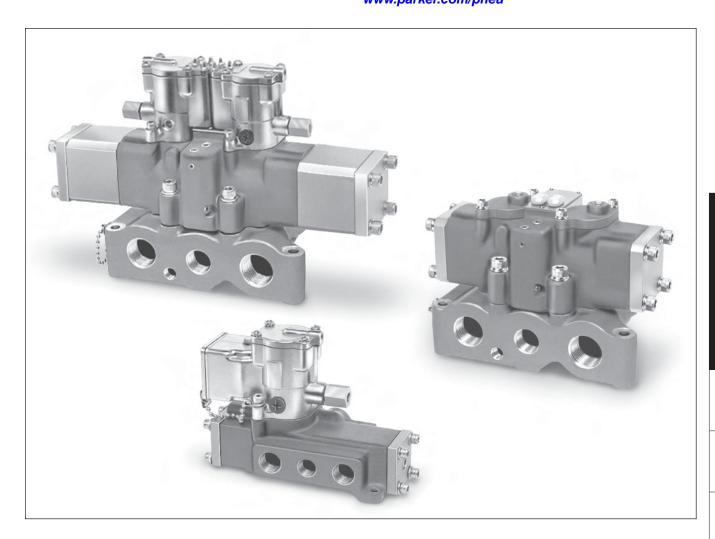


### Valvair II

### Solenoid Operated Directional Spool Valves

### Section E www.parker.com/pneu



Basic Valve Functions	E228
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### **BOLD ITEMS ARE MOST POPULAR.**



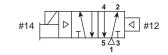
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Fieldbus Systems

Valvair II

# Valvair II Series Valves 4-Way Valve Functions

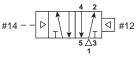
### Single Solenoid 4-Way, 2-Position



De-energized position – Solenoid operator #14 de-energized. Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

Energized position – Solenoid operator #14 energized. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

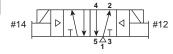
# Single Remote Pilot 4-Way, 2-Position



Normal position – Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

Operated position – Maintained air signal at port 14. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

### Double Solenoid 4-Way, 2-Position

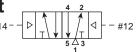


Solenoid operator #14 energized last. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

Solenoid operator #12 energized last. Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

### **Double Remote Pilot**

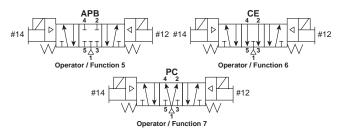
4-Way, 2-Position



Momentary air signal at port 14 last. Pressure at inlet port 1 connected to outlet port 4. Outlet port 2 connected to exhaust port 3.

Momentary air signal at port 12 last. Pressure at inlet port 1 connected to outlet port 2. Outlet port 4 connected to exhaust port 5.

### Double Solenoid 4-Way, 3-Position



With #12 operator energized – inlet port 1 connected to cylinder port 2, cylinder port 4 connected to exhaust port 5.

With #14 operator energized – inlet port 1 connected to cylinder port 4, cylinder port 2 connected to exhaust port 3.

### **Function 5: All Ports Blocked**

All ports blocked in the center position.

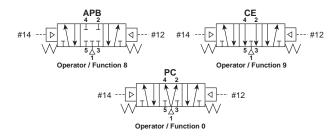
### **Function 6: Center Exhaust**

Cylinder ports 2 and 4 connected to exhaust ports 3 and 5 in center position. Port 1 is blocked.

### **Function 7: Pressure Center**

Pressure port 1 connected to cylinder ports 2 and 4, and exhaust ports 3 and 5 blocked in center position.

### Double Remote Pilot 4-Way, 3-Position



With #12 operator signaled – inlet port 1 connected to cylinder port 2, cylinder port 4 connected to exhaust port 5.

With #14 operator signaled – inlet port 1 connected to cylinder port 4, cylinder port 2 connected to exhaust port 3.

### **Function 8: All Ports Blocked**

All ports blocked in the center position.

### **Function 9: Center Exhaust**

Cylinder ports 2 and 4 connected to exhaust ports 3 and 5 in center position. Port 1 is blocked.

### **Function 0: Pressure Center**

E228

Pressure port 1 connected to cylinder ports 2 and 4, and exhaust ports 3 and 5 blocked in center position.



- Full Air Operation for fastest response.
- "Plug-In" Design simplifies maintenance and installation. Reduces downtime. No wiring or plumbing to disturb.
- "Direct Pipe" Design for economy and performance.
- Solenoids Interchange between all styles of plug-in valves.
- Variety of Operators Available; Direct Conduit, (JIC) Junction Box, NEMA 4, Hazardous Duty, (UL, CSA), and remote air pilot.
- Locking Manual Overrides Standard. Non-locking overrides optional.
- Indicator Lights Standard on 120VAC and 24VDC models.
- Encapsulated Coil designed for low-power consumption and maximum life.
- Field Convertible to External Pilot Supply for vacuum or other services.
- "Oversized" Flow Areas.
- Synthetic Rubber O-Ring Seals are specially compounded for minimum compression and friction for superior wear and abrasion resistance.
- Precision Ground Spool "floats" on O-ring seals. Closed center cross-over design saves air.
- Plug-In "Sandwich" Regulators (Available for specific models) fit between valve and base, increase systems design capabilities.
- CSA Selected Valves are Canadian Standards Association approved for general purpose use.

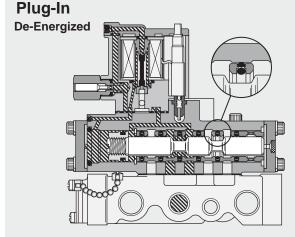
### **General Purpose Approvals**

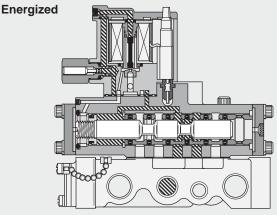
**CSA** - Canadian Standards Association File Number 42024

### **Hazardous Duty Approvals**

**UL** - Underwriters Laboratories, Inc. File Number E42542 Category Y107

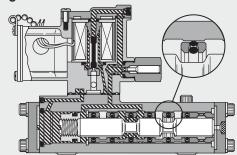
**CSA** - Canadian Standards Association File Number 24349

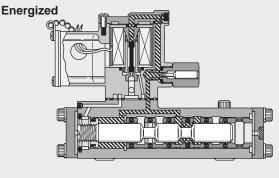




### **Direct Pipe Ported**

**De-Energized** 







**Exhaust** 

Isys Micro

sys ISO

Fieldbus Systems

Valvair II

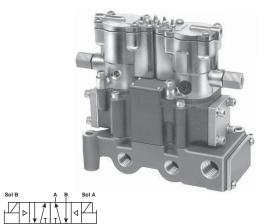


### **L675** (3/8" Basic Valve) Single Solenoid 4-Way, 5-Port, 2-Position





L655 (3/8" Basic Valve) **Double Solenoid** 4-Way, 5-Port, 2-Position



Valve Only		Voltage	Subbase	Manifold †	Port Size	Nominal	
Single Solenoid	Double Solenoid	Voltage	(Side Ports)	(End & Bottom Ports)	(NPT)	Cv	
1.6752040252	L6553910253	120V 60Hz	K022090	K142230	3/8"	4.8	
L6753910253 L655391	L0553910253	110V 50Hz	K022091	K142231	1/2"	4.8	
L67533102**	L65533102**	Other	K022101	K142270	3/4"	4.8	

See page E236 for variations and (\*\*) voltage codes.

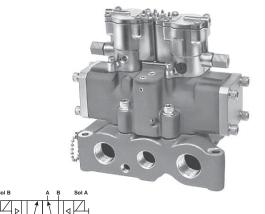
† Manifolds include mounting hardware.

### L675 (1" Basic Valve) Single Solenoid 4-Way, 5-Port, 2-Position





L655 (1" Basic Valve) **Double Solenoid** 4-Way, 5-Port, 2-Position



Valve	Only	Voltage	Subbase	Manifold <sup>†</sup>	Port Size	Port Adapter	Nomina
Single Solenoid	Double Solenoid	voitage	(Side Ports)	(End & Bottom Ports)	(NPT)	(Manifolds)	Cv
		120V 60Hz	_	_	3/4"	3/4" K122016	
L6758910253	L6558910253	110V 50Hz	K022095	_	1"	Kit Includes	11.3
<b>L67583102</b> ** <b>L65583102</b> ** Other —		_	1-1/4"	Both Ends			

E230

See page E236 for variations and (\*\*) voltage codes.

† Manifolds include mounting hardware, except for port adapters. See chart, order separately.



Isomax

Valvair II

**Double Remote Pilot** 4-Way, 5-Port, 2-Position

**L654** (3/8" Basic Valve)

Isys Micro

### **L674** (3/8" Basic Valve) **Single Remote Pilot** 4-Way, 5-Port, 2-Position







			Ā	В	
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		_	Ţ		

Valve Only		Subbase	Manifold †	Port Size	Nominal	
Single Remote	Double Remote	(Side Ports)	(End & Bottom Ports)	(NPT)	Cv	
		K022090	K142230	3/8"	4.8	
L67431102	L65431102	K022091	K142231	1/2"	4.8	
		K022101	K142270	3/4"	4.8	

<sup>†</sup> Manifolds include mounting hardware.

L674 (1" Basic Valve) **Single Remote Pilot** 4-Way, 5-Port, 2-Position





L654 (1" Basic Valve) **Double Remote Pilot** 4-Way, 5-Port, 2-Position



				A	В		
Pilot A	Т	4	П	Т	4	П	Pilot B
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- 1		т	И	₩.	/т	1	
				Т	П		
				EÀ I	PEE	3	

Valve	Valve Only		Manifold †	Port Size	Port Adapter	Nominal	
Single Remote	Double Remote	(Side Ports)	(End & Bottom Ports)	(NPT)	(Manifolds)	Cv	
	_	_	3/4"	K122016			
L67481102	L65481102	K022095	_	1"	Kit Includes	11.3	
		_	_	1-1/4"	Both Ends		

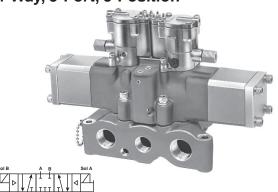
<sup>†</sup> Manifolds include mounting hardware, except for port adapters. See chart, order separately.



### L665 (3/8" Basic Valve) Double Solenoid 4-Way, 5-Port, 3-Position



L665 (1" Basic Valve) Double Solenoid 4-Way, 5-Port, 3-Position



Valve Only	Voltage	Subbase (Side Ports)	Manifold <sup>†</sup> (End & Bottom Ports)	Port Size (NPT)	Port Adapter	Nominal Cv
L6653921153	120V 60Hz	K022090	K142230	3/8"		
L0053921155	110V 50Hz	K022091	K142231	1/2"	Not Req'd	4.8
L66533211**	Other	K022101	K142270	3/4"		
1 6650024452	120V 60Hz	_	_	3/4"	K122016	
L6658921153	110V 50Hz	K022095	_	1"	Kit Includes	11.3
L66583211**	Other	_	_	1-1/4"	Both Ends	

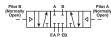
See page E236 for variations in class of neutral configuration and (\*\*) voltage codes.

