

DIRECT-ACTING SOLENOID VALVES

INTRODUCTION

Direct-Acting Solenoid Valves utilize the force generated by the magnetic field of the solenoid to operate the valve. When the electrical current is removed, a mechanical spring returns the valve to its original position. Small in size, Humphrey Direct-Acting Solenoid Valves are available in M3x0.5, 10-32 UNF, 1/8 PIPE and 1/4 PIPE porting.

Humphrey enjoys a rich history of simple, reliable, direct-acting valve design and manufacture, with clients ranging from the critically clean and leak-free biomedical and analytical device industry, to packaging and conveying equipment, to the challenging and rugged environments of truck and bus makers. Our many sizes and designs provide us with a vast array of unique control solutions from which to choose.

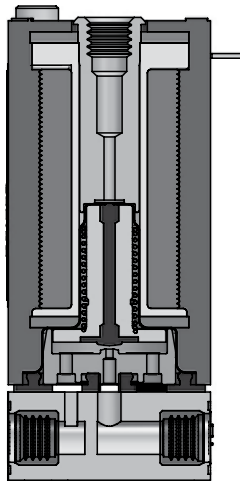
THE ADVANTAGES OF DIRECT-ACTING VALVES OVER INDIRECT-ACTING SOLENOID VALVES ARE:

- No minimum air pressure required.
- Extremely low leak rates.
- Simple construction and more robust at lower comparable costs.
- Multi-purpose. Typically, the same valve can be applied for multiple uses.
- Alternative media. Suitable for clean, dry air, other gases (bottled or other), or vacuum. Consult factory representative.
- More applicable to customization opportunities. Deviations from catalog specifications are typically welcome, such as greater flow, lower power, faster response times.

HUMPHREY OFFERS TWO DIRECT-ACTING SOLENOID VALVE DESIGN TYPES:

UNBALANCED DESIGN: In this design, the return spring is of sufficient force to seal the valve against the supplied air pressure. Characteristics of unbalanced Direct-Acting Solenoid Valves:

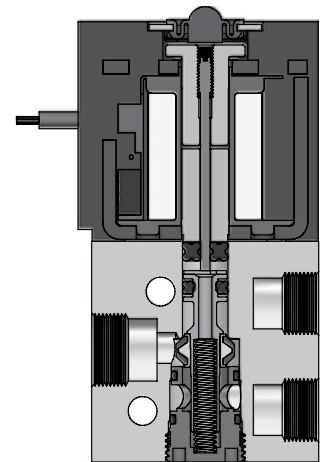
- Very simple, 2- or 3-way construction. Few parts.
- Small size.
- Resultant flow capacity determined by opposing forces of the coil versus the effective area of the air pressure. Valve orifice can be increased with greater current draw, or with reduced air pressure. Consult factory representative for details.
- Low leakage.
- Low cost.



Unbalanced Design – B3E1, Actuated

BALANCED DESIGN: In this design, forces of the supplied air pressure are neutralized in the design. As a result, coil force simply must overcome the force of the return spring and minor friction of the seals. Characteristics of balanced Direct-Acting Solenoid Valves:

- Greater flow versus unbalanced designs.
- Simple construction; however, more parts than unbalanced design.
- Available in 2-, 3- or 4-way models.
- Porting flow paths isolated from solenoid section.



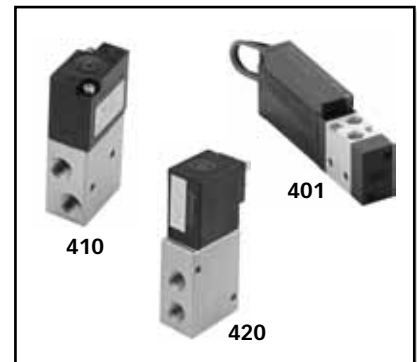
Balanced Design – 310, Unactuated



Three-Way Valves



Three-Way Balanced Valves



Four-Way Valves

2-, 3-WAY VALVES		Ports	CFM*	Valves	Page
SMALL	HG010 Series	10-32, M3x0.5	1	HG010E1, HGA010E1, HG010LE1, HGA010LE1, HG010HE1, HGA010HE1	6
	Mini Mizer Series	10-32	1	B3E1, MB3E1	7
	HK5 Series	10-32	3	HK5, HKL5	8-9
	H030 Series	10-32	3	H030E1, HV030E1, H030E1	11
	310 Series	1/8	10	310, M310, S310	12-13
	315 Series	1/8	25	315	16
	Mini Myte Series	1/8	6	31E1, M31E1	17
LARGE	320 Series	1/4	60	320	14-15
	Tyna Myte 062 Series	1/4	9	062E1, T062E1, 062E2, T062E2	18-19
	Tyna Myte 125 Series	1/4	17	125E1, T125E1, 125E2, T125E2	18-19

4-WAY VALVES		Ports	CFM*	Valves	Page
SMALL	401 Series	10-32	2	401, M401	10
	H030 Series	10-32	5	H030-4E1	11
	410 Series	1/8	10	410, M410, S410	12-13
	Mini Myte Series	1/8	2	41E1, M41E1, MC41E1	17
LARGE	420 Series	1/4	60	420, M420	14-15
	Tyna Myte 062-4 Series	1/4	6	062-4E1, T062-4E1, 062-4E2, T062-4E2	18-19
	Tyna Myte 125-4 Series	1/4	16	125-4E1, T125-4E1	18-19

*Nominal flow @100 psi



DIRECT-ACTING SOLENOID VALVES

HG010 Valves

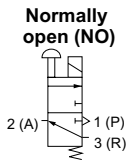
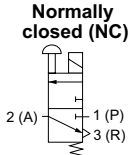
HG010E1, HGA010E1, HG0101E1, HGA010LE1, HG010HE1, HGA010HE1

HG010 Series features miniature, lightweight, 10mm Direct-Acting Solenoid Valves, ideal for piloting larger pneumatic or process control valves, or for operating small, single-acting cylinders. Available inline or manifold mount (2-20 stations), HG010 valves are M3x0.5, 3-way, normally closed, as standard. They are offered in a variety of voltages and electrical connections, and are equipped with a manual override, as standard.

