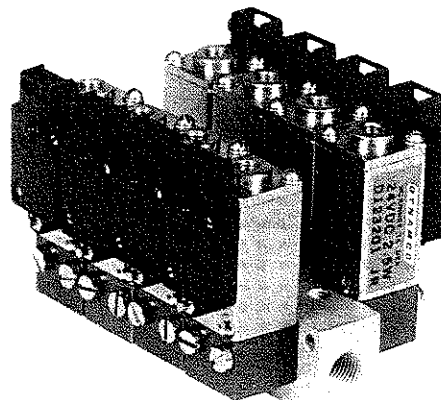
This manifold also allows supply from both ends. Because of space limitations there is no provision for capturing the exhaust. Part numbers and dimensions are shown on page 11.



**4 STATION 1/8 PIPE SUPPLY  
SINGLE SIDED MANIFOLD** Shown  
With 4 Each D123301 Valves

**1/8 NPT OR 1/8 BSPP SUPPLY DOUBLE SIDED**

This manifold is similar to the single sided but allows valves to be mounted on both sides of the manifold. Because of space limitations there is no provision for capturing the exhaust. Part numbers and dimensions are shown on page 12.



**8 STATION 1/8 PIPE SUPPLY  
DOUBLE SIDED MANIFOLD** Shown  
With 8 Each D123201 Valves

**2550-0 BLANK STATION COVER**

Order part number 2550-0 for the complete blank station cover assembly. The assembly consists of:

- 2550-1 Blank Station Cover
- 2677-1 M3 Machine Screws (2 pieces)
- 2486-0 Gasket



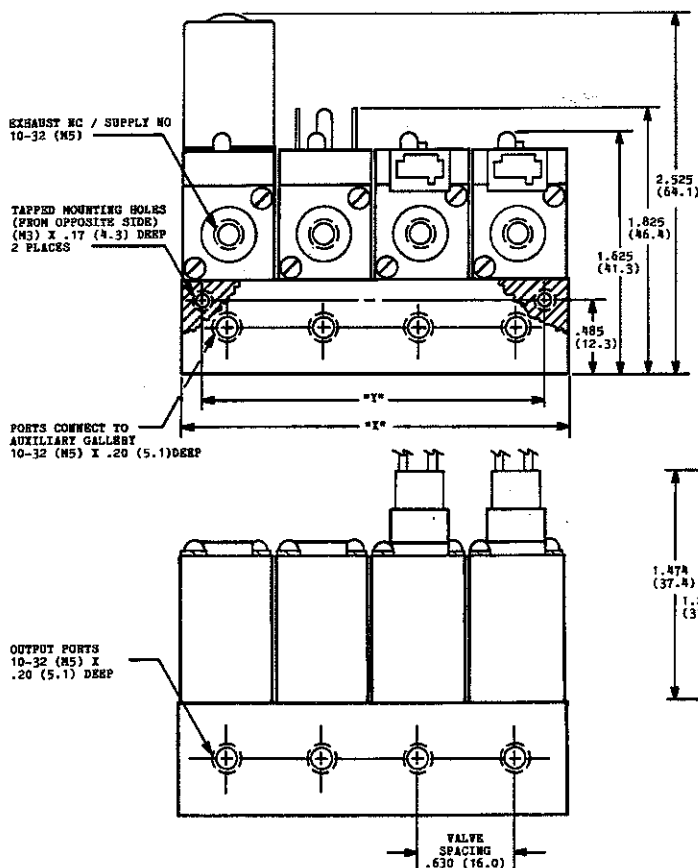
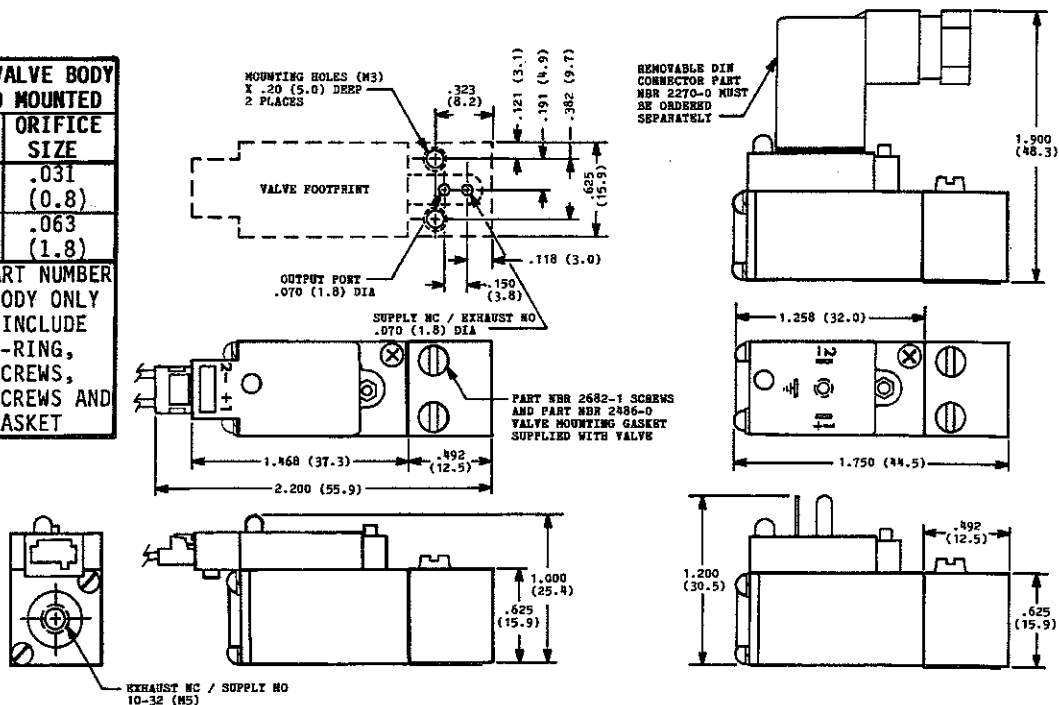
# DASH 1 MANIFOLDS

# DYNAMCO

## DASH 1 MANIFOLD MOUNTED VALVE

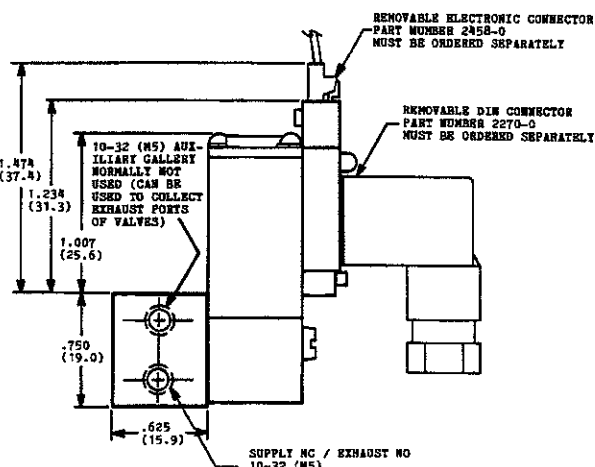
DASH 1 VALVE BODY MANIFOLD MOUNTED	
PART NUMBER	ORIFICE SIZE
2523-1	.031 BLACK (0.8)
2524-1	.063 RED (1.8)

NOTE: PART NUMBER  
IS FOR BODY ONLY  
IT DOES INCLUDE  
910-1 O-RING,  
626-6 SCREWS,  
2682-1 SCREWS AND  
2486-0 GASKET



10-32 (M5) SINGLE SIDED MANIFOLD

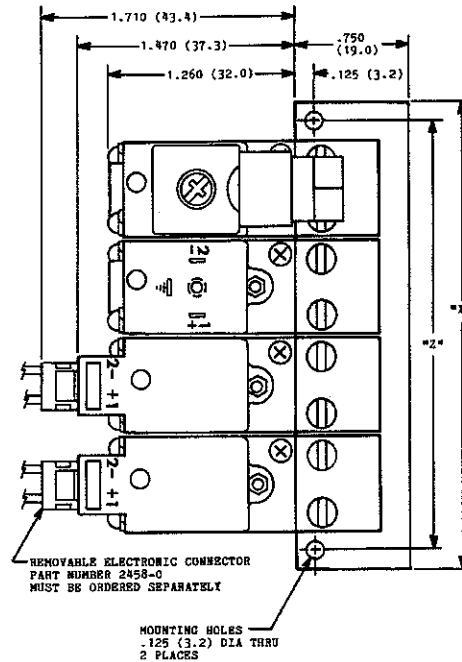
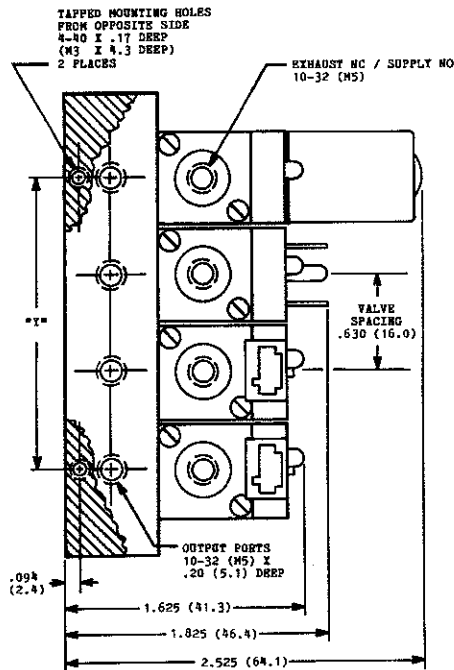
DASH 1 MANIFOLD (M5) 10-32 SINGLE SIDED			
PART NUMBER	NBR STA	"X"	"Y"
2529-2	2	1.260 (32.0)	1.008 (25.6)
2529-3	3	1.890 (48.0)	1.638 (41.6)
2529-4	4	2.520 (64.0)	2.268 (57.6)
2529-5	5	3.150 (80.0)	2.898 (73.6)
2529-6	6	3.780 (96.0)	3.528 (89.6)



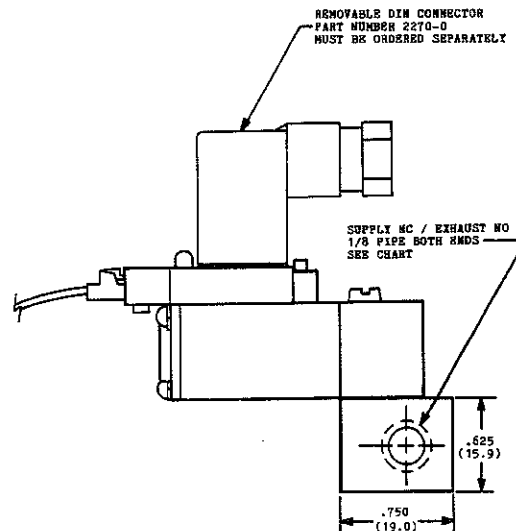
DIMENSIONS SHOWN IN INCHES (MM)

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### 1/8 PIPE SINGLE SIDED MANIFOLD

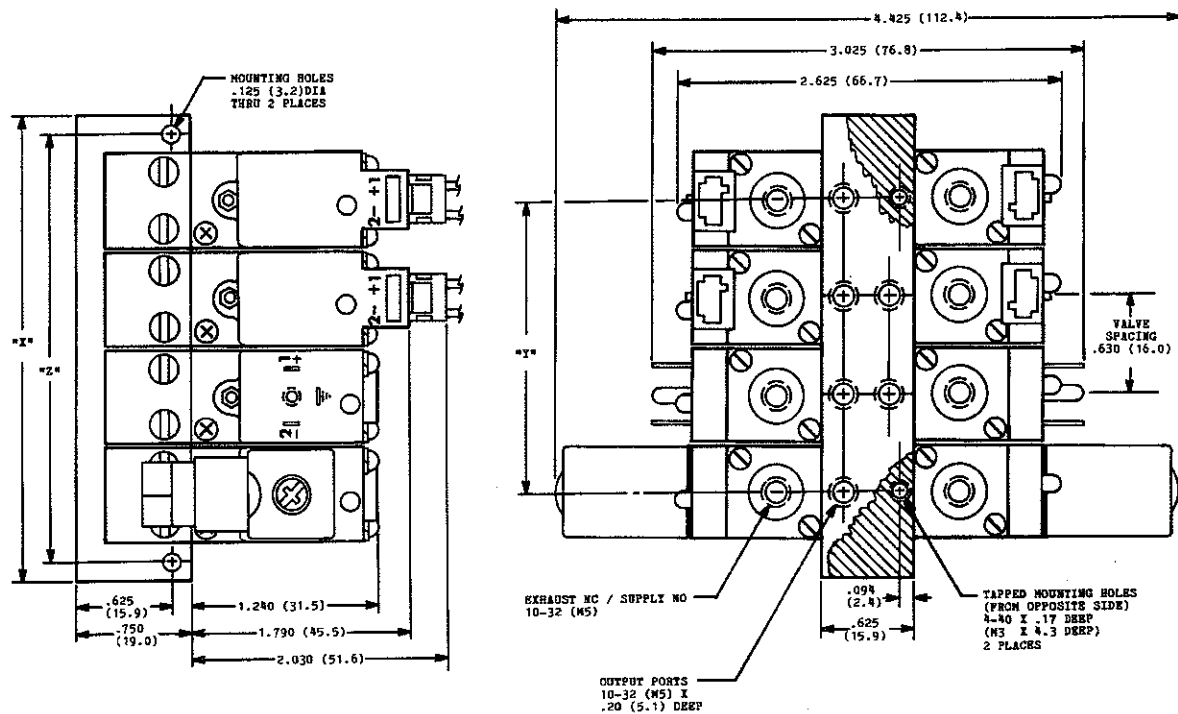


DASH 1 MANIFOLD 1/8 PIPE SUPPLY SINGLE SIDED					
NPT P/N	BSPP P/N	NBR STA	"X"	"Y"	"Z"
2511-2	2553-2	2	1.760 (44.7)	.630 (16.0)	1.510 (38.4)
2511-4	2553-4	4	3.020 (76.7)	1.890 (48.0)	2.770 (70.4)
2511-6	2553-6	6	4.280 (108.7)	3.150 (80.0)	4.030 (102.4)
2511-8	2553-8	8	5.540 (140.7)	4.410 (112.0)	5.290 (134.4)
2512-0	2554-0	10	6.800 (172.7)	5.670 (144.0)	6.550 (166.4)

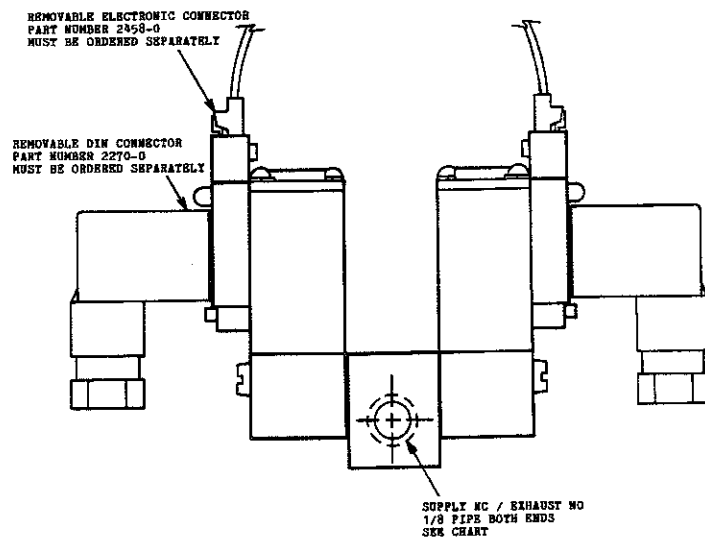


DIMENSIONS SHOWN IN INCHES (MM)

