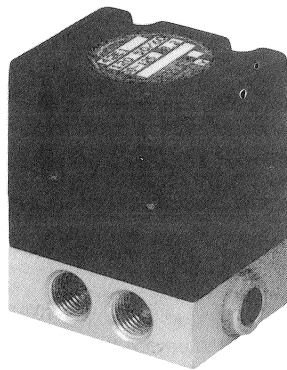


Humphrey TAC³ Electric Air Valves

Humphrey TAC³ electric air valves feature Delrin sleeve construction to reduce friction for smooth performance and long service life. Single-solenoid models employ a mechanical spring and a patented air spring to return the main stem. Double-solenoid models maintain the last position automatically, preventing equipment damage when pressure is interrupted.

TAC³ electric air valves are a series of rugged, compact, 2-position, 4-way, 5-port valves having a common inlet and separate exhausts. Cylinder port #1 is normally open; cylinder port #2 is normally closed. They have a non-locking manual override. The valve cover serves as a junction box for easy wiring and can be removed without disconnecting the wiring.

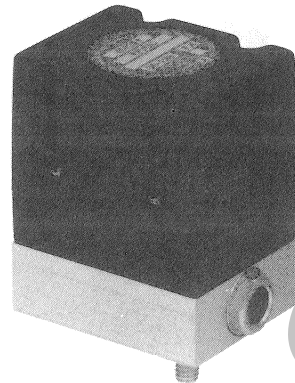
These valves mount in any position with body mounting holes or directly in-line. They can also be mounted with part #8-25A mounting bracket or on rugged, extruded aluminum TAC³ MC Series manifolds.



42E1

Model 42E1 is a single-solenoid, maintained-contact, air/spring return valve. Furnished with lead wires protected by a grommet, which may be removed to install conduit. Alternatively, user may specify Code 39 plug-in electrical connector.

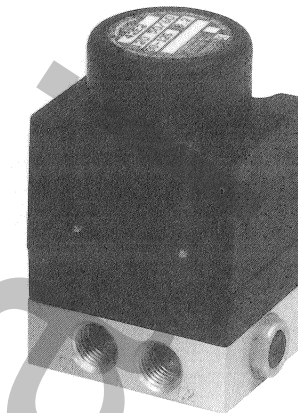
Model 42AE1 is identical to 42E1 but has an external air pilot connection that permits the valving of media below 30 psig and isolates pilot air from valved medium.



M42E1

Model M42E1 is a version of the 42E1 valve for mounting on Humphrey MC Series manifolds.

Model M42AE1 is identical to the M42E1 but has an external air pilot connection that permits the valving of media below 30 psig and isolates pilot air from valved medium.

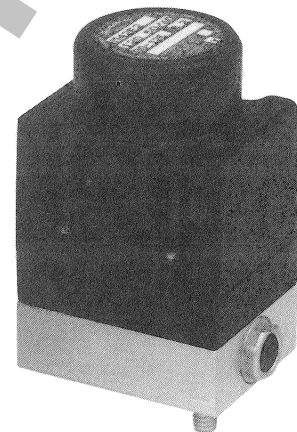
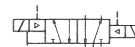


42E2

Model 42E2 is a double-solenoid, momentary-contact, maintained position valve. Unique design needs no holding relays. (Note that valve may not maintain position if supply pressure is removed.) Lead wires protected by a grommet. Remove grommet to install conduit.

When energizing AC coils longer than 30 seconds, specify Code CD (Continuous Duty). All DC voltages are continuous duty as standard.

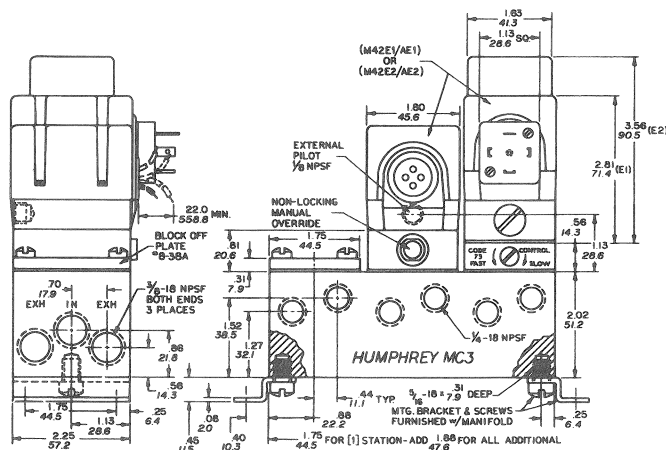
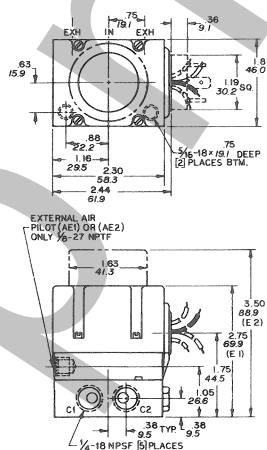
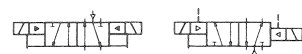
Model 42AE2 is identical to 42E2 but has an external air pilot connection for valving media below 30 psig and isolating pilot air from valved medium.

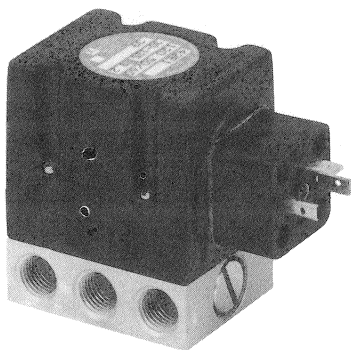


M42E2

Model M42E2 is a version of the 42E2 valve for mounting on Humphrey MC Series manifolds.

Model M42AE2 is a version of the 42AE2 valve for mounting on Humphrey MC Series manifolds.





42E1-39

Model 42E1-39 is identical to 42E1. Code 39 is a plug-in (DIN) electrical connector. Code 39 is also available for models M42E1, 42E2, and M42E2. Example: M42E2-39.

TAC³ MC Manifolds

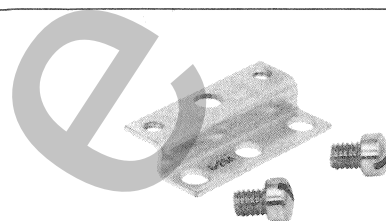
Manifolds permit centralized location of control valves, simplify plumbing, and reduce installation and maintenance costs. Valves and manifolds can be sub-assembled and placed in the end-product as a complete control unit, thereby saving the time and labor involved when installing valves individually.

MC Series manifolds are of rugged, one-piece extruded aluminum construction and are available two to seven stations. An MC

manifold has common inlet and two common (captured) exhausts. Captured exhaust is desirable when the exhausting medium must be piped away to avoid contamination of the ambient area, as in clean rooms.

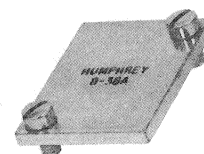
Valves mount in one of two positions by reversing the valve on the manifold.

Manifold is furnished with mounting brackets and screws, permitting four mounting options.



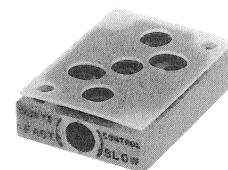
Mounting Bracket 8-25A

Z-type mounting bracket with two 5/16-18 x 3/8 screws, and two 1/4-20 x 1 screws (not shown). Provides four different mounting possibilities. Bracket and screws are zinc plated steel.



Block-Off Plate 8-38A

Suspends use of station. Use in advance to provide for future addition of valves.



Speed Control Code 73

Provides controlled exhaust flow in both modes of valve operation. Exhaust is ported into manifold and may be captured.

Specifications

MEDIA:

Compressed Air (Consult factory for others)

PRESSURE RANGE:

E1/E2: 30 to 100 psig (2.1 to 7.0 bars)
AE1/AE2: 0 to 125 psig (0 to 8.6 bars) (body), 30 to 100 psig (2.1 to 7.0 bars) (pilot)

TEMPERATURE RANGE:

-20 to 150°F (-28.9 to 65.6°C)

OPERATING SPEEDS:

To 600 CPM

MATERIALS:

Zinc Die Cast, Aluminum, Brass, Stainless Steel, Zinc Plated Steel, Delrin, Buna N

LUBRICATION

Recommended

FILTRATION

40 Microns Minimum

Air Flow to Atmosphere

MODEL	25 PSIG CFM	(1.7 BARS) LPM	125 PSIG CFM	(8.6 BARS) LPM	ACTUAL LBS	KGS
All	11.0	311.0	40.0	1132.0	1.3	0.63

Weight

Electrical Specifications

MODEL	VOLTAGE	COIL NUMBER	WATTS	AMPS	OHMS	HEAT RISE (°C)	ON TIME SECONDS	OFF TIME SECONDS
42E1	24 DC	46-8A	7.1	0.296	86	85.9	0.023	0.025
	120 AC	46-4	8.2	0.161	255	102.0	0.009	0.027
42E2	24 DC	46-8A	7.1	0.296	86	85.9	0.013	0.022
	120 AC	46-3	23.0	0.236	105	77.8	0.009	0.016

Lead Wire: # 18 AWG, 16-30 TC, 1/32, 105°C, PVC, UL & CSA.

Fill/Exhaust Times (Seconds)

MODEL	SUPPLY PRESSURE							
	At 50 psig (3.5 bars)				At 100 psig (7.0 bars)			
	Chamber Fill 0-40 psig (0-2.8 bars)		Exhaust 50-10 psig (3.5-7 bars)		Chamber Fill 0-80 psig (0-5.5 bars)		Exhaust 100-20 psig (7.0-1.4 bars)	
	10 Cubic Inches (164cc)		100 Cubic Inches (1640cc)		10 Cubic Inches (164cc)		100 Cubic Inches (1640cc)	
	FILL	EXHAUST	FILL	EXHAUST	FILL	EXHAUST	FILL	EXHAUST
42E1/E2	0.067	0.120	0.475	0.991	0.074	0.142	0.524	1.170

Humphrey Electric Air Valves

Order Information

TAC³ Electric & 42LW Series
1/4-inch ports, 4-way

VALVES

	Mount. Base	Spade Terminals	Grommet Conduit Leads (18")	Flying Leads (18")	Grommet/ Conduit Leads (72")	DIN Con- nector	Pilot Manual Override		FKM** Seals	Specify Voltage with option Code				
							non-locking	locking		12VDC, 24VDC 24/50/60 120/50/60 240/50/60				
Option Code				38	LL	39	80	81	w/VAI	CD	ID	CD	ID	Specify Voltage
Model														
42E1	OS	NA	STD	NA	SP	SP	NA	NA	SP	STD	NA	SP	NA	
42AE1	OS	NA	STD	NA	SP	SP	NA	NA	SP	STD	NA	SP	NA	
42E2	OS	NA	STD	NA	SP	SP	NA	NA	SP	SP	STD	SP	SP	
42AE2	OS	NA	STD	NA	SP	SP	NA	NA	SP	SP	STD	SP	SP	
M42E1	NA	NA	STD	NA	SP	SP	NA	NA	SP	STD	NA	SP	NA	
M42AE1	NA	NA	STD	NA	SP	SP	NA	NA	SP	STD	NA	SP	NA	
M42E2	NA	NA	STD	NA	SP	SP	NA	NA	SP	SP	STD	SP		
M42AE2	NA	NA	STD	NA	SP	SP	NA	NA	SP	SP	STD	SP		

CD=Continuous Duty: ID=Intermittent Duty

*Main Valve body only.

**Fluoroelastomer

MANIFOLDS

Model
MC2
MC3
MC4
MC5
MC6
MC7

MC2=2 Station.

MC7=7 station, etc.

ACCESSORIES

Model	Description
8-25A	Mounting bracket for in-line Valves and for Manifolds.
HS-4	DIN Connector (42 Series) for use with Code 39 Valves.
Code 73	Speed Control for all Prefix M Valves.
8-38A	Block-off Plate for MC Series Manifolds.

NOTE: Valves, Manifolds, and Accessories are shipped detached, ready to be mounted according to specific application requirements.

HOW TO ORDER

Starting with Model Number specify options in order from left to right.

Example: To Order Model 42E2-LL w/VAI 24VDC CD

4-Way Operation, Double Solenoid (42E2)
 72" Flying Leads (42E2-LL)
 With fluoroelastomer seals (42E2-LL w/VAI)
 Voltage 24 VDC 50/60 Continuous Duty Coil (42E2-LL w/VAI 24 VDC 50/60 CD)

Remember: Option Codes marked STD and NA are not used as part of the Model Number when ordering. N/C indicates no charge but Option Code must be included in the Model Number. OS indicates that Option must be ordered separately and is not used as part of the Model Number.

N/C=No charge
 NA =Not available
 OS =Order separately, additional charge for this option

STD=Standard
 SP=Specify, additional charge for this option