Features and Benefits

- Compact Size.
- Quiet operation. No AC hum.
- Electrical connection options include lead wires or plug-in.
- Three Direct-Acting Types: Standard (1 W, 0.011 Cv); Low Current (0.5 W, 0.006 Cv); High Flow (3.2 W, 0.025 Cv)
- Continuous Duty rated coil.
- Options: Vacuum service (see p. 76), 2-way, Normally Open, Mounting Base.

DIRECT-ACTING SOLENOID VALVES

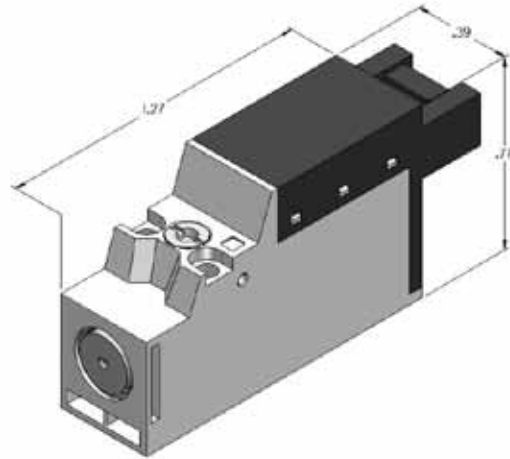


HG010E1



(5) HGA010E1 on HG010M5A

Base Model	Nominal Dimensions (inch)		
	L	H	W
HG(A)010 manifold valve	1.26	0.77	0.39
HG(A)010 individual valve	1.30	1.01	



Manifold Types Available	Overall Size (valves not mounted)	Nominal Dimensions (inch)		
		L	H	D
A Type: Extruded Aluminum. Delivery port 2 located on MANIFOLD. Accepts HGA010 valve models.	Two Station (HG010M2A)	1.35	0.55	0.79
	Each Additional station	0.40		
	Max # of stations	20		
F Type: Extruded Aluminum. Delivery port 2 located on VALVE. Accepts HG010 valve models.	Two Station (HG010M2F)	1.35	0.55	0.79
	Each Additional station	0.40		
	Max # of stations	20		

Consult website for exact dimensions and additional manifold configurations.

SPECIFICATIONS

	Standard	Low Current	High Flow
Design Principle:	Pressure Unbalanced – Spring Return		
Porting Type:	2- or 3-Way		
Port Size:	10-32 UNF, M3x0.5		
Media:	Air, Inert Gas		
Pressure Range:	0–102 PSIG		
Temperature Range:	41°F to 122°F		
Flow @ 100 PSIG:	1 CFM (28 LPM)	0.6 CFM (16 LPM)	2.5 CFM (70 LPM)
Power:	1.0 W	0.5 W	3.2 W
Available Voltages:	5VDC, 6VDC, 12VDC, 24VDC, 120VAC, 240VAC		

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- ☞ Go directly to www.humphrey-products.com/dynamic/products
- ☞ Or, visit www.humphrey-products.com and select "Online Product Guide."
- Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

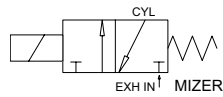
- ☞ Go directly to: www.humphrey-products.com/?q=content/find-distributor
- ☞ Or, visit www.humphrey-products.com, select "Find A Distributor," and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.

HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS

The Mini Mizer Series, 3-way Direct-Acting Solenoid Valve is designed to accommodate a wide range of pneumatic applications that require high cycling, small size, and low wattage. Available as inline or manifold mount (2-20 stations), this valve is ideal for battery operation, micro-processor controlled or printed circuit board type applications, such as piloting work valves and operating small cylinders and actuators.

Features and Benefits

- Low leak rate.
- Low power consumption.
- Quiet operation. No AC hum.
- Electrical connection options include standard spade terminals, 18" lead wires or DIN type.
- Several mounting options, MTL and DMTL Series Manifolds.
- Optional 1/8 male PIPE port, bottom outlet subbase for plumbing convenience.
- Consult factory representative for greater flow capability.



B3E1



**(3) MB3E1 on
4 station
MTL Manifold**



Manifold Types Available	Overall Size (valves not mounted)	Nominal Dimensions (inch)		
		L	H	D
MTL Manifold: Extruded Aluminum. Single sided. Delivery port OUT located on MANIFOLD. Accepts MB3E1 valve models.	Two Station (MTL2)	2.22	0.75	0.68
	Each Additional station	1.02		
	Max # of stations	10		
DMTL Manifold: Extruded Aluminum. Double sided. Delivery ports TOP and BTM located on MANIFOLD. Accepts MB3E1 valve models.	Two Station (DMTL2)	2.22	0.75	0.68
	Each Additional station	1.02		
	Max # of stations	10 (Accommodates 20 valves)		

Consult website for exact dimensions.

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- ☞ Go directly to www.humphrey-products.com/dynamic/products
- ☞ Or, visit www.humphrey-products.com and select "Online Product Guide."
 - Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- ☞ Go directly to: www.humphrey-products.com/?q=content/find-distributor
- ☞ Or, visit www.humphrey-products.com, select "Find A Distributor," and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.

Humphrey HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS

SPECIFICATIONS

Design Principle:	Pressure Unbalanced – Spring Return
Porting Type:	2- or 3-Way
Port Size:	10-32 UNF
Media:	Air, Inert Gas
Pressure Range:	0–100 PSIG; 28" Hg to 100 PSIG (see Vacuum, p. 76)
Temperature Range:	0°F to 150°F
Flow @100 PSIG:	1 CFM, 28 LPM (Cv=0.01)
Power:	0.5 W DC; 1.0 W AC
Available Voltages:	5VDC, 12VDC, 24VDC, 24/50/60, 120/50/60, 240/50/60

HK5 Valves

HK5, HKL5

The HK5 Series is based upon the classic Humphrey diaphragm-poppet principle, now in a sub-miniature, balanced design. This proven valve has no sliding seals while isolating coil operation from all wetted parts. The result is multi-media use, multi-purpose functionality, and plumbing conveniences for compact, more difficult valve applications. The short stroke and high flow provides fast response and rapid cycling. The innovative body design allows for versatile plumbing, electrical and mounting features unmatched in the market.