### L664 (3/8" Basic Valve) Double Remote Pilot 4-Way, 5-Port, 3-Position



L664 (1" Basic Valve)
Double Remote Pilot
4-Way, 5-Port, 3-Position





Valve Only	Subbase (Side Ports)	Manifold † (End & Bottom Ports)	Port Size (NPT)	Port Adapter	Nominal Cv	
	K022090	K142230	3/8"			
L66431211	K022091	K142231	1/2"	Not Req'd	4.8	
	K022101	K142270	3/4"			
	_	_	3/4"	K122016		
L66481211	K022095	_	1" Kit Incli		11.3	
	_	_	1-1/4"	Both Ends		

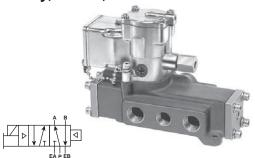
See page E236 for variations in class of neutral configurations.

†Manifolds include mounting hardware.



<sup>†</sup> Manifolds include mounting hardware, except for port adapters. See chart, order separately.

### L705 (3/8" Basic Valve) Single Solenoid 4-Way, 5-Port, 2-Position





Valve		Voltage	Port Si	ze (NPT)	Operator	Nominal
Single Solenoid	Double Solenoid	] Voltage	P, A & B	EA & EB	Туре	Cv
L7053910253	L6853910253	120V 60Hz	3/8"	1/2"	Junction	4.0
L7054910253	L6854910253	110V 50Hz	1/2"	1/2"	Box	4.8
L70536102**	L68536102**	Other	3/8"	1/2"	Junction	4.0
L70546102**	L68546102**	Other	1/2"	1/2"	Box	4.8
L70533102**	L68533102**	٨٣٠	3/8"	1/2"	Basic	4.0
L70543102**	L68543102**	Any	1/2"	1/2"	Dasic	4.8
L70533802**	L68533802**	٨٣٠	3/8"	1/2"	NEMA 4	4.0
L70543802**	L68543802**	Any	1/2"	1/2"	INEIVIA 4	4.8
L70533602**	L68533602**	See Voltage	3/8"	1/2"	† Hazardous	4.0
L70543602**	L68543602**	Chart	1/2"	1/2"	Duty	4.8

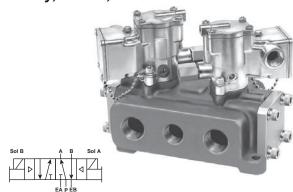
See page E237 for variations and (\*\*) voltage codes.

†UL & CSA Approved.

L705 (1" Basic Valve) Single Solenoid 4-Way, 5-Port, 2-Position



L685 (1" Basic Valve)
Double Solenoid
4-Way, 5-Port, 2-Position



EAPED						
Valve		Valtage	Port Size (NPT)		Time	Nominal
Single Solenoid	Double Solenoid	Voltage	P, A & B	EA & EB	Туре	Cv
L7058910253	L6858910253	110V 50Hz	1"	1-1/4"	Junction	12.0
L7059910253	L6859910253	1100 5002	1-1/4"	1-1/4"	Box	12.0
L70586102**	L68586102**	Other	1"	1-1/4"	Junction	40.0
L70596102**	L68596102**	Other	1-1/4"	1-1/4"	Box	12.0
L70583602**	L68583602**	See Voltage	1"	1-1/4"	†Hazardous	12.0
L70593602**	L68593602**	Chart	1-1/4"	1-1/4"	Duty	12.0

E233

See page E237 for variations and (\*\*) voltage codes.

<sup>†</sup>UL & CSA Approved.



### **Solenoid Operated**

L704 (3/8" Basic Valve) Single Remote Pilot 4-Way, 5-Port, 2-Position L684 (3/8" Basic Valve)
Double Remote Pilot
4-Way, 5-Port, 2-Position

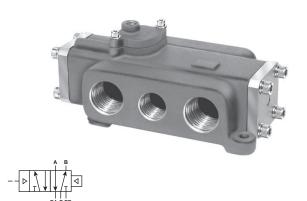




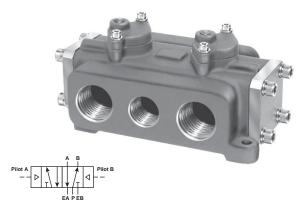
Va	lve	Port Size (NPT)		Port Size (NPT) Nomin		Nominal
Single Remote	Double Remote	P, A & B	EA & EB	Cv		
L70431102	L68431102	3/8"	1/2"	4.0		
L70441102	L68441102	1/2"	1/2"	4.8		

Valvair II

L704 (1" Basic Valve) Single Remote Pilot 4-Way, 5-Port, 2-Position



L684 (1" Basic Valve)
Double Remote Pilot
4-Way, 5-Port, 2-Position



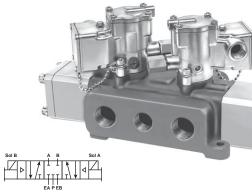
Va	lve	Port Size (NPT)		Nominal
Single Remote	Double Remote	P, A & B	EA & EB	Cv
L70481102	L68481102	1"	1-1/4"	40.0
L70491102	L68491102	1-1/4"	1-1/4"	12.0



4-Way, 5-Port, 3-Position

### L695 (3/8" Basic Valve) Double Solenoid 4-Way, 5-Port, 3-Position



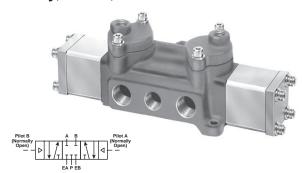


Sol B		Ą	В			Sol A
. 71.	1	1	1	1	П	171.
m P	↓ / ₊	١,,	. т	٠, اــ	IJ₫	М
		т	+			_
		EA F	EB			

Val	ve	Voltage	Port Size (NPT)		Turno	Nominal
3/8" Basic Size	1" Basic Size		P, A & B	EA & EB	Туре	Cv
L6953921153	_		3/8"	1/2"		4.5
L6954921153	<del>_</del>	120V 60Hz 110V 50Hz	1/2"	1/2"	Junction Box	4.5
_	L6958921153	110 / 30112	1"	1-1/4"		12.0
_	L6959921153		1-1/4"	1-1/4"		
L69536211**	_		3/8"	1/2"	Davis	4.5
L69546211**	<del>_</del>	Other	1/2"	1/2"		
_	L69586211**	Other	Other 1" 1-1/4" Basic	40.0		
_	L69596211**		1-1/4"	1-1/4"	1	12.0

See page E237 for variations in class of neutral configuration and (\*\*) voltage codes.

### L695 (3/8" Basic Valve) Double Remote Pilot 4-Way, 5-Port, 3-Position



# L695 (1" Basic Valve) Double Remote Pilot 4-Way, 5-Port, 3-Position



Valve	Port Si	Nominal	
Valve	P, A & B	EA & EB	Cv
L69431211	3/8"	1/2"	4.5
L69441211	1/2"	1/2"	4.5
L69481211	1"	1-1/4"	40.0
L69491211	1-1/4"	1-1/4"	12.0

See page E237 for ordering other neutral configurations.

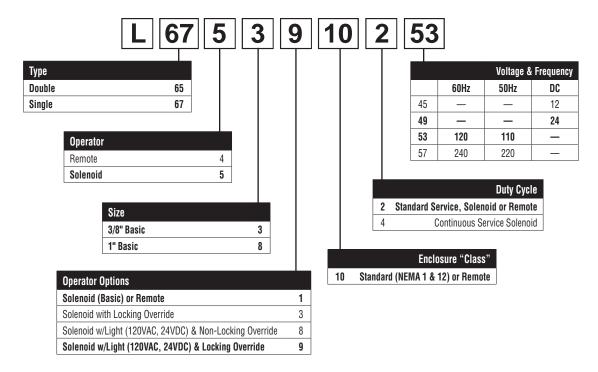


# Fieldbus DX Systems Isomax

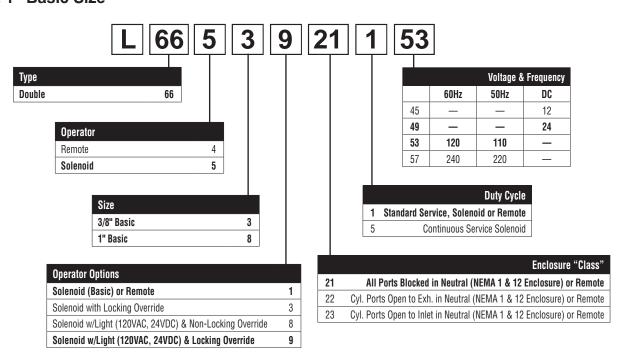
Valvair II

Lubricated Non-Lubricated Service 2-Position, Plug-In 3/8" & 1" Basic Size

### **BOLD ITEMS ARE MOST POPULAR.**



Lubricated or Non-Lubricated Service 3-Position, Plug-In 3/8" & 1" Basic Size



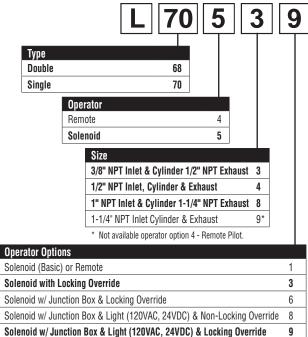


3/8" & 1" Basic Size

Isys Micro

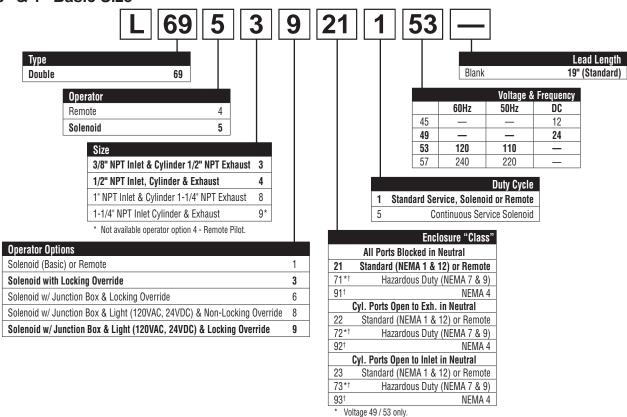
# Lubricated or Non-Lubricated Service 2-Position, Direct Pipe Ported,

### **BOLD ITEMS ARE MOST POPULAR.**



Lead Length Blank 19" (Standard) Voltage & Frequency 60Hz 50Hz DC 45 12 49 24 110 53 120 57 220 240 **Duty Cycle** 2 Standard Service, Solenoid or Remote Continuous Service Solenoid Enclosure "Class" Standard (NEMA 1 & 12) or Remote 10 Hazardous Duty (NEMA 7 & 9) 60\*† 80<sup>†</sup> NEMA 4 Voltage 49 / 53 only. Use with operator options 1, 2 & 3 only, voltage

# Lubricated or Non-Lubricated Service 3-Position, Direct Pipe Ported, 3/8" & 1" Basic Size





Use with operator options 1, 2 & 3 only, voltage

### **Features**

### **Modular Pneumatic Controls Plug-In** Sandwich Block Design for Modular Port Regulation

These modular regulators assemble to any 3/8" basic valve interface pattern.