1/8 PIPE DOUBLE SIDED MANIFOLD



DASH 1 MANIFOLD 1/8 PIPE SUPPLY DOUBLE SIDED					
NPT P/N	BSPP P/N	NBR STA	"X"	"Y"	"Z"
2531-4	2555-4	4	1.760 (44.7)	.630 (16.0)	1.510 (38.4)
2531-8	2555-8	8	3.020 (76.7)	1.890 (48.0)	2.770 (70.4)
2532-2	2556-2	12	4.280 (108.7)	3.150 (80.0)	4.030 (102.4)

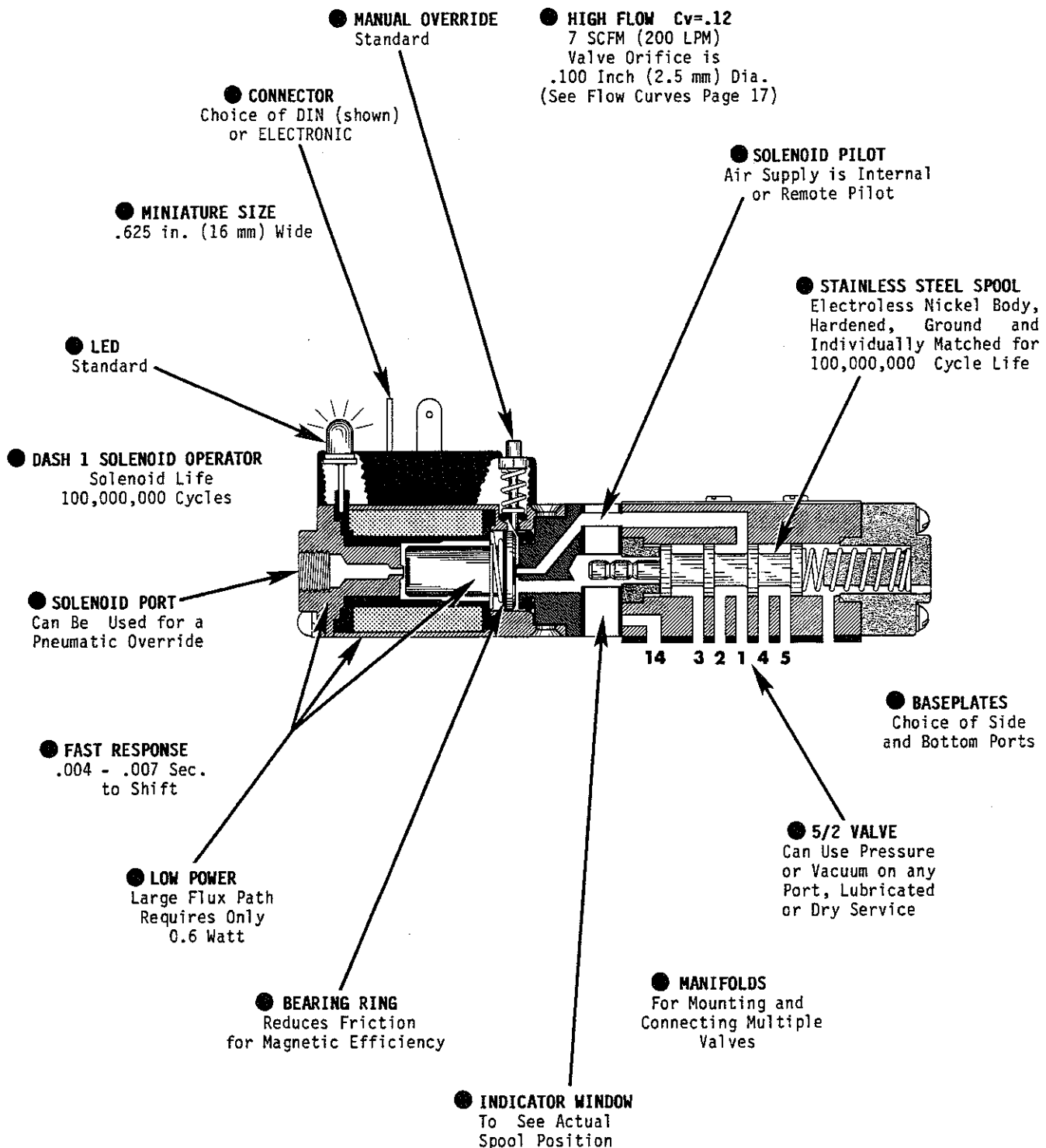


DIMENSIONS SHOWN IN INCHES (MM)

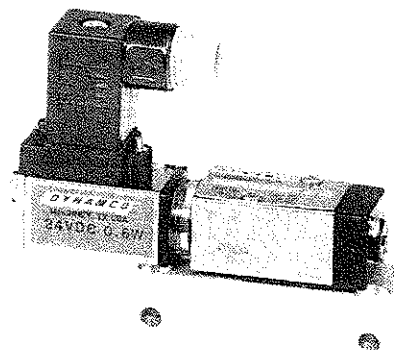
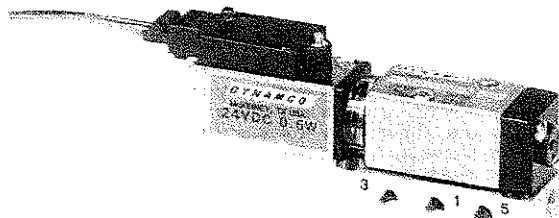
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## DASH 2 PILOT OPERATED SOLENOID VALVE QUALITY DESIGN FEATURES



D2532KLO DASH 2 SINGLE POS SOLENOID ELECTRONIC  
2592-0 10-32 (M5) SIDE PORTED BASE  
2458-0 REMOVABLE ELECTRONIC CONNECTOR



D2533KLO DASH 2 SINGLE POS SOLENOID DIN  
2430-0 10-32 (M5) BOTTOM PORTED BASE  
2270-0 REMOVABLE DIN CONNECTOR

#### VALVE BODY AND SPOOL DESIGN

There are no moving seals in the DASH 2 valve! The DASH 2 is a metal to metal lapped spool valve. Metal to metal valves can be fussy and require extremely fine filtration. With DYNAMCO this is not true because our design is different. We do not use the same metal for the body and the spool. (A good bearing design uses different metals and hardnesses between moving parts.) DYNAMCO controls the clearances between the body and spool by individually match fitting each spool and body to achieve a proper floating air bearing. The clearance has a narrow range between the minimum and maximum that every valve must achieve. The thermal expansion coefficients of the body and spool are the same so the clearance stays the same over a wide range of temperatures.

#### MINIATURE SIZE AND HIGH FLOW

DASH 2 valves are .625 inches (16mm) wide and yet have a  $C_v$  of .12 that will flow over 7 SCFM (200 Liters/Min). See Flow Curves on page 17.

#### SPEED

DASH 2 valves are extremely fast. The pilot operated solenoid DASH 2 will shift in 4 to 7 milliseconds. The higher the pressure the faster the shift time. The lower the voltage from rated voltage the slower the response time.

#### REPEATABILITY

In DYNAMCO's DASH 2 valves virtually all friction has been eliminated. The only force on the spool is the spring and the air pressure from the solenoid pilot. Valves with moving seals not only have friction but it changes with lubrication, moisture, temperature, etc. DYNAMCO valves respond the same on Monday morning when plants and machines are cold and on Friday afternoon when machines are hot and have been running all week.

#### LOW ELECTRICAL POWER REQUIREMENTS

The very low 0.6 watt power consumption of the pilot operated solenoid allows DASH 2 valves to be controlled by almost any electronic control.

#### LIFE

The design life of DYNAMCO's DASH 2 valves is well in excess of 100,000,000 cycles. This performance has been thoroughly proven in laboratory tests and field performance.

#### LED INDICATOR

DASH 2 valves have a bright red LED as a standard feature. The red signal wire should be connected to the #1 or + terminal and the black wire should be connected to the #2 or - terminal. If connected backwards the valve will work but the LED will not light. If the LED glows but is dim the signal voltage is probably low.

#### SPOOL INDICATOR WINDOW

The spool indicator window shows the physical position of the spool. Having both the LED indicator and indicator window is invaluable in setting up and trouble shooting machines.

#### SOLENOID PILOT AIR

The DASH 2 valve can be ordered with a main supply connection or a remote pilot connection. Also the configuration can be switched in the field without any additional parts.

#### PNEUMATIC OVERRIDE

The solenoid operator port can be used for a pneumatic override. A 3 way (3/2) signal will shift the valve spool against the return spring (or detent in a double solenoid).

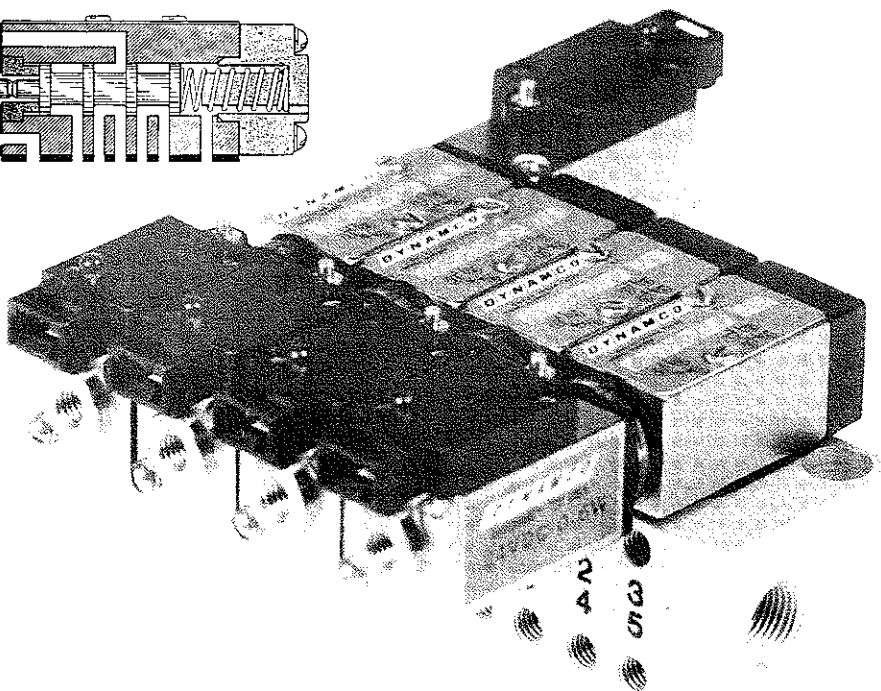
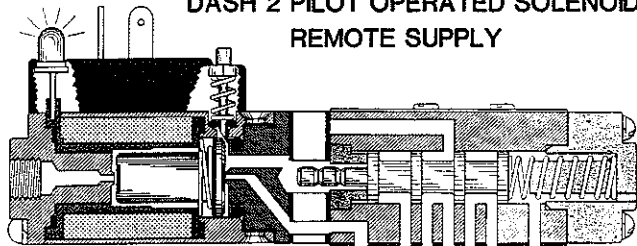
#### QUALITY

Quality must be present in both design and in manufacturing. A thorough study of the opposite page shows a marked design contrast with competitive valves. Such features make the DASH 2 valve the highest quality design available. DYNAMCO manufactures virtually all the parts for DASH 2 valves in our manufacturing facility. Every DASH 2 valve is given a battery of tests at various stages of manufacture. DYNAMCO's thoroughness and attention to detail means you receive a thoroughly proven product when it is finally given the DYNAMCO name and packed for shipment.

## DASH 2 VALVES

# DYNAMCO

### DASH 2 PILOT OPERATED SOLENOID REMOTE SUPPLY



1466-4 MANIFOLD 4 STATION 10-32 (M5) PORTS  
3 VALVES D2532KLO DASH 2 SINGLE POS SOLENOID ELECTRONIC  
1 VALVE D2632320 DASH 2 DOUBLE POS SOLENOID ELECTRONIC

ELECTRICAL SPECIFICATIONS				REPLACEMENT SOLENOIDS	
VOLTAGE (VOLTS)	POWER (WATTS)	RESISTANCE (OHMS)	CURRENT (AMPS)	ELECTRONIC	DIN
5*	0.6	45	.111	D111200	D111300
12*	0.6	260	.050	D112200	D112300
24*	0.6	1100	.027	D113200	D113300
115*	2.5	5500	.021	D115200	D115300

\*The voltage can be AC (50/60 Hz) or DC. For AC operation use AC lead wires (described on page 5) and the proper voltage DC DASH 2 valve. Voltage tolerance is +15% -10% of rated. Solenoids are rated for continuous duty.

#### TEMPERATURE RANGE

For DASH 2 Models below 1 watt:  
0° to 150°F (-18° to 65°C)  
For DASH 2 Models above 1 watt:  
0° to 122°F (-18° to 50°C)

#### MOUNTING

Generally DASH 2 POS valves may be mounted in any orientation. DYNAMCO recommends mounting DASH 2 valve spools horizontal if vibration is present.

#### MATERIALS

Valve Body.....Hardened Electroless Nickel  
Valve Spool.....440F Hardened Stainless  
Springs.....302 Stainless Steel  
Seals.....Buna N and Polyurethane  
Indicator Window.....Acrylic  
Spring Housing.....Delrin  
Solenoid Adapter Plate.....Anodized Aluminum  
Solenoid Housing/Pole Piece.....Electroless Nickel  
Armature.....430F Stainless Steel  
Coil Form.....Glass Filled Nylon

#### PRESSURE RANGE

Spool Valve.....vacuum to 100 psi (6.9 Bar)  
Min Std Solenoid Pilot Press.....20 psi (1.4 Bar)  
For lower pressure models contact DYNAMCO.

#### SERVICE, FILTRATION AND LUBRICATION

DASH 2 valves are designed for service on air and inert gasses. DYNAMCO recommends 5 micron filtration. Many of our customers get excellent service using 20 micron filtration. Lubrication is not required but may be used.