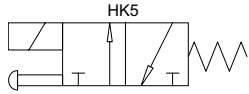
HK5 applications are highlighted by biomedical and analytical equipment, high speed sorting and cylinder cycling, and low pressure liquid and gas control.

Features and Benefits

- Low leak rate.
- Low power consumption.
- Inert wetted part, construction, assembled clean and dry at the factory.
- Versatile: Multi-purpose functionality.
- Long, trouble-free cycle life expected.
- Quiet operation.
- Electrical connection options include lead wires, plug-in or pins.
- Flexible construction simplifies plumbing and mounting objectives.
- Subbase or manifold mount.
- Vacuum available on p. 76.

HKL5 Features and Benefits

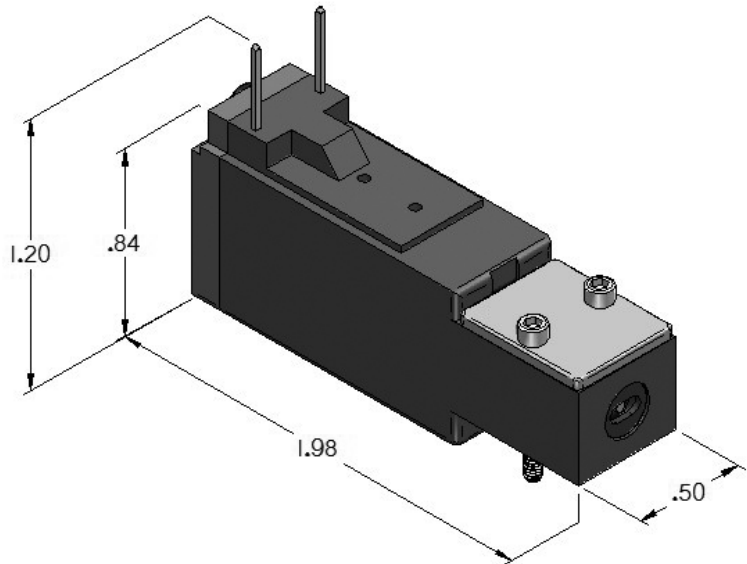
- Designed exclusively for liquid use.



HK5



HKL5 ON
SUBBASE



SPECIFICATIONS

Design Principle: Pressure Balanced – Spring Return

Porting Type: 2- or 3-Way

Port Size: 10-32 UNF

Media: Air, Inert Gas, Liquid (HKL5)

Pressure Range: 28"Hg to 100 PSIG (See Vacuum, p. 76)

Temperature Range: 32°F to 125° (175°/212°F FKM Seals)

Flow @100 PSIG: 3 CFM, 85 LPM (Cv=0.05)

Power: 1.7 W (Consult Factory for 0.9 W)

Available Voltages: 4.5VDC, 12VDC, 24VDC

Manifolds and Subbases

Unique configuration of the basic, multi-purpose, HK5 valve permits limitless porting and mounting variations. HK5M manifold accepts up to 12 HK5 valves. Rotate valve 180° on manifold for normally open operation.

Orient valve with electrical connections up or down. 2-way function achieved with valve to manifold gaskets.

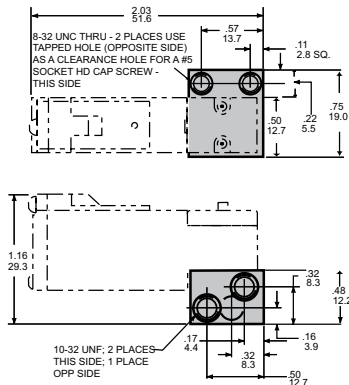
Several single station subbases are available, including:

- S Type (3-way, through porting)
- Y Type (3-way, single surface)
- Z Type (2-way, single surface)

Custom subbase and porting blocks have been developed and are welcomed. Consult factory representative.

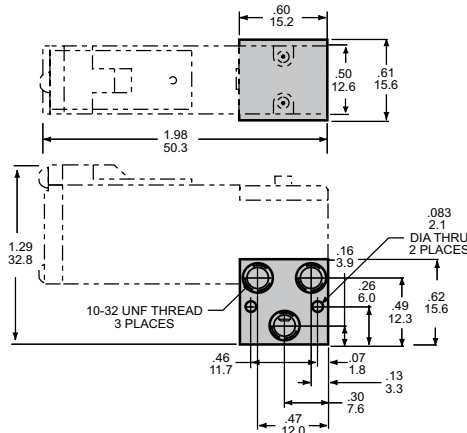
S Subbase

2 or 3 way with 10-32 UNF ports



Y Subbase

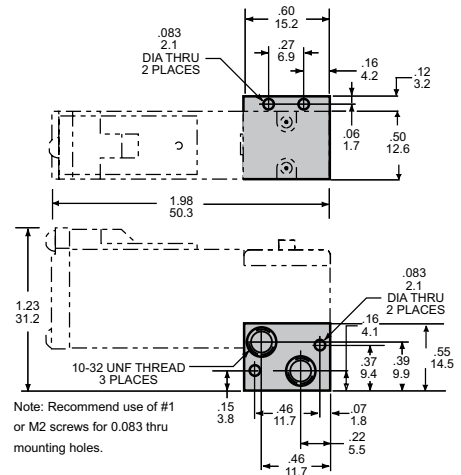
2 or 3 way with 10-32 UNF ports



Shown normally closed. Rotate valve 180 degrees on subbase for normally open operation.