### **Port Regulation Made Easy**

Place the sandwich on the manifold or subbase, tighten the four securing screws, then plug the valve into the sandwich and tighten its securing screws to complete the assembly.

Within minutes, these modular components can be installed in new, or used to improve existing manifold systems, without disturbing wiring or air connections.

### **3-Configurations**

- 1. Common Port Regulation A common regulated pressure is selected to both cylinder ports.
- 2. Single Port Regulation Line pressure is available to one cylinder port, while a single regulated pressure is selected to the other cylinder port.
- 3. Independent Port Regulation Two independently regulated pressures selected to the cylinder ports.

NOTE: When using single or independent port sandwich regulators, be aware that:

- Cylinder port outlets are reversed.
- 2. 3-Position, cylinder ports open to exhaust and cylinder ports open to inlet functions are reversed. To produce a cylinder ports open to exhaust function, order valve with cylinder ports open to inlet. To produce a cylinder ports open to inlet function, order valve with cylinder ports open to

Manual or Remote secondary pressure adjustment.

Three Pressure Ranges are standard for manual

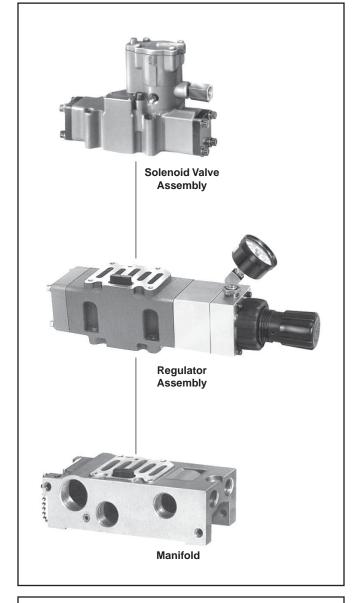
1-30 PSIG

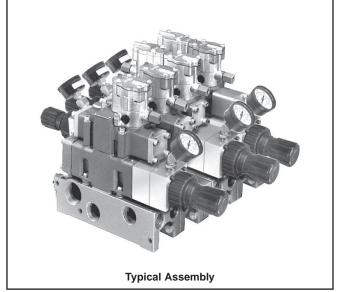
1-60 PSIG

2-125 PSIG

Range for Remote: 0-140 PSIG

Gauges are furnished standard; liquid filled gauges are optional.









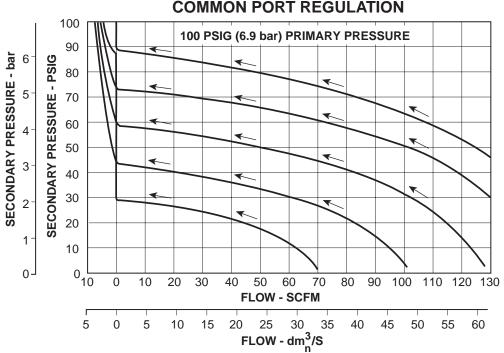




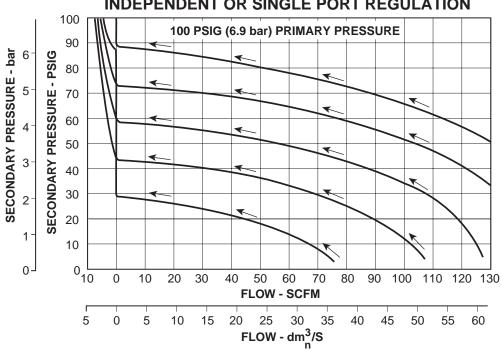




## RELIEF AND FLOW CHARACTERISTICS COMMON PORT REGULATION



### RELIEF AND FLOW CHARACTERISTICS INDEPENDENT OR SINGLE PORT REGULATION



The above curves illustrate flow characteristics through an assembled valve, air regulator, and base (or modular manifold) unit.



### Common Port Regulation

### **Function**

This modular air pressure regulator assembly, installed between a 3/8" basic, 4-Way valve and subbase, supplies regulated pressures to both cylinder ports.

Valve must be converted to external pilot supply.

### **Features**

Regulated pressure output from the valve is adjusted by knob on the manually set model or by air pressure signal applied to the regulator pilot port on the remotely set model.

Furnished with pressure gauge as standard.

Assembly "A" (Shown at right) or Assembly "B" may be specified as a matter of convenience, or to satisfy space limitations.\*

### **Pressure Range Options**

Maximum Supply Pressure	140 PSIG
Output Pressure Range	1 - 60 PSIG
	2 - 125 DSIC

### **Operating Temperature Range**

32°F (0°C) to 175°F (79°C)

### **How To Order**

- 1. Select type of adjustment.
- 2. Select pressure range.
- 3. Select assembly style.

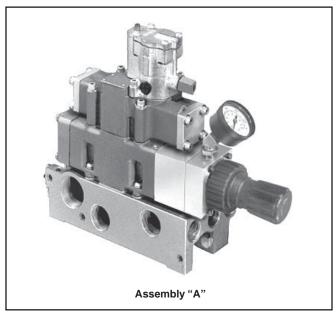
Example: Manual adjusted.

1-60 PSIG with regulator positioned over the

junction box.

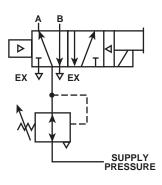
Model No. L55408302C

### Plug-In Regulators



### **Graphic Symbol**

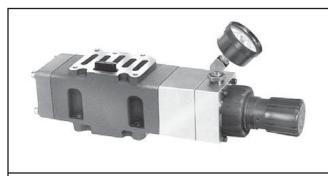
E240



Regulated Pressure at Both "A" & "B"

Pressure Adjustment	Pressure Range	Model Number	
Aujustinent	PSIG	Assembly "A"	Assembly "B"
Manual	1 - 60	L55402308C	L55408302C
Iwanuai	2 - 125	L55403308C	L55408303C
Remote	0 - 140	L55411308C	L55408311C

<sup>\*</sup> Assembly "A" places the regulator on the end opposite the electrical junction box. Assembly "B" places the regulator over the electrical junction box.
See page E245 for gauges.





### **Plug-In Regulators**

### Function

This modular air pressure regulator assembly, when installed between a 3/8" basic, 4-Way valve and subbase or modular manifold, supplies one or more regulated pressures to one of the valve cylinder ports and supply pressure to the other cylinder port.

On Single Port Cylinder Port Regulation Units controlled by a single solenoid valve, cylinder port "B" is the normally open cylinder port. The solenoid is energized to open cylinder Port "A". On double solenoid operated valves, energizing solenoid "B" opens cylinder port "A" and energizing solenoid "A" opens cylinder port "B".

Valve must be converted to external pilot supply.

### **Features**

Regulated pressure output from the valve is adjusted by knob on the manually set model or by air pressure signal applied to the regulator pilot port on the remotely set model.

For reduced pressure at "A" cylinder port, the regulator is mounted per assembly "A" on end opposite the electrical junction box. For reduced pressure at "B" cylinder port the regulator is mounted per Assembly "B" which places the regulator over the electrical junction box.

Furnished with pressure gauge as standard.

### **Pressure Range Options**

Maximum Supply Pressure	140 PSIG
Output Pressure Range	1 - 30 PSIG
	1 - 60 PSIG
	2 - 125 PSIG

### **Operating Temperature Range**

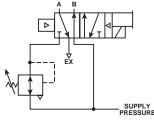
32°F (0°C) to 175°F (79°C)

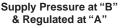
### **How To Order**

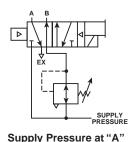
- 1. Select type of adjustment desired.
- 2. Select pressure range.
- 3. Select working port for reduced pressure.

Example: Manual adjustment, 5-60 PSIG, Port A reduced. Model No. L55405307C

### **Graphic Symbol**

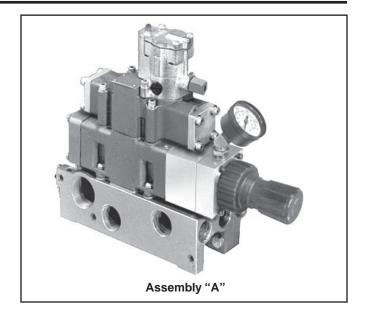






& Regulated at "B"

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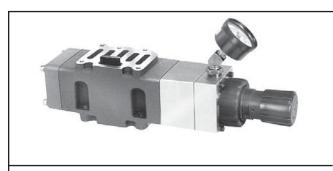


Pressure	Pressure Range	Model I	Number
Adjustment	rtungo	Reduced Pressure	
	PSIG	Cyl. Port "A"	Cyl. Port "B"
Manual	1 - 60	L55405307C	L55407305C
Manual	2 - 125	L55406307C	L55407306C
Remote	0 - 140	L55414307C	L55407314C

**Note:** When using single or independent port sandwich regulators, be aware that:

- 1. Cylinder port outlets are reversed.
- 3-Position, cylinder ports open to exhaust and cylinder ports open to inlet functions are reversed. To produce a cylinder ports open to exhaust function, order valve with cylinder ports open to inlet. To produce a cylinder ports open to inlet function, order valve with cylinder ports open to exhaust.

See page E245 for gauges.







### **Plug-In Regulators**

### Function

This modular air pressure regulation assembly, when installed between a 3/8" basic, 4-Way valve and subbase or modular manifold, supplies one or more regulated pressures to each of the valve cylinder ports.

Regulated pressure to cylinder port "A", and a second regulated pressure to cylinder port "B"; independently adjustable.

On Independent Cylinder Port Regulation Units controlled by a single solenoid valve, cylinder port "B" is the normally open cylinder port. The solenoid is energized to open cylinder port "A". On double solenoid operated valves, energizing solenoid "B" opens cylinder port "A" and energizing solenoid "A" opens cylinder port "B"

Valve must be converted to external pilot supply.

### **Features**

Regulated pressure output from the valve is adjusted by knob on the manually set model or by air pressure signal applied to the regulator pilot port on the remotely set model.

Furnished with pressure gauge as standard.

The regulator controlling pressure to port "A" is mounted on the end opposite the electrical junction box (Assembly "A"). Regulated pressure from cylinder port "B" is controlled by the regulator installed over the electrical junction box (Assembly "B").

### **Pressure Range Options**

Maximum Supply Pressure	140 PSIG
Output Pressure Range	1 - 60 PSIG
	2 - 125 PSIG

### **Operating Temperature Range**

32°F (0°C) to 175°F (79°C)

### **How To Order**

- 1. Select type of adjustment.
- 2. Select pressure range for each cylinder port.

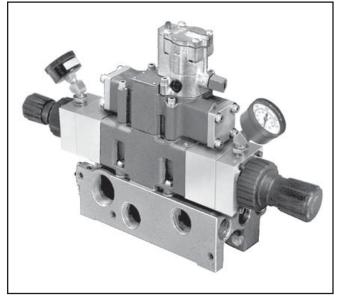
Example: Manual adjusted.

