

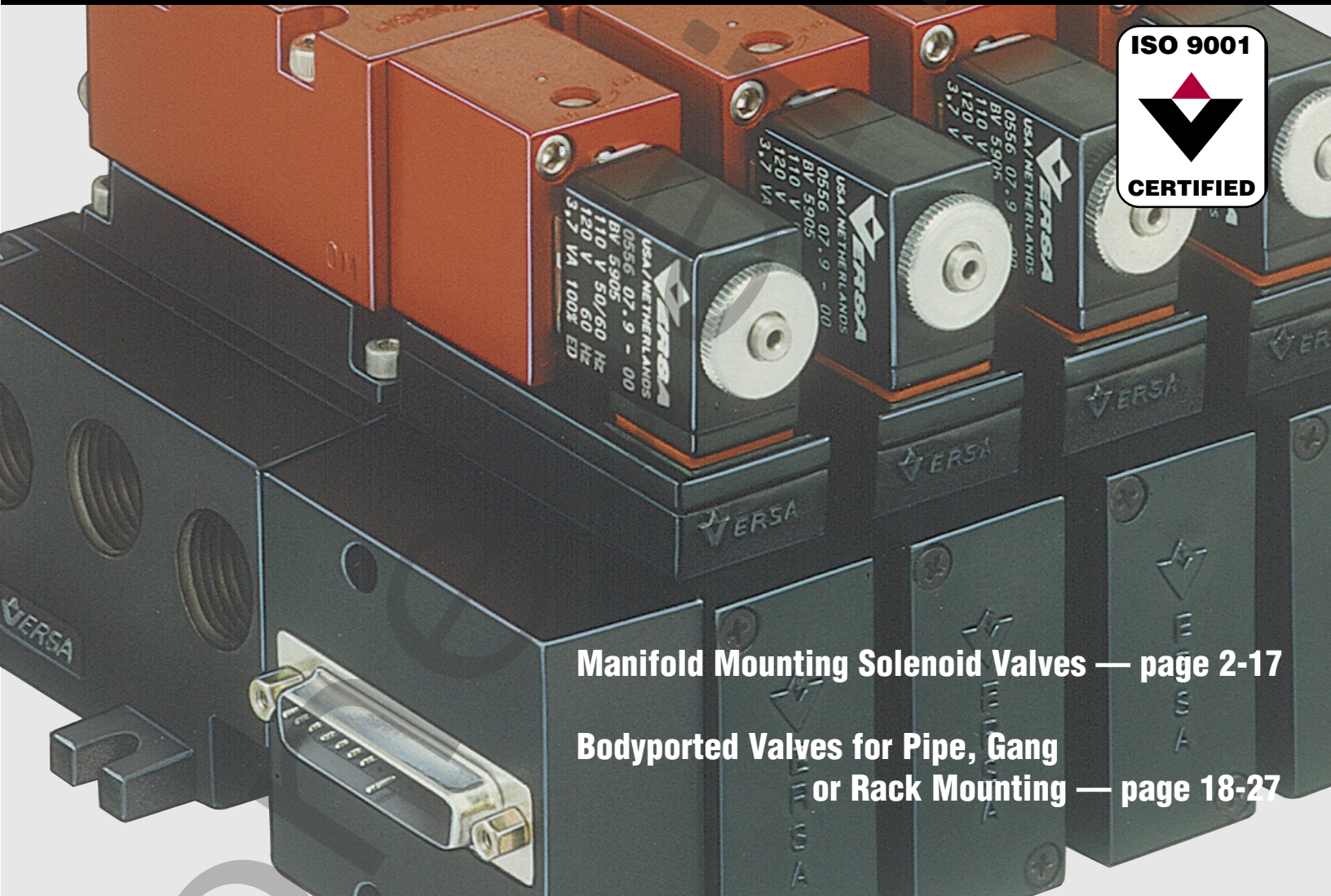
SERIES C5 & C7 MULTIPURPOSE AIR VALVES

WERSA[®]

BULLETIN
C-2003

AIR VALVES FOR INDUSTRY SINCE 1949

ISO 9001



Manifold Mounting Solenoid Valves — page 2-17

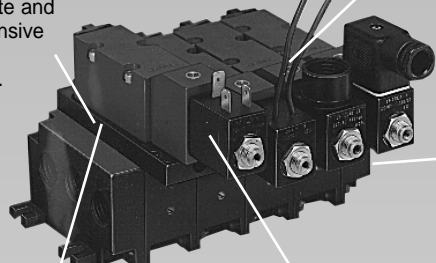
Bodyported Valves for Pipe, Gang
or Rack Mounting — page 18-27

Series C5 & C7 Manifold Mounting Solenoid Valves & Manifolds



Bleed Control Plate

Addition of a control plate for required valves, allows adjustable control of each exhaust to provide accurate and inexpensive speed control.



Many Solenoid Electrical Connections

Many wiring options available to ease and reduce wiring/installed cost:

- Spade terminals
- Wire leads
- Conduit connection
- DIN connectors with cord grip or conduit connection

Coil can be rotated 180 degrees for maximum application flexibility (non plug-in valves).

Manual override

Standard on all solenoid actuators; ability to set-up and test equipment without an electric signal.

Multipurpose Valve Function

One basic 4-way valve for each valve series, which can be applied in a 3-way (by plugging port) or 4-way application to meet all your pneumatic cylinder applications.

Regulator Plate

Provides 4-way or 5-way pressure regulation for required valves.

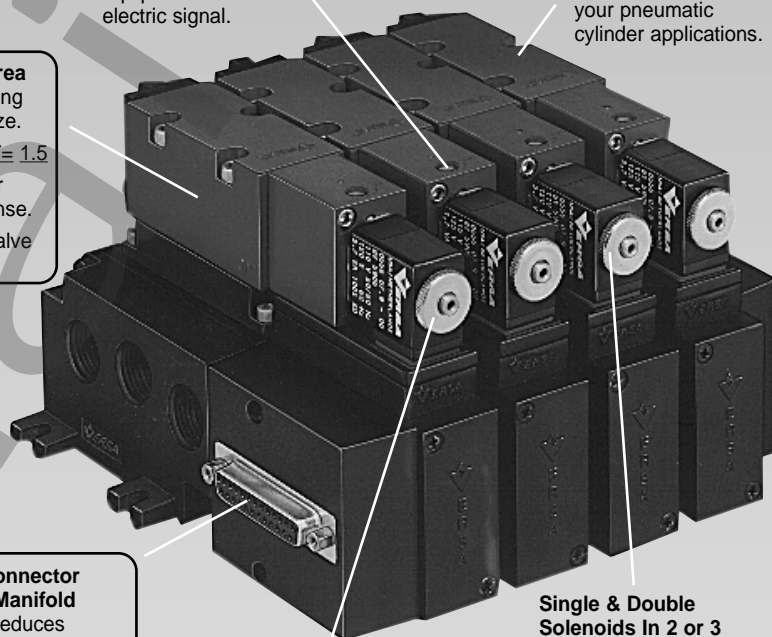
Complete range of AC & DC voltages.

Large Flow Area

Largest Cv rating for package size.

C5= 0.75 C7= 1.5

Provides faster cylinder response. Smaller size valve saves space.



"Solenoid-Pilot" type Actuators

Pressure being controlled provides force to shift valve.

Use of solenoid-pilot to control valve eliminates coil burnout.

Small residual pilot volume minimizes wasted air.

Solenoid-pilot design reduces the power consumption required to shift and hold valve.

Multi-Pin Connector on Plug-in Manifold

This option reduces installed cost via a fully pre-wired multi-pin connector.

Low Power Solenoid Option (Standard on Plug-in Valves)

Inexpensive operating costs due to low power consumption and no need for additional power supplies.

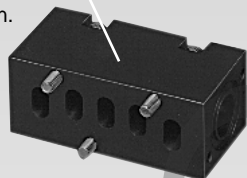
Low power solenoids also operate at reduced heat; reducing the need for cooling or venting when applied in control panels.

Single & Double Solenoids In 2 or 3 Position Valves

All Double Solenoid 2 Position Valves are equipped with detent. 3 Position Valves offer choice of all ports blocked or cylinder ports open to exhaust in unactuated position.

Anodized Aluminum, Stainless Steel and Brass Construction

All wetted parts resist damage due to corrosion.



Epoxy molded coils for moisture resistance & heat dissipation.

Viton Packed Balanced Spool

Affords bubble tight sealing throughout entire pressure range.

Leak free service reduces cost due to wasted air.

Positive positioning of actuated device when unitizing 3-position valves.

Forces required to actuate the valve are unaffected by the controlled pressure.

Provides large compatibility range of media (air/inert gas) and air line lubricants.

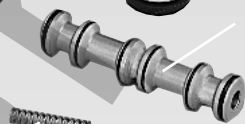
Rated for 20 million bubble tight cycles on lubricated service (10 million on non-lubricated service).

Superior wear resistance characteristics.



Air-Assisted Spring Return

Air boosts spring for positive valve return.

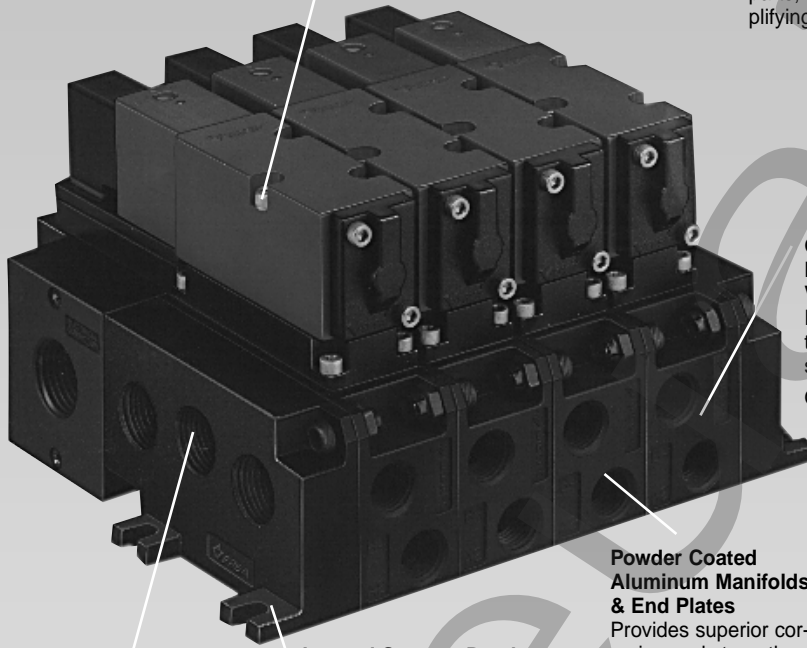


u r e s

Three Screws Fasten Valve to Manifold

Ease of installation and serviceability. No need to make or break any plumbing connections.

Simple connect/disconnect of electrical connections when plug-in option is specified.



Common Inlet and Exhaust headers. C5= 1/4" NPT or G1/4 C7= 3/8" NPT or G3/8 Assures adequate supply to all valves on the manifold.

Integral Support Bracket Mounting

No extra parts or brackets are required in mounting complete valve/manifold assembly.

Four very assessable mounting holes simplify installation.

Plug-in Indicator Lights

The indicator light option allows electrical set-up, test and trouble shooting capabilities, simplifying installation.

Lights are easily retrofitted in the field.

Plug-in Electrical Connection with Unique Circuit Board Design

Provides easy and quick connect/disconnect of electrical connections. The plug-in option also centralizes all electrical connections.

Junction boxes can be retrofitted in the field.

Junction box doors and screws are captive, reducing the chance of losing parts, therefore simplifying installation.

Sliding circuit board with integral wiring terminal strip provides fast and easy installation.

"Ground" and "Common" connections are pre-wired at factory to common terminal screws and are color coded (green/white), reducing installed cost.

Plug-in plate adapts valve and manifold. Same junction box is utilized for both single and double solenoid valves. All coils are factory pre-wired to junction box.

1/2" NPT Conduit connection for ease of wiring. One on each side of manifold for mounting and wiring flexibility.

One Type of Manifold Within Each Size Series for All Valve Actuator Types

Possible to intermix different types of actuators within the same manifold.

One Manifold to inventory.

Powder Coated Aluminum Manifolds & End Plates

Provides superior corrosion and strength characteristics and enhances appearance. Porting threads with integrity.

Modular Manifold Stacking Design

Allows the flexibility of up to 10 valves on one manifold.

Valve stations can be added or subtracted in the field.

Vibration Resistant Fasteners

Fasteners retain manifold integrity under the toughest of conditions.

Locating bosses on manifold and end plate interfaces assure proper installation and sealing.

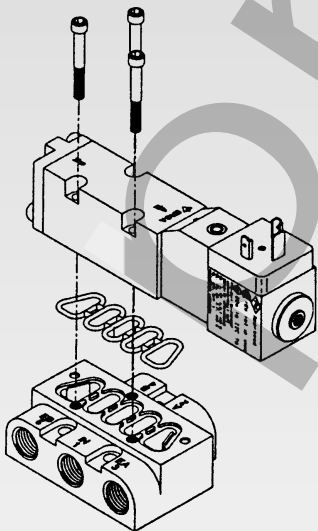
Track Gasket Sealing

Custom designed gaskets assure proper installation and a positive seal.

Individual cylinder ports:

Located in side of manifold
Located in both side & bottom of manifold.

C5	C7
1/8 or 1/4" NPT	1/4 or 3/8" NPT
1/8" NPT	1/4" NPT
(Metric G porting is also available.)	



Series C5 & C7 Manifold Mounting Solenoid Valves

Technical Data

1. General Description

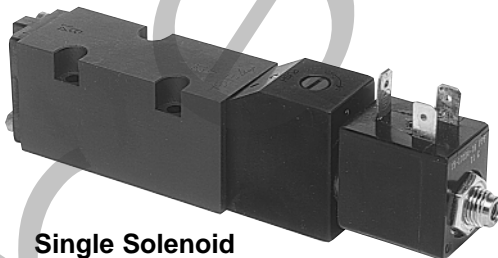
Versa's Manifold Mounting C5 & C7 valves are multipurpose four-way, 5 port/2 position or 5 port/3 position air valves. They can be equipped for (INPilot) single solenoid/pilot or (INPilot) double solenoid/pilot actuation. INPilot valves supply inlet pressure to the integral solenoid/pilot piston through internal passages in the valve. A low power solenoid controls the built-in pilot which provides the positive force for shifting the valve spool.

Double solenoid/pilot 5/2 models feature detented offset positions. Double solenoid/pilot 5/3 models feature a spring return to the unactuated center position with either all ports blocked or exhaust ports open in the center position.

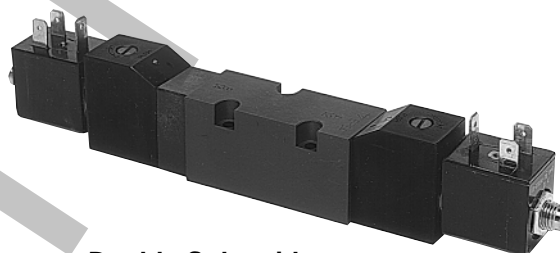
A balanced, packed spool is the flow controlling element of each valve. The balanced spool allows the force necessary to shift the valve to remain independent of the pressure of the medium being controlled. The use of elastomer sealing provides bubbletight operation thus enabling positive positioning of 3-position devices, and thrift of operation due to no waste of leaking air.