Z Subbase

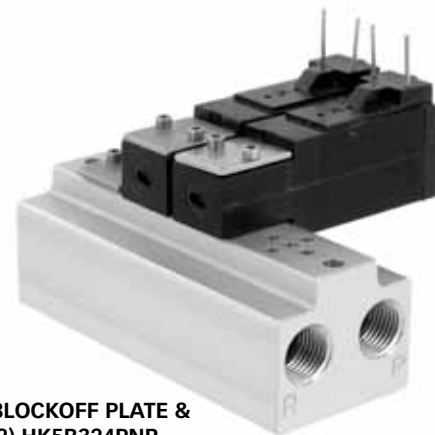
2 way with 10-32 UNF ports



Note: Recommend use of #1 or M2 screws for 0.083 thru mounting holes.

Shown normally closed. Rotate valve 180 degrees on subbase for normally open operation.

Manifold Types Available			
HK5 Manifold: Extruded Aluminum. Single sided. Delivery port located on MANIFOLD. Accepts HK5 valve models. Available in 4, 6, 8, 10, 12 station lengths.			
Overall Size (valves not mounted)	Nominal Dimensions (inch)		
	L	H	D
Four Station (HK5M04)	2.76	1.00	1.16
Each Additional 2 stations	1.10		
Max # of stations	12		
Consult website for exact dimensions.			



(1) BLOCKOFF PLATE & (2) HK5B324PNR on M04

DIRECT-ACTING SOLENOID VALVES

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- ☞ Go directly to www.humphrey-products.com/dynamic/products
- ☞ Or, visit www.humphrey-products.com and select "Online Product Guide."
- Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- ☞ Go directly to: www.humphrey-products.com/?q=content/find-distributor
- ☞ Or, visit www.humphrey-products.com, select "Find A Distributor," and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.



HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS

401 Valves

401, M401

The 401 Series, Micro-Solenoid Valves are the first 10mm Direct-Acting, 5-ported, 4-way valve ever produced. Based on proven balanced poppet design technology, this high flow, miniature valve features low power consumption, electrical plug connectors, surge suppression circuit, indicator light and manual override as standard. Mounting options include inline, subbase, or MOC Series manifolds.

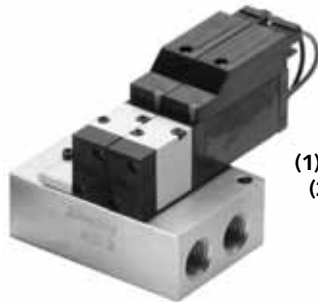
Features and Benefits

- Low leak rate.
- Low power consumption.
- Sub-miniature, compact design.
- Quiet operation. No AC hum.
- Electrical connection options include lead wires or plug-in.
- Light weight.
- Full pressure range, 0-125 PSIG.
- Use as 3- or 4-way.
- Inline or manifold mount models.
- MOC manifolds available with or without exhaust port flow controls.

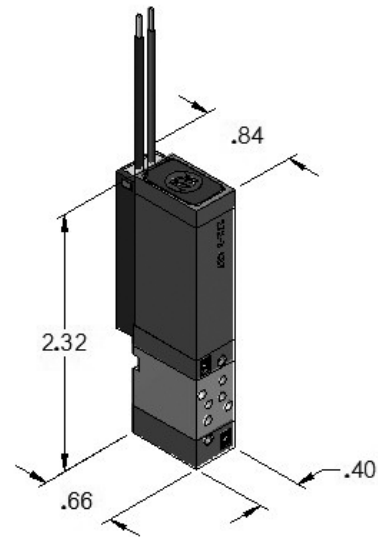
DIRECT-ACTING SOLENOID VALVES



401



(1) BLOCKOFF PLATE and
(2) M401-37 Valves on
MOC3 Manifold



Manifold Types Available	Overall Size (valves not mounted)	Nominal Dimensions (inch)		
		L	H	D
MOC Manifold: Extruded Aluminum. Delivery ports 1 and 2 located on MANIFOLD. Accepts M401 valve models.	Two Station (MOC2)	1.58	0.72	1.41
	Each Additional station	0.40		
	Max # of stations	16		
MOC-70 Manifold: Extruded Aluminum. Includes exhaust port flow controls, each station. Delivery ports 1 and 2 located on MANIFOLD. Accepts M401 valve models.	Two Station (MOC2-70)	1.58	0.72	1.41
	Each Additional station	0.40		
	Max # of stations	16		

Consult website for exact dimensions and additional manifold configurations.

SPECIFICATIONS

Design Principle:	Pressure Balanced – Spring Return
Porting Type:	4-Way
Port Size:	10-32 UNF
Media:	Air, Inert Gas
Pressure Range:	0–125 PSIG
Temperature Range:	32°F to 125°F
Flow @100 PSIG:	3.5 CFM, 56 LPM (Cv=0.03)
Power:	2.0 W
Available Voltages:	5VDC, 12VDC, 24VDC, 120/50/60

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- ☞ Go directly to www.humphrey-products.com/dynamic/products
- ☞ Or, visit www.humphrey-products.com and select "Online Product Guide."
- Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- ☞ Go directly to: www.humphrey-products.com/?q=content/find-distributor
- ☞ Or, visit www.humphrey-products.com, select "Find A Distributor," and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.

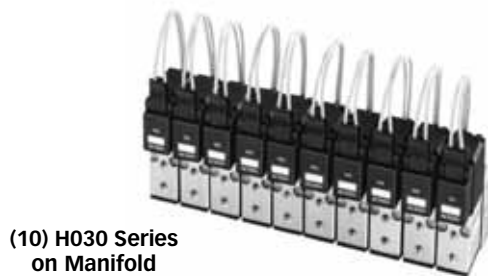
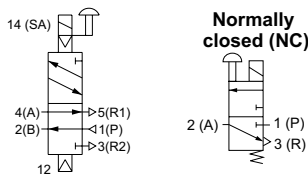
HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS

H030 Series are small, Direct-Acting 3-way Solenoid Valves, ideal for piloting larger pneumatic or process control valves, or for operating small, single-acting cylinders. Available inline or manifold mount (2-20 stations), H030 valves are 10-32 UNF ported, normally closed, as standard. They are offered in a variety of voltages and electrical connections, and are equipped with a manual override, as standard.

H030-4E1 4-way valve is also available to complement the H030E1 in factory automation uses, inline or manifold mount.