5-60 PSIG range for cylinder port "A" and 10-125 PSIG for cylinder port "B"

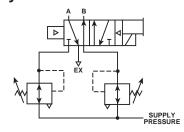
Model No. L55406305C

**NOTE:** When using single or independent port sandwich regulators, be aware that:

- 1. Cylinder port outlets are reversed.
- 2. 3-Position, cylinder ports open to exhaust and cylinder ports open to inlet functions are reversed. To produce a cylinder ports open to exhaust function, order valve with cylinder ports open to inlet. To produce a cylinder ports open to inlet function, order valve with cylinder ports open to exhaust.



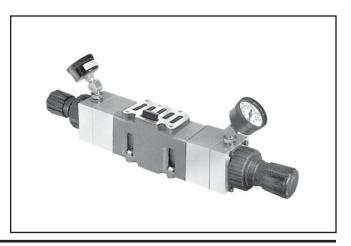
### **Graphic Symbol**



Independently Regulated Pressure at Both "A" & "B"

Pressure	Cylinder Port "A"	Model I	Number
Adjustment	TOILA	Cylinder Port "B"	
	PSIG	5 - 60	10 - 125†
Manual	1 - 60	L55405305C	_
Remote	0 - 140	_	L55414314C <sup>†</sup>

<sup>†</sup> Remote operator units 0-140 PSIG













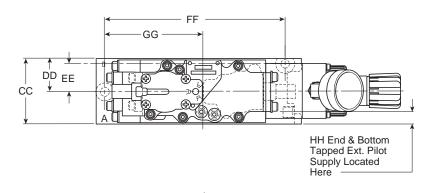
Valvair II

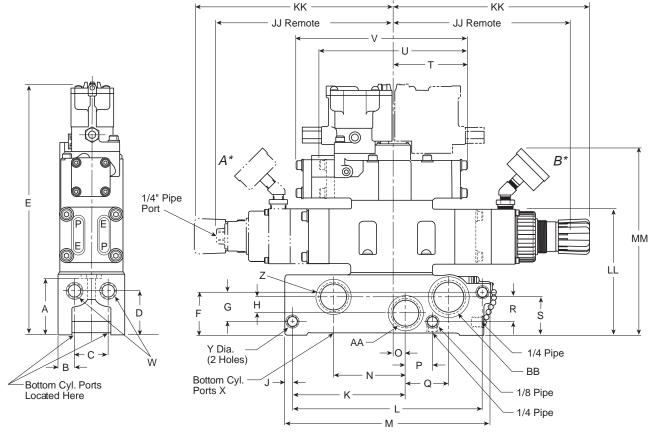


**Dimensional Data** 

### g in Regulators, 5,6 Basic valve

\* Assembly "A" places the regulator on the end opposite the electrical junction box. Assembly "B" places the regulator over the electrical junction box.





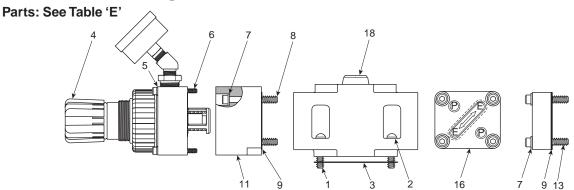
<b>A</b> 2.56 (65.0)	<b>B</b> .75 (19.1)	<b>C</b> 1.50 (38.1)	<b>D</b> 2.09 (53.1)	E 11.28 (286.5)	<b>F</b> 2.06 (52.3)	<b>G</b> 1.41 (35.8)	<b>H</b> .75 (19.1)	.34 (8.64)	<b>K</b> 5.00 (127.0)	8.44 (214.4)	<b>M</b> 9.09 (230.9)	<b>N</b> 3.19 (81.0)
<b>O</b> .61 (15.5)	<b>P</b> 1.19 (30.2)	<b>Q</b> 1.91 (48.5)	R 1.09 (27.7)	<b>S</b> 1.81 (46.0)	<b>T</b> 3.32 (84.3)	<b>U</b> 6.64 (168.7)	<b>V</b> 7.56 (192.0)	3/8", 7 3/4" f		<b>Y</b> .39 (9.9)	<b>Z</b> 1" NPTF	AA 1" NPTF
<b>BB</b> 1-1/4" NPTF	3.00 (76.2)	<b>DD</b> 1.50 (38.1)	EE 1.24 (31.5)	<b>FF</b> 7.97 (202.4)	<b>GG</b> 4.34 (110.2)	HH .40 (10.2)	<b>JJ</b> 8.53 (216.6)	<b>KK</b> 10.15 (257.8)	<b>LL</b> 5.46 (138.6)	MM 8.80 (223.5)		

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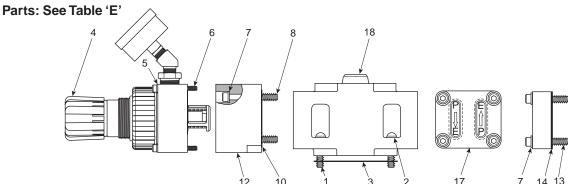
Inches (mm)



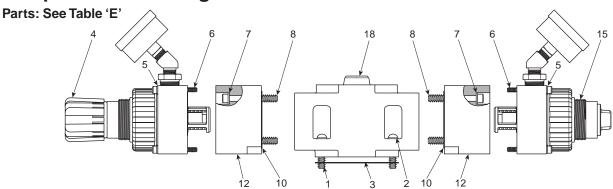
### **Common Port Regulation**



### **Single Port Regulation**



### **Independent Port Regulation**

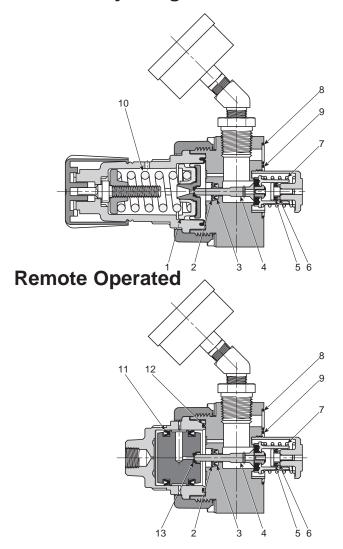


### Table "E": Parts

Item No.	Part Number	Description	Item No.	Part Number	Description
1	H09815	Screw (4)	9	K183082	Gasket
2	H17512	Lockwasher (4)	10	K183084	Gasket
3	K183077	Gasket	11	K043012	Function Block (P to P)
	Standard	Manual Reg. Assy. (w/Gauge)	12	K043011	Function Block (P to E)
,	K472001C	1-30 PSIG	13	H100107	1/4-20 x 1-1/2" Lg. SHCS
4	K472002C	1-60 PSIG	14	K183083	Gasket
	K472003C	2-125 PSIG	15	Standard	Remote Reg. Assy. (w/Gauge)
5	H17509	#10 Lockwasher	15	K472009C	0-140 PSIG
6	H10032	#10-32 x 1.75" Lg. SHCS	16	K362308	Function Plate Assy. (Incl. 7, 9, 13)
7	H17511	1/4" Lockwasher	17	K362307	Function Plate Assy. (Incl. 7, 13, 14)
8	H10069	1/4-20 x 2.25" Lg. SHCS	18	K032270	Body Assy. (Incl. 1, 2, 3)

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### **Manual Adjusting**



### **Replacement Parts**

Item No.	Part N	umber	Description
1	0		Diaphragm Assembly
2	0	•	Retaining Ring
3	0	•	Vee Packing
4	0	•	Poppet Assembly
5	0	•	Vee Packing
6	0	•	Backflow Retainer
7	0	•	Poppet Spring
8	0	•	.989 ID x .070 W O-Ring
9	0	•	1.301 ID x .070 W O-Ring
	P01	698	1-30 PSI Spring
10	P04	062	1-60 PSI Spring (Blue)
	P04	063	2-125 PSI Spring
11			Vee Packing
12			1.674 ID x .103 W O-Ring
13			Vent Seal

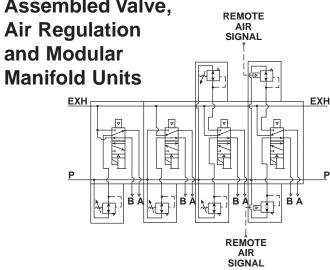
- Parts included in K352409 Service Kit for Manual Operated Modular Regulators.
- Parts included in K352411 Service Kit for Remote Operated Modular Regulators.

### **Replacement Gauges**

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PSIG	Standard
0-60	K4520N14060
0-160	K4520N14160
0-300	K4520N14300

# Suggested Schematic of Assembled Valve,



### **Blank Station Covers**

Manifold Assembly	Blank Cover Kit
_	K06020007
K142230	
K142231	K06020003
K142270	
K142233	K06020009
K142236	K06020004

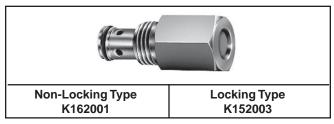
# Flush Type" Hex Drive Pipe Plugs for Port Isolation

Part No.	Size (NPTF)
K21R02012L	1/8"
K21R02025L	1/4"
K21R02037L	3/8"
K21R02050L	1/2"
K21R02075L	3/4"

# **Conversion Kits: Lubricated to Non-Lubricated Operation**

Basic	Operators (Solenoid or Remote Pilot)				
Size	Single	Double (2-Position)			
3/8"	K322012	K322013			

# Interchangeable Manual Override Assemblies for Solenoid Operators



To override valve, use a flat head screwdriver to press in and rotate plunger 90° until plunger locks in place. For proper valve operation, override should be in the out position.

### **Service Kits**

To use this chart you must know the Basic Valve Series, Quantity, and Type of Operators, or the first three characters of the Valve Model Number.

Basic Valve			Solenoid (	)perated *		Domo	la Dilat
			d Service tent Duty)	Special Service ** (Continuous Duty)		Remote Pilot Operated	
Size	Series (Prefix)	Single	Double 2 & 3-Position	Single	Double 2 & 3-Position	Single	Double 2 & 3-Position
	L65	-	K352126	-	K352127	-	K352355
	L66	-	K352126	-	K352127	-	K352355
3/8"	L67	K352124	-	K352125	-	K352362	-
3/0	L68	-	K352126	-	K352127	-	K352355
	L69	-	K352126	1	K352127	ı	K352355
	L70	K352124	-	K352125	-	K352362	-
	L65	-	K352130	-	K352131	-	K352360
	L66	-	K352130	-	K352131	-	K352360
1"	L67	K352128	-	K352129	-	K352359	-
'	L68	-	K352130	_	K352131	-	K352360
	L69	-	K352130	-	K352131	-	K352360
	L70	K352128	_	K352129	_	K352359	_

### Notes:

- \* Kits for solenoid operated valves include solenoid service kits.
- \*\*Special service (continuous duty) solenoids may be identified as having gold colored solenoid tops.