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### DASH 2 POS MODEL NUMBERING SYSTEM

EXAMPLE: D2 5 33 KL 0

**VALVE SERIES**  
Dash 2 Valve.....D2

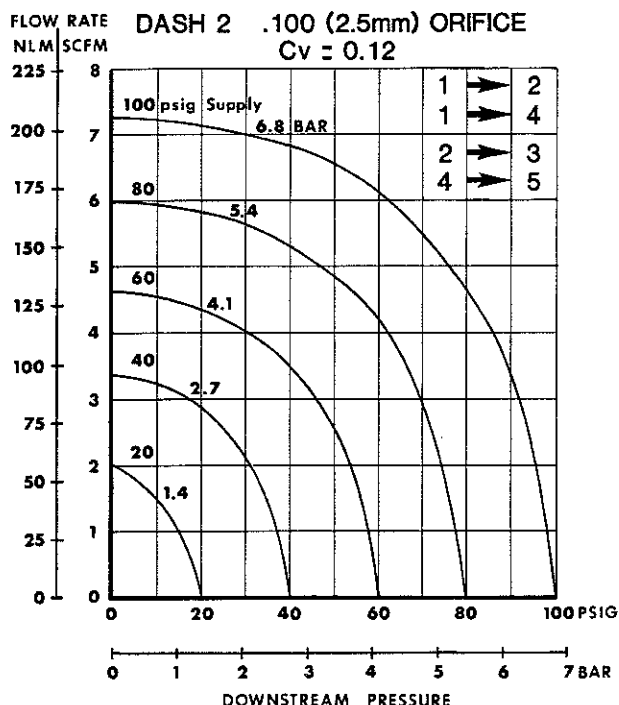
**VALVE TYPE**  
Single POS - Connected to Main Supply.....5  
Double POS - Connected to Main Supply.....6  
Single POS - Connected to Pilot Supply.....7  
Double POS - Connected to Pilot Supply.....8

**ACTUATOR "14" END**  
(Voltage tolerance +15% -10%)  
5 VDC 0.6 Watt Electronic.....12  
5 VDC 0.6 Watt DIN.....13  
12 VDC 0.6 Watt Electronic.....22  
12 VDC 0.6 Watt DIN.....23  
24 VDC 0.6 Watt Electronic.....32  
24 VDC 0.6 Watt DIN.....33  
115 VDC 2.5 Watt Electronic.....52  
115 VDC 2.5 Watt Din.....53  
No Solenoid - Adapter Plate Only.....XX

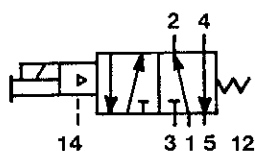
**BASE PLATE OPTION**  
Without Base Plate.....0  
Bottom Ported 10-32 (M5) 2430-0.....A  
Side Ported 10-32 (M5) 2592-0.....B  
Side Ported 1/8 NPT 2593-0.....D  
Side Ported 1/8 BSPP (G 1/8) 2801-0.....F

**ACTUATOR "12" END**  
(Voltage tolerance +15% -10%)  
5 VDC 0.6 Watt Electronic.....12  
5 VDC 0.6 Watt DIN.....13  
12 VDC 0.6 Watt Electronic.....22  
12 VDC 0.6 Watt DIN.....23  
24 VDC 0.6 Watt Electronic.....32  
24 VDC 0.6 Watt DIN.....33  
115 VDC 2.5 Watt Electronic.....52  
115 VDC 2.5 Watt DIN.....53  
Spring Return.....KL  
No Solenoid - Adapter Plate Only.....XX

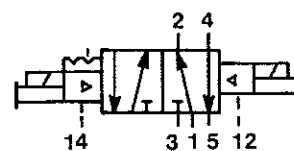
- NOTES: 1. REMOVABLE CONNECTORS AND LEAD WIRES MUST BE ORDERED SEPARATELY. SEE PAGE 5.  
2. ALL VOLTAGES CAN BE USED ON EITHER AC OR DC ELECTRICAL SERVICE BY ORDERING THE PROPER AC OR DC LEAD WIRES. SEE PAGE 5.



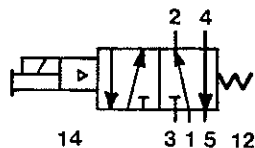
### DASH 2 POS VALVE SYMBOLS



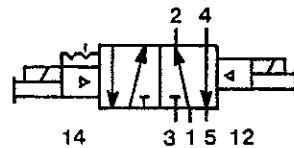
SINGLE SOLENOID  
REMOTE PILOT  
SUPPLY



DOUBLE SOLENOID  
REMOTE PILOT  
SUPPLY

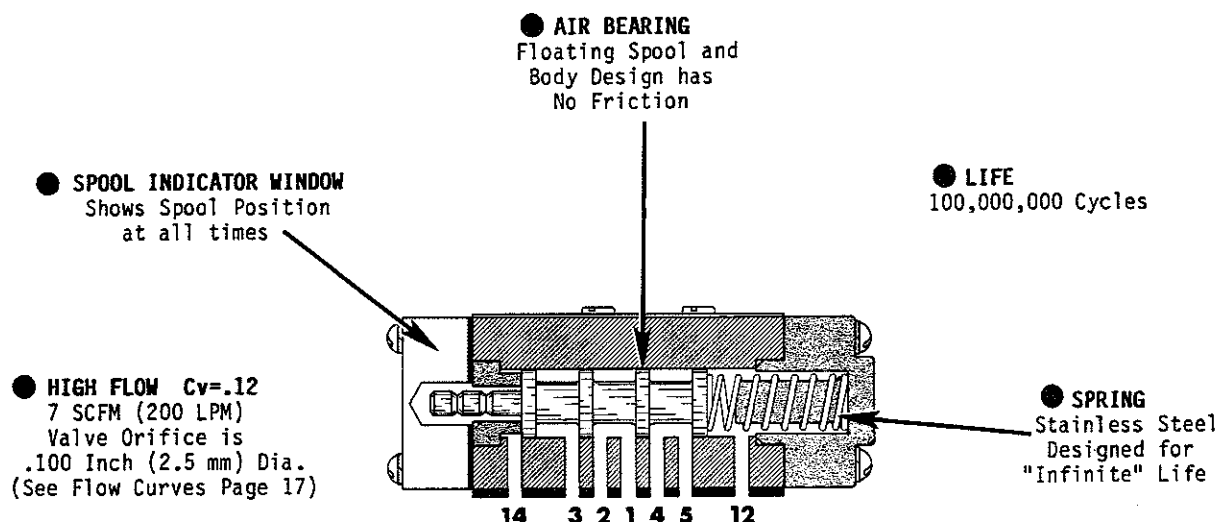


SINGLE SOLENOID  
MAIN SUPPLY



DOUBLE SOLENOID  
MAIN SUPPLY

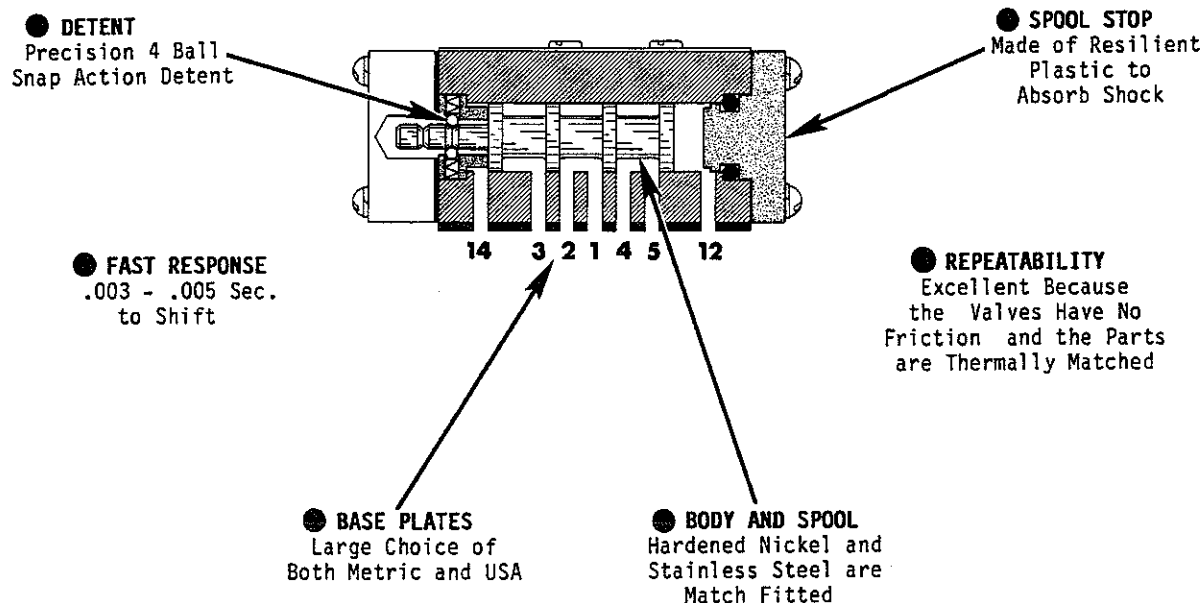
## DASH 2 AIR PILOT OPERATED VALVES QUALITY DESIGN FEATURES

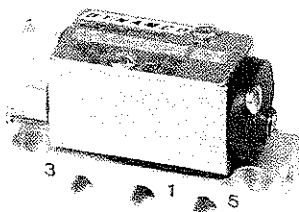


### AIR PILOT OPERATED - SPRING RETURN

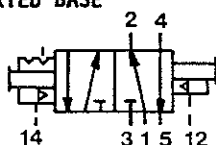
- **MANIFOLD MOUNTING**  
For Mounting and  
Connecting Multiple  
Valves
- **LUBRICATION**  
Not Required But  
May Be Used

### DOUBLE AIR PILOT - DETENTED

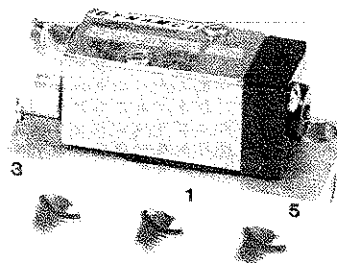




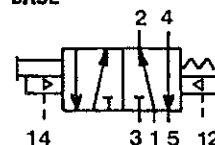
**D20DOA00 DASH 2 DOUBLE AIR PILOTED**  
**2592-0 10-32 (M5) SIDE PORTED BASE**



**DOUBLE AIR PILOT**  
**DETENTED**



**D20SOK00 DASH 2 AIR PILOTED SPRING RETURN**  
**2801-0 1/8 BSPP SIDE PORTED BASE**



**AIR PILOT**  
**SPRING RETURN**

### DASH 2 AIR PILOT MODEL NUMBERING SYSTEM

EXAMPLE: **D20SMK0 0**

#### VALVE SERIES

DASH 2 Air Pilot Operated Spring Return.....D20SOK0  
DASH 2 Air Pilot Operated Spring Return with Manual Override....D20SMK0  
  
DASH 2 Double Air Pilot Detented.....D20DOA0  
DASH 2 Double Air Pilot Detented with Manual Overrides.....D20DMAM

#### BASE PLATE OPTION

Without Base Plate.....0  
Bottom Ported 10-32 (M5) 2430-0.....A  
Side Ported 10-32 (M5) 2592-0.....B  
Side Ported 1/8 NPT 2593-0.....D  
Side Ported 1/8 BSPP (G 1/8) 2801-0.....F

#### MATERIALS

Valve Body.....Hardened Electroless Nickel  
Valve Spool.....440F Hardened Stainless  
Springs.....302 Stainless Steel  
Seals.....Buna N and Polyurethane  
Indicator Window.....Acrylic  
Spring Housing.....Delrin

#### PRESSURE RANGE

Spool Valve.....vacuum to 100 psi (6.9 Bar)  
Minimum Standard Pilot Press.....20 psi (1.4 Bar)  
For lower pressure models contact DYNAMCO.

#### SERVICE, FILTRATION AND LUBRICATION

DASH 2 valves are designed for service on air and inert gasses. DYNAMCO recommends 5 micron filtration. Many of our customers get excellent service using 20 micron filtration. Lubrication is not required but may be used.

#### TEMPERATURE RANGE

0° to 200°F (-18° to 93°C)

#### MOUNTING

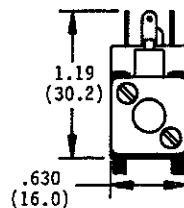
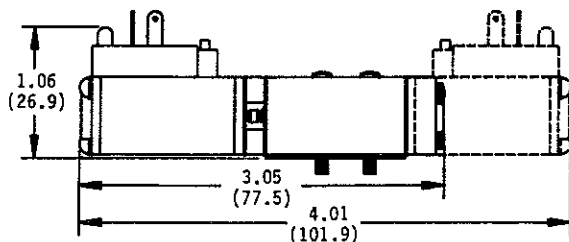
Generally DASH 2 air piloted valves may be mounted in any orientation. DYNAMCO recommends mounting valve spools horizontal if vibration is present.

# DASH 2 BASEPLATES

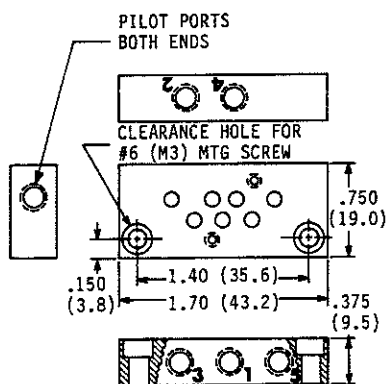
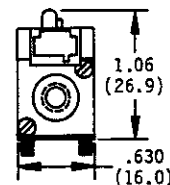
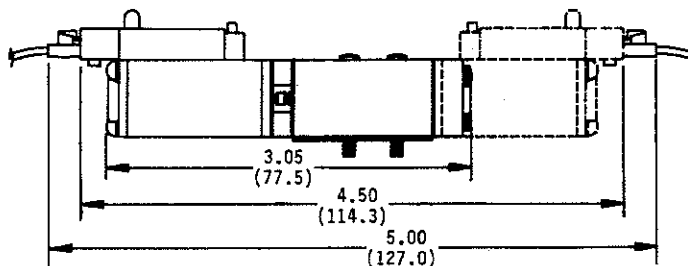
# DYNAMCO



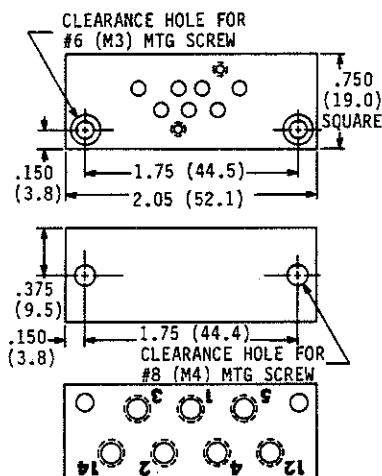
DASH 2 VALVE  
WITH DIN CONNECTOR



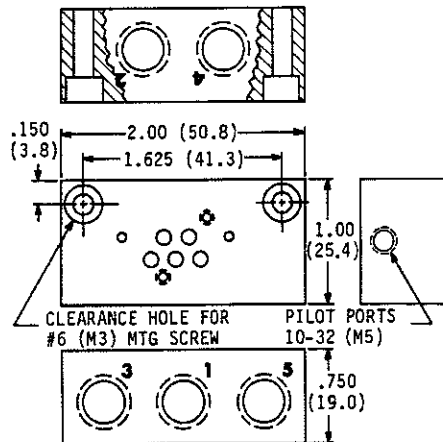
DASH 2 VALVE  
WITH ELECTRONIC  
CONNECTOR



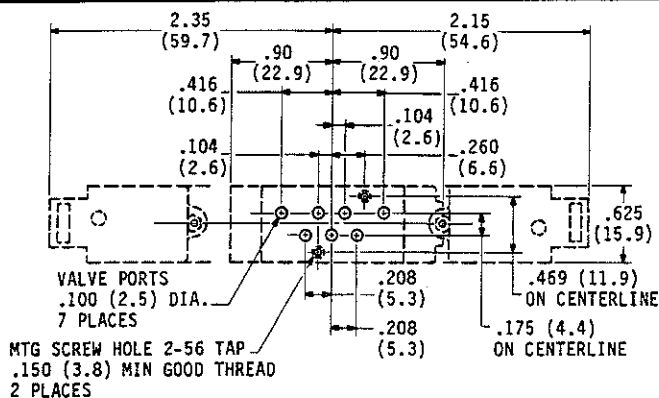
DASH 2 SIDE PORTED BASE  
10-32 (M5) PORTS P/N 2592-0



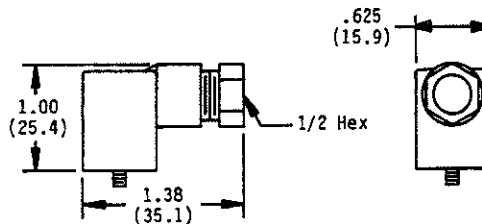
DASH 2 BOTTOM PORTED BASE  
10-32 (M5) PORTS P/N 2430-0



DASH 2 SIDE PORTED BASE  
1/8 NPT PORTS P/N 2593-0  
1/8 BSPP (G1/8) P/N 2801-0



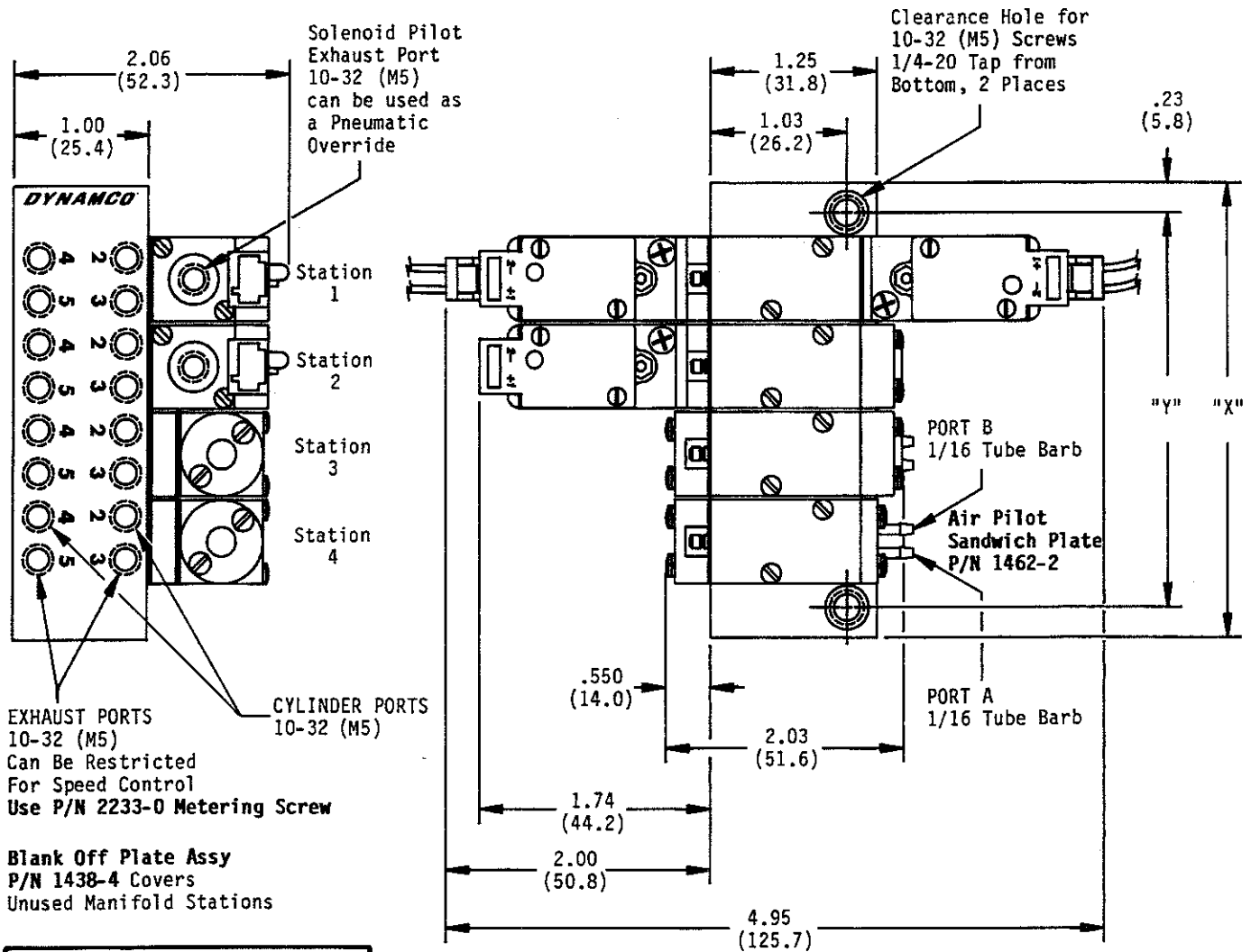
DASH 2 VALVE FOOTPRINT



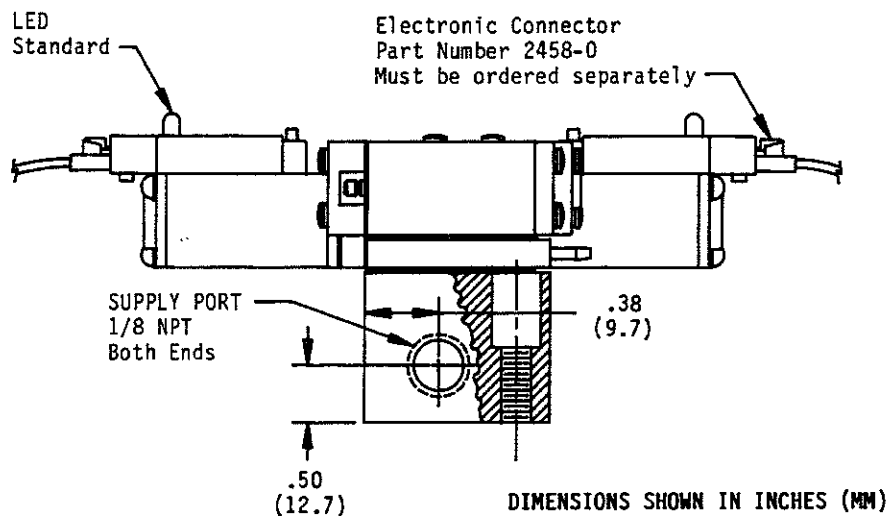
POS DIN CONNECTOR P/N 2270-0

DIMENSIONS SHOWN IN INCHES (MM)

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DASH 2 MANIFOLD 1/8 NPT SUPPLY			
P/N	NBR STA	"X"	"Y"
1466-2	2	2.06 (52.3)	1.61 (40.9)
1466-4	4	3.38 (85.9)	2.93 (74.4)
1466-6	6	4.70 (119.4)	4.25 (108.0)
1466-8	8	6.02 (152.9)	5.57 (141.5)
1466-0	10	7.34 (186.4)	6.89 (175.0)



## DASH 2 MANIFOLDS

# DYNAMCO

### STACKABLE 10-32 (M5) BOTTOM PORTED MANIFOLD

This manifold system is a flexible and versatile set of building blocks. Sections are joined with threaded rods and are sealed with O-rings. The family consists of Headers, Center Sections, Mounting Brackets and Blanks. Features include:

- Can Be Configured and Changed in the Field
- Multiple Supply Pressures (or Vacuum)
- Use combination of DASH 1 and DASH 2 valves
- Common or Separate Exhausts
- Exhausts can be used for Speed Control
- Very Compact and Cost Effective

### EXAMPLE MANIFOLD STACK

The manifold stack pictured below has one supply gallery and two identical exhaust galleries. Study the type of and number of valves mounted as well as the supply and exhaust galleries. The next page shows the parts available in the family.

### BLANK SECTIONS

"Blank" sections allow you to connect portions of the supply/exhaust galleries by drilling spot drilled holes to fit your exact requirements.

### MOUNTING AND THREADED RODS

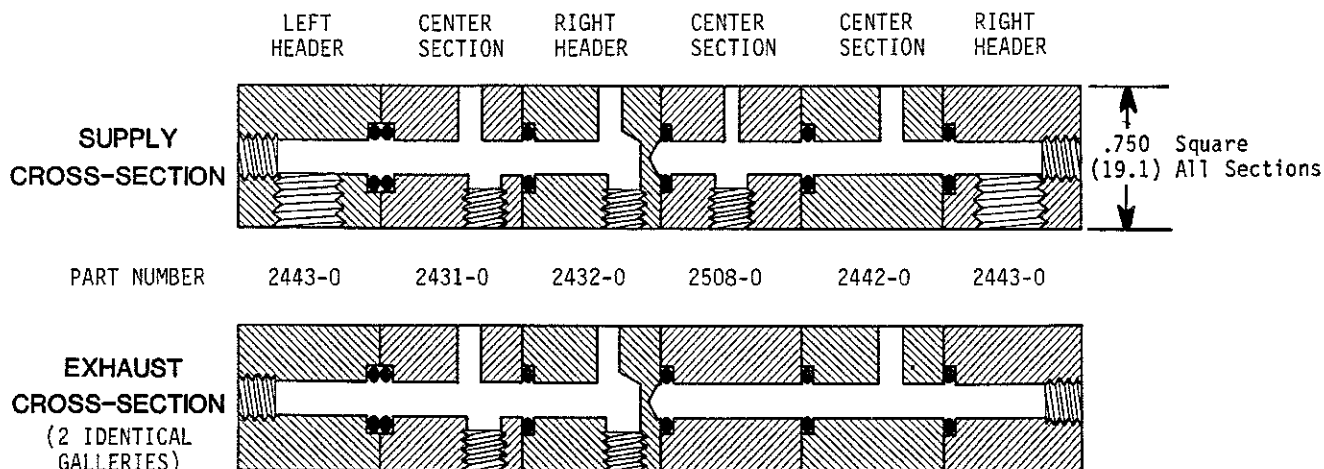
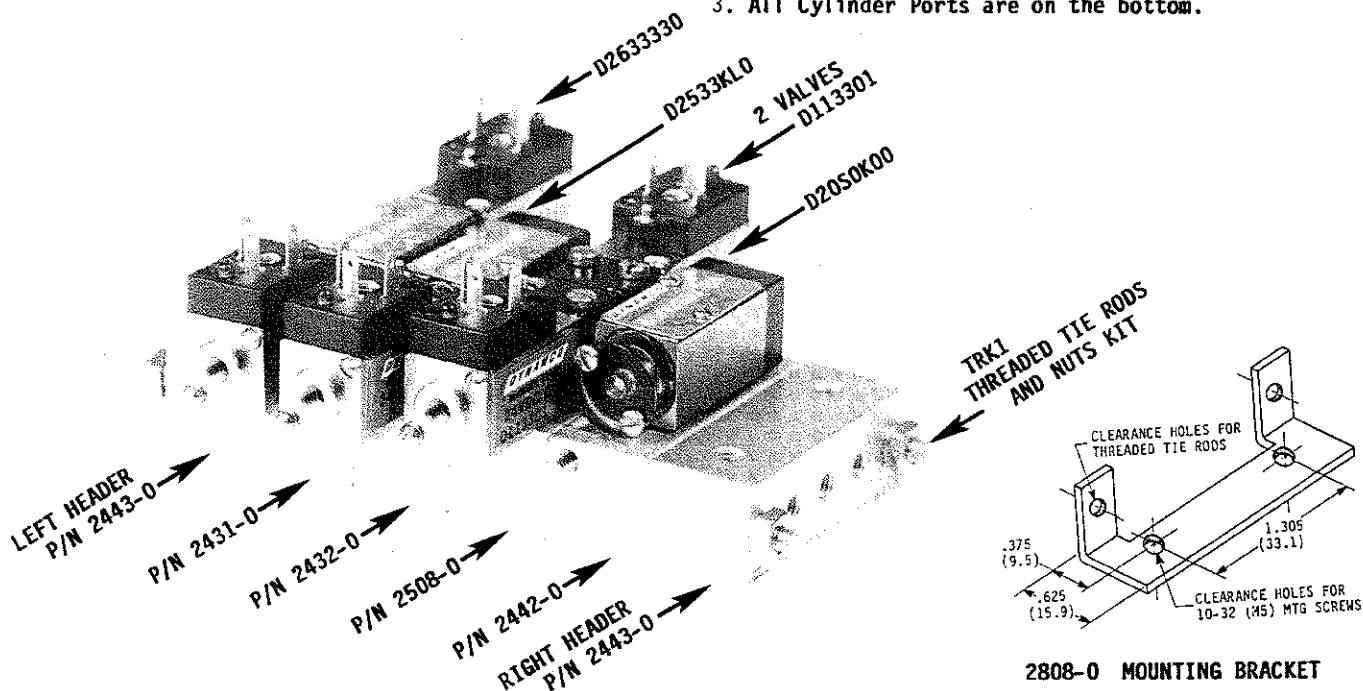
Methods of mounting the manifold stack include:

1. Order quantity required P/N 2808-0 Mtg Bracket
2. P/N 2443-0 provides 10-32 (M5) mounting holes on 1.305 (33.1) centers.
3. It may be possible to use available ports (such as pilot ports on a solenoid stack) to mount the stack.

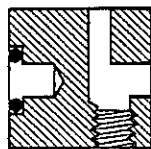
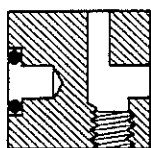
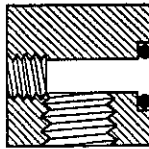
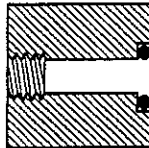
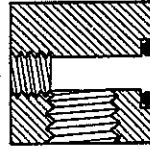
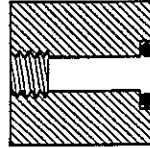
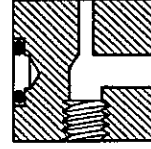
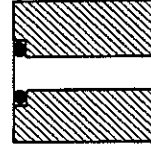
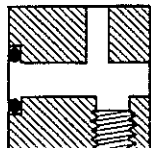
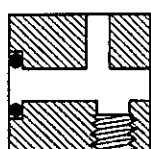
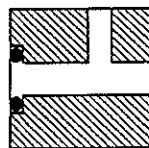
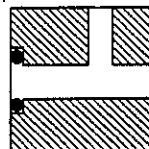
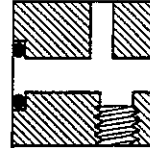
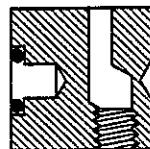
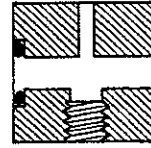
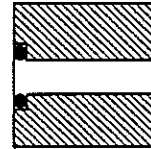
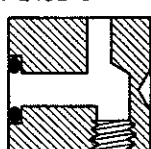
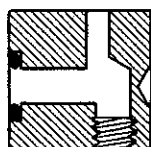
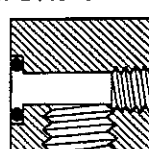
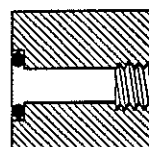
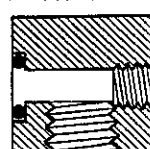
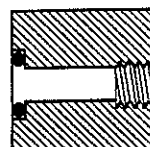
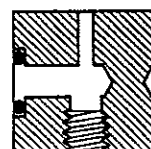
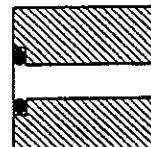
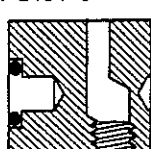

TRK1 Threaded Rod Kits include 2 pieces 12 inch (30cm) 8-32 threaded rod and 4 pieces 8-32 nuts.

### NOTES

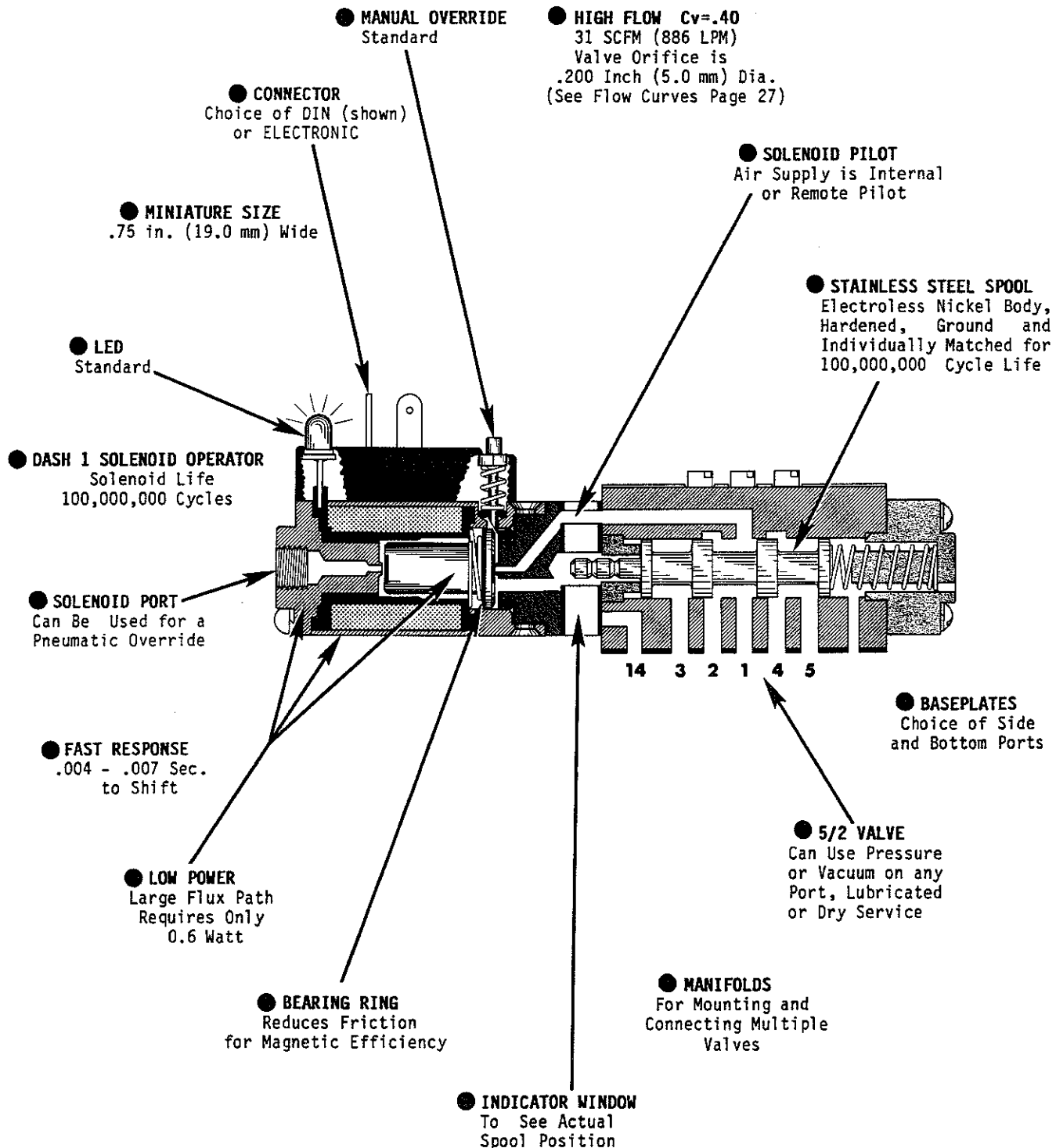
1. Part numbers include the necessary O-rings.
2. All ports are 10-32 (M5) unless specified.
3. All Cylinder Ports are on the bottom.



We Build Pneumatics We Sell Quality

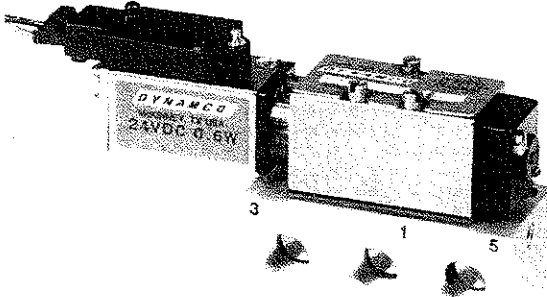
HEADER LEFT END	P/N 2433-0  Supply Header and Mounts 1 Valve DASH 2  Exhaust	P/N 2443-0  Supply Header Only 1/8 NPT  Exhaust	P/N 2443-5  Supply Header Only 1/8 BSPP G 1/8  Exhaust	P/N 2805-0  Supply Header and Mounts 2 Valves DASH 1  Exhaust
	P/N 2431-0  Supply Mounts 1 Valve DASH 2  Exhaust	P/N 2442-0  Supply Mounts 1 Valve DASH 2 Has 12 & 14 Port Holes in End  Exhaust	P/N 2804-0  Supply Mounts 1 Valve DASH 2  Exhaust	P/N 2508-0  Supply Mounts 2 Valves DASH 1  Exhaust
HEADER RIGHT END	P/N 2432-0  Supply Header and Mounts 1 Valve DASH 2  Exhaust	P/N 2443-0  Supply Header Only 1/8 NPT  Exhaust	P/N 2443-5  Supply Header Only 1/8 BSPP G 1/8  Exhaust	P/N 2806-0  Supply Header and Mounts 2 Valves DASH 1  Exhaust
	P/N 2434-0  Supply Mounts 1 Valve DASH 2 Can Be Drilled In Field  Exhaust	NOTE: All Cylinder Ports are Located on Bottom.		

## DASH 3 PILOT OPERATED SOLENOID VALVE QUALITY DESIGN FEATURES

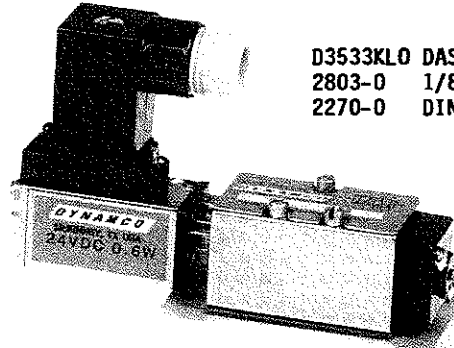




D3532KLO DASH 3 SINGLE POS SOLENOID ELECTRONIC  
2594-0 1/8 NPT SIDE PORTED BASE  
2458-0 REMOVABLE ELECTRONIC CONNECTOR



D3533KLO DASH 3 POS DIN  
2803-0 1/8 BSPP BASE  
2270-0 DIN CONNECTOR



#### VALVE BODY AND SPOOL DESIGN

There are no moving seals in the DASH 3 valve! The DASH 3 is a metal to metal lapped spool valve. Metal to metal valves can be fussy and require extremely fine filtration. With DYNAMCO this is not true because our design is different. We do not use the same metal for the body and the spool. (A good bearing design uses different metals and hardnesses between moving parts.) DYNAMCO controls the clearances between the body and spool by individually match fitting each spool and body to achieve a proper floating air bearing. The clearance has a narrow range between the minimum and maximum that every valve must achieve. The thermal expansion coefficients of the body and spool are the same so the clearance stays the same over a wide range of temperatures.

#### MINIATURE SIZE AND HIGH FLOW

DASH 3 valves are .75 inches (19mm) wide and yet have a  $C_v$  of .40 that will flow over 31 SCFM (900 Liters/Min). See Flow Curves on page 27.

#### SPEED

DASH 3 valves are extremely fast. The pilot operated solenoid DASH 3 will shift in 4 to 7 milliseconds. The higher the pressure the faster the shift time. The lower the voltage from rated voltage the slower the response time.

#### REPEATABILITY

In DYNAMCO's DASH 3 valves virtually all friction has been eliminated. The only force on the spool is the spring and the air pressure from the solenoid pilot. Valves with moving seals not only have friction but it changes with lubrication, moisture, temperature, etc. DYNAMCO valves respond the same on Monday morning when plants and machines are cold and on Friday afternoon when machines are hot and have been running all week.

#### LOW ELECTRICAL POWER REQUIREMENTS

The very low 0.6 watt power consumption of the pilot operated solenoid allows DASH 3 valves to be controlled by almost any electronic control.

#### LIFE

The design life of DYNAMCO's DASH 3 POS valves is well in excess of 100,000,000 cycles. This performance has been thoroughly proven in laboratory tests and field performance.

#### LED INDICATOR

DASH 3 valves have a bright red LED as a standard feature. The red signal wire should be connected to the #1 or + terminal and the black wire should be connected to the #2 or - terminal. If connected backwards the valve will work but the LED will not light. If the LED glows but is dim the signal voltage is probably low.

#### SPOOL INDICATOR WINDOW

The spool indicator window shows the physical position of the spool. Having both the LED indicator and indicator window is invaluable in setting up and trouble shooting machines.

#### SOLENOID PILOT AIR

The DASH 3 valve can be ordered with a main supply connection or a remote pilot connection. Also the configuration can be switched in the field without any additional parts.

#### PNEUMATIC OVERRIDE

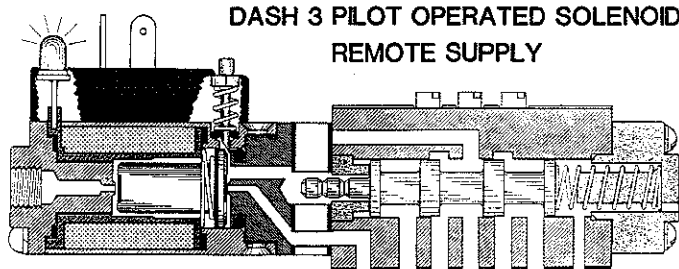
The solenoid operator port can be used for a pneumatic override. A 3 way (3/2) signal will shift the valve spool against the return spring (or detent in a double solenoid).

#### QUALITY

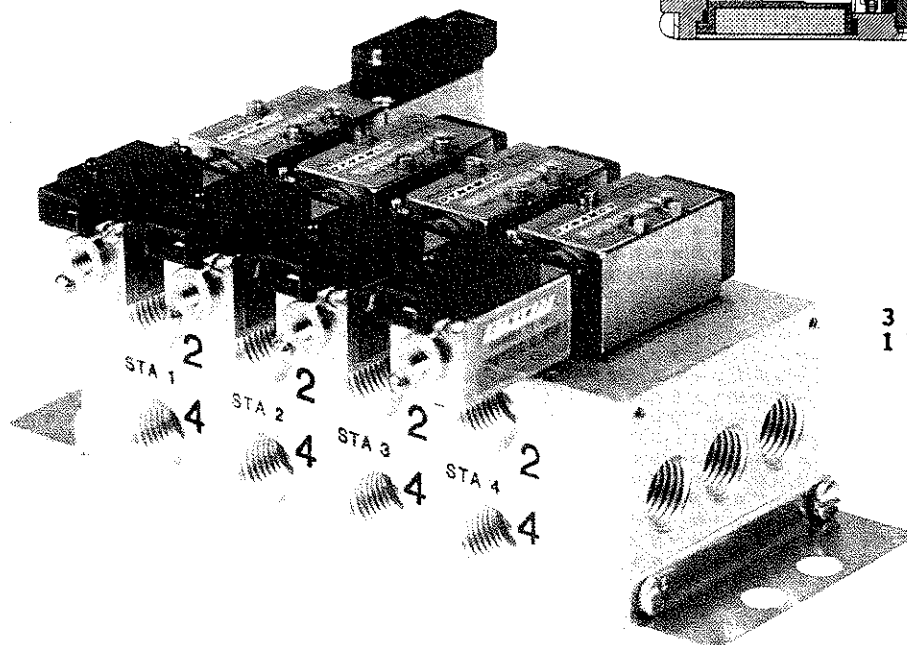
Quality must be present in both design and in manufacturing. A thorough study of the opposite page shows a marked design contrast with competitive valves. Such features make the DASH 3 valve the highest quality design available. DYNAMCO manufactures virtually all the parts for DASH 3 valves in our manufacturing facility. Every DASH 3 valve is given a battery of tests at various stages of manufacture. DYNAMCO's thoroughness and attention to detail means you receive a thoroughly proven product when it is finally given the DYNAMCO name and packed for shipment.

## DASH 3 VALVES

# DYNAMCO



DASH 3 PILOT OPERATED SOLENOID  
REMOTE SUPPLY



M03N2S04 MANIFOLD 4 STATION  
3 VALVES D3532JK0 DASH 3 SINGLE POS  
1 VALVE D3632320 DASH 3 DOUBLE POS

ELECTRICAL SPECIFICATIONS				REPLACEMENT SOLENOIDS	
VOLTAGE (VOLTS)	POWER (WATTS)	RESISTANCE (OHMS)	CURRENT (AMPS)	ELEC-TRONIC	DIN
5*	0.6	45	.111	D111200	D111300
12*	0.6	260	.050	D112200	D112300
24*	0.6	1100	.027	D113200	D113300
115*	2.5	5500	.021	D115200	D115300

\*The voltage can be AC (50/60 Hz) or DC. For AC operation use AC lead wires (described on page 5) and the proper voltage DC DASH 3 POS valve. Voltage tolerance is +15% -10% of rated. Solenoids are rated for continuous duty.

### TEMPERATURE RANGE

For DASH 3 POS Models below 1 watt:  
0° to 150°F (-18° to 65°C)  
For DASH 3 POS Models above 1 watt:  
0° to 122°F (-18° to 50°C)

### MOUNTING

Generally DASH 3 POS valves may be mounted in any orientation. DYNAMCO recommends mounting DASH 3 valve spools horizontal if vibration is present.

### MATERIALS

Valve Body.....Hardened Electroless Nickel  
Valve Spool.....440F Hardened Stainless  
Springs.....302 Stainless Steel  
Seals.....Buna N and Polyurethane  
Indicator Window.....Acrylic  
Spring Housing.....Delrin  
Solenoid Adapter Plate.....Anodized Aluminum  
Solenoid Housing/Pole Piece.....Electroless Nickel  
Armature.....430F Stainless Steel  
Coil Form.....Glass Filled Nylon

### PRESSURE RANGE

Spool Valve.....vacuum to 100 psi (6.9 Bar)  
Min Std Solenoid Pilot Press.....20 psi (1.4 Bar)  
For lower pressure models contact DYNAMCO.

### SERVICE, FILTRATION AND LUBRICATION

DASH 3 valves are designed for service on air and inert gasses. DYNAMCO recommends 5 micron filtration. Many of our customers get excellent service using 20 micron filtration. Lubrication is not required but may be used.

### DASH 3 POS MODEL NUMBERING SYSTEM

EXAMPLE: D3 6 33 33 0

**VALVE SERIES**  
Dash 3 Valve.....D3

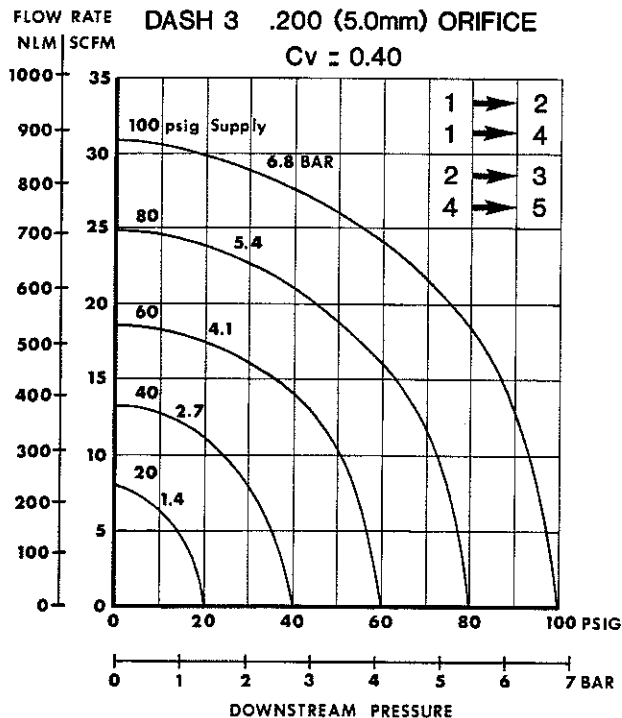
**VALVE TYPE**  
Single POS - Connected to Main Supply.....5  
Double POS - Connected to Main Supply.....6  
Single POS - Connected to Pilot Supply.....7  
Double POS - Connected to Pilot Supply.....8

**ACTUATOR "14" END**  
(Voltage tolerance +15% -10%)  
5 VDC 0.6 Watt Electronic.....12  
5 VDC 0.6 Watt DIN.....13  
12 VDC 0.6 Watt Electronic.....22  
12 VDC 0.6 Watt DIN.....23  
24 VDC 0.6 Watt Electronic.....32  
24 VDC 0.6 Watt DIN.....33  
115 VDC 2.5 Watt Electronic.....52  
115 VDC 2.5 Watt Din.....53  
No Solenoid - Adapter Plate Only.....XX

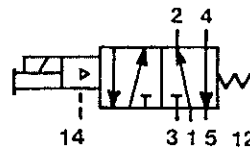
**BASE PLATE OPTION**  
Without Base Plate.....0  
Bottom Ported 1/8 NPT 2595-0.....E  
Side Ported 1/8 NPT 2594-0.....F  
Bottom Ported 1/4 NPT B03N2B.....3  
Side Ported 1/4 NPT B03N2S.....4  
Bottom Ported 1/8 BSPP (G 1/8) 2803-0.....G  
Side Ported 1/8 BSPP (G 1/8) 2802-0.....H  
Bottom Ported 1/4 BSPP (G 1/4) B03B2B.....C  
Side Ported 1/4 BSPP (G 1/4) B03B2S.....D

**ACTUATOR "12" END**  
(Voltage tolerance +15% -10%)  
5 VDC 0.6 Watt Electronic.....12  
5 VDC 0.6 Watt DIN.....13  
12 VDC 0.6 Watt Electronic.....22  
12 VDC 0.6 Watt DIN.....23  
24 VDC 0.6 Watt Electronic.....32  
24 VDC 0.6 Watt DIN.....33  
115 VDC 2.5 Watt Electronic.....52  
115 VDC 2.5 Watt DIN.....53  
Spring Return.....KL  
No Solenoid - Adapter Plate Only.....XX

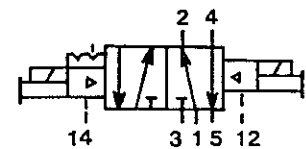
- NOTES: 1. REMOVABLE CONNECTORS AND LEAD WIRES MUST BE ORDERED SEPARATELY. SEE PAGE 5.  
2. ALL VOLTAGES CAN BE USED ON EITHER AC OR DC ELECTRICAL SERVICE BY ORDERING THE PROPER AC OR DC LEAD WIRES. SEE PAGE 5.



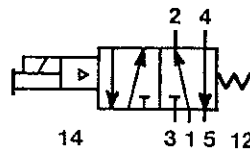
### DASH 3 POS VALVE SYMBOLS



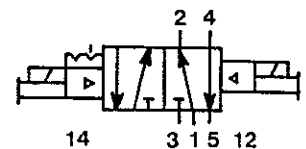
SINGLE SOLENOID  
REMOTE PILOT  
SUPPLY



DOUBLE SOLENOID  
REMOTE PILOT  
SUPPLY

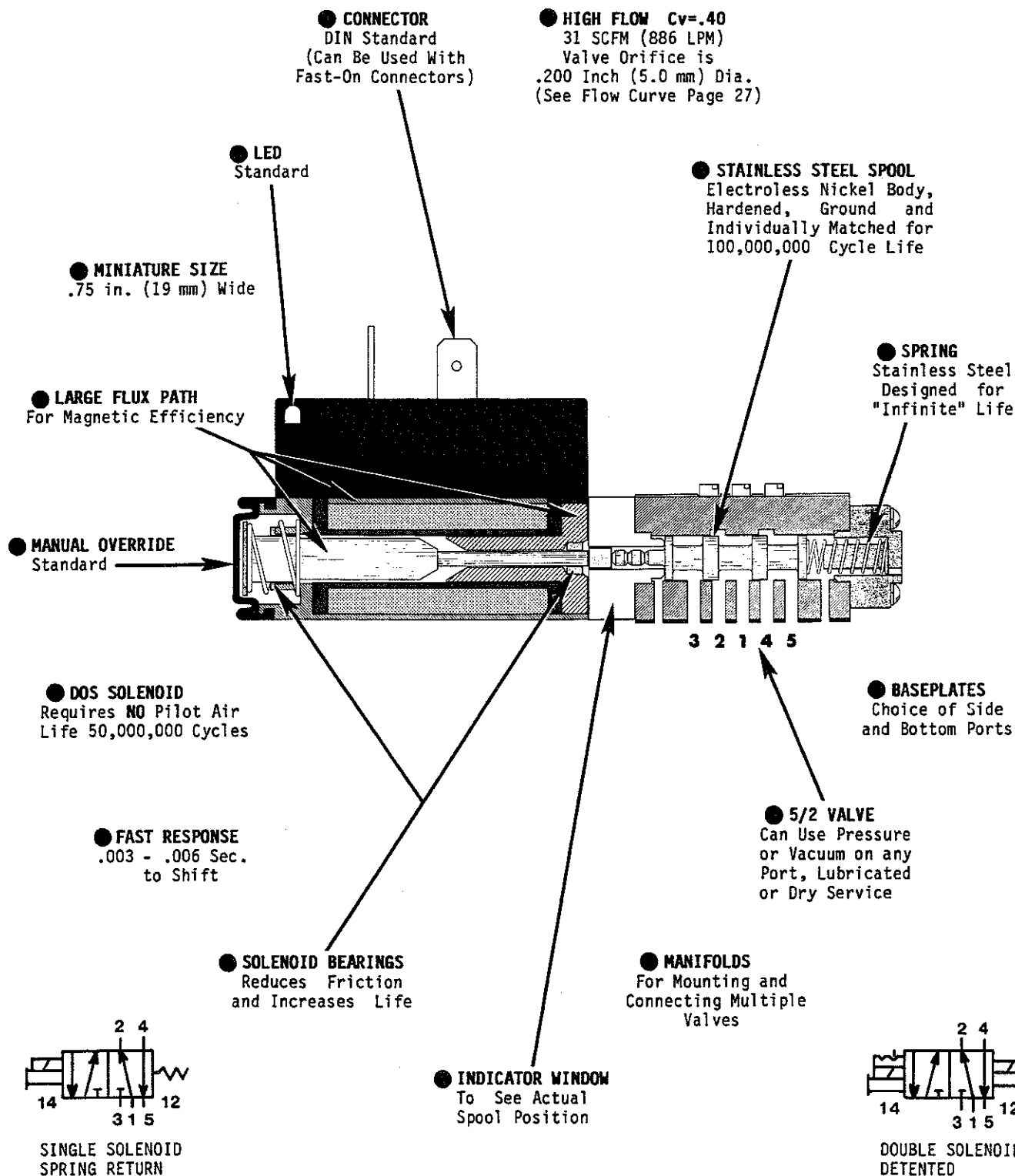


SINGLE SOLENOID  
MAIN SUPPLY



DOUBLE SOLENOID  
MAIN SUPPLY

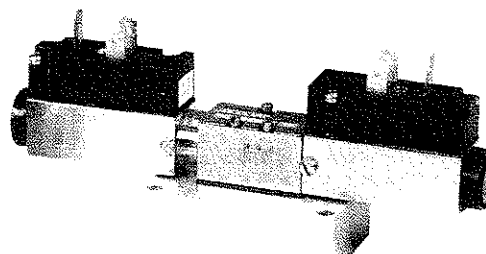
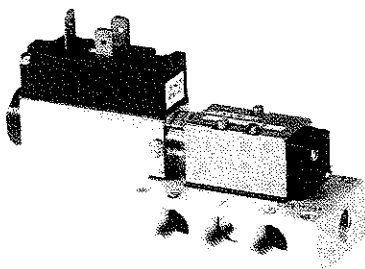
## DASH 3 DIRECT OPERATED SOLENOID VALVE QUALITY DESIGN FEATURES



*We Build Pneumatics We Sell Quality*

D3356GLO DASH 3 SINGLE DOS SOLENOID  
B03N2S 1/4 NPT SIDE PORTED BASE

D3456560 DASH 3 DOUBLE DOS SOLENOID  
B03B2B 1/4 BSPP BOTTOM PORTED BASE



### DASH 3 DOS MODEL NUMBERING SYSTEM

EXAMPLE: D3 3 56 GL F

**VALVE SERIES**  
Dash 3 Valve.....D3

**VALVE TYPE**  
Single Solenoid - Direct Operated.....3  
Double Solenoid - Direct Operated.....4

**ACTUATOR "14" END**  
(Voltage tolerance +15% -10%)  
6 Volt DC Solenoid DIN Connector.....16  
12 Volt DC Solenoid DIN Connector.....26  
24 Volt DC Solenoid DIN Connector.....36  
115 Volt AC/DC Solenoid DIN Connector.....56  
220 Volt AC/DC Solenoid DIN Connector.....66  
No Solenoid - Adapter for DOS Only.....XX

**BASE PLATE OPTION**  
Without Base Plate.....0  
Bottom Ported 1/8 NPT 2595-0.....E  
Side Ported 1/8 NPT 2594-0.....F  
Bottom Ported 1/4 NPT B03N2B.....3  
Side Ported 1/4 NPT B03N2S.....4  
Bottom Ported 1/8 BSPP (G 1/8) 2803-0.....G  
Side Ported 1/8 BSPP (G 1/8) 2802-0.....H  
Bottom Ported 1/4 BSPP (G 1/4) B03B2B.....C  
Side Ported 1/4 BSPP (G 1/4) B03B2S.....D

**ACTUATOR "12" END**  
(Voltage tolerance +15% -10%)  
6 Volt DC Solenoid DIN Connector.....16  
12 Volt DC Solenoid DIN Connector.....26  
24 Volt DC Solenoid DIN Connector.....36  
115 Volt AC/DC Solenoid DIN Connector.....56  
220 Volt AC/DC Solenoid DIN Connector.....66  
Spring Return.....GL  
No Solenoid - Adapter for DOS Solenoid Only...XX

- NOTES: 1. REMOVABLE CONNECTORS 2285-0 AND 2285-5 MUST BE ORDERED SEPARATELY. SEE PAGE 34.  
2. FAST-ON TYPE CONNECTORS ARE SUITABLE FOR USE WITH DIN CONNECTOR TERMINALS.  
3. FOR 24 VOLT AC/DC AND 48 VOLT AC/DC - ORDER VALVES WITHOUT SOLENOIDS AND ORDER REPLACEMENT SOLENOID OPERATORS LISTED BELOW.

ELECTRICAL SPECIFICATIONS				REPLACEMENT SOLENOIDS
VOLTAGE (VOLTS)	POWER (WATTS)	RESISTANCE (OHMS)	CURRENT (AMPS)	DIN CONNECTOR
6DC	7	5	1.20	2373-0
12DC	7	20	.60	2374-0
24DC	7	83	.29	2375-0
24AC/DC*	7	83	.29	2375-2
48AC/DC*	7	265	.18	2375-3
115AC/DC*	7	1900	.06	2376-0
230AC/DC*	7	8400	.03	2377-0

\*The voltage can be AC (50/60 Hz) or DC. Voltage tolerance is +15% -10% of rated. Solenoids are rated for continuous duty.

**TEMPERATURE RANGE**  
0° to 122°F (-18° to 50°C)

**MOUNTING - CAUTION**  
DASH 3 DOS valves MUST BE mounted with valve spools horizontal.

### MATERIALS

Valve Body.....Hardened Electroless Nickel  
Valve Spool.....440F Hardened Stainless  
Springs.....302 Stainless Steel  
Seals.....Buna N and Polyurethane  
Indicator Window.....Acrylic  
Spring Housing.....Delrin  
Solenoid Adapter .....Zinc Plated Steel  
Solenoid Housing.....Nickel Plated Steel  
Armature.....Electroless Nickel  
Solenoid Connector/Coil Form....Glass Filled Nylon

### PRESSURE RANGE

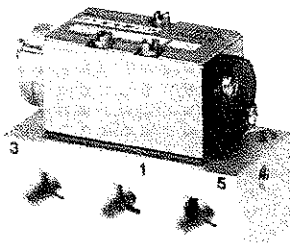
Spool Valve.....vacuum to 100 psi (6.9 Bar)  
Since the DASH 3 DOS is a Direct Solenoid, NO Solenoid Pilot Pressure is Required!

### SERVICE, FILTRATION AND LUBRICATION

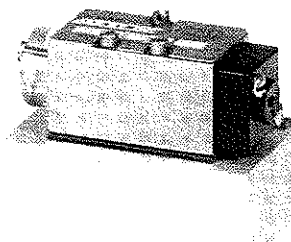
DASH 3 valves are designed for service on air and inert gasses. DYNAMCO recommends 5 micron filtration. Many of our customers get excellent service using 20 micron filtration. Lubrication is not required but may be used.

# DASH 3 VALVES

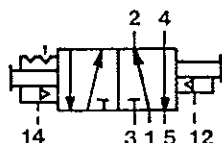
# DYNAMCO



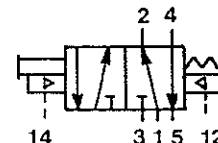
**D30DOAO DASH 3 DOUBLE AIR PILOTED**  
**2802-0 1/8 BSPP SIDE PORTED BASE**



**D30SOKO DASH 3 AIR PILOTED SPRING RETURN**  
**2595-0 1/8 NPT BOTTOM PORTED BASE**



**DOUBLE AIR PILOT**  
**DETENTED**



**AIR PILOT**  
**SPRING RETURN**

## DASH 3 AIR PILOT MODEL NUMBERING SYSTEM

EXAMPLE: **D30SMKO 0**

### VALVE SERIES

DASH 3 Air Pilot Operated Spring Return.....D30SOKO  
DASH 3 Air Pilot Operated Spring Return with Manual Override....D30SMKO  
DASH 3 Double Air Pilot Detented.....D30DOAO  
DASH 3 Double Air Pilot Detented with Manual Overrides.....D30DMAM

### BASE PLATE OPTION

Without Base Plate.....0  
Bottom Ported 1/8 NPT 2595-0.....E  
Side Ported 1/8 NPT 2594-0.....F  
Bottom Ported 1/4 NPT B03N2B.....3  
Side Ported 1/4 NPT B03N2S.....4  
Bottom Ported 1/8 BSPP (G 1/8) 2803-0.....G  
Side Ported 1/8 BSPP (G 1/8) 2802-0.....H  
Bottom Ported 1/4 BSPP (G 1/4) B03B2B.....C  
Side Ported 1/4 BSPP (G 1/4) B03B2S.....D

### MATERIALS

Valve Body.....Hardened Electroless Nickel  
Valve Spool.....440F Hardened Stainless  
Springs.....302 Stainless Steel  
Seals.....Buna N and Polyurethane  
Indicator Window.....Acrylic  
Spring Housing.....Delrin

### PRESSURE RANGE

Spool Valve.....vacuum to 100 psi (6.9 Bar)  
Minimum Standard Pilot Press.....20 psi (1.4 Bar)  
For lower pressure models contact DYNAMCO.

### SERVICE, FILTRATION AND LUBRICATION

DASH 3 valves are designed for service on air and inert gasses. DYNAMCO recommends 5 micron filtration. Many of our customers get excellent service using 20 micron filtration. Lubrication is not required but may be used.

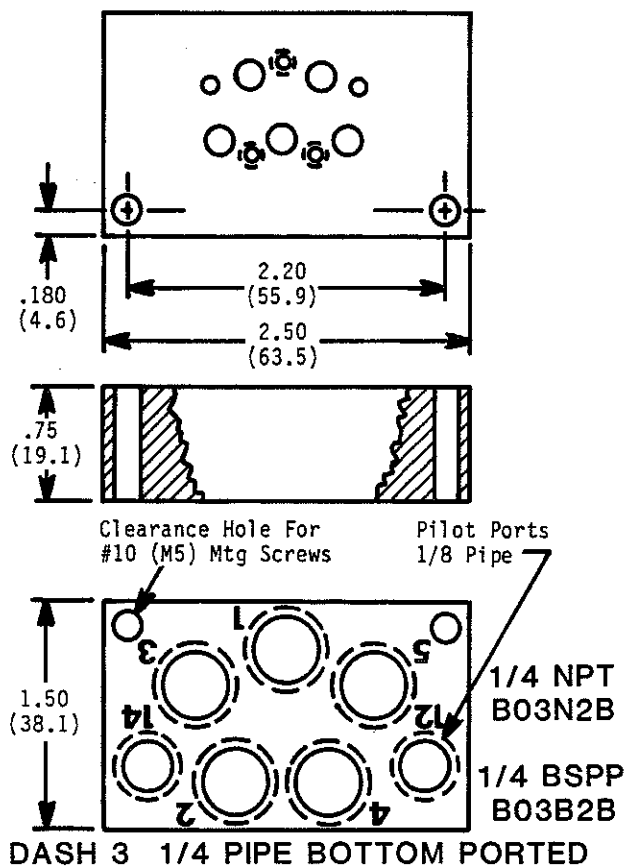
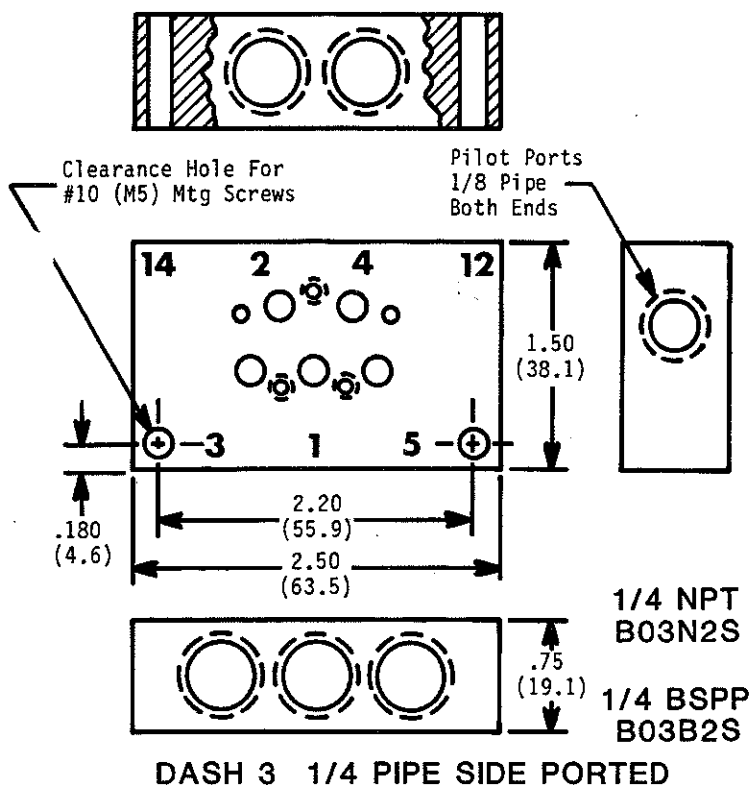
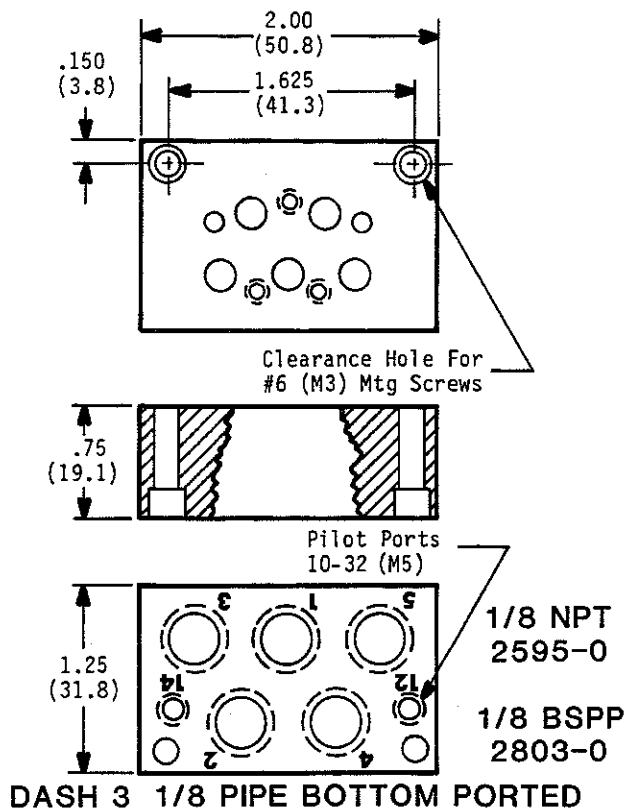
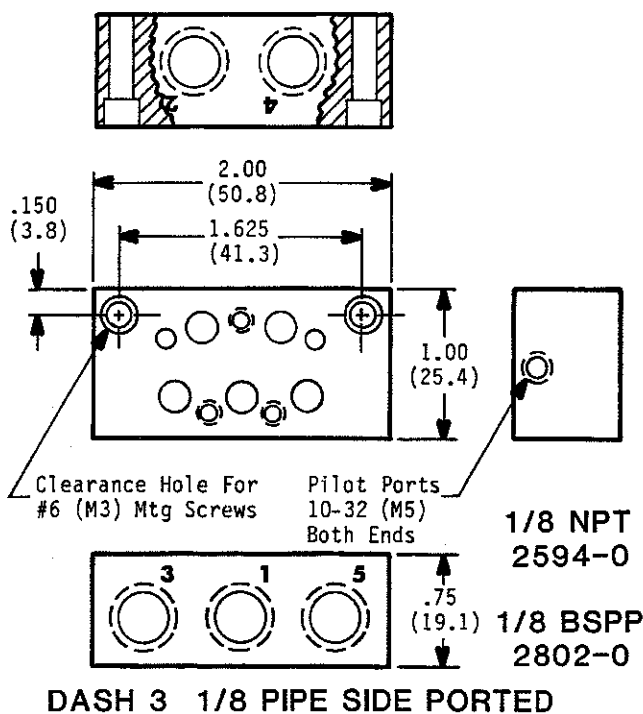
### TEMPERATURE RANGE

0° to 200°F (-18° to 93°C)

### MOUNTING

Generally DASH 3 air piloted valves may be mounted in any orientation. DYNAMCO recommends mounting valve spools horizontal if vibration is present.

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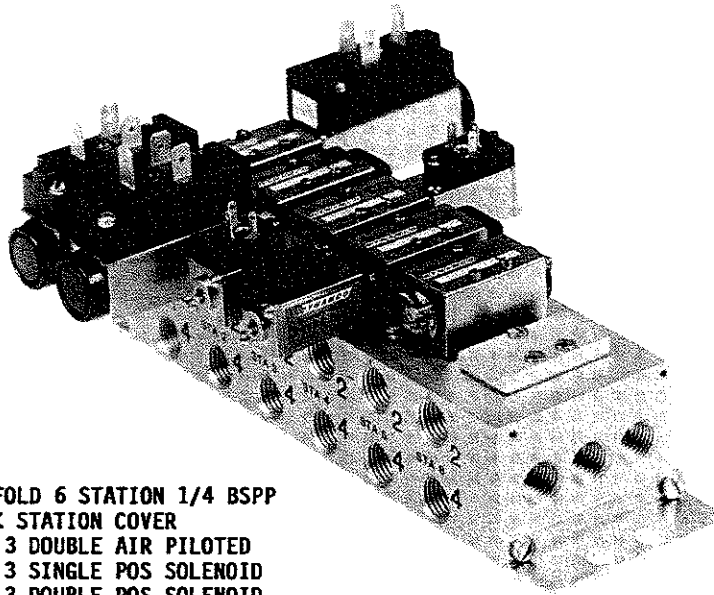


DIMENSIONS SHOWN IN INCHES (MM)

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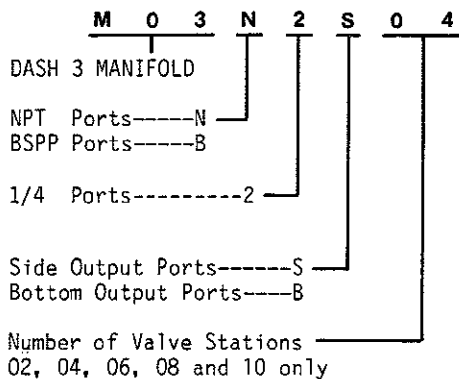
# DASH 3 MANIFOLDS

# DYNAMCO



**M03B2S06 MANIFOLD 6 STATION 1/4 BSPP**  
**2355-0 BLANK STATION COVER**

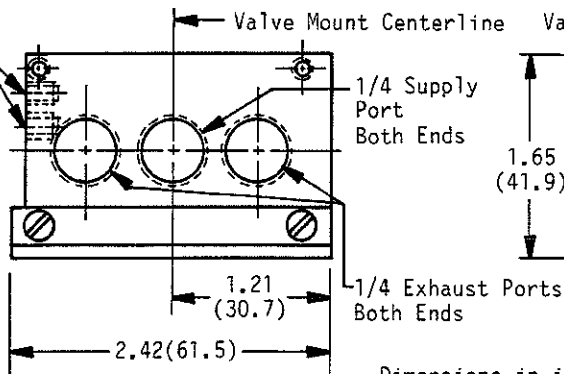
- 1 VALVE D3000A00 DASH 3 DOUBLE AIR PILOTED
- 1 VALVE D3532KLO DASH 3 SINGLE POS SOLENOID
- 1 VALVE D3633330 DASH 3 DOUBLE POS SOLENOID
- 1 VALVE D33666LO DASH 3 SINGLE DOS SOLENOID
- 1 VALVE D3466660 DASH 3 DOUBLE DOS SOLENOID



To Order- Select type, size, and location of output ports and the number of valve stations required.

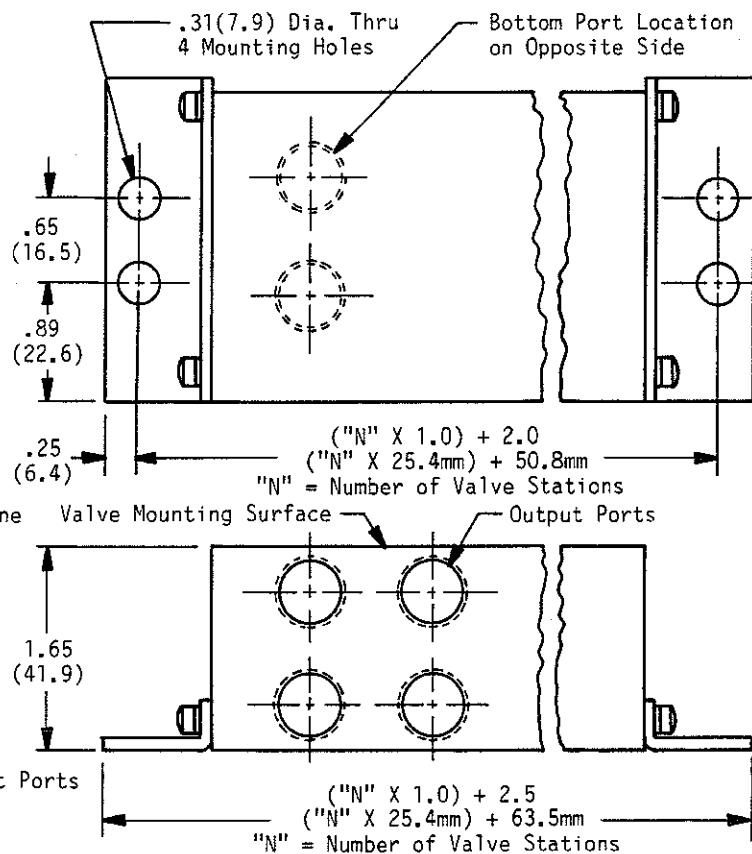
**Valve Station Blank-off Plate P/N 2355-0**

10-32 UNF/M5 Pilot Ports  
Typical Each Valve Station



Dimensions in inches (mm)

## DASH 3 VALVE MANIFOLDS



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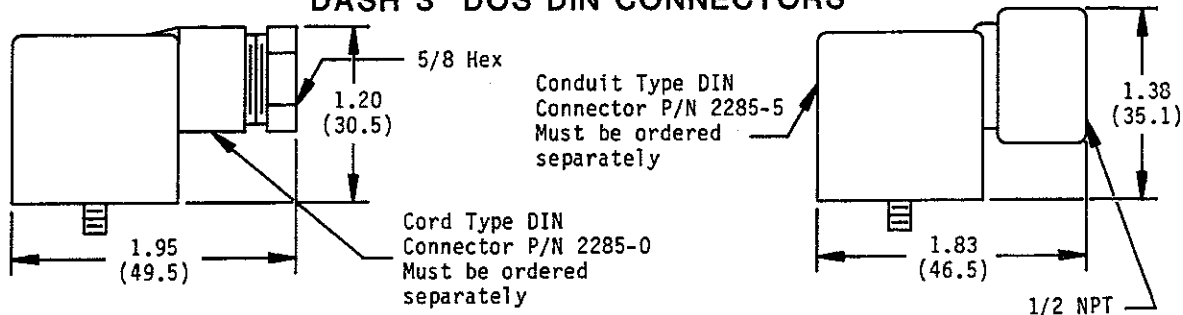




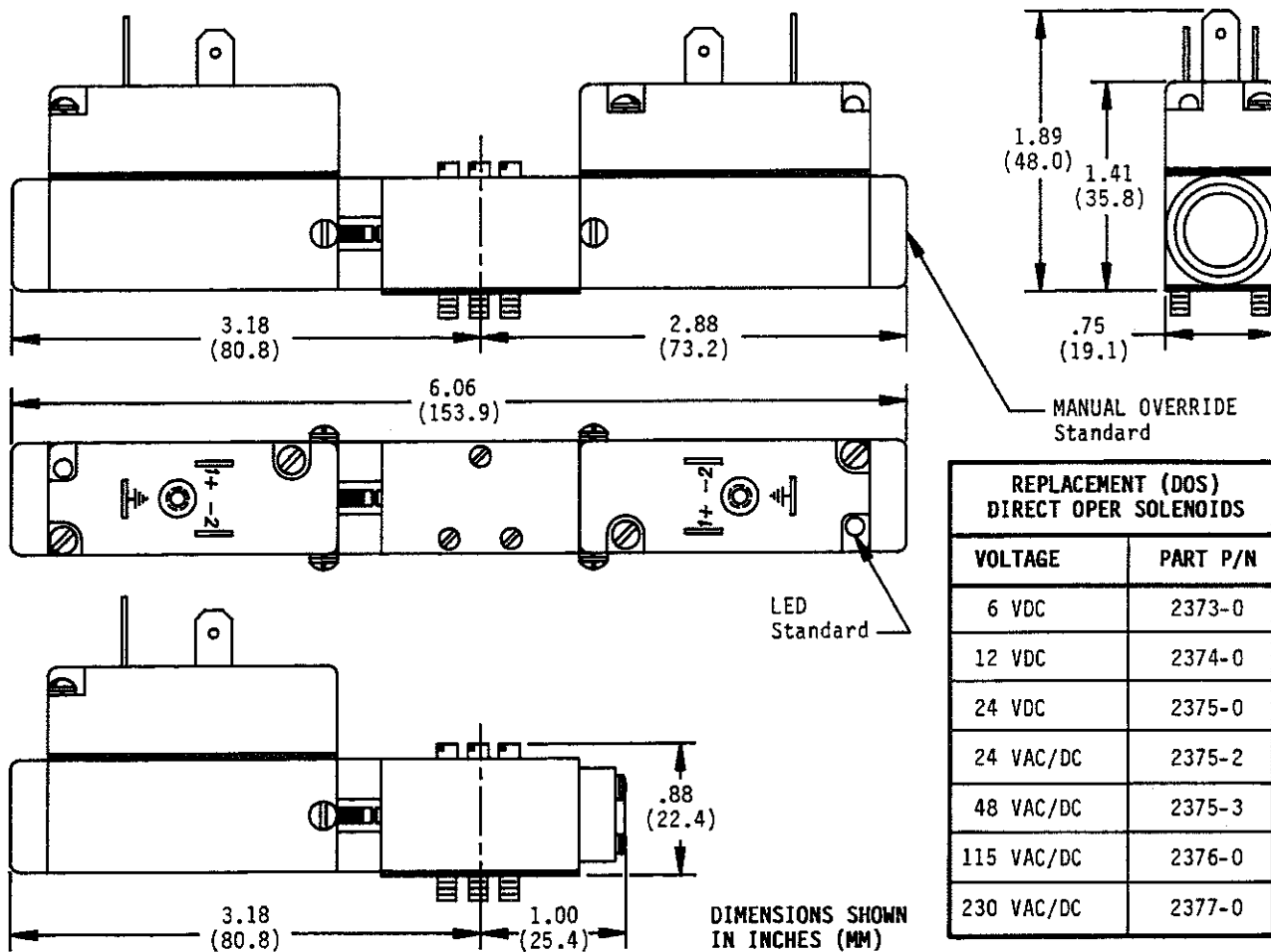
## DASH 3 VALVES

# DYNAMCO

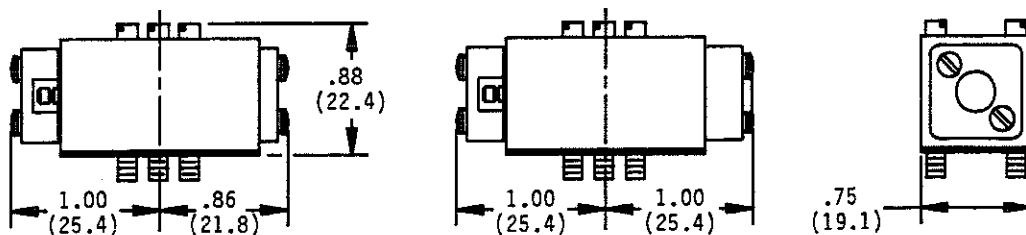
### DASH 3 DOS DIN CONNECTORS



### DASH 3 DIRECT OPERATED SOLENOID VALVES

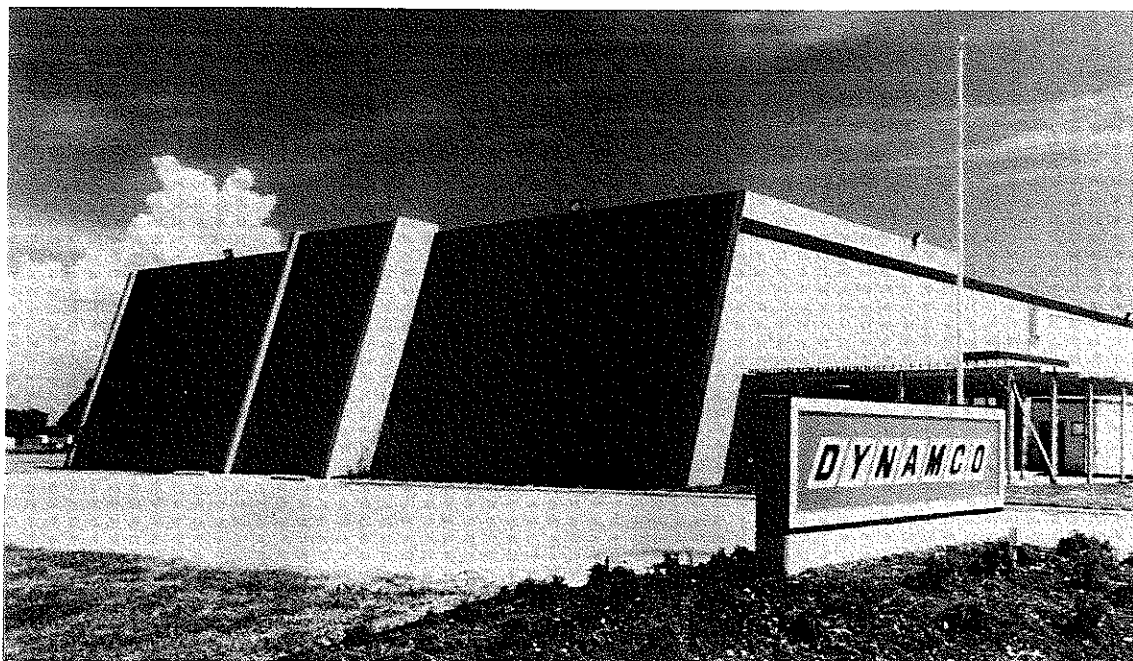


### DASH 3 AIR PILOT OPERATED VALVES



We Build Pneumatics We Sell Quality

 <p><b>211-1</b> TUBE ID x THREAD .063 x 10-32</p>	 <p><b>1291-1</b> THREAD x THREAD 10-32 x 10-32 (M5 x M5)</p>	 <p><b>209-1</b> TUBE ID .063</p>																																				
 <p><b>211-9</b> TUBE ID x THREAD .094 x 10-32 (2.5 x M5)</p>	 <p><b>1292-1</b> TUBE ID x THREAD .063 x 10-32</p>	 <p><b>1047-1</b> THREAD 10-32</p>																																				
 <p><b>211-2</b> TUBE ID x THREAD .125 x 10-32 (4.0 x M5)</p>	 <p><b>1293-1</b> TUBE ID x THREAD .125 x 10-32 (4.0 x M5)</p>	 <p><b>1241-1</b> TUBE ID .063</p>																																				
 <p><b>468-2</b> PLUG 10-32 (M5)</p>	 <p><b>1294-1</b> THREAD 10-32</p>	 <p><b>1298-1</b> THREAD 10-32</p>																																				
 <p><b>380-2</b> CAP FOR .063 BARB</p>	 <p><b>1295-1</b> TUBE ID x THREAD .063 x 10-32</p>	 <p><b>507-1</b> CAP 1/8 NPT</p>																																				
 <p><b>1046-1</b> THREAD x THREAD 10-32 x 10-32</p>	 <p><b>1296-1</b> TUBE ID x THREAD .125 x 10-32 (4.0 x M5)</p>	 <p><b>399-2</b> BULKHEAD 10-32 x 1/8 NPT</p>																																				
 <p><b>391-2</b> TUBE ID x TUBE ID .063 x .063</p>	 <p><b>524-2</b> TUBE ID x THREAD .063 x 1/8 NPT</p>	<p><b>POLYURETHANE TUBING</b></p> <p><b>SIZE .063 ID x .125 OD</b></p> <table><tr><td>COLOR</td><td>PART NUMBER</td></tr><tr><td>Clear</td><td>150-3</td></tr><tr><td>Black</td><td>148-0</td></tr><tr><td>Brown</td><td>148-1</td></tr><tr><td>Red</td><td>148-2</td></tr><tr><td>Orange</td><td>148-3</td></tr><tr><td>Yellow</td><td>148-4</td></tr><tr><td>Green</td><td>148-5</td></tr><tr><td>Blue</td><td>148-6</td></tr><tr><td>Violet</td><td>148-7</td></tr><tr><td>Gray</td><td>148-8</td></tr><tr><td>White</td><td>148-9</td></tr></table> <p><b>SIZE .125 ID x .250 OD</b></p> <table><tr><td>Clear</td><td>150-4</td></tr><tr><td>Black</td><td>149-0</td></tr><tr><td>Brown</td><td>149-1</td></tr><tr><td>Red</td><td>149-2</td></tr><tr><td>Green</td><td>149-5</td></tr><tr><td>Blue</td><td>149-6</td></tr></table>	COLOR	PART NUMBER	Clear	150-3	Black	148-0	Brown	148-1	Red	148-2	Orange	148-3	Yellow	148-4	Green	148-5	Blue	148-6	Violet	148-7	Gray	148-8	White	148-9	Clear	150-4	Black	149-0	Brown	149-1	Red	149-2	Green	149-5	Blue	149-6
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 <p><b>520-1</b> TUBE ID x TUBE ID .125 x .125 (4.0 x 4.0)</p>	 <p><b>528-1</b> THREAD x THREAD 10-32 x 1/8 NPT</p>																																					
 <p><b>210-1</b> TUBE ID x THREAD .063 x 1/8 NPT</p>	 <p><b>526-1</b> TUBE ID x THREAD .063 x 1/8 NPT</p>																																					
 <p><b>521-1</b> TUBE ID x THREAD .125 x 1/8 NPT</p>	 <p>PLUG <b>506-5</b> 1/8 NPT <b>506-6</b> 1/4 NPT</p>																																					
 <p><b>210-2</b> TUBE ID x THREAD .063 x 1/8 NPT</p>	 <p><b>510-1</b> REDUCER 1/4 - 1/8 NPT</p>																																					



### DYNAMCO WORLD HEADQUARTERS AND MODERN PNEUMATIC VALVE MANUFACTURING PLANT

DYNAMCO began operations in 1967 with the goal to design, manufacture and market the highest performance, highest quality, most reliable valves in the pneumatic industry. None of DYNAMCO's founders had previously worked in the pneumatic industry. This turned out to be a major advantage because we were not hindered by the preconceived ideas of "how things had always been done".

In order to achieve our goals we have instilled quality into everything we do. Quality begins with the product design. The design must not only have the desired performance and features but also it must be producible at DYNAMCO's quality standards. Next we develop manufacturing processes to insure finished parts and assemblies achieve or surpass their original design criteria.

Each manufacturing person is responsible not only for performing work but also for checking it to strict quality standards. Their work is then periodically reviewed by their supervisor. The type, method and frequency of the quality checks are designed into the process. Individual parts are tested before going into the final assembly. After final assembly, finished products are 100% functionally tested for performance. Only after passing these tests is the Quality Acceptance Code permanently stamped on the DYNAMCO nameplate.

Every DYNAMCO product from the simplest fitting to the most complex assembly is individually tested to meet all DYNAMCO standards. These standards are continually being upgraded and improved to maintain our leadership in the industry.

DYNAMCO has diligently worked to attract, train and retain the best workforce in the industry. Many of our key employees have been with us since the founding years of the company. Our dedicated employees take pride in assuring that our quality remains the highest priority in everything we do.

DYNAMCO is in its fourth manufacturing plant. We simply outgrew each previous building. In 1985, DYNAMCO built its own facility on a large plot of land in McKinney, Texas, USA (near Dallas). Long range plans call for DYNAMCO to continue to grow at this site by constructing new space as needed.

Today, DYNAMCO is an integrated manufacturing company with a large complement of machine tools, assembly fixtures, inspection and test equipment. We probably do more of our own manufacturing than any of our competitors. We are financially strong and independent which means you get better service and support. We sell our products throughout the world through the highest qualified local independent distributors.

DYNAMCO is proud to have established long term relationships with a large customer base in a wide variety of industries. These customers range from major international companies to specialized equipment manufacturers. This reflects DYNAMCO's capability to apply its products over a broad spectrum. DYNAMCO is eager to share with you our technical knowledge and experience to help you solve your pneumatic application requirements.