Features and Benefits

- Compact Size
- Quiet operation. No AC hum.
- Electrical connection options include lead wires, plug-in, or DIN-type.
- Low Current Consumption.
- Continuous Duty rated coil.
- Options: Vacuum service (HV030E1), 2-way, Mounting Base.
- Three manifolds: 3-way exclusive; 3-way and 4-way with 10-32 UNF ports; 3-way and 4-way with 1/8 PIPE port supply ports.



(10) H030 Series on Manifold

Base Model	Nominal Dimensions (inch)		
	L	H	W
H030E1	1.90	0.95	0.59
H030-4E1	2.39		

Manifold Types Available			
T Type Manifold: Extruded Aluminum. Delivery port 2 located on VALVE. Accepts H030E1 or HV030E1 valve models.			
F Type Manifold: Extruded Aluminum. Delivery ports 2 and 4 located on VALVE. Accepts all H030 valve models.			
Overall Size (valves not mounted)	Nominal Dimensions (inch)		
	L	H	D
T Type: Two Station (HYM2T)	1.26	0.59	0.79
Each Additional Station	0.63		
Max # of stations	10		
F Type: Two Station (HYM2F)	1.26	0.59	1.38
Each Additional Station	0.63		
Max # of stations	10		
<i>Consult website for exact dimensions.</i>			

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- ☞ Go directly to www.humphrey-products.com/dynamic/products
- ☞ Or, visit www.humphrey-products.com and select "Online Product Guide."
 - Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- ☞ Go directly to: www.humphrey-products.com/?q=content/find-distributor
- ☞ Or, visit www.humphrey-products.com, select "Find A Distributor," and input your information to locate a distributor nearest you.
 - Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.

Humphrey HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS

SPECIFICATIONS

Design Principle:	Pressure Unbalanced – Spring Return
Porting Type:	2-, 3- or 4-Way
Port Size:	10-32 UNF
Media:	Air, Inert Gases
Pressure Range:	3-Way: 28"Hg–100 PSIG 4-Way: 20–100 PSIG
Temperature Range:	41°F to 122°F
Flow @100 PSIG:	3.5 CFM, 141 LPM (Cv=0.03)
Power:	1.6 W
Available Voltages:	12VDC, 24VDC, 120VAC, 240VAC

310/410 Valves

310, S310, 410, S410, M310, M410

Humphrey's popular valve series, the 310 and 410 solenoid valves, provide outstanding performance and reliability in a simple, versatile design. The pressure-balanced poppet, direct-acting operating principle provides multi-purpose functionality in a compact body.

310: 2- or 3-way, normally closed or open

410: 4-way

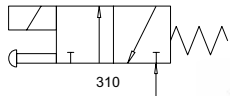
410-70: 4-way with integral flow controls

Available in several mounting options, as inline, stackable or manifold mount. The new 410M manifold accepts the standard 310 and 410 inline valves for a low cost manifold solution.

Features and Benefits:

- Compact, high flow construction.
- Quiet operation. No AC hum.
- Electrical connection options include lead wires, DIN-type or conduit.
- Short stroke, fast response, poppet design.
- Low leak rate.
- Reliable, tolerant of difficult ambient/media conditions.
- Order "V310" for multi-purpose 3-port use, for pressure or vacuum, diverter or selector. See Vacuum, p. 76-77.
- Use 410 as universal valve, 3-way or 4-way, multi-purpose.
- Available in common AC or DC voltages.

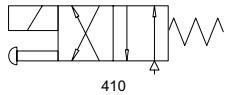
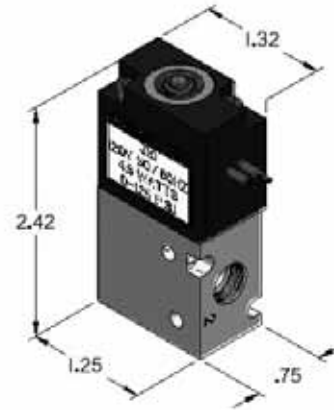
DIRECT-ACTING SOLENOID VALVES



310



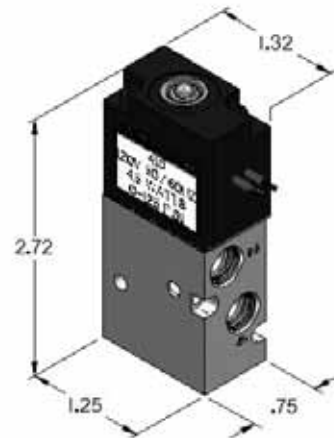
310



410



410



SPECIFICATIONS FOR 310 AND 410

Design Principle: Pressure Balanced – Spring Return

Porting Type: 2-, 3- or 4-Way

Port Size: 1/8 PIPE

Media: Air, Inert Gases

Pressure Range: 28"Hg to 125 PSIG (see Vacuum, p. 76-77)

Temperature Range: 32°F to 125°F

Flow @100 PSIG: 10 CFM, 283 LPM (CV=0.15)

Power: 4.5 W

Available Voltages: 12VDC, 24VDC, 24/50/60, 120/50/60, 240/50/60

Manifolds and Subbases

310 and 410 series valves are available in three mounting/porting types: Inline, Stackable, and Manifold.

- **Inline:** 310, 410 and 410-70 valves can be individually mounted via body mounting holes or hard plumb mount. **410M Manifolds** accept inline valves, are low profile/cost effective, and ideal for OEM applications. Manifolds are shipped with gaskets and screws.

- **Stackable:** S310, S410 and S410-70 valves “stack” together with tie-rods, gaskets and end plate kit (PN 7-900A) for a compact, expandable solution.
- **Manifold:** M310, M410 and M410-70 valves are base piping types to permit manifold mounting to SM manifolds. Ports 1, 2, 3 and 4 located in manifold for convenient valve replacement without disturbing the plumbing.