### **Voltage Suffix Codes**

Code	Voltage			Coil Number		
**	60 Hz	50 Hz DC		Plug-In	Flying Lead (19") *	
49	ı	ı	24†	K593060 K593274‡	K593014	
53	120†	110	-	K593071 K593125‡	K593025	
57	240†	220	_	K593081	K593035	

Notes: Bold Face type indicated primary coil rating.

- † Indicates voltages approved for solenoid operators designed for use in hazardous locations. (See page E251.)
- \* 19" Coil lead length is standard. Other lead lengths may be available, consult supplier.
- ‡ Assembly includes indicator light socket, less light.

# **Electrical Connectors Single or Double Solenoid Valves**

Basic	Valve	Body	Subbase / Manifold		
Size	Single Solenoid	Double Solenoid	19" Leads	72" Leads	
3/8" 1"	H02723	H02722	H02713	H02789	



### **Pilots**

### **Plug-In Pilot**



Description	Standard	d Service	Special Service		
Override Type	Locking	Non-Locking	Locking	Non-Locking	
With Override (120VAC)	K175903553	K175803553	K185902553	K185802553	
With Override (Other than 120VAC)	K1753035**	_	K1853025**	_	

<sup>\*\*</sup> See voltages on page E246.

### **NEMA 1 & 12**



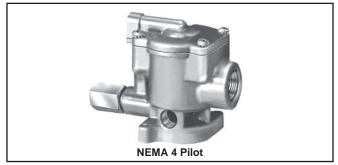


Description	Standard Service		Special Service	
Override Type	Locking	Non-Locking	Locking	Non-Locking
Basic with Override	K0653035**	_	K0853025**	_
JIC with Junction Box & Override	K0656035**	K0655035**	K0856025**	K0855025**
JIC Pilot with Junction Box & Override & Indicator Lights (120VAC Only)	K0659035**	K0658035**	K0859025**	K0858025**

<sup>\*\*</sup> See voltages on page E246.

### **NEMA 4, 7 & 9**





Description	Standar	Standard Service		Special Service	
Hazardous Duty Pilot - UL & CSA	K0251035**†		K0451025** <sup>†</sup>		
NEMA 4 Pilot	K2351035** <sup>†</sup> —		_		
Override Type	Locking	Non-Locking	Locking	Non-Locking	
Hazardous Duty with Override	K0253035**†	K0252035**†	K0453025**†	K0452025**†	
NEMA 4 with Override	_	K2353035**†	K2352035**†	_	

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<sup>† 49 / 53</sup> only \*\* See voltages on page E246.



### **Technical Information**

### Installation

Valves should be installed with reasonable accessibility for service. Exercise care in keeping piping lengths to a minimum. Piping should be free of dirt, chips & scale. Pipe joint compound should be used sparingly applied only to the thread, never to the valve body. Avoid undue strain at piping joints. Protect the valve from exposure to extreme temperatures, dirt and moisture to maximize life.

**Note:** Valves equipped with locking manual overrides. Override(s) must be in the fully extended position for proper valve operation.

### **Double Solenoid / Remote Caution**

**Note:** It is recommended that double solenoid and double remote 2-Position valves be mounted with the main spool in the horizontal plane.

### Wiring Instructions for Base Mounted Valves

### Single Solenoid:

Use wires marked "2" & "3" for connection. Units with DC Solenoids and indicator lights are polarity sensitive. Wire marked "3" is positive (+).

### **Double Solenoid:**

Use wires marked "1" & "2" for Solenoid "A". Use wires marked "3" & "4" for Solenoid "B". Units with DC Solenoids and indicator lights are polarity sensitive. Wires marked "1" and "3" are positive.

### ⚠ Caution:

DC Solenoids are polarity sensitive. Observe polarities indicated above.

### Units with Flying Leads

Wires are not polarity sensitive.



DC solenoids with indicator lights and / or arc suppression coils are polarity sensitive. Use red wire as positive.

### **Listing Agencies**

### **General Purpose Approvals**

**CSA** - Canadian Standards Association File Number 42024

### **Hazardous Duty Approvals**

UL - Underwriters Laboratories, Inc.
 File Number E42542
 Category Y107

**CSA** - Canadian Standards Association File Number 24349

See page E251 for Approved Hazardous Location Class, Group & Division.

### Engineering Data

# "Special Service" Solenoid (Continuous Duty)

Special Service Solenoids are designed for use when the solenoid duty cycle is greater that 70% or when energization times are for 10 minutes or longer.

These solenoids should be used when valves are to be held energized for hours, days or weeks... or when extended ambient temperature operation is required. Apply the duty cycle formula to determine if this type of solenoid is required.

### **Duty Cycle Formula**

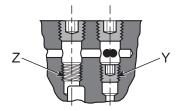
Time Energized

x 100 = % Duty Cycle

Time Energized + Time Off

If Duty Cycle is 70% or greater, then Special Service (Continuous Duty) Solenoid should be used.

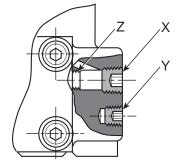
### **Pilot Supply Conversion**



### **Base Mounted**

For field conversion to external pilot supply, remove two 1/8" NPTF plugs from top of valve body and move bottom plug from "Y" to "Z".

Replace 1/8" NPTF plugs and connect pilot pressure to the 1/4" NPTF external pilot supply port "X" in subbase.



### **Direct Pipe Ported**

For field conversion to external pilot supply, remove and discard 1/4" NPTF plug in external pilot supply port "X". Move stored plug "Y" to location "Z" in bottom of pilot supply port "X". Then connect pilot pressure to port "X" in valve body.



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Fieldbus Systems

DX Isoma

Valvair II



### **Technical Information**

### **Flow Capacities**

Valve Type	Cylinder Port Size (NPTF)	Mounting Style	Cv Flow Rating Inlet to Cylinder "A"
3/8" Double	3/4"	Subbase	5.0
3/8" Double	3/4"	Manifold	4.9
3/8" Double	3/4"	Subbase	4.5
3-Position	3/4"	Manifold	4.1
1" Single & Double	1"	Subbase	11.3

Valve Type	Cylinder Port Size (NPTF)	Mounting Style	Cv Flow Rating Inlet to Cylinder "A"
2/9" Single	3/8"	Direct Pipe	4.7
3/8" Single	1/2"	Direct Pipe	5.3
3/8" Double	3/8"	Direct Pipe	4.5
3/6 Double	1/2"	Direct Pipe	5.5
3/8" Double	3/8"	Direct Pipe	4.1
3-Position	1/2"	Direct Pipe	4.5
1" Single & Double	1"	Direct Pipe	12.0

### **Materials of Construction**

Valve Bodies ...... Aluminum alloy
Valve Spool –

\* Aluminum alloy with special coating on 3/8" basic valves
Hard chrome plated AISI type 416 stainless steel on 1/4" & 1/2"

### Resilient Seals: In Valve Body -

basic valves.

Dynamic	Polyurethane	base on 3/8" basic valves*
Static / Dynami	c	Nitrile base w / 12%
N	lolybdenum Disulphide	on 1/4" & 1/2" basic valves
Other Seals		Nitrile
Shock Pads		Polyurethane
Valve Spacers		Brass
Manifolds & Sub	bases	Aluminum alloy
	nents	Plated zinc alloy Corrosion resistant steel
		NitrileFluorocarbon & Silicone
Other Seals		Nitrile
		ess "B" epoxy encapsulated

 <sup>\*</sup> These materials are specially designed for valves used on non-lubricated service

### **Recommended Filtration**

Maintained 40 Micron Filtration

### Life Expectancy

Valves designed for non-lubricated service as well as those designed for lubricated service will provide millions of maintenance free cycles. Under laboratory conditions service life exceeds 25,000,000 cycles.

### **Factory Pre-Lubrication**

Valves are lubricated at assembly with Sunaplex 781 or equivalent. Valves specified for vacuum service are lubricated with Dow Corning Valve Seal A.

### **Valves for Non-Lubricated Service**

3/8" basic valve sizes are designed to operate in applications where in-service lubrication is not desirable. Valves are factory pre-lubed as noted above. These valves may be used for lubricated service as well.

### Lubrication

Air Line Lubricant (compatible with Nitrile & Polyurethane seals) must readily atomize and be of the medium analine type. Analine point range must be between 180° and 220°F.

Viscosity @ 100°F: 140-170 SUS.

### **Recommended Lubricant**

If in-service lubrication is required, use F442 oil, or equivalent. F442 is specially formulated to provide peak performance and maximum service life for air operated equipment.



### **Pressure Range for Solenoid Operated Valves**

Media	Internal Pilot Supply Basic Valve Size			External Pilot Supply Basic Valve Size			
	1/4" 3/8" 1/2"		1/4"		3/8"	1/2"	1"
Air	35-140* PSIG		N.A.	Main	0-250 PSIG		
All				Pilot	3	5-140* PSI	3
\/a a	Do Not Use		NI A	Main	Withi	in 1 Hg of Pe	erfect
Vacuum			N.A.	Pilot	3	5-140* PSI	3
Other	Consult Supplier						

<sup>\* 200</sup> PSIG Solenoid Is Optional (consult supplier).

# **Pressure Range for Remote Pilot Operated Valves**

Madia		Valve Type			
Media		Single	Double & 3-Position		
۸:۰	Main	35-250 PSIG	0-250 PSIG		
Air Pilot		35-200 PSIG	35-200 PSIG		
\/a a	Main	Do Not Use	Within 1" Hg of Perfect		
Vacuum	Pilot	Do Not Use	35-200 PSIG		
Other	Consult Supplier				

# Ambient Temperature Range Standard Service Solenoid Operator

Minimum	Maximum			
	Intermittent Duty Continuous Duty			
0°F	125°F	100°F		

### Special Service (Continuous Duty) Solenoid Operator

Minimum	Maximum					
	Intermittent Duty	Continuous Duty				
0°F	125°F	125°F				

As the above chart indicates, Standard Duty Solenoids may be used on continuous duty but ambient temperature is de-rated.

In some cases, Special Service Solenoids may be rated for higher ambient temperatures (consult supplier).

# Ambient Temperature Range Remote Pilot Operated Valves

Minimum	Maximum	
0°F	200°F	

### / Caution:

If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage and unpredictable behavior.



### **Solenoid Enclosure Ratings**

Туре	Listing Agency	NEMA Rating	Description
Plug-In	Plug-In CSA		General Purpose Indoor Only Dust Tight
Conduit / Flying Lead	CSA	1 & 12	General Purpose Indoor Only Dust Tight
* Conduit (As Specified)	UL & CSA	7 & 9	Hazardous Location See Chart Below)
* Conduit (As Specified)	CSA	4	General Purpose Indoor / Outdoor

<sup>\*</sup> See ordering information on specific valve type. (Direct Pipe Ported Valves Only.)