Two types of solenoid operators, both suited to most industrial applications, are available:

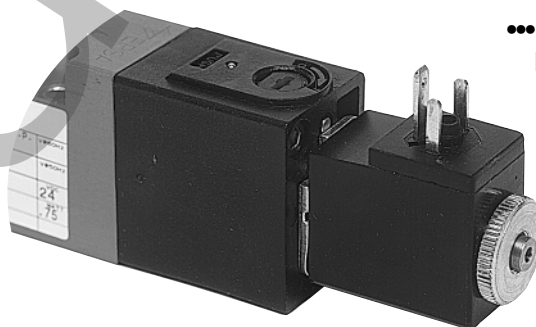
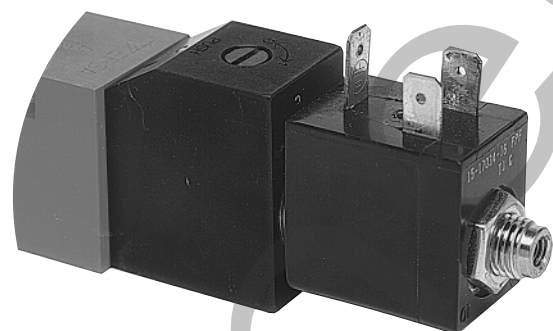
- **BASIC** type provides a DIN style coil which can be rotated 180° such that coil contacts can be either vertically up or down. A mini DIN connector is available as an option. Guarded – push to operate manual override is standard.
- **LOW-WATT** type can additionally be adapted to computer controlled applications due to its low power requirements. Two versions exist—



Single Solenoid



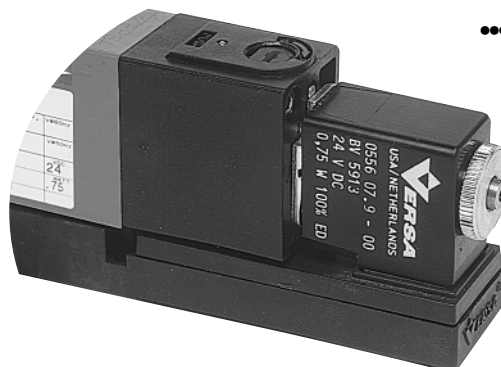
Double Solenoid



•••LOW-WATT BASIC:

DIN style coil which can be rotated 180° such that coil contacts can be either vertically up or down. A micro-mini DIN connector is available as an option. Guarded – push to operate, turn to lock manual override is standard. Any LOW-WATT Basic type solenoid valve can be

field converted to the Plug-In style by simply positioning the coil contacts to face downward and applying a Plug-In Plate.



•••LOW-WATT

PLUG-IN: Plug-In coil with easy connect/disconnect that does not require hardwiring to the valve. Includes plug-in plate for attachment to manifold. Guarded – push to operate, turn to lock manual override is standard.

Versa exercises diligence to assure that information contained in this catalog is correct, but does not accept responsibility for any errors or omissions. Versa also reserves the right to change or delete data or products at any time without prior notification. To be sure the data you require is correct, consult factory.

Technical Data

2. Materials

Valve body, plunger - Anodized Aluminum

Actuating caps:

Solenoid (Basic Type) – Anodized Aluminum

Solenoid (Low-Watt Type) - Synthetic Resin

Spring Cap – Synthetic Resin

Pilot Piston - Synthetic Resin

Valve Seals: Plunger & Body - FKM (fluorocarbon)

Pilot Piston - NBR (nitrile)

Solenoid Parts (wetted) - 304, 430F Stainless Steel and Brass

Screws - Stainless Steel

Plug-In Plate - Synthetic Resin

3. Operating Pressure Range* (pneumatic only)

Valve Type	Actuation	Operating Pressure Range*	
Four-way, Two position 5/2	Single solenoid-spring return or INPilot	C5	15-115 psi (1-8 bar)
		C7	25-115 psi (1.7-8 bar)
Four-way, Three position 5/3	Double solenoid-spring centered	C5	10-115 psi (0.7-8 bar)
		C7	15-115 psi (1-8 bar)
Four-way, Two position 5/2	Double solenoid-momentary contact with detent	C5	10-115 psi (0.7-8 bar)
		C7	15-115 psi (1-8 bar)

* For higher pressures consult factory

4. Porting Track-gasket mounted ports in bottom of valve body.

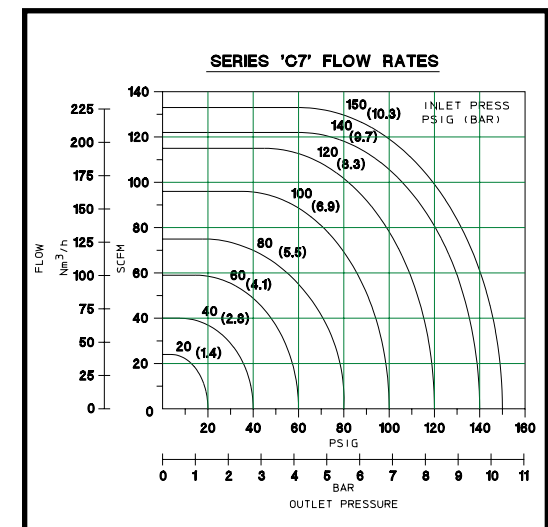
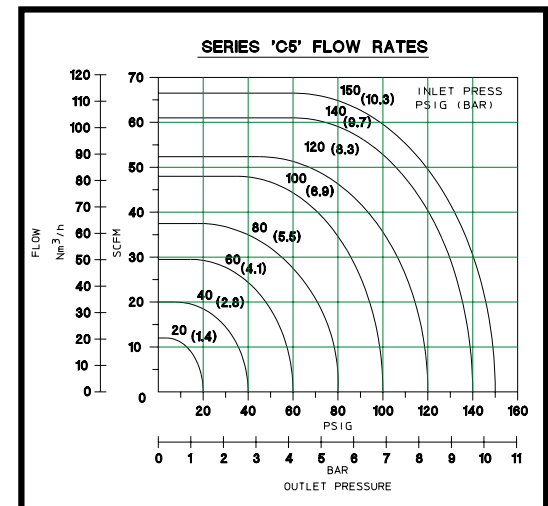
5. Flow C5: Minimum internal valve orifice: 0.197" (5mm)
Cv (Kv) average all ports: 0.75 (11)

C7: Minimum internal valve orifice: 0.276" (7mm)
Cv (Kv) average all ports: 1.5 (22)

6. Dimensions For LOW-WATT PLUG-IN assemblies see pages 12 and 14.
For BASIC and LOW-WATT BASIC assemblies see pages 13 and 15.

7. Installation C5 & C7 valves have no limitations on mounting orientation.

8. Filtration & Lubrication 40 to 50 micron filtration, and use of general purpose, non-detergent lubricating oil (ISO, ASTM) Grade 32 in controlled air is recommended.



Series C5 & C7 Manifold Mounting Solenoid Valves

9. Electrical Characteristics

BASIC type solenoid operator --8.5 to 10.5 Watt
 ---Guarded – push to operate, turn to lock manual override

LOW WATT type solenoid operator --0.75 to 2.9 Watt DC
 --3.1 to 3.7 VA AC
 ---Guarded – push to operate, turn to lock manual override

Ambient temperature range: 5°F (-15°C) to 125°F (+50°C)

Electrical connection:

BASIC type solenoid -3 spade terminals



Optional - DIN connector for NEMA 4/IP65 protection

- Wire leads (2), 24" (61 cm) long

- Wire leads (2) with 1/2" NPT conduit connector

LOW WATT type solenoid:

LOW-WATT BASIC - 3 spade terminals



Optional - DIN connector for NEMA 4/IP65 protection

- Wire leads (2), 18" (46 cm) long

LOW-WATT PLUG-IN - 3 spade terminals of coil (same coil as LOW-WATT BASIC) plug into receptacle of Plug-In Plate, attached to bottom of valve. Plug-In Plate plugs into circuit board in Junction Box.



Specifications: See also page 7 for solenoid options.

SOLENOID OPERATOR TYPE	Option	Type	CONTINUOUS DUTY COILS										
			Nominal Power		AC Voltage		Inrush amp	Holding amp	ohm	DC Voltage		Inrush & Holding amp	ohm
			AC	DC	Volts/Hz	Coil Code #				Volts	Coil Code #		
BASIC- with spade terminals (for Mini DIN connector, NEMA 4/IP65)		CLASS F, Epoxy encapsulated, Rated voltage continuous duty 100%	8.5 watt	10.5 watt	24/60	A024	0.63	0.50	26	12	D012	0.87	14
					110/50-	E110	0.13	0.10	647	24	D024	0.43	55
					120/60	A120	0.13	0.10	647	48	D048	0.22	222
					220/50-	E220	0.06	0.05	2790				
					240/50-	E240	0.06	0.05	2790				
		240/60	A240	0.06	0.05	2790							
LOW-WATT BASIC- with spade terminals (For Micromini DIN style 8 mm gap connector, NEMA 4/IP65) or wire leads or LOW-WATT PLUG-IN	-027	CLASS F, Epoxy encapsulated, Rated voltage continuous duty 100%	—	0.75 watt	—	—	—	—	—	6	D006	0.125	47
					—	—	—	—	—	12	D012	0.063	193
					—	—	—	—	—	24	D024	0.031	724
					—	—	—	—	—	48	D048	0.017	2310
	-043	CLASS F, Epoxy encapsulated, Rated voltage continuous duty 100%	4.0VA @50 Hz 3.2 to 4.3VA @60Hz	2.9 watt	24/50-	E024	0.21	0.16	78	12	D012	0.24	47
					24/60	A024	0.19	0.13	78	24	D024	0.12	193
					110/50-	E110	0.045	0.035	1715	48	D048	0.06	724
					110/60-	A110	0.041	0.028	1715				
					120/60	A120	0.042	0.032	1715				
					220/50-	E220	0.023	0.017	7750				
220/60-	A220	0.023	0.017	7750									
240/60	A240	0.021	0.016	7750									

VALVE PRODUCT NUMBERS

VALVE TYPE	ACTUATION	BASIC			LOW-WATT				
				WGT.	LOW-WATT BASIC	WGT.	LOW-WATT PLUG-IN	WGT.	
Four way Two position 5/2	Single solenoid-spring return 	INPilot	C5	CSG-4232-(*)	8.3 oz (235 gms)	CSG-4232-027-(*) CSG-4232-043-(*)	7 oz (198 gms)	CSG-4232-027-P-(*) CSG-4232-043-P-(*)	8.1 oz (230 gms)
			C7	CSG-4332-(*)	9.9 oz (280 gms)	CSG-4332-027-(*) CSG-4332-043-(*)	8.6 oz (245 gms)	CSG-4332-027-P-(*) CSG-4332-043-P-(*)	9.7 oz (275 gms)
	INPilot	C5	CGG-4232-(*)	13.2 oz (374 gms)	CGG-4232-027-(*) CGG-4232-043-(*)	10.6 oz (300 gms)	CGG-4232-027-P-(*) CGG-4232-043-P-(*)	12.1 oz (343 gms)	
		C7	CGG-4332-(*)	14.8 oz (420 gms)	CGG-4332-027-(*) CGG-4332-043-(*)	12.2 oz (345 gms)	CGG-4332-027-P-(*) CGG-4332-043-P-(*)	13.7 oz (390 gms)	
Four way Three position 5/3	Double solenoid-spring centered (all ports blocked) 	INPilot	C5	CXX-4233-(*)	13.2 oz (374 gms)	CXX-4233-027-(*) CXX-4233-043-(*)	10.6 oz (300 gms)	CXX-4233-027-P-(*) CXX-4233-043-P-(*)	12.1 oz (343 gms)
			C7	CXX-4333-(*)	14.8 oz (420 gms)	CXX-4333-027-(*) CXX-4333-043-(*)	12.2 oz (345 gms)	CXX-4333-027-P-(*) CXX-4333-043-P-(*)	13.7 oz (390 gms)
	INPilot	C5	CXX-4234-(*)	13.2 oz (374 gms)	CXX-4234-027-(*) CXX-4234-043-(*)	10.6 oz (300 gms)	CXX-4234-027-P-(*) CXX-4234-043-P-(*)	12.1 oz (343 gms)	
		C7	CXX-4334-(*)	14.8 oz (420 gms)	CXX-4334-027-(*) CXX-4334-043-(*)	12.2 oz (345 gms)	CXX-4334-027-P-(*) CXX-4334-043-P-(*)	13.7 oz (390 gms)	

*Specify any options that are required and coil code number.

OPTIONS FOR SOLENOID ACTUATED VALVES — For required options, add suffix number to valve product number.

DIN CONNECTOR



NEMA4/IP65 Protection-Mini type with PG9 cord grip for BASIC operator. Micromini type (8 mm gap) with cord grip (maximum 0.25 [6.5mm] cable ø) for LOW-WATT BASIC operators.

Suffix

-HC

MANUAL OVERRIDES

(For all Basic and Low-Watt Valves)

Suffix

None
Required



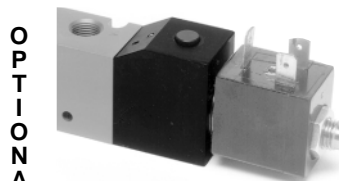
Guarded – push to operate, turn to lock

WIRE LEADS:

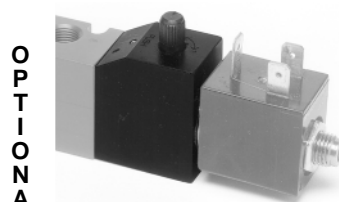


Provides 2 wire leads-
BASIC operators
24" (61 cm) long
LOW-WATT BASIC operators
18" (46 cm) long

-243



Unguarded button – push to operate, nonlocking



Unguarded button – push to operate, twist to lock

WIRE LEADS with 1/2" NPT Conduit Connection:



Provides wire leads same as suffix -243, but boss accepts 1/2" NPT conduit. For BASIC operators only. Not available with LOW-WATT BASIC operators.

OPTIONAL
OPTIONAL

-CML

Series C5 & C7 Manifolds

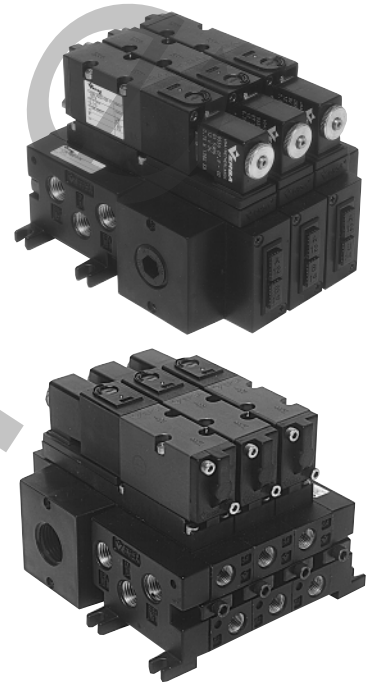
Technical Data

1. General Description

Versa's C manifold system provides single modular, stacking manifolds that can be joined together to form a very compact valve mounting platform up to 12 stations. Each module is able to mount any single solenoid or double solenoid actuated, 2 or 3 position valve within the specific C5 or C7 series. Different types of valves and actuations within the same size series can be intermixed within the same manifold system. End Plates providing a common inlet and 2 common exhausts for each side of the manifold complete the assembly.

The modular concept allows systems to be easily changed in the field, or at any time, by addition or subtraction of valve stations or conversion to the Plug-In feature.

Cylinder ports are located in the side of the manifold, or can be provided in both the side and bottom of the manifold.



2. Materials

Manifold, End Plates - Diecast Aluminum, powder coat-epoxy painted
 Bleed Control Plate, Junction Box - Synthetic Resin
 Regulator Accessory Plate - Black Anodized Aluminum
 Station Blank - Black Oxide Steel
 Track-gaskets - NBR (nitrile)
 Screws: Manifold to Manifold - Black Oxide Steel
 Valve to Manifold - Stainless Steel

3. Weights

	C5		C7	
	oz.	(gram)	oz.	(gram)
Manifold	3.4	96	5.8	165
Supply/Exhaust End Plate	1.9 ea.	54 ea.	3.0 ea.	85 ea.
Regulator Accessory Plate	11.8	335	13	369
Bleed Control Plate	1.4	40	1.6	45
Junction Box	0.9	25	0.9	25
Junction Box End Plate	0.5 ea.	14 ea.	0.5 ea.	14 ea.

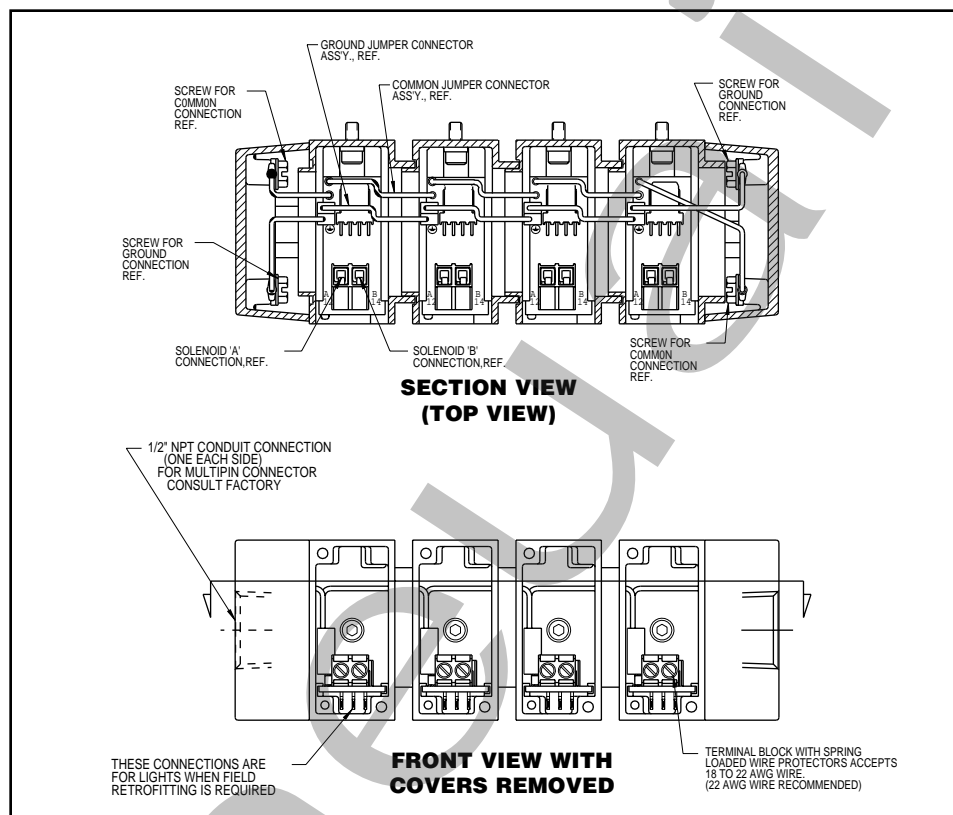
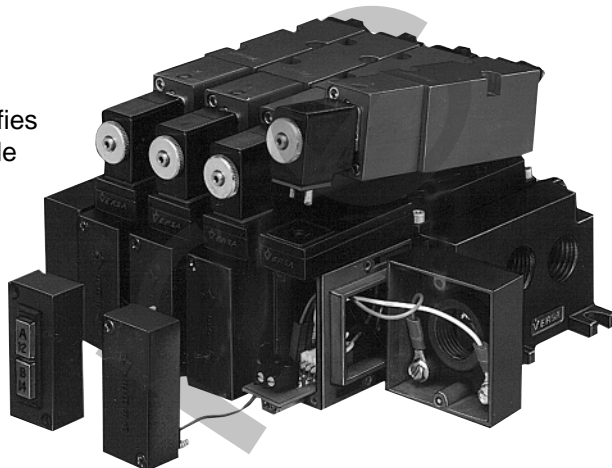
4. Porting

	C5		C7	
	NPT	G	NPT	G
Inlet (1) in each End Plate	1/4"	1/4	3/8"	3/8
Exhaust (2) in each End Plate	1/4"	1/4	3/8"	3/8
Cylinder Ports in side of manifold	1/8" or 1/4"	1/8 or 1/4	1/4" or 3/8"	1/4 or 3/8
Cylinder Ports in both side and bottom of manifold	1/8"	1/8	1/4"	1/4

5. Options

Plug-In electrical connection (Suffix -P)

Use of the Plug-In electrical connection (Suffix -P) option simplifies wiring, installation and servicing. Wiring connections are made within a junction box adapter so that there is no hard wiring to any valve. Installation or removal of a valve, accomplished by simply loosening or tightening 3 valve mounting screws, makes or breaks the electrical connection. The grounds and commons are pre-wired at the factory, so that only one wire connection is necessary for each solenoid and this is further simplified by a unique sliding terminal strip in each box.



Typical 4-station Plug-In Assembly showing wiring, Sliding Terminal Strip, Junction Boxes & Junction Box End Plates.

Multipin Connector (Suffix -PM)

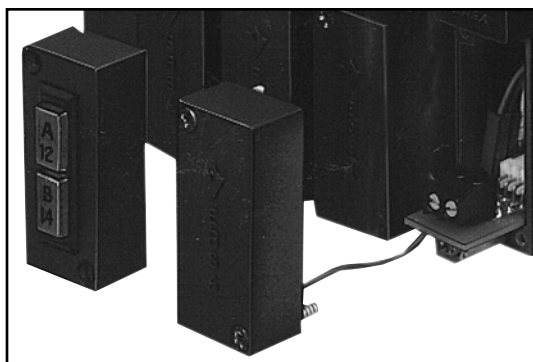
The multipin option utilizes a 25 pin plug (male side) Sub-D connector fully pre-wired and tested by Versa at the factory. All stations on a D connector equipped manifold are always wired for double solenoid valves, whether the valves are single or double solenoid. This allows the pneumatic equipment designer to change valve function easily if design changes occur. A multipin connector retains the true plug-in feature. Connection to a programmable logic controller is possible without the normal labor cost associated with solenoid valve wiring. Remove three screws and the valve is removed from the manifold without touching any electrical or pneumatic connections. (See page 11 for physical location options. See also pages 12 and 14 for individual pin identification.)



Series C5 & C7 Manifolds

5. Options (continued)

Indicator Lights (Suffix -PL)



Indicator lights (Suffix -PL) are available in conjunction with the plug-in electrical connection for all common voltages and are located in the cover of each junction box. These lights allow for easy manifold set-up and trouble shooting.

Inlet Isolation Disc (Suffix -XS)

When an application requires different pressures within the same application it is still possible to assemble a compact manifold containing all of the necessary valving and to connect the different pressure supply lines into one manifold assembly. This is accomplished by utilizing Inlet Isolation Discs which are small gasketed shields that can be placed between manifold stations, when the manifold assembly is assembled and to effectively isolate each group of valves that utilize the same pressure. For example, a five station assembly could have two stations functioning at 50 psi and three stations functioning at 100 psi by simply placing an Inlet Isolation Disc between the first two stations and the last three stations of the manifold assembly.

6. Accessories

Bleed Control Plates

Bleed Control Plates that provide speed control through metering of the exhausts can be added as an option for any valve stations that require this feature. See page 17.

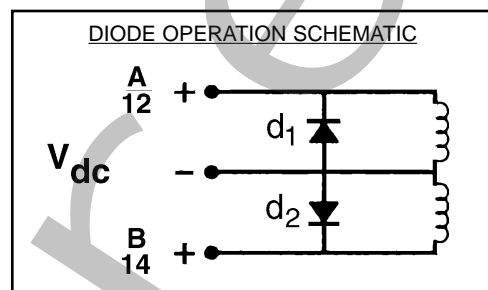
Regulator For 4-Way Valve

Regulator Accessory Plates complete with pressure gauge for one port pressure control can be provided for 4-way function on any valve stations that require this feature. See page 16.

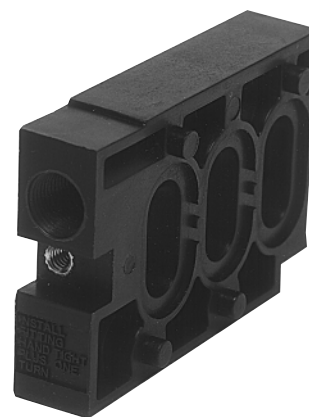
Station Blank

Where application designs wish to provide for the possibility of addition or removal of valves depending upon specifications that can change application to application or if circuit changes require valve removal, the use of Station Blanks blocks all manifold ports to the removed valve or to the valve station that was intended for possible future use. It is not necessary to disassemble the manifold assembly in these cases and overall size considerations can be standardized. See page 17.

Voltage Surge Protection (Suffix -SSD)



Voltage surge protection (Suffix -SSD) is available in conjunction with the plug-in option on all common DC voltages. Diodes are connected in parallel with the coil and mounted directly to the circuit board providing electrical controllers surge suppression against voltage spikes caused by the solenoid.



Intermediate Supply Manifolds

In applications where air flow capacity might be compromised due to several valves functioning at the same time or where controlled accessories require large volumes, Intermediate Supply Manifolds can be inserted into the manifold assembly at strategic intervals and additional inlet supply can be connected to these Supply Ports in order to increase the available volume of air. Consult factory for application assistance.

C5 MANIFOLD PRODUCT NUMBERS

	Cylinder Port Size				Cylinder Port Location		Manifold Product Number	Mountable Valves	
	1/8" NPT	G1/8	1/4" NPT	G1/4	Side Only	Side & Bottom		LOW-WATT PLUG-IN	
For Mounting C5 LOW-WATT PLUG-IN valves	X				X		C5M-4202-(†)-(††)	CSG-4232-027-P-(*) CGG-4232-027-P-(*) CXX-4233-027-P-(*) CXX-4234-027-P-(*) CSG-4232-043-P-(*) CGG-4232-043-P-(*) CXX-4233-043-P-(*) CXX-4234-043-P-(*)	
		X			X		C5M-4262-(†)-(††)		
			X		X		C5M-4302-(†)-(††)		
				X	X		C5M-4362-(†)-(††)		
	X					X	C5M-4203-(†)-(††)		
		X				X	C5M-4263-(†)-(††)		
							For use with valves having DIN terminals or wire leads	BASIC	LOW-WATT BASIC
For Mounting C5 BASIC or C5 LOW-WATT BASIC valves	X				X		C5M-4202-(†)	CSG-4232-(*) CGG-4232-(*) CXX-4233-(*) CXX-4234-(*) CSG-4232-043-(*) CGG-4232-043-(*) CXX-4233-043-(*) CXX-4234-043-(*)	
		X			X		C5M-4262-(†)		
			X		X		C5M-4302-(†)		
				X	X		C5M-4362-(†)		
	X					X	C5M-4203-(†)		
		X				X	C5M-4263-(†)		

C7 MANIFOLD PRODUCT NUMBERS

	Cylinder Port Size				Cylinder Port Location		Manifold Product Number	Mountable Valves	
	1/4" NPT	G1/4	3/8" NPT	G3/8	Side Only	Side & Bottom		LOW-WATT PLUG-IN	
For Mounting C7 LOW-WATT PLUG-IN valves	X				X		C7M-4302-(†)-(††)	CSG-4332-027-P-(*) CGG-4332-027-P-(*) CXX-4333-027-P-(*) CXX-4334-027-P-(*) CSG-4332-043-P-(*) CXX-4333-043-P-(*) CGG-4332-043-P-(*) CXX-4334-043-P-(*)	
		X			X		C7M-4362-(†)-(††)		
			X		X		C7M-4402-(†)-(††)		
				X	X		C7M-4462-(†)-(††)		
	X					X	C7M-4303-(†)-(††)		
		X				X	C7M-4363-(†)-(††)		
							For use with valves having DIN terminals or wire leads	BASIC	LOW-WATT BASIC
For Mounting C7 BASIC or C7 LOW-WATT BASIC valves	X				X		C7M-4302-(†)	CSG-4332-(*) CGG-4332-(*) CXX-4333-(*) CXX-4334-(*) CSG-4332-043-(*) CGG-4332-043-(*) CXX-4333-043-(*) CXX-4334-043-(*)	
		X			X		C7M-4362-(†)		
			X		X		C7M-4402-(†)		
				X	X		C7M-4462-(†)		
	X					X	C7M-4303-(†)		
		X				X	C7M-4363-(†)		

C5 & C7 MANIFOLD OPTIONS

(†) Indicate number of valve stations required (1-12)

(††) Suffix

- P Plug-in w/junction box
- PL Plug-in w/junction box & indicator lights
- PM Plug-in w/junction box & left side** mounted 25 pin connector
- PML Plug-in w/junction box & left side** mounted 25 pin connector and indicator lights
- PMR Plug-in w/junction box & right side** mounted 25 pin connector
- PMRL Plug-in w/junction box & right side** mounted 25 pin connector and indicator lights
- SSD Surge suppressor, DC voltages only
- XS_ Isolation Plug (_ = callout for plug location--Consult factory for description)

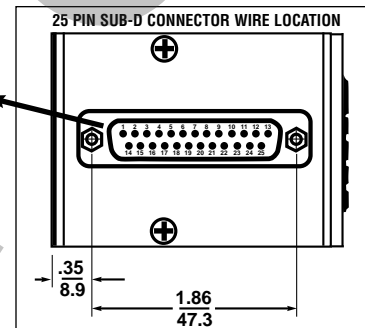
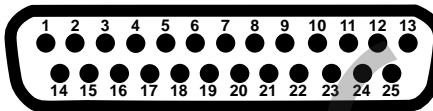
**When looking at cylinder ports on the manifold

(*) Specify any options and Coil Code Number.

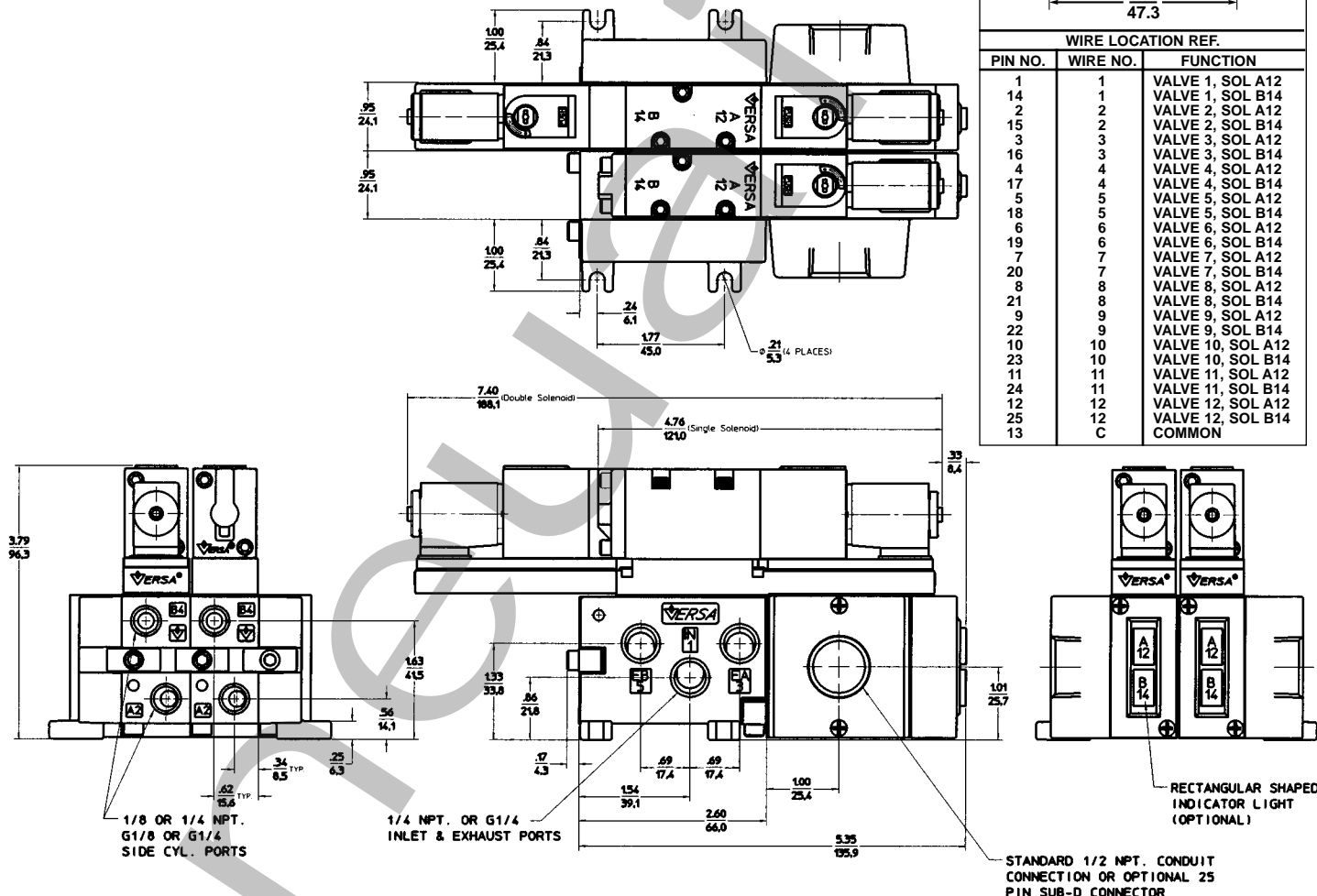
Series C5 Manifold Assemblies

C5 Manifold Assembly For LOW-WATT PLUG-IN Valves

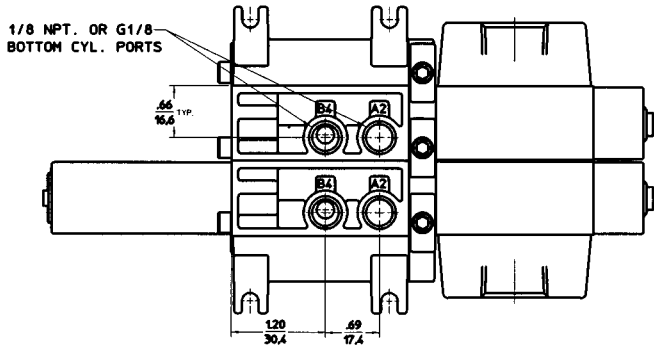
Typical valve and manifold assembly shows single and double solenoid valves mounted on same assembly.
(Dimensions shown in inches)
mm



WIRE LOCATION REF.		
PIN NO.	WIRE NO.	FUNCTION
1	1	VALVE 1, SOL A12
14	1	VALVE 1, SOL B14
2	2	VALVE 2, SOL A12
15	2	VALVE 2, SOL B14
3	3	VALVE 3, SOL A12
16	3	VALVE 3, SOL B14
4	4	VALVE 4, SOL A12
17	4	VALVE 4, SOL B14
5	5	VALVE 5, SOL A12
18	5	VALVE 5, SOL B14
6	6	VALVE 6, SOL A12
19	6	VALVE 6, SOL B14
7	7	VALVE 7, SOL A12
20	7	VALVE 7, SOL B14
8	8	VALVE 8, SOL A12
21	8	VALVE 8, SOL B14
9	9	VALVE 9, SOL A12
22	9	VALVE 9, SOL B14
10	10	VALVE 10, SOL A12
23	10	VALVE 10, SOL B14
11	11	VALVE 11, SOL A12
24	11	VALVE 11, SOL B14
12	12	VALVE 12, SOL A12
25	12	VALVE 12, SOL B14
13	C	COMMON

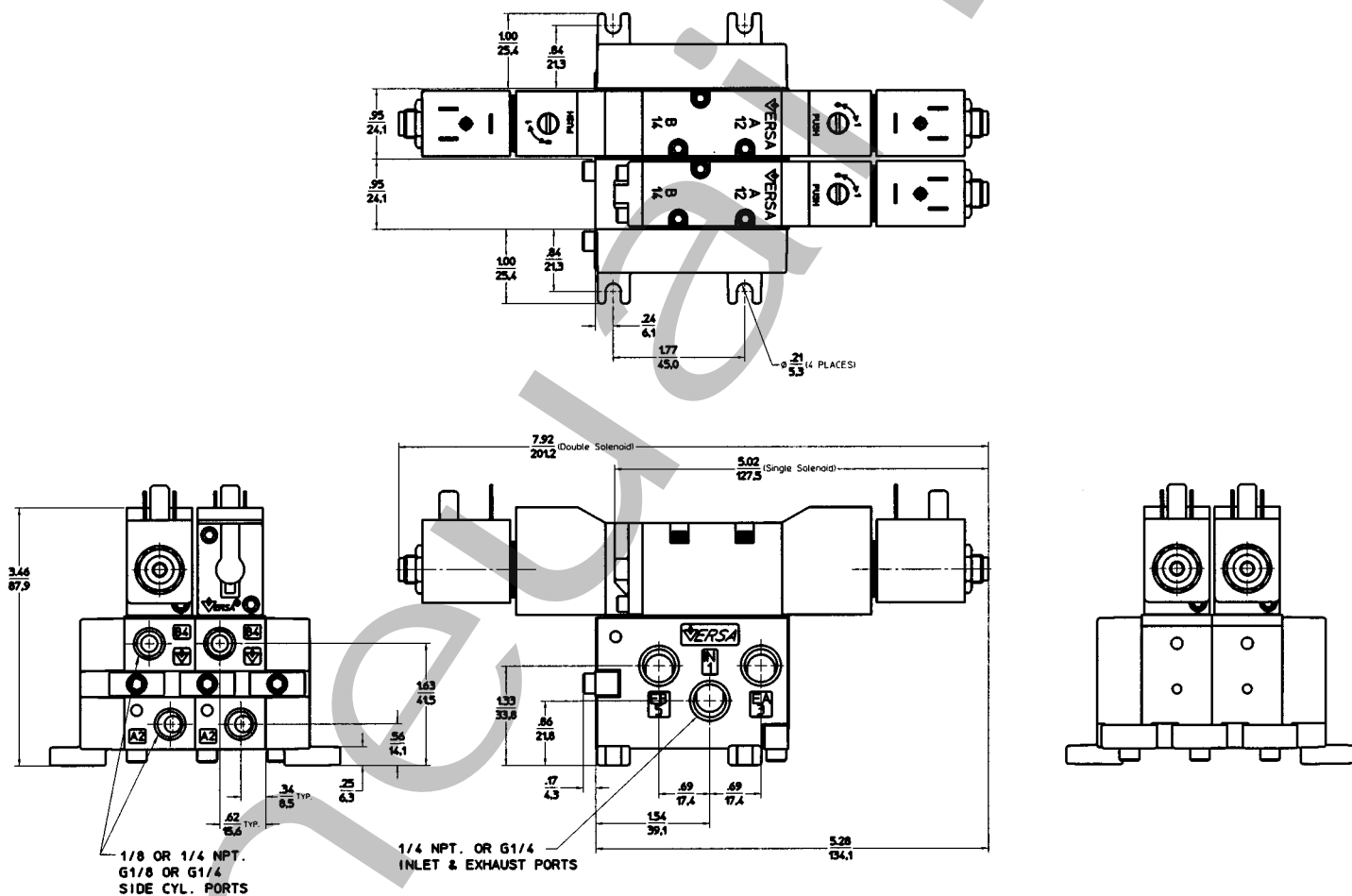


**For Optional
Bleed Control Plate
or
Station Blank
See Page 17
For Optional
Regulator
Accessory Plate
See Page 16**

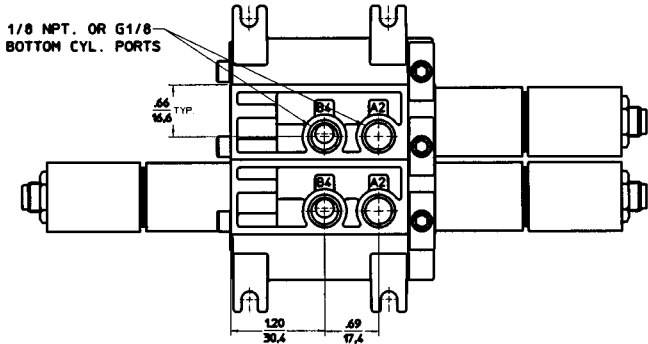


C5 Manifold Assembly For BASIC and LOW-WATT BASIC Valves

Typical valve and manifold assembly shows single and double solenoid valves mounted on same assembly.
(Dimensions shown in inches)
mm



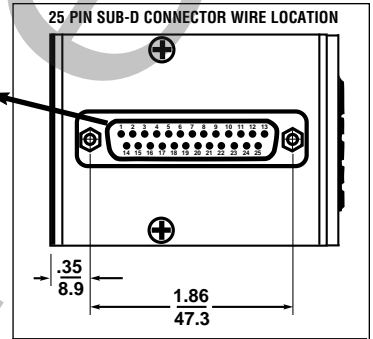
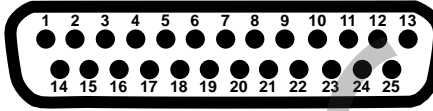
**For Optional
Bleed Control Plate
or Station Blank
See Page 17
For Optional
Regulator Accessory
Plate See Page 16
For Spacer Plate
required when
mounting hazardous
service solenoid
valves, See Page 17**



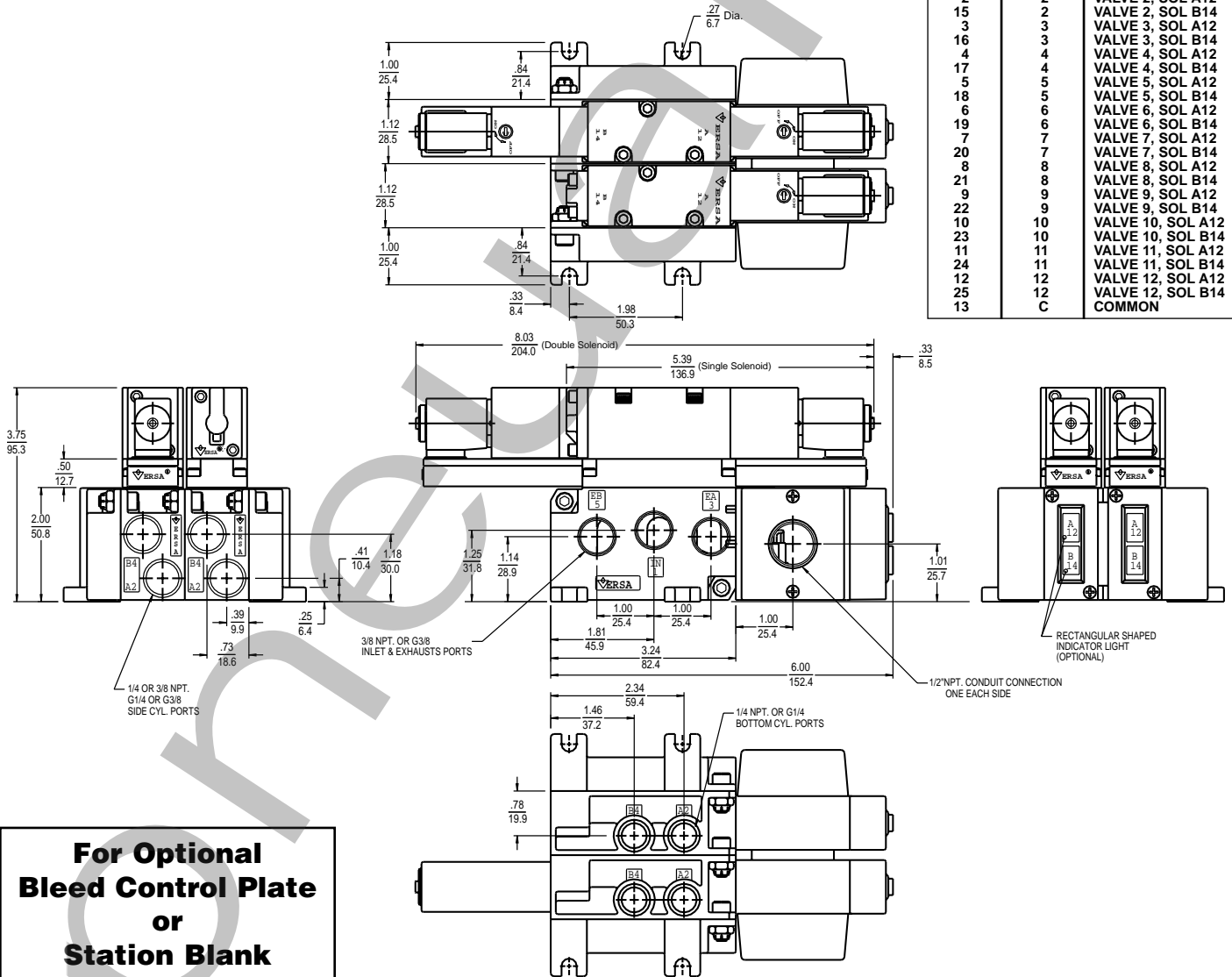
Series C7 Manifold Assemblies

C7 Manifold Assembly For LOW-WATT PLUG-IN Valves

Typical valve and manifold assembly shows single and double solenoid valves mounted on same assembly.
(Dimensions shown in inches)
mm



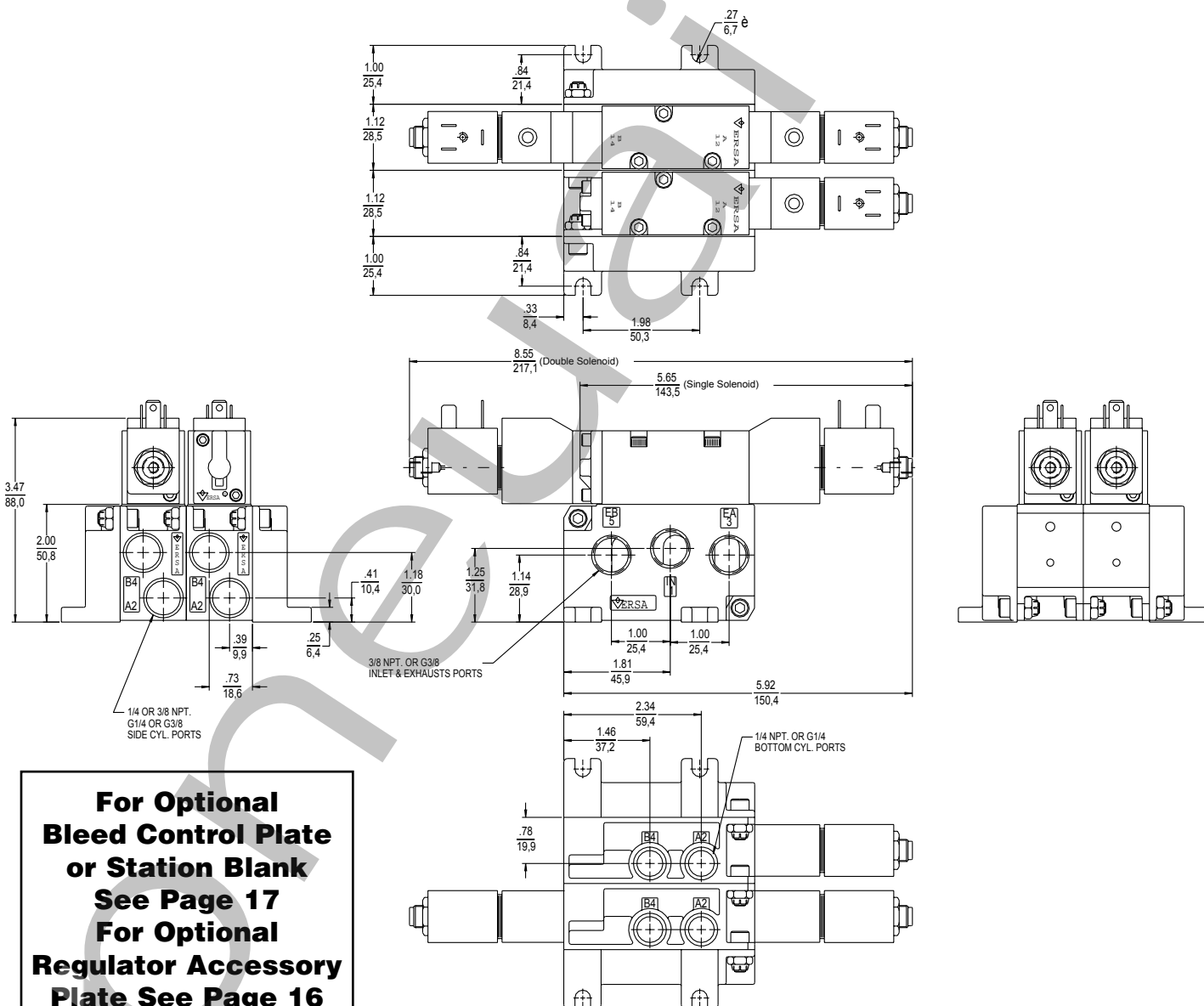
WIRE LOCATION REF.		
PIN NO.	WIRE NO.	FUNCTION
1	1	VALVE 1, SOL A12
14	1	VALVE 1, SOL B14
2	2	VALVE 2, SOL A12
15	2	VALVE 2, SOL B14
3	3	VALVE 3, SOL A12
16	3	VALVE 3, SOL B14
4	4	VALVE 4, SOL A12
17	4	VALVE 4, SOL B14
5	5	VALVE 5, SOL A12
18	5	VALVE 5, SOL B14
6	6	VALVE 6, SOL A12
19	6	VALVE 6, SOL B14
7	7	VALVE 7, SOL A12
20	7	VALVE 7, SOL B14
8	8	VALVE 8, SOL A12
21	8	VALVE 8, SOL B14
9	9	VALVE 9, SOL A12
22	9	VALVE 9, SOL B14
10	10	VALVE 10, SOL A12
23	10	VALVE 10, SOL B14
11	11	VALVE 11, SOL A12
24	11	VALVE 11, SOL B14
12	12	VALVE 12, SOL A12
25	12	VALVE 12, SOL B14
13	C	COMMON



**For Optional
Bleed Control Plate
or
Station Blank
See Page 17
For Optional
Regulator
Accessory Plate
See Page 16**

C7 Manifold Assembly For BASIC and LOW-WATT BASIC Valves

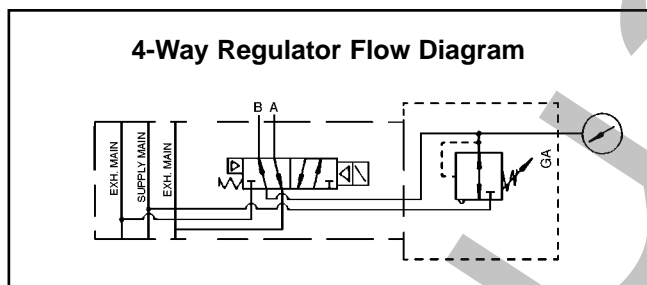
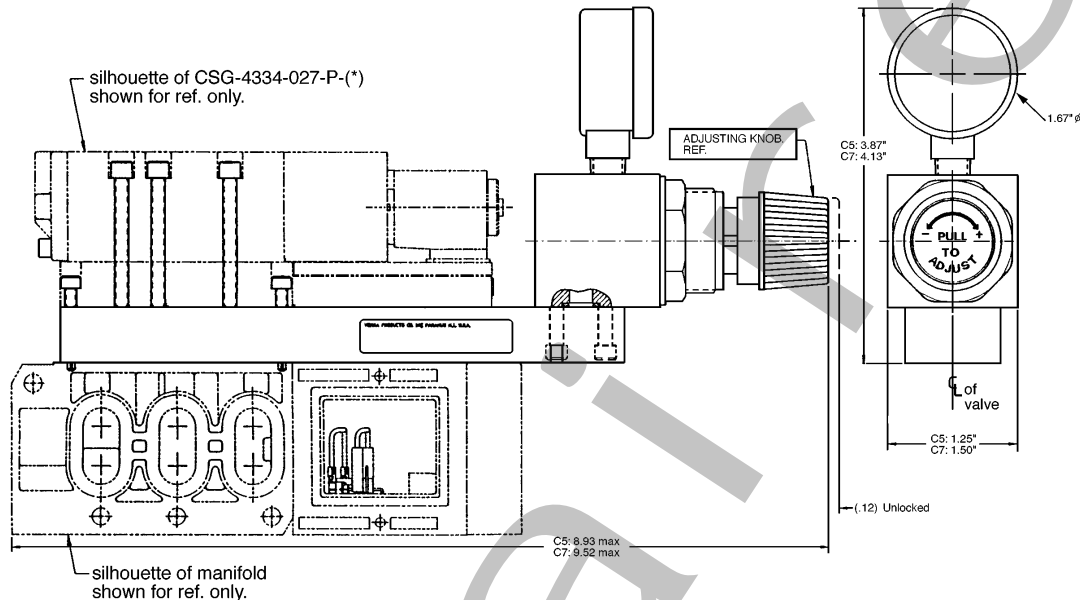
Typical valve and manifold assembly shows single and double solenoid valves mounted on same assembly.
(Dimensions shown in inches)
mm



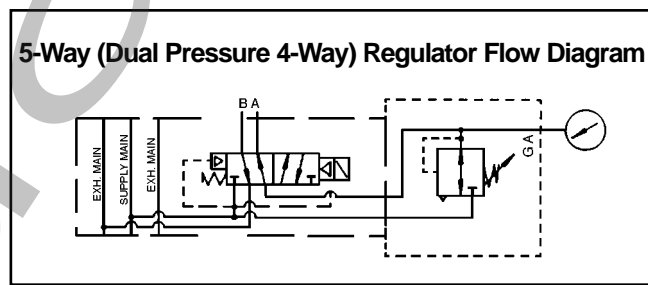
**For Optional
Bleed Control Plate
or Station Blank
See Page 17
For Optional
Regulator Accessory
Plate See Page 16
For Spacer Plate
required when
mounting hazardous
service solenoid
valves, See Page 17**

Series C5 & C7 Manifold Accessories

Regulator Accessory Plate – For BASIC, LOW-WATT BASIC & LOW-WATT PLUG-IN Valves



Flow diagram above shows one 4-way single solenoid valve mounted on the regulator assembly.



Flow diagram above shows one 5-way single solenoid valve mounted on the regulator assembly. Supply pressure is supplied to 'B' port and regulated pressure is supplied to 'A' port.

Notes:

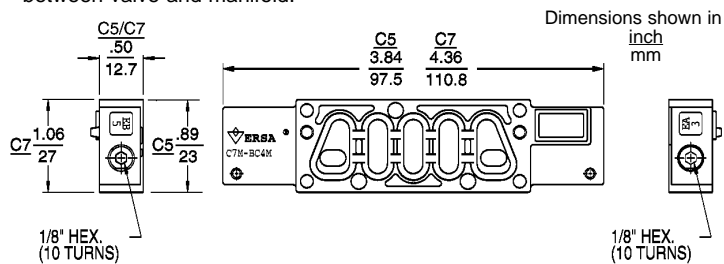
- 1) Regulator Assembly includes gauge, valve mounting screws and track-gasket.
- 2) For side by side mounting of regulators or for regulators on every station, consult factory.
- 3) Regulators for use with INPilot type valves only.
- 4) For 4-way type regulator, must specify 4-way valve.
For 5-way type regulator, must specify 5-way valve. Change first 4 in valve part number to 5, for example, CSG-4332-043 changes to CSG-5332-043.
- 5) Minimum manifold inlet pressure based on valve type.

Product Numbers

Series	4 Way		5-Way (Dual Pressure 4-Way)		Range (psi)
	Non Plug-In	Plug-In	Non Plug-In	Plug-In	
C5	Not Available	Not Available	NA	NA	1-10
	Not Available	Not Available	NA	NA	3-30
	C5AR-4060MG	C5AR-4060MG-P	NA	NA	5-60
	C5AR-4125MG	C5AR-4125MG-P	NA	NA	10-125
C7	Not Available	Not Available	C7AR-5010MG	C7AR-5010MG-P	1-10
	Not Available	Not Available	C7AR-5030MG	C7AR-5030MG-P	3-30
	C7AR-4060MG	C7AR-4060MG-P	C7AR-5060MG	C7AR-5060MG-P	5-60
	C7AR-4125MG	C7AR-4125MG-P	C7AR-5125MG	C7AR-5125MG-P	10-125

BLEED CONTROL PLATE

Provides adjustable speed control by metering exhaust flow. Installs between valve and manifold.

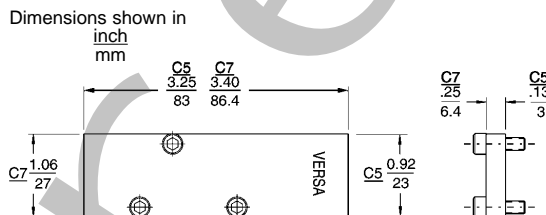


C5	*C5M-BC4M	For BASIC or LOW-WATT BASIC valves
	*C5M-BC4M-P	For LOW-WATT PLUG-IN valves
C7	*C7M-BC4M	For BASIC or LOW-WATT BASIC valves
	*C7M-BC4M-P	For LOW-WATT PLUG-IN valves

*Includes necessary mounting screws and track-gasket.

STATION BLANK

Blocks and protects unused valve stations.

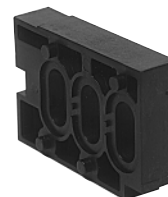


C5	*C5M-SB4M	Fits all valve stations.
C7	*C7M-SB4M	

*Includes necessary mounting screws and track-gasket.

SPACER PLATE

Required for mounting adjacent valves with hazardous service actuators or side by side regulators.



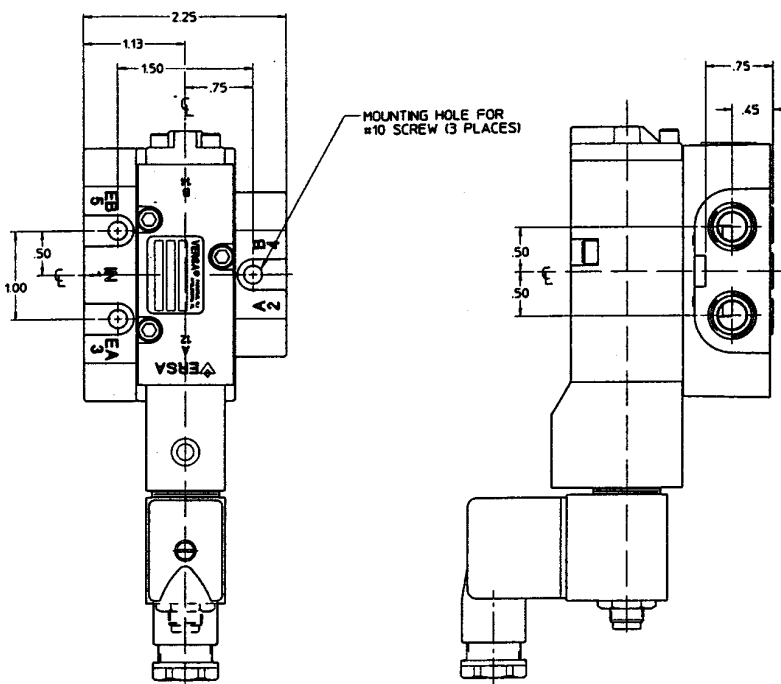
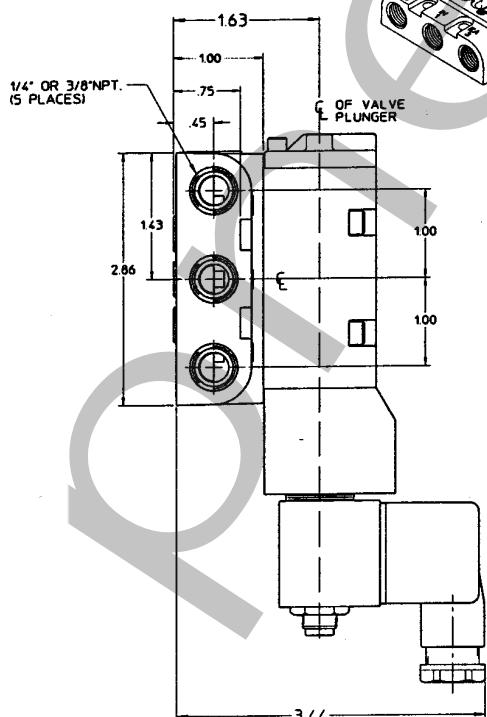
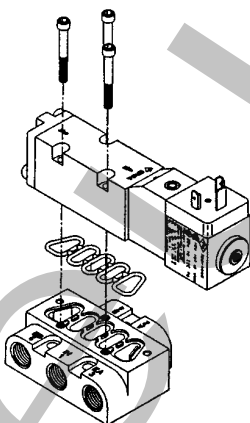
Hazardous service and non plug-in valves	C5	*C5M-SP4M	0.55" wide
	C7	*C7M-SP4M	0.40" wide
plug-in valves	C5	*C5M-SP4M-P	0.55" wide
	C7	*C7M-SP4M-P	0.40" wide

*Includes necessary mounting screws and gaskets.

SINGLE STATION SUBPLATE FOR MANIFOLD MOUNTING C7 VALVES

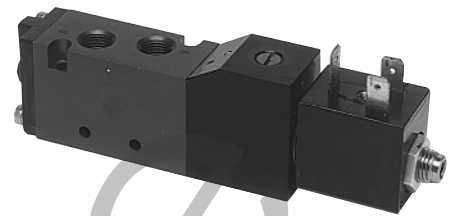
All pipe connections are made to the sub-plate facilitating quick and easy removal of the valve without disturbing plumbing.

C7 Valves: 1/4"NPT Ports C7M-430
3/8"NPT Ports C7M-440



LAYOUT SHOWS ONE CSG-4332-HC-(*) C7 VALVE ON A C7M SUBPLATE ASSEMBLY

Series C5 & C7 Bodyported Valves



C5 & C7 Technical Data

1. General Description

Versa C5 & C7 bodyported valves are 5 port/2-position or 5 port/3-position, multipurpose air valves. Actuations are single or double remote pressure pilot, single or double solenoid/pilot (INPilot or EXPilot), or three different kinds of manual actuation - lever, palm button or rotary switch. Double pilot 5/2 and double solenoid/pilot 5/2 models are supplied with detented offset positions. 5/3 models, regardless of actuation, are available with either all ports blocked in center position, or with exhaust ports open in center position. Additionally, double pilot 5/3 and double solenoid/pilot 5/3 models can be supplied with both cylinder ports open to inlet in center position.

Two different types of solenoid operators, both with manual override, are available for the solenoid/pilot actuated valves. The "BASIC" type is suited to most industrial applications; the "LOW-WATT" type adapts to computer controlled applications as well. Both solenoid types offer DIN connectors as an option.

Any bodyported valve can be individually mounted as a sideported valve, gang mounted side by side using #6 screws for C5 or #8 screws for C7, or rack mounted on a 2- to 10-station Supply/Exhaust Manifold, providing common inlet and exhaust connections. C5 and C7 valves cannot be mixed on the same manifold.

2. Materials

- Valve body, plunger - Anodized Aluminum
- Actuating caps: Solenoid (basic type),
Pilot & Manual - Anodized Aluminum
- Solenoid (low-watt type),
Spring cap - Synthetic Resin
- Pilot Piston - Synthetic Resin
- Manifolds, Station Blank,
Regulator Accessory Plate - Anodized Aluminum
- Bleed Control Plate - Synthetic Resin
- Valve Seals: Plunger & Body - FKM (fluorocarbon)
Pilot Piston - NBR (nitrile)
- Solenoid Parts (Wetted) - 304, 430F Stainless Steel and Brass
- Screws - Stainless Steel

3. Weights

Valve Type	C5		C7	
	Weight	Weight	Weight	Weight
	oz. (gram)	oz. (gram)	oz. (gram)	oz. (gram)
Single Solenoid-Spring Return	8.3 (235)	10.6 (300)		
Double Solenoid	13.9 (395)	15.8 (450)		
Single Pilot-Spring Return	5.1 (145)	7.4 (210)		
Double Pilot	7.2 (205)	9.4 (270)		
Lever Actuated	5.1 (145)	7.4 (210)		
Palm Button Actuated	5.1 (145)	7.4 (210)		
Rotary Switch Actuated	4.6 (130)	6.9 (200)		

4. Operating Pressure Range* (pneumatic)

* For higher pressures consult factory

Valve Type	Actuation		Size Series	Operating Pressure Range	Aux. Pilot Pressure
5/2 & 5/3	Single solenoid or Single pilot-spring return and	INPilot	C5	15-115 psi (1-8 bar)	none required
			C7	25-115 psi (1.7-8 bar)	
	Double solenoid or Double pilot-spring centered	EXPilot	C5	Vacuum-115 psi (Vacuum-8 bar)	15-115 psi (1-8 bar)
			C7		25-115 psi (1.7-8 bar)
5/2	Double solenoid-momentary contact	INPilot	C5	10-115 psi (0.7-8 bar)	none required
			C7	15-115 psi (1-8 bar)	
	Double solenoid-momentary contact or Double pilot-momentary pressure	EXPilot	C5	Vacuum-115 psi (Vacuum-8 bar)	10-115 psi (0.7-8 bar)
			C7		15-115 psi (1-8 bar)
5/2 & 5/3	Manual-Lever, Button or Rotary switch		C5	Vacuum-115 psi (Vacuum-8 bar)	not applicable
	Manual-Lever or Button		C7		
	Manual-Rotary switch		C7	15-115 psi (1-8 bar)	

5. Porting Size

	C5	C7
Valve body ports:	1/8 NPT or G1/8	1/4 NPT or G1/4
Pilot ports:	1/8 NPT or G1/8	1/8 NPT or G1/8
Rack Mounting Supply/ Exhaust		
Manifold ports: (common inlet, exhausts) (EXPilot ports)	1/4 NPT or G1/4 1/8 NPT or G1/8	3/8 NPT or G3/8 N/A

Versa exercises diligence to assure that information contained in this catalog is correct, but does not accept responsibility for any errors or omissions. Versa also reserves the right to change or delete data or products at any time without prior notification. To be sure the data you require is correct, consult factory.

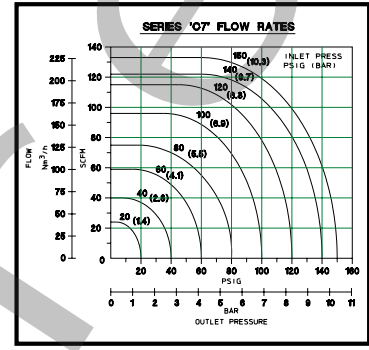
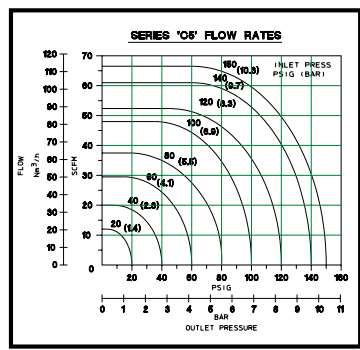


6. Flow

Minimum internal valve orifice:
Cv(Kv) average all ports:

C5
0.197" (5 mm)
0.75 (11)

C7
0.276" (7 mm)
1.6 (23)



Cylinder Extension Speed Using Series C5 or C7

Valve Size Series	A double-acting cylinder with bore of in (mm) :					
	1.25 (32)	1.75 (45)	2.0 (51)	3.25 (83)	4 (102)	6 (152)
C5	42 (1067)	25 (610)	12 (305)	6 (152)	3 (76)	1 (25)
C7	60 (1524)	40 (1016)	28 (711)	14 (356)	8 (208)	3 (76)

This table is meant as a valve selection guide only. It was constructed as a result of extensive valve-performance testing with a wide variety of cylinders using short lines, 60-90 psi (4.1-6.2 bar) at the valve; cycle rates of 60 cpm or less, small difference in effective area, equal inlet and exhaust Cv (Kv) factors, and loads requiring less than 30 psi (2.1 bar) to initiate movement.

7. Electrical Characteristics

- BASIC type solenoid operator* – 8.5 to 10.5 Watt
- LOW-WATT type solenoid operator* – 0.75 to 2.9 Watt

*Supplied with Guarded push to operate, turn to lock manual override as standard. For optional overrides see page 7.

Ambient temperature range: 5°F (-15°C) to 125°F (+50°C)

- Electrical connection: 3 spade terminals
- Optional – DIN connector for NEMA 4/IP65 protection
- Wire leads, 2 wire 18" (46 cm) long

Specifications: See also page 21 for solenoid options.

SOLENOID OPERATOR TYPE	Coil Type	CONTINUOUS DUTY COILS														
		Nominal Power		AC Voltage		Inrush amp	Holding amp	ohm	DC Voltage		Inrush & Holding amp	ohm				
		AC	DC	Volts/Hz	Coil Code #				Volts	Coil Code #						
BASIC - with spade terminals (For Mini DIN connector, NEMA 4/IP65)	CLASS F, Epoxy encapsulated, Rated voltage continuous duty 100%	8.5 watt	10.5 watt	24V60	A024	0.63	0.50	26	12	D012	0.87	14				
				110V50-	E110	0.13	0.10	647	24	D024	0.43	55				
				120V60	A120	0.13	0.10	647	48	D048	0.22	222				
				220V50-	E220	0.06	0.05	2790								
				240V50-	E240	0.06	0.05	2790								
				240V60	A240	0.06	0.05	2790								
LOW-WATT - with spade terminals (For Micromini DIN style 8 mm gap connector, NEMA 4/IP65)	Option -027 CLASS F, Epoxy encapsulated, Rated voltage continuous duty 100%	—	0.75 watt	—	—	—	—	—	6	D006	0.125	47				
				—	—	—	—	—	12	D012	0.063	193				
				—	—	—	—	—	24	D024	0.031	724				
				—	—	—	—	—	48	D048	0.017	2310				
				-043	CLASS F, Epoxy encapsulated, Rated voltage continuous duty 100%	4.0VA @50 Hz 3.2 to 4.3VA @60Hz	2.9 watt	24V50-	E024	0.21	0.16	78	12	D012	0.24	47
								24V60	A024	0.19	0.13	78	24	D024	0.12	193
	110V50-	E110	0.045					0.035	1715	48	D048	0.06	724			
	110V60-	A110	0.041					0.028	1715							
	120V60	A120	0.042					0.032	1715							
	220V50-	E220	0.023					0.017	7750							
	220V60-	A220	0.023	0.017	7750											
	240V60	A240	0.021	0.016	7750											

8. Installation C5 and C7 valves have no limitations on mounting orientation.

9. Filtration & Lubrication
40 to 50 micron filtration, and use of general purpose, non-detergent lubricating oil (ISO, ASTM) Grade 32 in controlled and pilot air, is recommended.

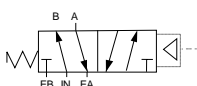
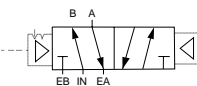
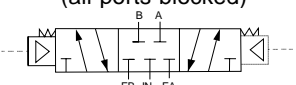
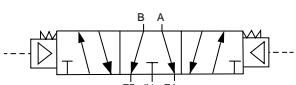
10. Product Numbers
Solenoid Valves — see page 21

- Pilot Valves — see page 20
- Manual Valves — see page 20
- Supply/Exhaust Manifolds — C5 - see page 22 & 24
- C7 - see page 23 & 24

11. Dimensions
Solenoid Valves — see pages 25 & 26
Pilot Valves — see page 26
Manual Valves — see pages 26 & 27
Supply/Exhaust Manifolds — see pages 22, 23 & 24





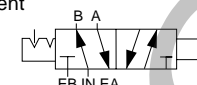
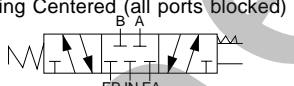
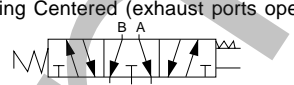
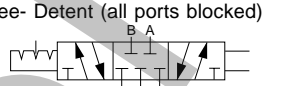
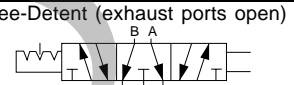
Series C5 & C7 Bodyported Valves

Remote Pressure Pilot Actuated Valves See page 26 for dimensions.

Valve Type	Actuation	Size Series	Port Size	BASIC Product Number	
5/2	Single pilot-spring return* 	C5	1/8 NPT G1/8	CSP-4202* CSP-4262*	* For CSP type valves on non-lubricated service add suffix option -S. Aux. Pilot pressure required: C5 25-115 psi (1.7-8 bar) C7 30-115 psi (2-8 bar)
		C7	1/4 NPT G1/4	CSP-4302* CSP-4362*	
	Double pilot-momentary pressure 	C5	1/8 NPT G 1/8	CPP-4202 CPP-4262	
		C7	1/4 NPT G1/4	CPP-4302 CPP-4362	
5/3† † For additional center flow pattern with cylinder ports open to inlet see note in chart on page 21 for 5/3 type valves.	Double pilot-spring centered (all ports blocked) 	C5	1/8 NPT G1/8	CJJ-4203 CJJ-4263	
		C7	1/4 NPT G1/4	CJJ-4303 CJJ-4363	
	Double pilot-spring centered (exhaust ports open) 	C5	1/8 NPT G1/8	CJJ-4204 CJJ-4264	
		C7	1/4 NPT G1/4	CJJ-4304 CJJ-4364	

Manually Actuated Valves See pages 26 & 27 for dimensions.

(Application Note – Manually actuated valves are designed as directional control devices. They are not intended for use on modulating, proportional or metering applications. For speed control see Bleed Control Valves in Versa Bulletin ACC.)

Valve Type	Function	Size Series	Port Size	ACTUATION		
				Lever 	Button 	Rotary Switch 
5/2	Spring return 	C5	1/8 NPT G1/8	CSL-4202 CSL-4262	CSI-4202 CSI-4262	N/A
		C7	1/4 NPT G1/4	CSL-4302 CSL-4362	CSI-4302 CSI-4362	
	Two-Detent 	C5	1/8 NPT G1/8	CZL-4202 CZL-4262	CZI-4202 CZI-4262	CZA-4202-357 CZA-4262-357
		C7	1/4 NPT G1/4	CZL-4302 CZL-4362	CZI-4302 CZI-4362	CZA-4302-357 CZA-4362-357
5/3	Spring Centered (all ports blocked) 	C5	1/8 NPT G1/8	CBL-4203 CBL-4263	CBI-4203 CBI-4263	N/A
		C7	1/4 NPT G1/4	CBL-4303 CBL-4363	CBI-4303 CBI-4363	
	Spring Centered (exhaust ports open) 	C5	1/8 NPT G1/8	CBL-4204 CBL-4264	CBI-4204 CBI-4264	N/A
		C7	1/4 NPT G1/4	CBL-4304 CBL-4364	CBI-4304 CBI-4364	
	Three-Detent (all ports blocked) 	C5	1/8 NPT G1/8	CUL-4203 CUL-4263	CUI-4203 CUI-4263	CUA-4203-357 CUA-4263-357
		C7	1/4 NPT G1/4	CUL-4303 CUL-4363	CUI-4303 CUI-4363	CUA-4303-357 CUA-4363-357
	Three-Detent (exhaust ports open) 	C5	1/8 NPT G1/8	CUL-4204 CUL-4264	CUI-4204 CUI-4264	CUA-4204-357 CUA-4264-357
		C7	1/4 NPT G1/4	CUL-4304 CUL-4364	CUI-4304 CUI-4364	CUA-4304-357 CUA-4364-357

Options for Manually Actuated Valves — Add suffix for required option to product number listed above.

Suffix

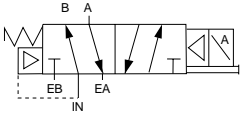
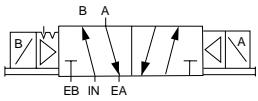
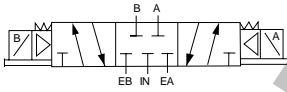
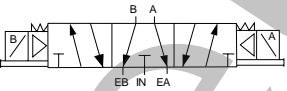
- 218A Lever is rotated 90° counter clockwise from vertical upright position
- 218B Lever is rotated 180° counter clockwise from vertical upright position
- 218C Lever is rotated 270° counter clockwise from vertical upright position
- 25B Larger diameter 1.81" (46mm) black button. Use "-25BG" for green or "-25BR" for red.
- 43 Extra panel mounting nut for button or rotary switch actuated valves. Reduces maximum allowable panel thickness from 0.56" (14.2mm) to 0.44" (11mm)

Note: If legend plates are required, any 22.5mm plate utilized for industrial pushbutton switches or indicating lights may be used.

Series C5 & C7 Bodyported Valves



Solenoid Actuated Valves *See pages 25 & 26 for dimensions*

Valve Type	Actuation		Size Series	Port Size	BASIC Product Number
5/2	Single solenoid-spring return 	INPilot	C5	1/8 NPT G1/8	CSG-4222-(*) CSG-4282-(*)
			C7	1/4 NPT G1/4	CSG-4322-(*) CSG-4382-(*)
	EXPilot	C5	1/8 NPT G 1/8	CSG-4202-(*) CSG-4262-(*)	
		C7	1/4 NPT G1/4	CSG-4302-(*) CSG-4362-(*)	
	Double solenoid-momentary contact 	INPilot	C5	1/8 NPT G1/8	CGG-4222-(*) CGG-4282-(*)
			C7	1/4 NPT G1/4	CGG-4322-(*) CGG-4382-(*)
EXPilot	C5	1/8 NPT G1/8	CGG-4202-(*) CGG-4262-(*)		
	C7	1/4 NPT G1/4	CGG-4302-(*) CGG-4362-(*)		
5/3 † † In addition to the 2 types of center flow patterns shown, one whereby both cylinder ports are open to inlet is also available. Indicate this center flow pattern by changing the last integer of the product number listed to an "8". For example, CXX-4328.	Double solenoid-spring centered (all ports blocked) 	INPilot	C5	1/8 NPT G1/8	CXX-4223-(*) CXX-4283-(*)
			C7	1/4 NPT G1/4	CXX-4323-(*) CXX-4383-(*)
	EXPilot	C5	1/8 NPT G1/8	CXX-4203-(*) CXX-4263-(*)	
		C7	1/4 NPT G1/4	CXX-4303-(*) CXX-4363-(*)	
	Double solenoid-spring centered (exhaust ports open) 	INPilot	C5	1/8 NPT G1/8	CXX-4224-(*) CXX-4284-(*)
			C7	1/4 NPT G1/4	CXX-4324-(*) CXX-4384-(*)
EXPilot	C5	1/8 NPT G1/8	CXX-4204-(*) CXX-4264-(*)		
	C7	1/4 NPT G1/4	CXX-4304-(*) CXX-4364-(*)		

(*) Specify any options that are required from list below, and coil code # from page 19.

OPTIONS FOR SOLENOID VALVES — For required options, add suffix number to basic valve product number above.

	Suffix	Description
LOW-WATT OPERATOR:	{ -027 -043	Functions at 0.75 watt, DC voltages only Functions at 2.9 watt, DC; 3.1 to 3.7 VA , AC voltages
DIN CONNECTOR:	-HC	NEMA 4/IP65 protection- Mini type with PG9 cord grip for BASIC operator. Micromini type (8 mm gap) with cord grip (maximum 0.25 [6.5 mm] cable ø) for LOW-WATT operators.
WIRE LEADS:	-243	Provides 2 wire leads- 24" (61 cm) long for BASIC operators 18" (46 cm) long for LOW-WATT operators
WIRE LEADS with 1/2" NPT CONDUIT CONNECTION:	-228L	NEMA 4 protection- Provides wire leads same as suffix -243, but boss accepts 1/2" NPT conduit. Not available with LOW-WATT.

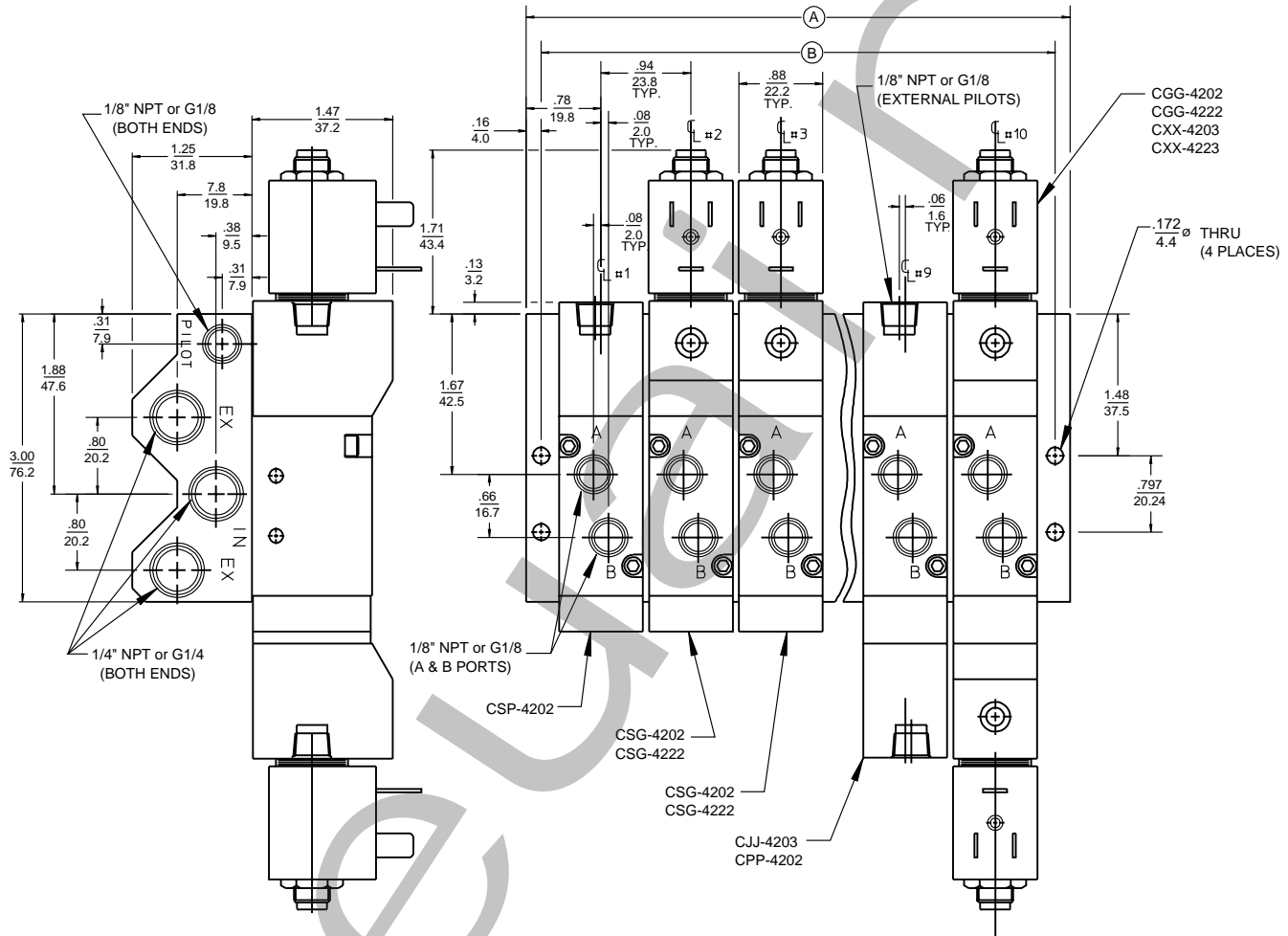
Rack Mounting Supply/Exhaust Port Manifolds

Series C5

[Manifold provides a common connection for the inlet, a common connection for each exhaust port, (and a common connection for an auxiliary pilot line for **EXPILOT** valves) for all valves on the assembly.]

Typical Valve & Manifold Assembly*

(Dimensions shown in inches.)
mm



No. of Valve Stations	Manifold Port Size	Manifold Product No.†	Dimensions	
			A	B
2	1/4 NPT G1/4	C5M-4300-2	2.50"	2.188"
		C5M-4360-2	63.5 mm	55.56 mm
3	1/4 NPT G1/4	C5M-4300-3	3.44"	3.125"
		C5M-4360-3	87.31 mm	79.38 mm
4	1/4 NPT G1/4	C5M-4300-4	4.38"	4.062"
		C5M-4360-4	111.1 mm	103.19 mm
5	1/4 NPT G1/4	C5M-4300-5	5.31"	5.000"
		C5M-4360-5	134.9 mm	127.00 mm
6	1/4 NPT G1/4	C5M-4300-6	6.25"	5.937"
		C5M-4360-6	158.8 mm	150.8 mm
7	1/4 NPT G1/4	C5M-4300-7	7.19"	6.875"
		C5M-4360-7	182.6 mm	174.6 mm
8	1/4 NPT G1/4	C5M-4300-8	8.13"	7.812"
		C5M-4360-8	206.4 mm	198.4 mm
9	1/4 NPT G1/4	C5M-4300-9	9.06"	8.750"
		C5M-4360-9	230.2 mm	222.2 mm
10	1/4 NPT G1/4	C5M-4300-10	10.00"	9.688"
		C5M-4360-10	254.0 mm	246.1 mm

† Valve mounting screws and O rings are supplied with manifold.

***NOTE:**

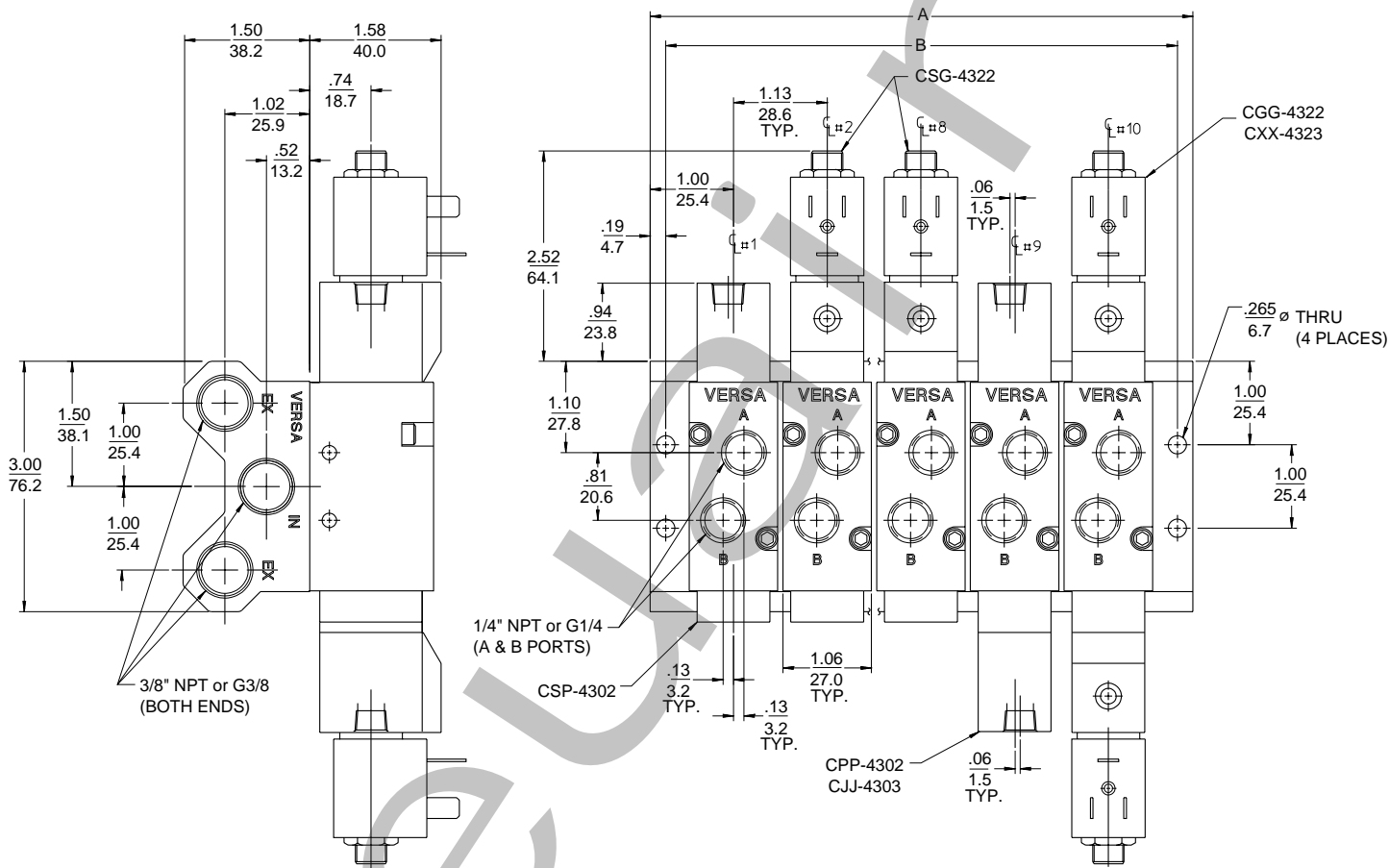
Valves shown are typical and can be BASIC and/or LOW-WATT solenoid actuated, (INPILOT and/or EXPILOT), single and/or double solenoid, remote pressure pilot, single and or double pilot. Any of these valve types can be intermixed in the same assembly. For mounting of manually actuated valves, consult factory. When valves and manifold are ordered together, valves are shipped assembled to manifold.

Series C7

(Manifold provides a common connection for the inlet & a common connection for each exhaust port for all valves on the assembly.)

Typical Valve & Manifold Assembly*

(Dimensions shown in inches.)
mm



No. of Valve Stations	Manifold Port Size	Manifold Product Number†	Dimensions	
			A	B
2	3/8 NPT G3/8	C7M-4400-2	3.13"	2.750"
		C7M-4460-2	79.5 mm	69.85 mm
3	3/8 NPT G3/8	C7M-4400-3	4.25"	3.875"
		C7M-4460-3	108.0 mm	98.43 mm
4	3/8 NPT G3/8	C7M-4400-4	5.38"	5.000"
		C7M-4460-4	136.6 mm	127.00 mm
5	3/8 NPT G3/8	C7M-4400-5	6.50"	6.125"
		C7M-4460-5	165.1 mm	155.57 mm
6	3/8 NPT G3/8	C7M-4400-6	7.63"	7.250"
		C7M-4460-6	193.8 mm	184.15 mm
7	3/8 NPT G3/8	C7M-4400-7	8.75"	8.375"
		C7M-4460-7	222.2 mm	212.72 mm
8	3/8 NPT G3/8	C7M-4400-8	9.88"	9.500"
		C7M-4460-8	250.9 mm	241.30 mm
9	3/8 NPT G3/8	C7M-4400-9	11.00"	10.625"
		C7M-4460-9	279.4 mm	269.87 mm
10	3/8 NPT G3/8	C7M-4400-10	12.13"	11.750"
		C7M-4460-10	308.1 mm	298.45 mm

† Valve mounting screws and O rings are supplied with manifold.

***NOTE:**

Valves shown are typical and can be BASIC and/or LOW-WATT solenoid actuated, (INPILOT and/or EXPILOT), single and/or double solenoid, (for expilot solenoid valves the pilot source must be supplied to each valve), remote pressure pilot, single and or double pilot. Any of these valve types can be intermixed in the same assembly. For mounting of manually actuated valves, consult factory. When valves and manifold are ordered together, valves are shipped assembled to manifold.

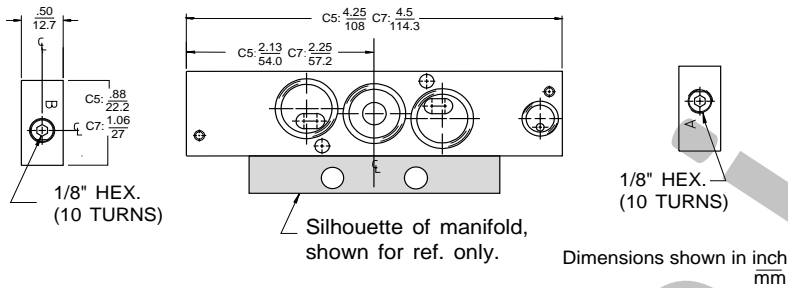
Rack Mounting Supply/Exhaust Manifold Accessories

Series C5 & C7

Bleed Control Accessory Plate

C5: C5M-BC4
C7: C7M-BC4

Speed control is accomplished by utilizing an adjustable needle valve to limit flow from port A (2) to port EA (3) and from port B (4) to port EB (5). Bleed control plate is placed between valve and Supply/Exhaust Manifold.



NOTE: Assembly includes valve mounting screws and O-rings.
This product is not available for C7 size EXPilot Valves.

Station Blank Assembly

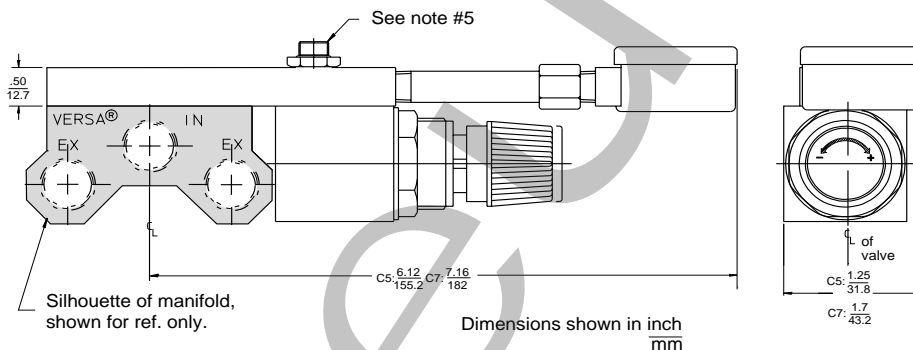
C5: C5M-SB4
C7: C7M-SB4



Required for blocking off unused or future valve stations of Supply & Exhaust Manifold assembly.

NOTE: Assembly includes mounting screws .

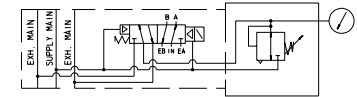
Regulator Accessory Plate (See chart below for specific product no.)



NOTES:

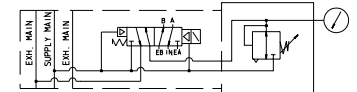
- 1) Regulator Assembly includes valve mounting screws and O-rings and can only be mounted on every other station. Alternate regulator assemblies for adjacent stations.
- 2) All valves must be **EXPilot** type. No auxiliary pilot pressure required (see diagrams).
- 3) Minimum manifold inlet pressure required is based on valve type. See page 18.
- 4) C7 only: regulator assembly product numbers listed are for use with EXPilot solenoid operated valves only. For pilot or lever operated valves add "P" to the product number shown. **FOR EXAMPLE: C7AR-4010GP**
- 5) C7 only: assemble the adapter assembly flush in the pilot port of solenoid valve using a 9/16" wrench.

SINGLE PRESSURE (4-WAY) REGULATOR FLOW DIAGRAM.



Flow Diagram above shows one single solenoid valve mounted on the Regulator Ass'y.

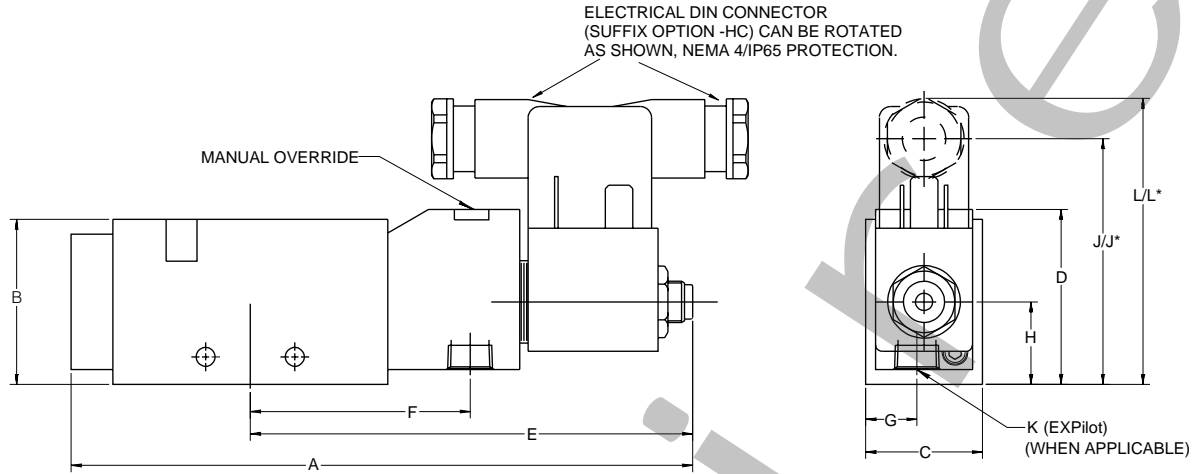
DUAL PRESSURE (5-WAY) REGULATOR FLOW DIAGRAM



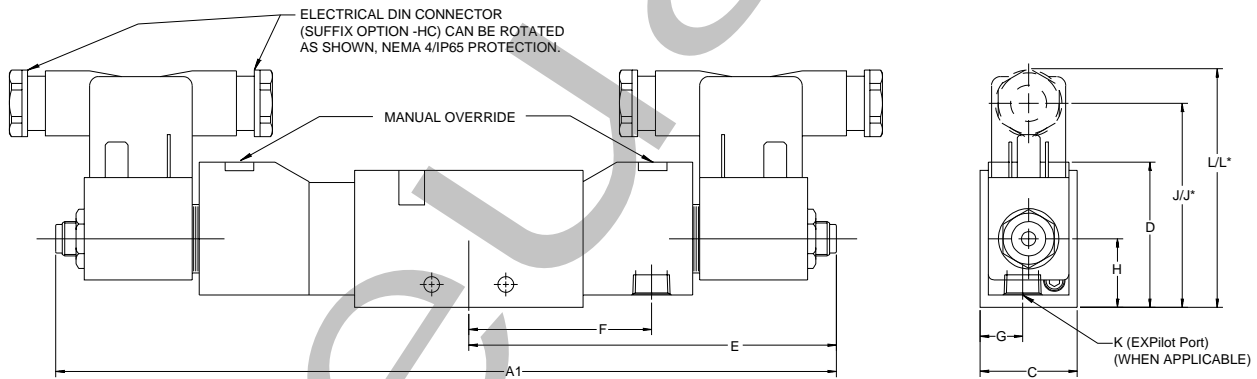
Flow Diagram above shows one single solenoid valve mounted on the Regulator Ass'y. Supply Main pressure is supplied to the 'EB' (5) port and Regulated pressure is supplied to the 'EA' (3) port.

Single Pressure 4-Way Regulator Accessory Plate		Dual Pressure 4-Way (5-Way) Regulator Accessory Plate		Regulator Pressure Range
C5	C7	C5	C7	
C5AR-4010G	C7AR-4010G	C5AR-5010G	C7AR-5010G	1-10 psi (0.07-0.7 bar)
C5AR-4030G	C7AR-4030G	C5AR-5030G	C7AR-5030G	3-30 psi (0.2-2 bar)
C5AR-4060G	C7AR-4060G	C5AR-5060G	C7AR-5060G	5-60 psi (0.35-4 bar)
C5AR-4125G	C7AR-4125G	C5AR-5125G	C7AR-5125G	10-125 psi (0.7-8.6 bar)

Series C5 & C7 Bodyported Dimensions



5/2 SINGLE SOLENOID



5/2 & 5/3 DOUBLE SOLENOID

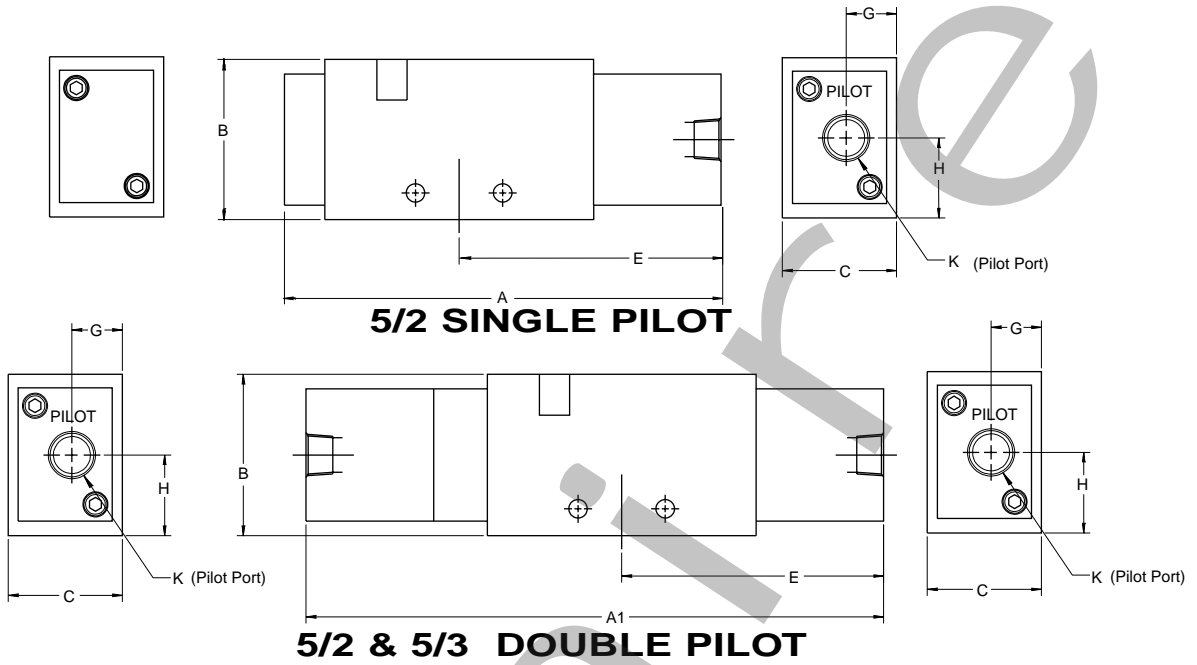
DIMENSIONS

(See page 26 for locations of mounting holes and ports.)

		A	A1	B	C	D	E	F	G	H	J	J*	K	L	L*
C5	inch	5.03	7.92	1.25	0.88	1.46	3.71	1.69	0.38	0.63	2.11	1.82	1/8 NPT	2.47	2.13
	mm	127.7	201.2	31.8	22.4	37.2	94.2	42.8	9.5	15.9	53.5	46.2	G1/8	62.8	54.1
C7	inch	5.65	8.55	1.50	1.06	1.59	4.02	2.00	0.47	0.75	2.23	1.94	1/8 NPT	2.60	2.25
	mm	143.6	217.1	38.1	27.0	40.4	102.2	50.8	11.8	19.1	56.7	49.3	G1/8	66.0	57.2

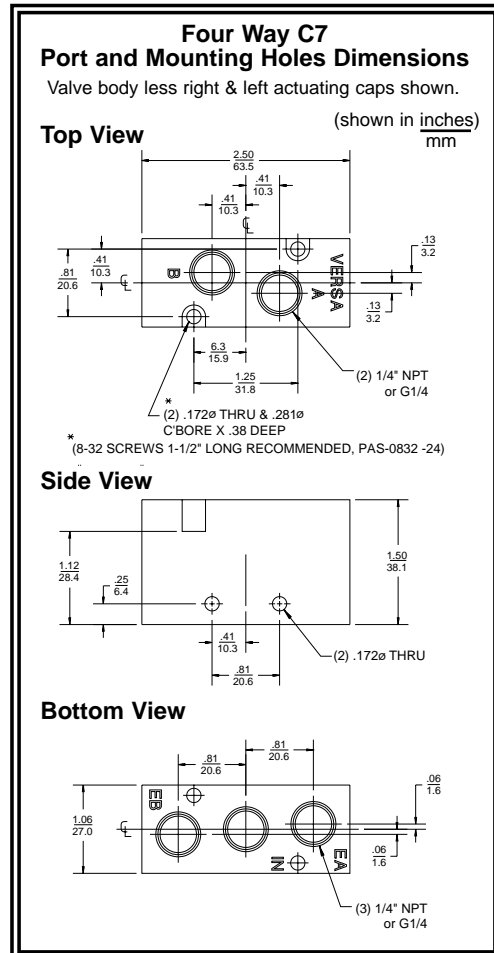
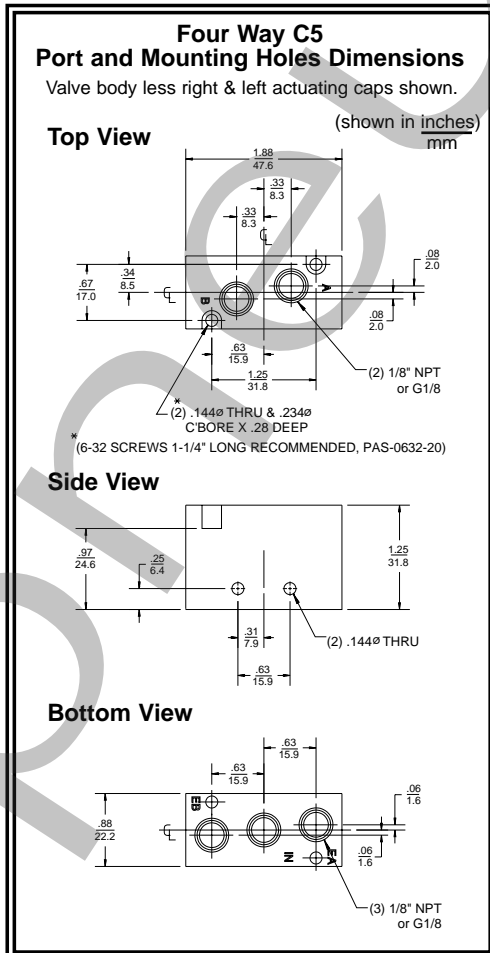
*Low Watt Actuator

Series C5 & C7 Bodyported Dimensions



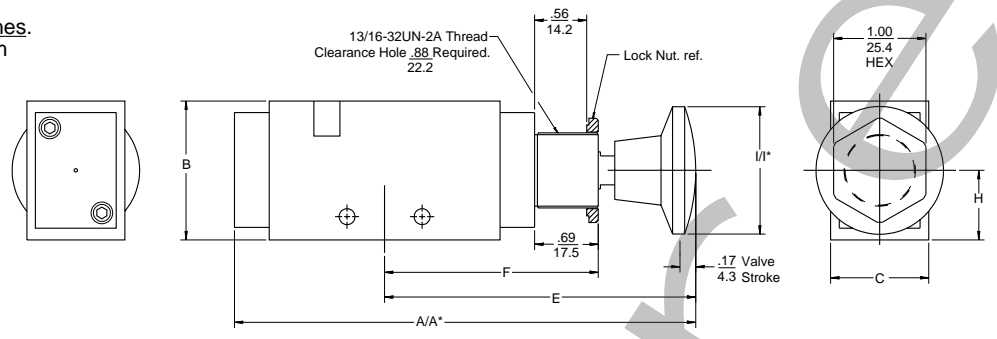
Dimensions (See appropriate size series below for locations of mounting holes and ports.)

		A	A1	B	C	E	G	H	K
C5	inch	3.44	4.75	1.25	0.88	2.13	0.38	0.63	1/8 NPT
	mm	87.3	120.7	31.8	22.2	54.0	9.5	15.9	G1/8
C7	inch	4.06	5.38	1.50	1.06	2.44	0.47	0.75	1/8 NPT
	mm	103.2	136.6	38.1	27.0	61.9	11.9	19.1	G1/8

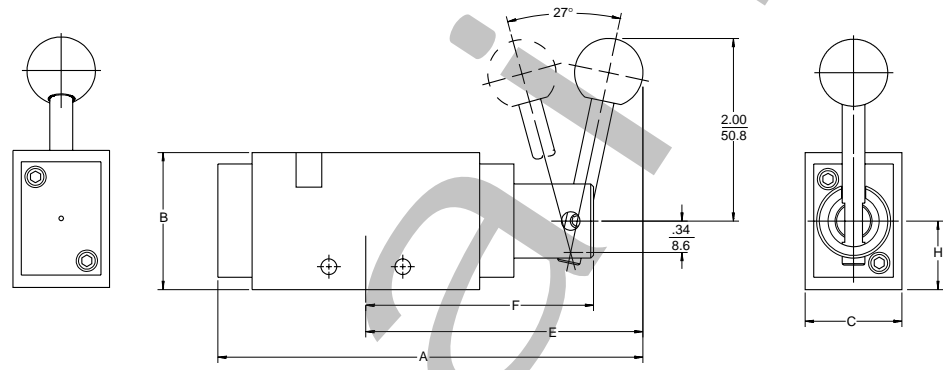


NOTE: VALVES SUPPLIED WITH G THREADS HAVE PORTS MARKED AS FOLLOWS: IN=1, A=2, EA=3, B=4, EB=5

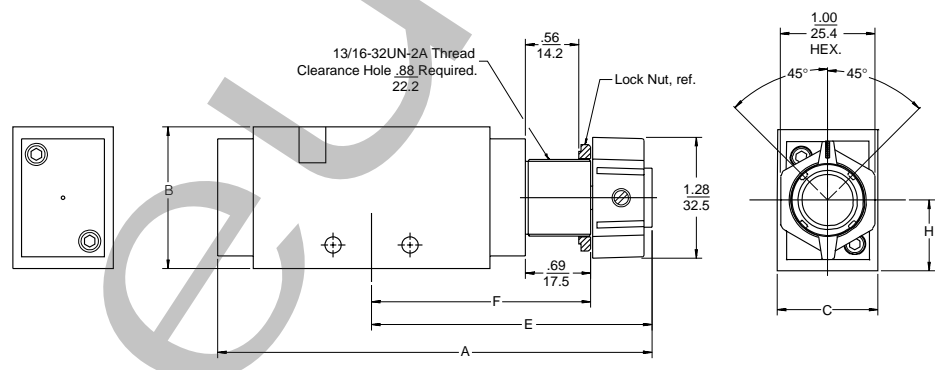
Dimensions shown in inches.
mm



BUTTON ACTUATED VALVES



LEVER ACTUATED VALVES



ROTARY SWITCH ACTUATED VALVES

Dimensions
(See page 26 for locations of mounting holes and ports.)

		A	A*	B	C	E	F	H	I	I*	
Button Actuated Valves	C5	inch	4.37	4.66	1.25	0.88	2.75	2.00	0.63	1.38	1.81
		mm	111.0	118.4	31.8	22.2	70.0	50.8	15.9	35.1	46.0
	C7	inch	4.99	5.28	1.50	1.06	3.37	2.31	0.75	1.38	1.81
		mm	126.8	134.1	38.1	27.0	85.5	58.7	19.1	35.1	46.0
Lever Actuated Valves	C5	inch	4.04	--	1.25	0.88	2.73	2.19	0.63	*For Option -25B.	
		mm	102.7	--	31.8	22.2	69.3	55.5	15.9		
	C7	inch	4.04	--	1.5	1.06	3.04	2.50	0.75		
		mm	118.6	--	38.1	27.0	77.3	63.5	19.1		
Rotary Switch Actuated Valves	C5	inch	3.96	--	1.25	0.88	2.65	2.00	0.63		
		mm	100.6	--	31.8	22.2	67.3	50.8	15.9		
	C7	inch	4.58	--	1.50	1.06	3.27	2.62	0.75		
		mm	116.3	--	38.1	27.0	83.1	67.0	19.1		

Repair Kits for Series C5 & C7 Valves

The repair kits listed below contain all of the parts necessary to restore a valve to prime operating condition. Coils for solenoid actuated valves are ordered separately. See heading COILS below.

Series C5 Valves

Repair Kit No.	For valve type
C-4202-SI	CSI-
C-4202-SL	CSL-
C-4202-ZI	CZI-
C-4202-ZL	CZL-
C-4203-BI	CBI- w/ 3 spool
C-4203-BL	CBL- w/ 3 spool
C-4203-UI	CUI- w/ 3 spool
C-4203-UL	CUL- w/ 3 spool
C-4204-BI	CBI- w/ 4 spool
C-4204-BL	CBL- w/ 4 spool
C-4204-UI	CUI- w/ 4 spool
C-4204-UL	CUL- w/ 4 spool
C-4222-PP	CGG- & CPP-
C-4222-SP	CSG- & CSP-
C-4223	CXX- & CJJ- w/ 3 spool
C-4224	CXX- & CJJ- w/ 4 spool

Series C7 Valves

Repair Kit No.	For valve type
C-4302-SI	CSI-
C-4302-SL	CSL-
C-4302-ZI	CZI-
C-4302-ZL	CZL-
C-4303-BI	CBI- w/ 3 spool
C-4303-BL	CBL- w/ 3 spool
C-4303-UI	CUI- w/ 3 spool
C-4303-UL	CUL- w/ 3 spool
C-4304-BI	CBI- w/ 4 spool
C-4304-BL	CBL- w/ 4 spool
C-4304-UI	CUI- w/ 4 spool
C-4304-UL	CUL- w/ 4 spool
C-4322-PP	CGG- & CPP-
C-4322-SP	CSG- & CSP-
C-4323	CXX- & CJJ- w/ 3 spool
C-4324	CXX- & CJJ- w/ 4 spool

COILS- for Series C5 & C7 solenoid valves

VALVE TYPE	SOLENOID TYPE	COIL TYPE	COIL PRODUCT NUMBER
Manifold Mounting or Bodyported	Basic	3 spade terminals ++	P-1005-02-HC-(*)
		Wire Leads	P-1005-02-243-(*)
		Wire Leads with 1/2" NPT conduit connection	P-1005-02-228L-(*)
	Low-Watt Basic or Low-Watt Plug-In	3 spade terminals +++	+P-1520-02-027-HC-(*) +P-1520-02-043-HC-(*)
	Low-Watt Basic	Wire Leads	+P-1520-02-027-243-(*) +P-1520-02-043-243-(*)

- * Add Coil Code from page 6 or 19
- + Match coil to valve product number using -027 or -043 designation
- ++ DIN connector for this coil is P-1005-70-HC.
- +++ DIN connector for this coil is P-1520-70-HC.

WARNINGS REGARDING THE DESIGN APPLICATION, INSTALLATION AND SERVICE OF VERSA PRODUCTS

The warnings below must be read and reviewed before designing a system utilizing, installing, servicing, or removing a Versa product. Improper use, installation or servicing of a Versa product could create a hazard to personnel and property.

DESIGN APPLICATION WARNINGS

Versa products are intended for use where compressed air or industrial hydraulic fluids are present. For use with media other than specified or for non-industrial applications or other applications not within published specifications, consult Versa.

Versa products are not inherently dangerous. They are only a component of a larger system. The system in which a Versa product is used must include adequate safeguards to prevent injury or damage in the event of system or product failure, whether this failure be of switches, regulators, cylinders, valves or any other system component. System designers must provide adequate warnings for each system in which a Versa product is utilized. These warnings, including those set forth herein, should be provided by the designer to those who will come in contact with the system.

Where questions exist regarding the applicability of a Versa product to a given use, inquiries should be addressed directly to the manufacturer. Confirmation should be obtained directly from the manufacturer regarding any questioned application prior to proceeding.

INSTALLATION, OPERATION AND SERVICE WARNINGS

Do not install or service any Versa product on a system or machine without first depressurizing the system and turning off any air, fluid, or electricity to the system or machine. All applicable

electrical, mechanical, and safety codes, as well as applicable governmental regulations and laws must be complied with when installing or servicing a Versa product.

Versa products should only be installed or serviced by qualified, knowledgeable personnel who understand how these specific products are to be installed and operated. The individual must be familiar with the particular specifications, including specifications for temperature, pressure, lubrication, environment and filtration for the Versa product which is being installed or serviced. Specifications may be obtained upon request directly from Versa. If damages should occur to a Versa product, do not operate the system containing the Versa product. Consult Versa for technical information.

LIMITED WARRANTY DISCLAIMER AND LIMITATION OF REMEDIES

Products sold by Versa are warranted to be free from defective material and workmanship for a period of ten years from the date of manufacture, provided said items are used in accordance with Versa specifications. Versa's liability pursuant to that warranty is limited to the replacement of the Versa product proved to be defective provided the allegedly defective product is returned to Versa or its authorized distributor.

Versa provides no other warranties, expressed or implied, except as stated above. There are no implied warranties of merchantability or fitness for a particular purpose. Versa's liability for breach of warranty as herein stated is the only and exclusive remedy and in no event shall Versa be responsible or liable for incidental or consequential damages.