410M
Accepts 310 and/or
410 Series Inline Valves
(410M6 shown)



**S410, S410-70,
and S310**
Stackable Assembly



**(8) M310 Valves on
SM8 Manifold**

DIRECT-ACTING SOLENOID VALVES

Stackable Valve and Manifold Types Available	Overall Size (valves not mounted)	Nominal Dimensions (inch)		
		L	H	D
410M Manifold: Extruded Aluminum. Delivery port 2 and 4 located on VALVE. Accepts 310 and 410 valve models.	Two Station (410M2)	2.69	0.89	1.57
	Each Additional station	0.76		
	Max # of stations	12		
Stackable Valve Type: Extruded Aluminum End Plates for Stackable Valves. Delivery port 2 and 4 located on VALVE. Available in S310 and S410 valve models.	Two Valves plus End Plates	1.94	2.82	1.86
	Each Additional Valve	0.75		
	Max # of stations	12		
SM Manifold: Extruded Aluminum. Delivery ports 1 and 2 located on MANIFOLD. Accepts M310 and M410 valve models.	Two Station (SM2)	1.94	2	1.62
	Each Additional station	0.75		
	Max # of stations	12		

Consult website for exact dimensions and additional manifold configurations.

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- Go directly to www.humphrey-products.com/dynamic/products
- Or, visit www.humphrey-products.com and select “Online Product Guide.”
- Once you have followed the steps to get the valve you need, select “Download Spec Sheet.” Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- Go directly to: www.humphrey-products.com/?q=content/find-distributor
- Or, visit www.humphrey-products.com, select “Find A Distributor,” and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.



HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS

320/420 Valves

320, 420, M420

The 320 and 420 Series Direct-Acting Solenoid Valves have a maximum performance balanced poppet, achieving high flow rates of 1.0 Cv, in a compact design. No air supply lubrication is required. Continuous duty molded coil and Class B insulation system provides long hours in tough-working conditions.

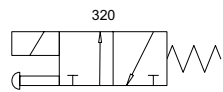
320: Multi-purpose universal 3-way valve.

420: Multi-purpose universal 4-way valve.

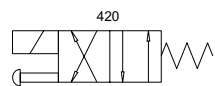
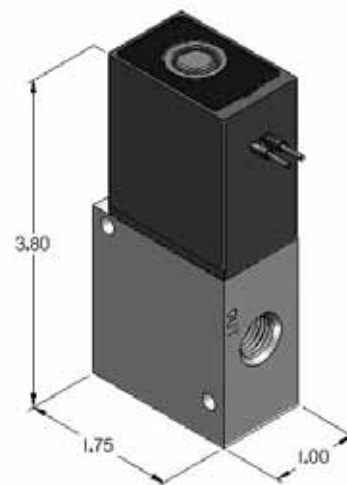
420 Series valves also available as a manifold mount, model M420.

Features and Benefits

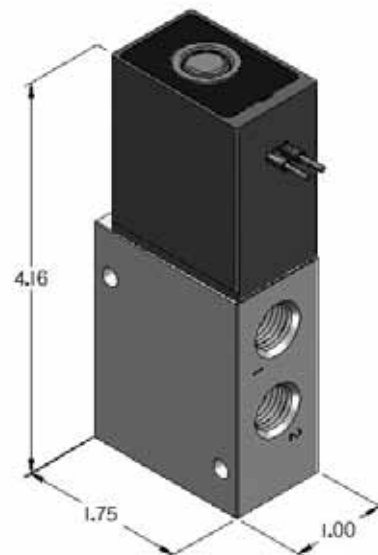
- Multi-purpose: Normally closed, normally open, selector or diverter, pressure or vacuum, 2-, 3- or 4-way.
- Quiet operation. No AC hum.
- Low leak rate.
- Electrical connection options include lead wires, conduit connector, or DIN connector.
- Available with UR rating. Contact factory representative.
- Non-locking manual override: Standard. Optional, no override order Code 87.
- Mount in any position – inline, body mounting holes or mounting bracket.



320



420



SPECIFICATIONS FOR 320 AND 420

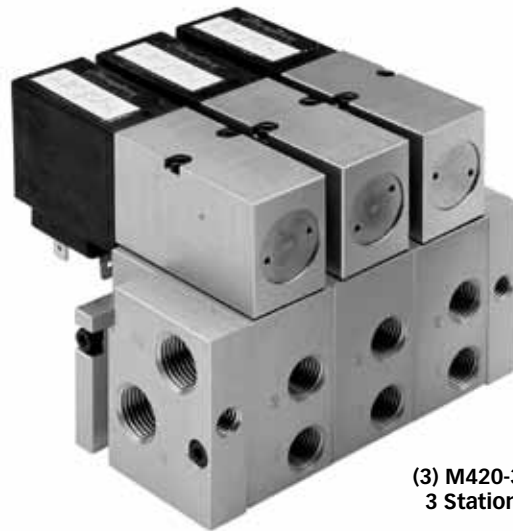
Design Principle:	Pressure Balanced – Spring Return	Temperature Range:	32°F to 125°F
Porting Type:	3- or 4-Way	Flow @100 PSIG:	60 CFM, 1699 LPM (Cv=1.0)
Port Size:	1/4 PIPE	Power:	8 W
Media:	Air, Inert Gas	Available Voltages:	12VDC, 24VDC, 24/50/60, 120/50/60, 240/50/60
Pressure Range:	28"Hg to 125 PSIG (see Vacuum, p. 77)		

Manifold

M420 series valves are multi-purpose 4-way, base piping types to permit mounting to manifolds and subbases. The high flow (1 Cv) M420 series can be used as 2- or 3-way valves, in normally closed or normally open function, as 4-way valves, or as diverter or selector function.

Subbase: Mount M420 valve to SB-2 subbase with 7-200A end plate kit. Subbase permits convenient valve replacement without disturbing the plumbing.

Manifold: Stack several SB-2 subbases together and with one 7-200A end plate for multiple valve manifold. Mount M420 to each subbase. Ports 1, 2, 3 and 4 located in manifold for convenient valve replacement without disturbing the plumbing.