### **Solenoid Characteristics Chart**

Voltage Range +10/-15% of Nominal

	3/8" & 3/4" Basic - L-Pilot					
Voltage/ Cycles	Amps Inrush	Amps Holding	Resistance Ohms	Watts	Insulation Class	
120/60VAC	.29	.18	122	12	В	
110/50VAC	.21	.14	122	12	В	
240/60VAC	.18	.12	610	12	В	
24/60VAC	1.6	1.0	4.5	9.5	В	
24/50VAC	1.2	.75	6.4	9.5	В	
6VDC	-	1.4	4.5	7.6	В	
12VDC	-	.66	17.7	9	В	
24VDC	-	.32	71	9	В	
48VDC	-	.22	216	11	В	

### **Hazardous Duty Solenoid Listing**

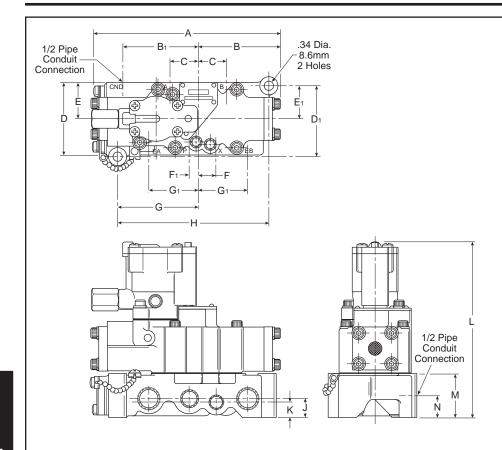
Valves with solenoid operators designated for hazardous locations are UL & CSA Approved as follows:

National Electric Code	Ambient Conditions	NEMA Classification
Class I Div. 1 Group C	Ethyl, Ether, Etc., Gases & Vapors	VII (7)
Class I Div. 1 Group D	Gasoline, Etc., Gases & Vapors	VII (7)
Class I Div. 2 Group B	Butadiene, Etc., Liquid, Fluid or Vapor Normally Contained, or Atmosphere Ventilated	VII (7)
Class II Div. 1 Group E	Metal Dust	IX (9)
Class II Div. 1 Group F	Coal, Coke, Carbon Black Dust	IX (9)
Class II Div. 1 Group G	Flour, Starch, Grain Dust	IX (9)

See Article 500 - Hazardous (Classified) Locations, National Electric Code.



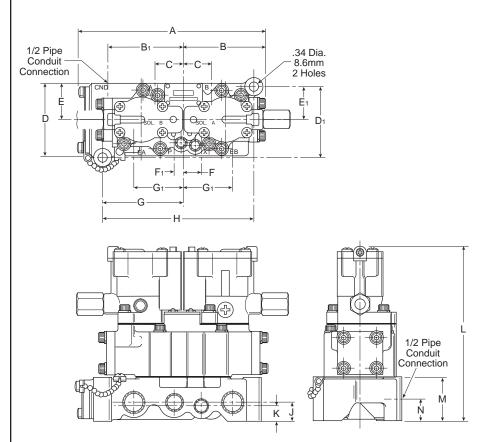
Valvair II



### **Dimensions**

<b>A</b>	<b>B</b>	<b>B</b> <sub>1</sub> 2.94 (74.7)	<b>C</b>
7.56	3.32		1.12
(192)	(84.3)		(28.4)
<b>D</b> 2.88 (73.2)	<b>D</b> <sub>1</sub> 2.84 (72.1)	E 1.44 (36.6)	E <sub>1</sub> 1.34 (34)
<b>F</b>	<b>F</b> <sub>1</sub> .38 (9.7)	<b>G</b>	<b>G</b> <sub>1</sub>
75		3.16	2.00
(19.1)		(80.3)	(50.8)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
6.03	.75	.62	6.93
(153.2)	(19.1)	(15.7)	176)
<b>M</b> 1.75 (44.5)	<b>N</b> 1.00 (25.4)		

Inches (mm)



### **Dimensions**

<b>A</b>	<b>B</b>	<b>B</b> <sub>1</sub>	<b>C</b>
7.38	3.32	2.94	1.12
(187.5)	(84.3)	(74.7)	(28.4)
<b>D</b> 2.88 (73.2)	<b>D</b> <sub>1</sub> 2.84 (72.1)	<b>E</b> 1.44 (36.6)	E <sub>1</sub> 1.34 (34)
<b>F</b>	<b>F</b> <sub>1</sub> .38 (9.7)	<b>G</b>	<b>G</b> <sub>1</sub>
.75		3.16	2.00
(19.1)		(80.3)	(50.8)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
6.03	.75	.62	6.93
(153.2)	(19.1)	(15.7)	(176)
<b>M</b> 1.75 (44.5)	<b>N</b> 1.00 (25.4)		

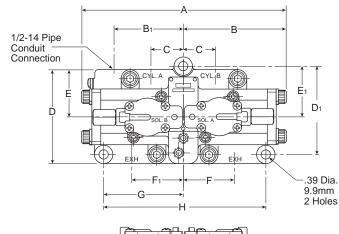
Inches (mm)

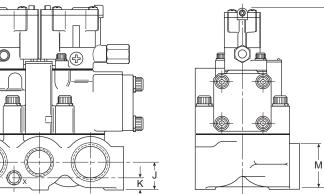
# 1/2 Pipe Conduit Connection CYL A CYL B E1 D1 Sylvation State of the state of th

### **Dimensions**

<b>A</b> 10.46 (265.7)	<b>B</b> 4.75 (120.6)	<b>B</b> <sub>1</sub> 3.38 (85.8)	<b>C</b> 1.53 (38.9)
<b>D</b> 4.56 (115.8)	<b>D</b> <sub>1</sub> 4.28 (108.7)	<b>E</b> 2.28 (57.9)	<b>E</b> <sub>1</sub> 2.44 (62)
<b>F</b> 2.45 (62.2)	<b>F</b> <sub>1</sub> 2.46 (62.5)	<b>G</b> 3.81 (96.8)	<b>H</b> 7.62 (193.5)
<b>J</b> 1.31 (33.3)	<b>K</b> .59 (15)	L 8.74 (222)	<b>M</b> 2.09 (53.1)
<b>N</b> 1.22 (31)			

Inches (mm)

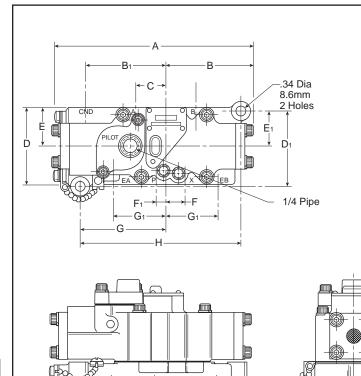




### **Dimensions**

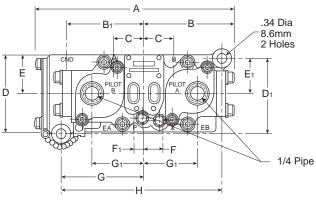
<b>A</b> 9.50 (241.3)	<b>B</b> 4.75 (120.6)	<b>B</b> <sub>1</sub> 3.38 (85.8)	<b>C</b> 1.53 (38.9)
<b>D</b> 4.56 (115.8)	<b>D</b> <sub>1</sub> 4.28 (108.7)	<b>E</b> 2.28 (57.9)	E <sub>1</sub> 2.44 (62)
<b>F</b> 2.45 (62.2)	<b>F</b> <sub>1</sub> 2.46 (62.5)	<b>G</b> 3.81 (96.8)	<b>H</b> 7.62 (193.5)
J 1.31 (33.3)	<b>K</b> .59 (15)	L 8.74 (222)	<b>M</b> 2.09 (53.1)
N 1.22 (31)			

Inches (mm)



<b>A</b>	<b>B</b>	<b>B</b> <sub>1</sub> 2.94 (74.7)	<b>C</b>
7.56	3.32		1.12
(192)	(84.3)		(28.4)
<b>D</b> 2.88 (73.2)	<b>D</b> <sub>1</sub> 2.84 (72.1)	E 1.44 (36.6)	E <sub>1</sub> 1.34 (34)
<b>F</b>	<b>F</b> <sub>1</sub> .38 (9.7)	<b>G</b>	<b>G</b> <sub>1</sub>
.75		3.16	2.00
(19.1)		(80.3)	(50.8)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
6.03	.75	.62	4.76
(153.2)	(19.1)	(15.7)	(120.9)
<b>M</b> 1.75 (44.5)			

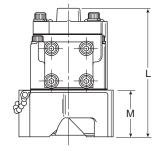
Inches (mm)



### **Dimensions**

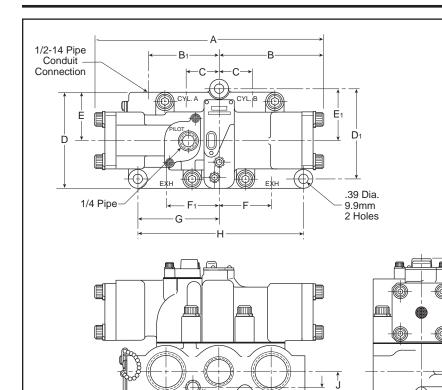
<b>A</b>	<b>B</b>	<b>B</b> <sub>1</sub>	<b>C</b>
7.56	3.32	2.94	1.12
(192)	(84.3)	(74.7)	(28.4)
<b>D</b> 2.88 (73.2)	<b>D</b> <sub>1</sub> 2.84 (72.1)	E 1.44 (36.6)	E <sub>1</sub> 1.34 (34)
<b>F</b>	<b>F</b> <sub>1</sub> .38 (9.7)	<b>G</b>	<b>G</b> <sub>1</sub>
.75		3.16	2.00
(19.1)		(80.3)	(50.8)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
6.03	.75	.62	4.76
(153.2)	(19.1)	(15.7)	(120.9)
<b>M</b> 1.75 (44.5)			

Inches (mm)



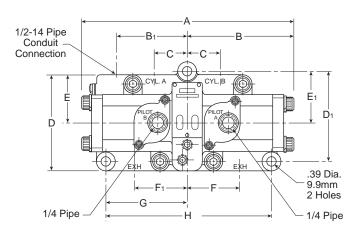
E254

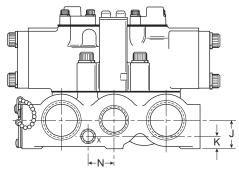
M

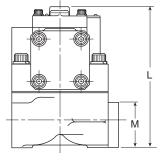


<b>A</b> 10.46 (265.7)	<b>B</b> 4.75 (120.6)	<b>B</b> <sub>1</sub> 3.38 (85.8)	<b>C</b> 1.53 (38.9)
<b>D</b> 4.56 (115.8)	<b>D</b> <sub>1</sub> 4.28 (108.7)	<b>E</b> 2.28 (57.9)	<b>E</b> <sub>1</sub> 2.44 (62)
<b>F</b> 2.45 (62.2)	<b>F</b> <sub>1</sub> 2.46 (62.5)	<b>G</b> 3.81 (96.8)	<b>H</b> 7.62 (193.5)
<b>J</b> 1.31 (33.3)	<b>K</b> .59 (15)	<b>L</b> 6.57 (166.9)	<b>M</b> 2.09 (53.1)
<b>N</b> 1.22 (31)			

Inches (mm)



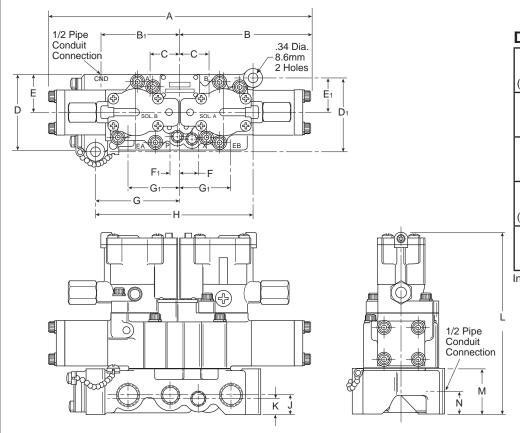




### **Dimensions**

<b>A</b> 9.50 (241.3)	<b>B</b> 4.75 (120.6)	<b>B</b> <sub>1</sub> 3.38 (85.8)	<b>C</b> 1.53 (38.9)
<b>D</b> 4.56 (115.8)	<b>D</b> <sub>1</sub> 4.28 (108.7)	<b>E</b> 2.28 (57.9)	<b>E</b> <sub>1</sub> 2.44 (62)
<b>F</b> 2.45 (62.2)	<b>F</b> <sub>1</sub> 2.46 (62.5)	<b>G</b> 3.81 (96.8)	<b>H</b> 7.62 (193.5)
<b>J</b> 1.31 (33.3)	<b>K</b> .59 (15)	<b>L</b> 6.57 (166.9)	<b>M</b> 2.09 (53.1)
<b>N</b> 1.22 (31)			

Inches (mm)



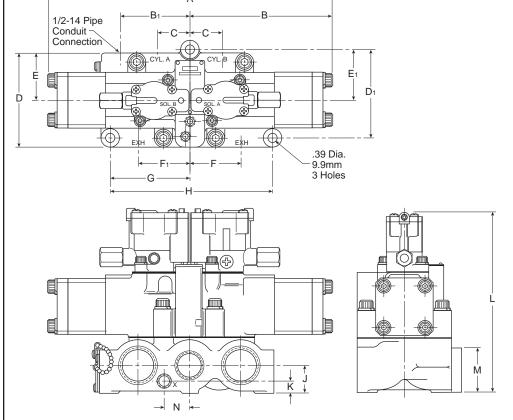
<b>A</b>	<b>B</b>	<b>B</b> <sub>1</sub> 2.94 (74.7)	<b>C</b>
9.64	4.82		1.12
(244.8)	(122.4)		(28.4)
<b>D</b> 2.88 (73.2)	<b>D</b> <sub>1</sub> 2.84 (72.1)	<b>E</b> 1.44 (36.6)	E <sub>1</sub> 1.34 (34)
<b>F</b>	<b>F</b> <sub>1</sub> .38 (9.7)	<b>G</b>	<b>G</b> <sub>1</sub>
.75		3.16	2.00
(19.1)		(80.3)	(50.8)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
6.03	.75	.62	6.93
(153.2)	(19.1)	(15.7)	(176)
<b>M</b> 1.00 (25.4)			

Inches (mm)

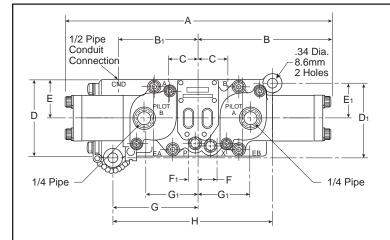
### **Dimensions**

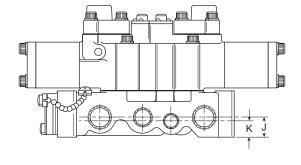
<b>A</b> 13.62 (345.9)	<b>B</b> 6.81 (173)	<b>B</b> <sub>1</sub> 3.38 (85.8)	<b>C</b> 1.53 (38.9)
<b>D</b> 4.56 (115.8)	<b>D</b> <sub>1</sub> 4.28 (108.7)	<b>E</b> 2.28 (57.9)	<b>E</b> <sub>1</sub> 2.44 (62)
<b>F</b> 2.45 (62.2)	<b>F</b> <sub>1</sub> 2.46 (62.5)	<b>G</b> 3.81 (96.8)	<b>H</b> 7.62 (193.5)
<b>J</b> 1.31 (33.3)	<b>K</b> .59 (15)	<b>L</b> 8.74 (222)	<b>M</b> 2.09 (53.1)
<b>N</b> 1.22 (31)			

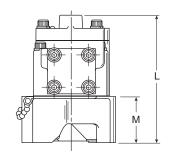
Inches (mm)





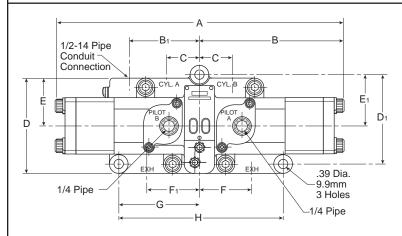


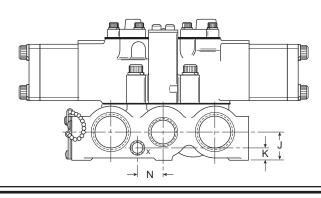


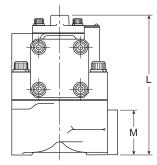


<b>A</b>	<b>B</b>	<b>B</b> <sub>1</sub>	<b>C</b>
9.64	4.82	2.94	1.12
(244.8)	(122.4)	(74.7)	(28.4)
<b>D</b> 2.88 (73.2)	<b>D</b> <sub>1</sub> 2.84 (72.1)	E 1.44 (36.6)	E <sub>1</sub> 1.34 (34)
<b>F</b>	<b>F</b> <sub>1</sub> .38 (9.7)	<b>G</b>	<b>G</b> <sub>1</sub>
.75		3.16	2.00
(19.1)		(80.3)	(50.8)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
6.03	.75	.62	4.76
(153.2)	(19.1)	(15.7)	(120.9)
<b>M</b> 1.75 (44.5)			

Inches (mm)





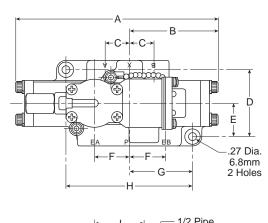


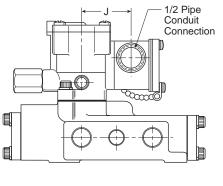
### **Dimensions**

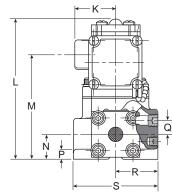
<b>A</b> 13.62 (345.9)	<b>B</b> 6.81 (173)	<b>B</b> <sub>1</sub> 3.38 (85.8)	<b>C</b> 1.53 (38.9)
<b>D</b> 4.56 (115.8)	<b>D</b> <sub>1</sub> 4.28 (108.7)	<b>E</b> 2.28 (57.9)	E <sub>1</sub> 2.44 (62)
<b>F</b> 2.45 (62.2)	<b>F</b> <sub>1</sub> 2.46 (62.5)	<b>G</b> 3.81 (96.8)	<b>H</b> 7.62 (193.5)
<b>J</b> 1.31 (33.3)	<b>K</b> .59 (15)	<b>L</b> 6.57 (166.8)	<b>M</b> 2.09 (53.1)
N 1.22 (31)			

Inches (mm)









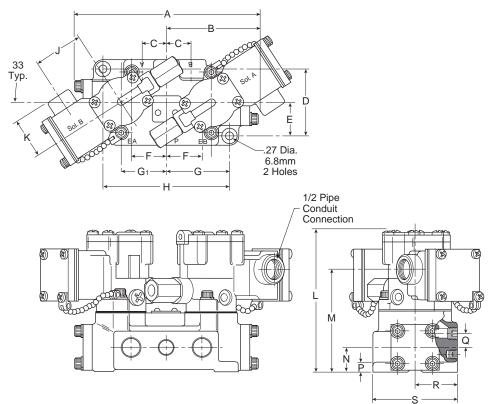
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
7.56	3.32	.90	2.56
(192)	(84.3)	(22.9)	(65)
E	<b>F</b>	<b>G</b>	<b>H</b>
1.28	1.33	2.34	4.69
(32.5)	(33.8)	(59.4)	(119.1)
<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>
1.82	1.50	5.35	3.91
(46.2)	(38.1)	(135.9)	(99.3)
<b>N</b>	<b>P</b> .38 (9.7)	<b>Q</b>	R
.94		.53	1.62
(23.9)		(13.5)	(41.1)
\$ 3.25 (82.6)			

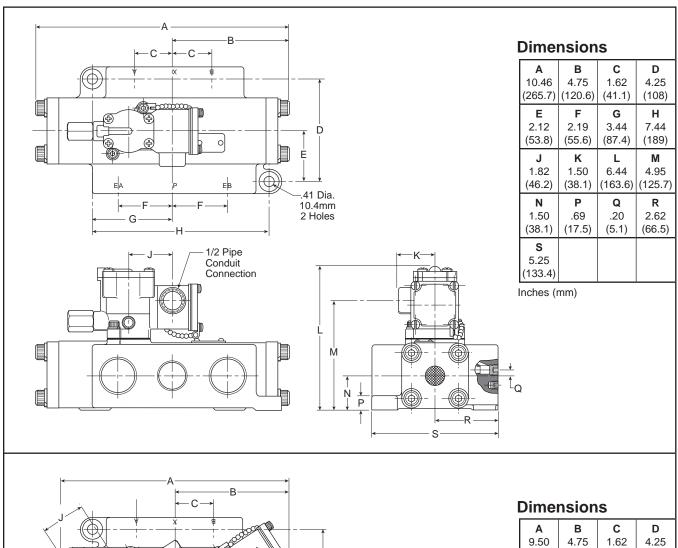
Inches (mm)

# Dimensions A B

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b> 2.56 (65)
7.56	3.32	.90	
(192)	(84.3)	(22.9)	
<b>E</b>	<b>F</b>	<b>G</b>	<b>G</b> <sub>1</sub>
1.28	1.33	2.34	1.66
(32.5)	(33.8)	(59.4)	(42.4)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
4.69	1.82	1.50	5.35
(119.1)	(46.2)	(38.1)	(135.9)
<b>M</b> 3.91 (99.3)	<b>N</b> .94 (23.9)	<b>P</b> .38 (9.7)	<b>Q</b> .53 (13.5)
<b>R</b> 1.62 (41.1)	\$ 3.25 (82.6)		

Inches (mm)





# Typ A1 Dia. 10.4mm 2 Holes 1/2 Pipe Conduit Connection

(133.4) Inches (mm)

(241.3)

Ε

2.12

(53.8)

J

1.82

(46.2)

1.50

(38.1)

**S** 5.25

(120.6)

F

2.19

(55.6)

Κ

1.50

(38.1)

.69

(17.5)

(41.1)

G

3.44

(87.4)

L

6.44

(163.6)

.20

(5.1)

(108)

Н

7.44

(189)

M

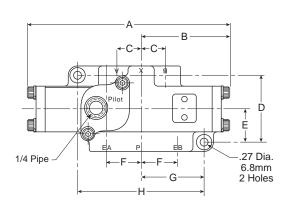
4.95

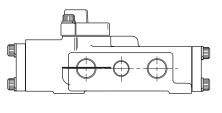
(125.7)

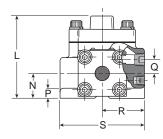
R

2.62

(66.5)

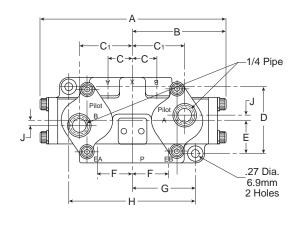


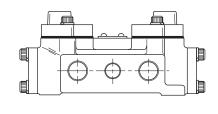


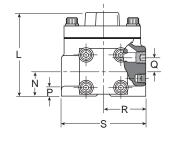


<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
7.56	3.32	.90	2.56
(192)	(84.3)	(22.9)	(65)
E	<b>F</b>	<b>G</b>	<b>H</b>
1.28	1.33	2.34	4.69
(32.5)	(33.8)	(59.4)	(119.1)
L	<b>N</b>	<b>P</b> .38 (9.7)	<b>Q</b>
3.18	.94		.53
(80.8)	(23.9)		(13.5)
R 1.62 (41.1)	<b>S</b> 3.25 (82.6)		

Inches (mm)



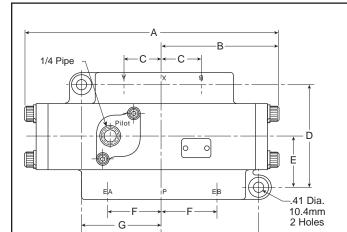




### **Dimensions**

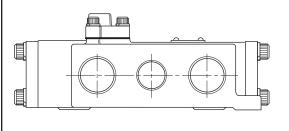
<b>A</b>	<b>B</b>	<b>C</b>	<b>C</b> <sub>1</sub>
6.64	3.32	.90	1.98
(168.7)	(84.3)	(22.9)	(50.3)
<b>D</b>	E	<b>F</b> 1.33 (33.8)	<b>G</b>
2.56	1.28		2.34
(65)	(32.5)		(59.4)
<b>H</b>	<b>J</b>	<b>L</b>	<b>N</b>
4.69	.22	3.05	.94
(119.1)	(5.6)	(77.5)	(23.9)
<b>P</b> .38 (9.7)	<b>Q</b>	R	<b>S</b>
	.53	1.62	3.25
	(13.5)	(41.1)	(82.6)

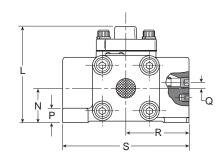
Inches (mm)



<b>A</b> 10.46 (265.7)	<b>B</b> 4.75 (120.6)	<b>C</b> 1.62 (41.1)	<b>D</b> 4.25 (108)
<b>E</b> 2.12 (53.8)	<b>F</b> 2.19 (55.6)	<b>G</b> 3.44 (87.4)	<b>H</b> 7.44 (189)
<b>L</b> 4.09 (103.9)	<b>N</b> 1.50 (38.1)	<b>P</b> .69 (17.5)	<b>Q</b> .20 (5.1)
R 2.62 (66.5)	<b>S</b> 5.25 (133.4)		

Inches (mm)



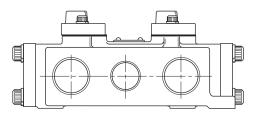


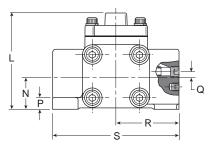
A	
←C→	-1/4 Pipe
* * * * * * * * * * * * * * * * * * *	
Pilot Pilot	
	<u></u>
	Ī
EA P EB -	<u>*</u>
F	41 Dia. 10.4mm
← G →	2 Holes
H — →	1/2 Pipe Conduit Connection
	Connection

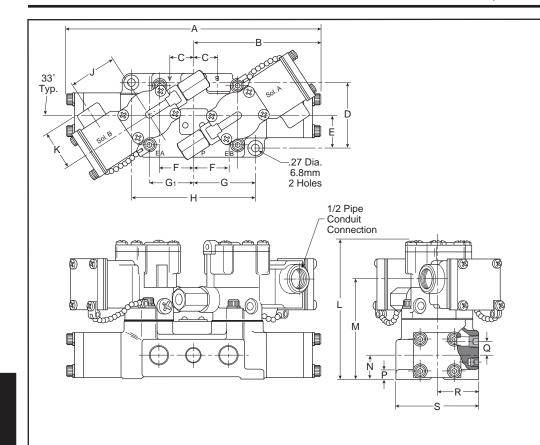
### **Dimensions**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
9.50	4.75	1.62	4.25
(241.3)	(120.6)	(41.1)	(108)
<b>E</b> 2.12 (53.8)	<b>F</b> 2.19 (55.6)	<b>G</b> 3.44 (87.4)	<b>H</b> 7.44 (189)
<b>L</b>	<b>N</b>	<b>P</b>	<b>Q</b>
4.09	1.50	.69	.20
(103.9)	(38.1)	(17.5)	(5.1)
<b>R</b> 2.62 (66.5)	<b>S</b> 5.25 (133.4)		

Inches (mm)



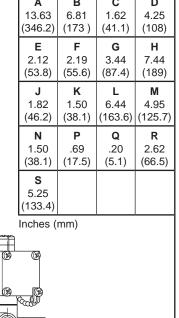


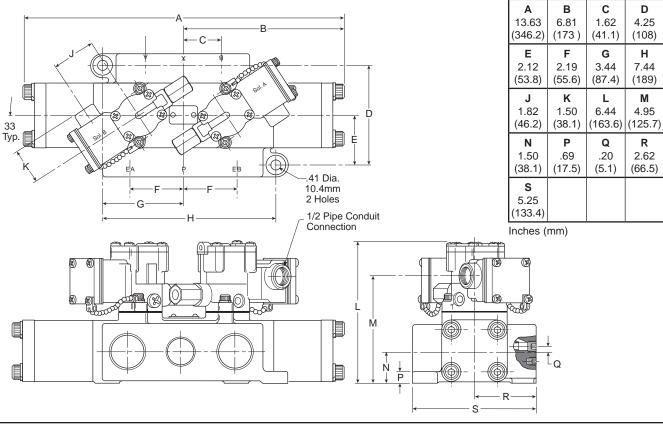


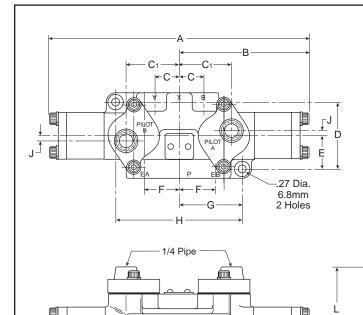
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
9.64	4.82	.90	2.56
(244.8)	(122.4)	(22.9)	(65)
<b>E</b>	<b>F</b> 1.33 (33.8)	<b>G</b>	<b>G</b> <sub>1</sub>
1.28		2.34	1.66
(32.5)		(59.4)	(42.4)
<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>
4.69	1.82	1.50	5.35
(119.1)	(46.2)	(38.1)	(135.9)
<b>M</b>	<b>N</b>	<b>P</b> .38 (9.7)	<b>Q</b>
3.91	.94		.53
(99.3)	(23.9)		(13.5)
R 1.62 (41.1)	<b>S</b> 3.25 (82.6)		

Inches (mm)

### **Dimensions**

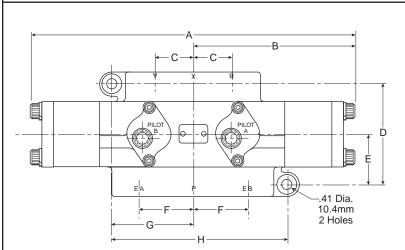






<b>A</b>	<b>B</b>	<b>C</b>	<b>C</b> <sub>1</sub>
9.64	4.82	.90	1.98
(244.8)	(122.4)	(22.9)	(50.3)
<b>D</b> 2.56 (65)	E 1.28 (32.5)	<b>F</b> 1.33 (33.8)	<b>G</b> 2.34 (59.4)
<b>H</b>	<b>J</b>	<b>L</b>	<b>N</b>
4.69	.22	3.05	.94
(119.1)	(5.6)	(77.5)	(23.9)
<b>P</b>	<b>Q</b>	<b>R</b>	\$
.38	.53	1.62	3.25
(9.7)	(13.5)	(41.1)	(82.6)

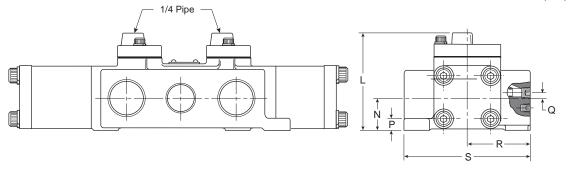
Inches (mm)



### **Dimensions**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
13.63	6.81	1.62	4.25
(346.2)	(173)	(41.1)	(108)
<b>E</b> 2.12 (53.8)	<b>F</b> 2.19 (55.6)	<b>G</b> 3.44 (87.4)	<b>H</b> 7.44 (189)
<b>L</b>	<b>N</b>	<b>P</b>	<b>Q</b>
6.44	1.50	.69	.20
(163.6)	(38.1)	(17.5)	(5.1)
R	S		

Inches (mm)



E263

### 3/8" Basic

 K142230
 Cyl. Ports 3/8" NPTF

 K142231
 Cyl. Ports 1/2" NPTF

 K142270
 Cyl. Ports 3/4" NPTF

 Exhaust Port
 1" NPTF

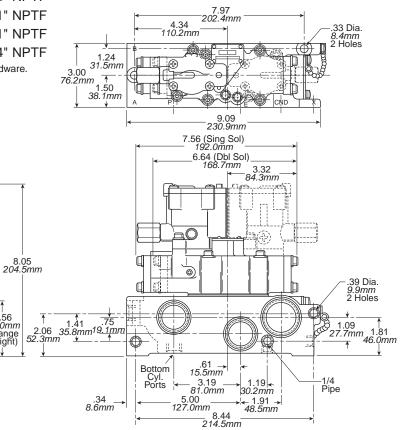
 Inlet Port
 1" NPTF

 Conduit Port
 1-1/4" NPTF

Note: Manifold assemblies include mounting hardware.

.75 – 19.1mm ←1.66→ 42.2mm Typ. For Bottom Ports 2.56 2.09 *65.0mm* 53.1mm (Flange Height)

**←**.59 15.0mm





### 1" Basic

K142236 ...... Cyl. Ports 1" NPTF
K122016 ...... End Plate Kit (Both Plates)
Exhaust Port...... 1-1/2" NPTF (Port Plate)
Inlet Port....... 1-1/2" NPTF (Port Plate)
Conduit Port ...... 1-1/4" NPTF (Port Plate)

### Note:

K142236 dimension is for reference only. The manifold is discontinued as of August 15, 2008.