(3) M420-39 Valves Mounted to 3 Station Manifold Assembly

Manifold Types Available	Overall Size (valves not mounted)	Nominal Dimensions (inch)		
		L	H	D
SB2 Subbase: Extruded Aluminum sub-bases held together by 7-200A end plates. Delivery ports 1 and 2 located on MANIFOLD. Accepts M420 valve model.	Two Valves with End Plates	3.38	2.22	2.25
	Each Additional Valve	1.19		
	Max # of stations		12	

Consult website for exact dimensions and additional manifold configurations.

DIRECT-ACTING SOLENOID VALVES

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- ☞ Go directly to www.humphrey-products.com/dynamic/products
- ☞ Or, visit www.humphrey-products.com and select "Online Product Guide."
- Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- ☞ Go directly to: www.humphrey-products.com/?q=content/find-distributor
- ☞ Or, visit www.humphrey-products.com, select "Find A Distributor," and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.



HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS

315 Valves

315

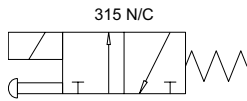
The 315 Series Solenoid Valves have 1/8 PIPE ports and 1/8" orifice. They are direct-acting, single solenoid, balanced poppet valves with no sliding seals, featuring high flow rates and a compact design while isolating coil operation from all wetted parts. No air supply lubrication is required. Continuous-duty molded coil and Class B insulation system provides trouble-free service in tough-working conditions.

The 315 Series Valves have several mounting options: Inline, body mounting holes, or on 315M Series Manifolds.

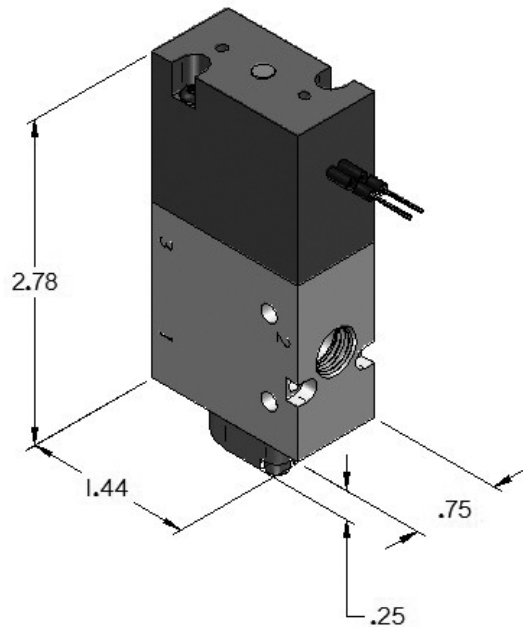
Features and Benefits

- Low leak rate.
- Multi-purpose: Valve can be plumbed, normally closed, normally open or as selector or divertor.
- Quiet operation. No AC hum.
- Compact, high flow (0.4 Cv)
- Electrical connection options are lead wires or DIN type connector.
- Non-locking manual override – standard.
- Mount in any position – Inline or 315M Manifold Series.

DIRECT-ACTING SOLENOID VALVES



(2) 315 Valves on 315M4



Manifold Types Available	Overall Size (valves not mounted)	Nominal Dimensions (inch)		
		L	H	D
315M Manifold: Extruded Aluminum. Delivery port 2 located on VALVE. Accepts 315 valve model.	Two Station (315M2)	2.74	0.79	1.58
	Each Additional station	0.78		
	Max # of stations	12		

Consult website for exact dimensions and additional manifold configurations.

SPECIFICATIONS

Design Principle:	Pressure Balanced – Spring Return
Porting Type:	2- or 3-Way
Port Size:	1/8 PIPE
Media:	Air, Inert Gas
Pressure Range:	0–110 PSIG
Temperature Range:	32°F to 125° F
Flow @100 PSIG:	25 CFM, 707 LPM (Cv=0.4)
Power:	5 W
Available Voltages:	12VDC, 24VDC, 24/50/60, 120/50/60

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- ☞ Go directly to www.humphrey-products.com/dynamic/products
- ☞ Or, visit www.humphrey-products.com and select "Online Product Guide."
- Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- ☞ Go directly to: www.humphrey-products.com/?q=content/find-distributor
- ☞ Or, visit www.humphrey-products.com, select "Find A Distributor," and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.

HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS

The Mini-Myte Series 3- and 4-way solenoid valves are direct operating using a poppet design and limited sliding seals, providing reliable, smooth performance and long service life. Valves can mount in any position (base, body mounting holes or inline) and there are several mounting options, including the rugged, extruded aluminum MMC and MM Series manifolds.

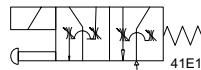
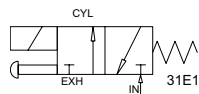
(M)31E1: Universal 3-way, inline or manifold.

(M)41E1: 4-way, inline or manifold.

MC41E1: Manifold 4-way, captive exhaust.

Features and Benefits

- Low leak rate.
- Quiet operation. No AC hum.
- 3-way: Normally closed, normally open or as a selector or diverter, depending upon port selections.
- Furnished with push-in grommet or snap-in 1/2" conduit connector electrical connection.
- Non-locking manual override standard.
- 4-way models include exhaust port speed controllers, standard.



31E1



41E1



31E1



41E1



M41E1, M31E1 MMC-3



M41E1, M31E1 MM-3

Manifold Types Available

MM Manifold: Extruded Aluminum. Common IN, Exhaust via valve. Delivery ports NO and NC located on MANIFOLD. Accepts both M31E1 and M41E1 valve models.

MMC Manifold: Extruded Aluminum. Common IN, Common Exhaust via manifold. Delivery ports NO and NC located on MANIFOLD. Accepts both M31E1 and MC41E1 valve models.

Overall Size (valves not mounted)	Nominal Dimensions (inch)		
	L	H	D
MM Manifold: Two Station (MM2)	2.79	0.75	1.25
Each Additional station	1.25		
Max # of stations	12		
MMC Manifold: Two Station (MMC2)	2.79	1.25	1.25
Each Additional station	1.25		
Max # of stations	12		
<i>Consult website for exact dimensions.</i>			

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- Go directly to www.humphrey-products.com/dynamic/products
- Or, visit www.humphrey-products.com and select "Online Product Guide."
- Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- Go directly to: www.humphrey-products.com/?q=content/find-distributor
- Or, visit www.humphrey-products.com, select "Find A Distributor," and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.

HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS

SPECIFICATIONS

Design Principle:	Pressure Unbalanced – Spring Return
Porting Type:	3- or 4-Way
Port Size:	1/8 PIPE
Media:	Air, Inert Gas
Pressure Range:	0-100 PSIG
Temperature Range:	32° to 130° F
Flow@100 PSIG:	31E1: 6 CFM, 169 LPM (Cv=0.1) 41E1: 2 CFM, 56 LPM (Cv=0.03)
Power:	31E1: 8.5 W 41E1: 7.0 W
Available Voltages:	12VDC, 24VDC, 24/50/60, 120/50/60, 240/50/60

Tyna-Myte 062 and Tyna-Myte 125 Valves

062-4E1, T062-4E1, 062-4E2, T062-4E2, 062E1, T062E1, 062E2, T062E2; 125-4E1, T125-4E1, 125E1, T125E1, 125E2, T125E2

The Humphrey Tyna-Myte Series of Direct-Acting Solenoid Valves are available in two flow capacities. The 1/16" orifice 062 Series and the 1/8" orifice 125 Series are available as a 2-, 3- or 4-way configurations. Valves feature a unique direct-acting design that does not require air supply lubrication. Conical poppets move in and out of mating seats; the absence of sliding seals or any metal-to-metal contact provides high reliability and long-cycle life. A controlled stroke length provides fast response and longer poppet life. Tyna-Myte Valves have several mounting options, including inline or the rugged, extruded aluminum TM Series manifolds.

Features and Benefits

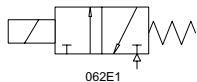
- Quiet operation. No AC hum.
- Designed for rugged duty and rapid cycling, and long poppet life.
- Low leak rate.
- Electrical connections include grommet cover or conduit.
- 4-way models offered with optional exhaust speed controllers.

062E: 2- or 3-way, single or double solenoid.

062-4E: 4-way, single or double solenoid.

125E: 2- or 3-way, single or double solenoid.

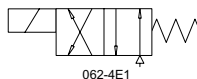
125-4E: 4-way, single solenoid.



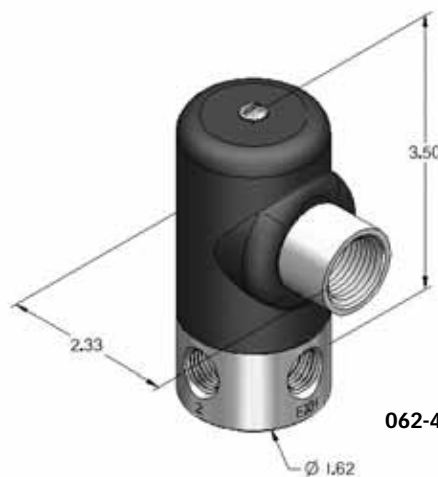
T062E1



062E1



T062-4E1



062-4E2

SPECIFICATIONS FOR T062E, T062-4E, T125E AND T125-4E

Design Principle: Pressure Unbalanced – Spring Return

Porting Type: 2-, 3- or 4-Way

Port Size: 1/4 PIPE

Media: Air, Inert Gas

Pressure Range: 0-125 PSIG; 0-29.5" HG (see Vacuum, p. 77)

Temperature Range: -30°F to 150°F; E2: 30–125 PSIG

Flow @100 PSIG: 062: 9 CFM, 254 LPM (Cv=0.14)

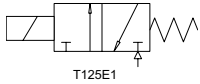
062-4: 6 CFM, 169 LPM (Cv=0.1)

125E1: 17 CFM, 481 LPM (Cv=0.3)

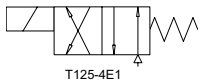
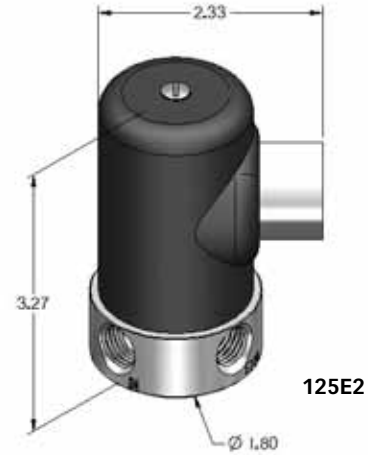
125-4E1: 16 CFM, 453 LPM (Cv=0.3)

Power: 6.7 W

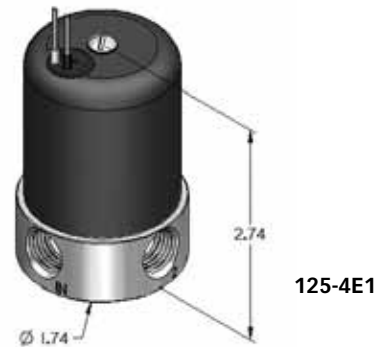
Available Voltages: 12VDC, 24VDC, 24/50-/60, 120/5060, 240/50/60



T125E1



T125-4E1



Manifold Types Available	Overall Size (valves not mounted)	Nominal Dimensions (inch)		
		L	H	D
TM Manifold: Extruded Aluminum. Delivery ports 1 and 2 located on MANIFOLD. Accepts T062, T062-4E1, T125, T125-4E1 valve models.	Two Station (TM2)	4.57	1.06	1.67
	Each Additional station	2.38		
	Max # of stations		12	

Consult website for exact dimensions and additional manifold configurations.

HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- ☞ Go directly to www.humphrey-products.com/dynamic/products
- ☞ Or, visit www.humphrey-products.com and select "Online Product Guide."
- Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- ☞ Go directly to: www.humphrey-products.com/?q=content/find-distributor
- ☞ Or, visit www.humphrey-products.com, select "Find A Distributor," and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.



HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS