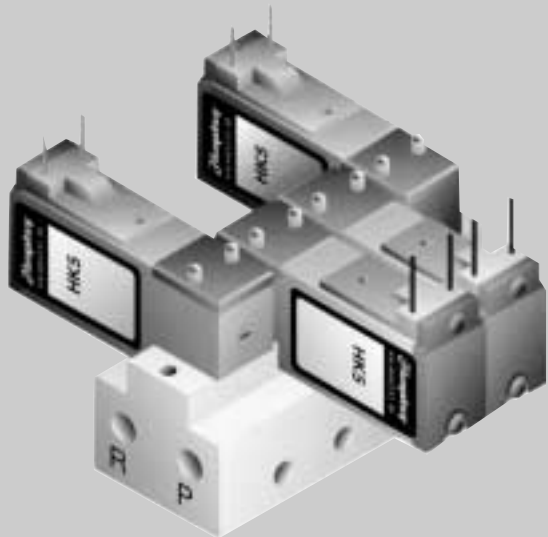
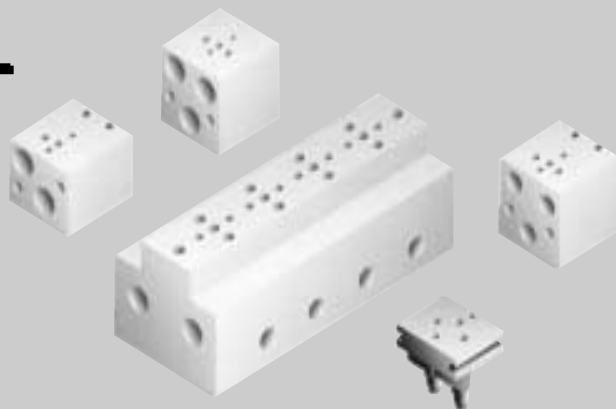


SOMETHING THIS VERSATILE



IS NOW MORE ADAPTABLE

WITH ADDITIONAL SUBBASES AND MANIFOLD

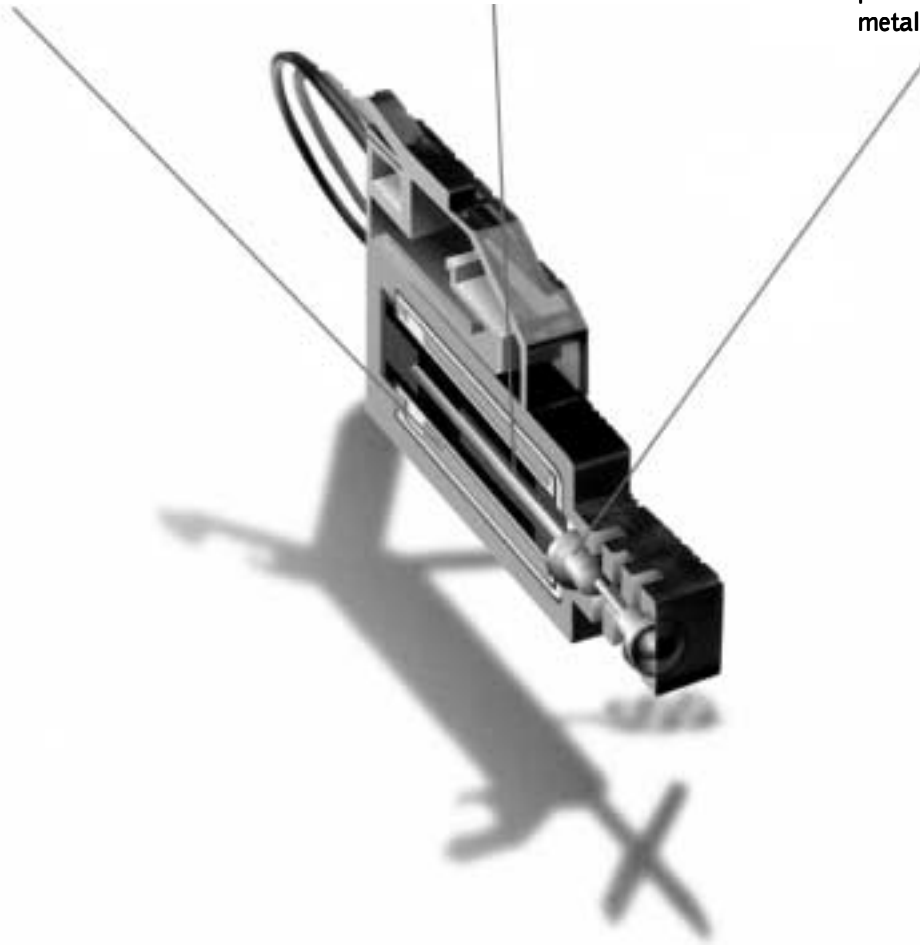


Distributed by:

HK5 isolates coil operation from the media, heightening reliability and providing for multi-media use.

Minimal armature travel and fast electrical response assure rapid cycling.

Proven Humphrey diaphragm-poppet design. No required lubrication and long trouble-free performance due to no metal-to-metal contact and no sliding seals.



The new Humphrey HK5 Series® 2-way and 3-way, single solenoid valve provides outstanding performance, versatility and value. Designed in response to what our customers told us they needed, HK5 provides what you require in your application.

Here are a few of its many attractive benefits:

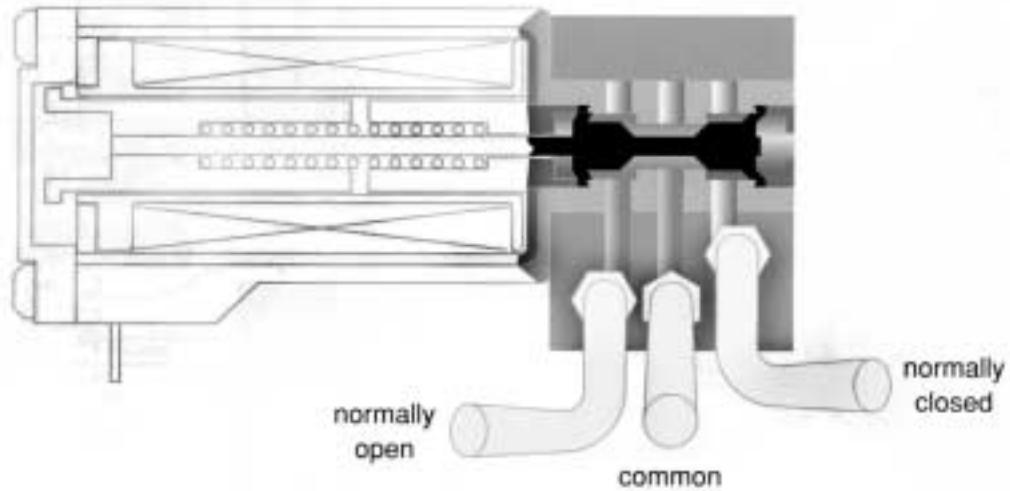
- Versatile plumbing, electrical and mounting features.
- Quiet operation.
- Multi-function: 2-way or 3-way, normally closed or normally open. Universal operation: selector, diverter or standard fill/exhaust uses.
- Excellent flow characteristics for a small, light, compact component: Cv .05 provides 3 scfm @ 100 psig. (85 Lpm)
- Direct operating: functions throughout the spectrum of 28" Hg to 100 psig.
- Multi-million cycle life. In lab tests, we stopped counting at 100 million cycles. Should service ever be necessary, valves can be changed on the spot, in seconds.

Typical applications:

- Remote pilot operation of specialty gas and liquid valves
- Direct control of air and inert gases
- Vacuum applications
- Operation of small bore cylinders
- Applications in which media must remain unaffected
- Diverting media from one channel to another
- Selecting between two media or two pressures
- Many others

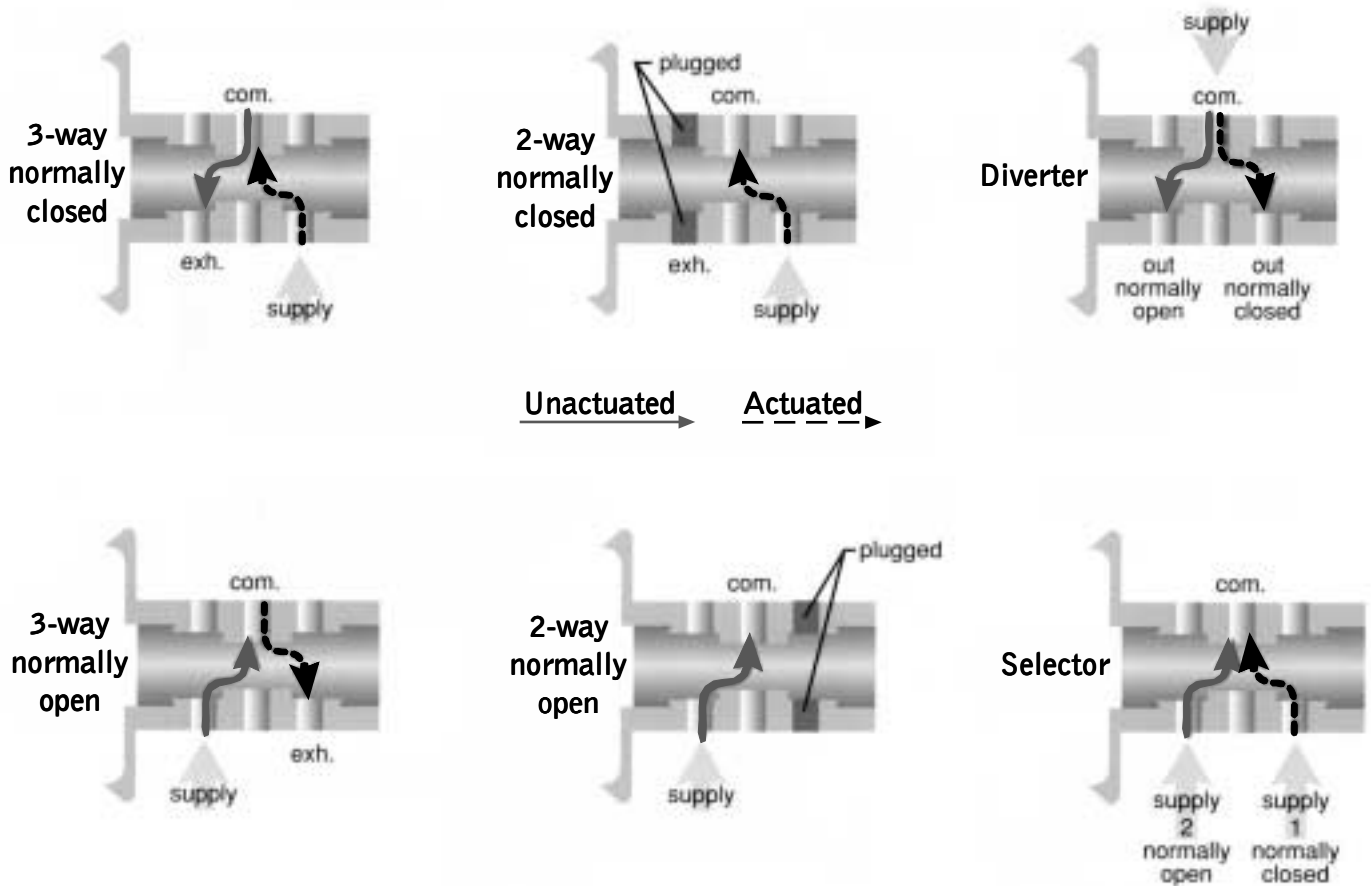
The pioneer in diaphragm-poppet valve design, Humphrey has years of experience in supplying valves of this type to the users of pneumatics. Here are the prime advantages of diaphragm-poppet valves:

- Excellent flow.
- Simple design. Just two diaphragms on a common stem.
- No sliding seals. No lubrication required.
- No metal-to-metal contact. Poppets simply move in and out of valve seats.



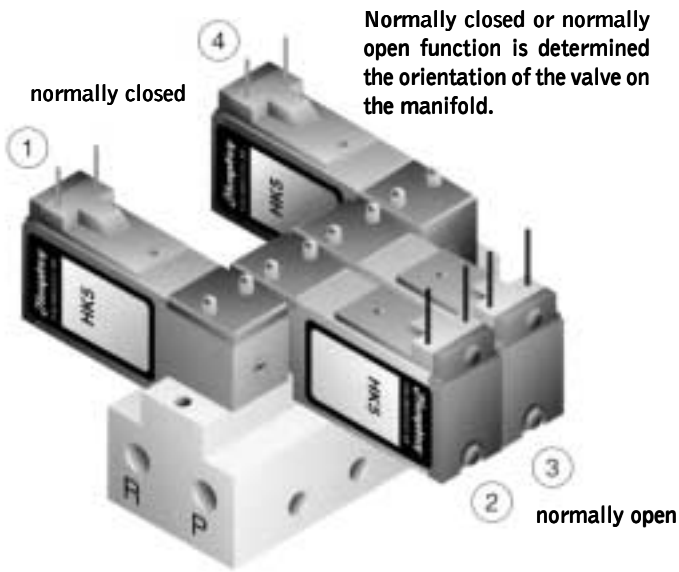
Porting Diagrams

HK-5 series valves provides several different porting configurations, as standard. Simply hook up the way you want to use it.

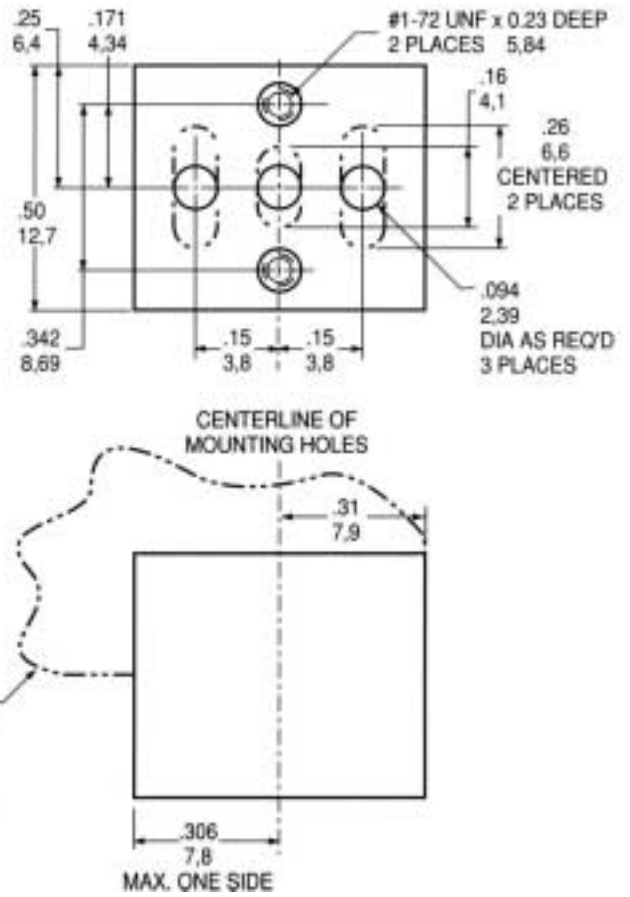


HK-5 series valves provides great plumbing, electrical and mounting versatility. Valves can be mounted and plumbed in a variety of different ways to achieve your specific objectives. Various electrical connectors add even more variety.

To adapt valve to your own manifold or subase, use this porting footprint

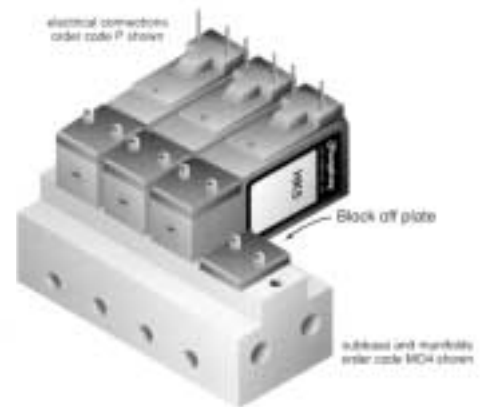
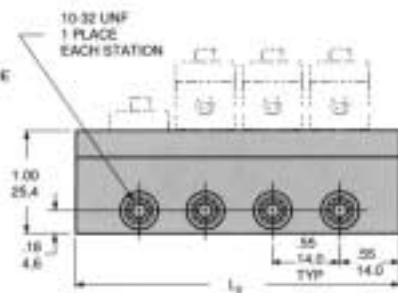
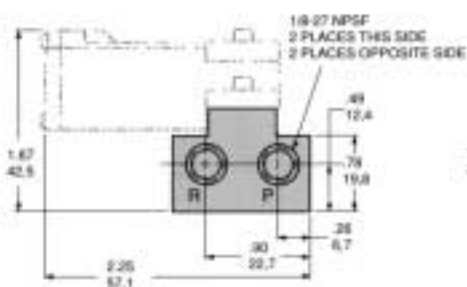
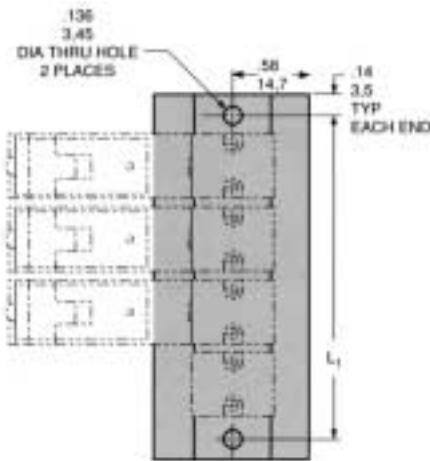


1 and 4 are normally closed - - 2 and 3 are normally open



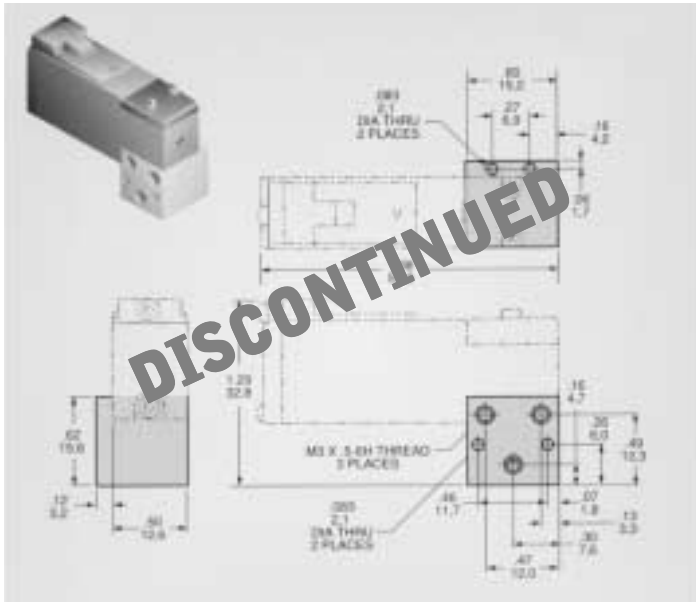
Manifolds

#stations	L_1	L_2	
M04	4	2.480	2.76
M06	6	3.582	3.86
M07	7	4.133	4.41
M08	8	4.684	4.96
M10	10	5.786	6.06
M12	12	6.888	7.16
MM02	2	-	1.25
MM03	3	-	1.80



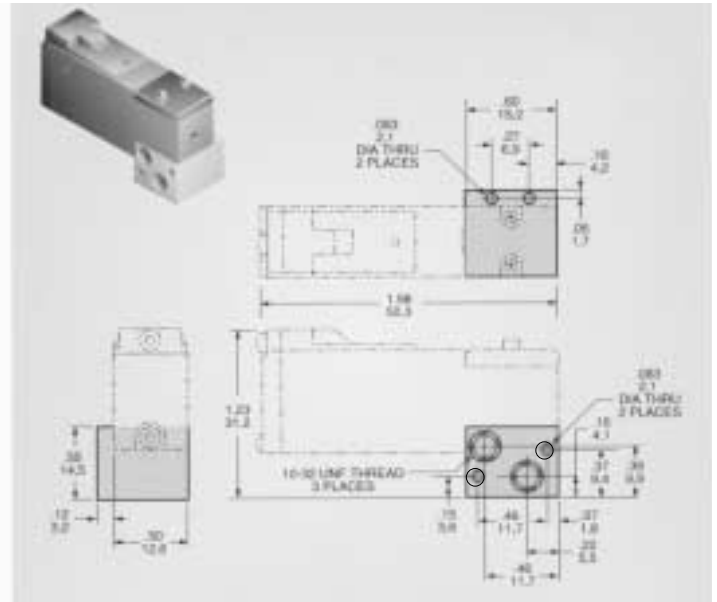
Subbase

M Subbase, 2 or 3 way with M3 ports



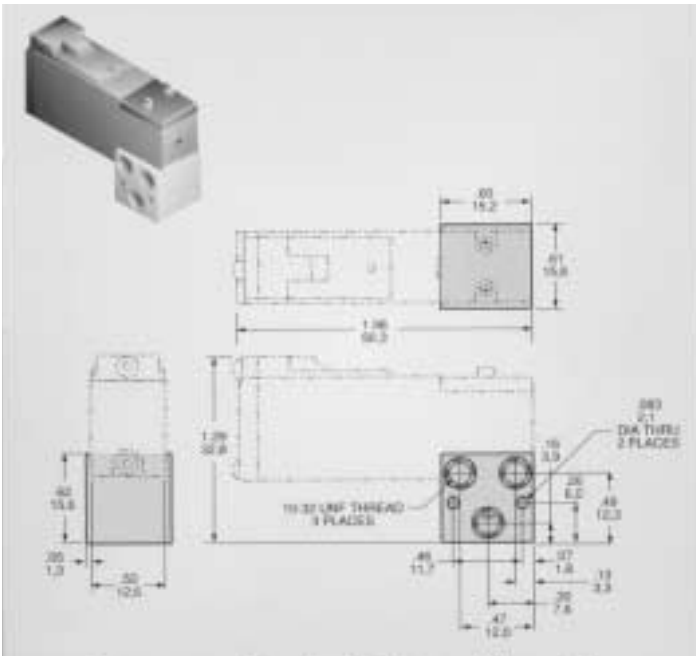
Shown normally closed (Ports will be on the other side for "O" Normally open Option)

Z Subbase, 2 way with 10-32 UNF ports



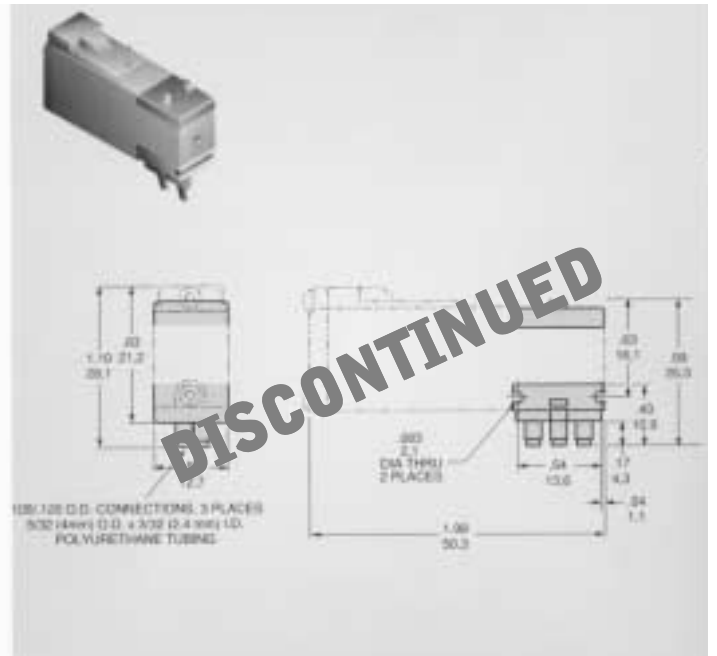
Shown normally open. Rotate valve 180 degrees on subbase for normally closed operation.

Y Subbase, 2 or 3 way with 10-32 UNF ports



Shown normally closed (Ports will be on the other side for "O" Normally open Option)

T Subbase, 2 or 3 way tubing cover

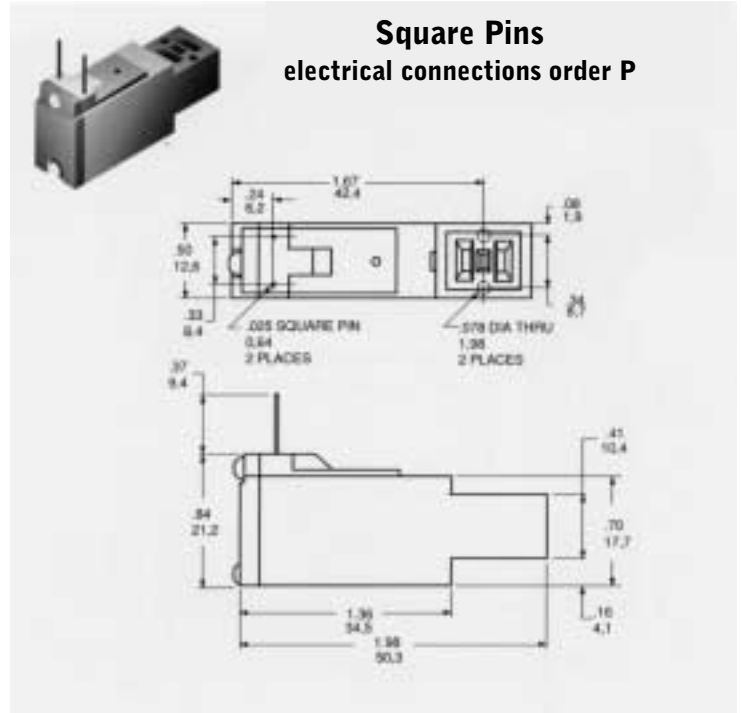
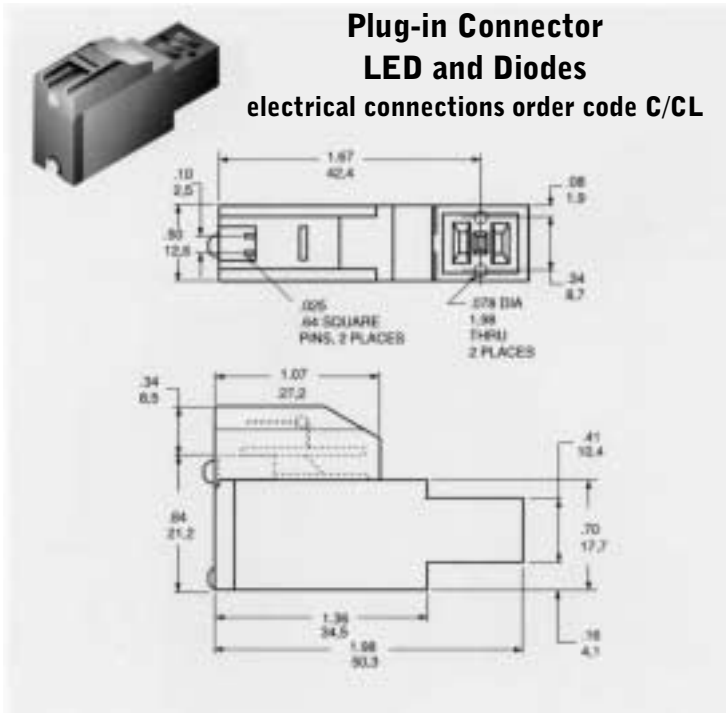


Ø3.0 DIA THRU CONNECTIONS, 3 PLACES
5/32 (4mm) (I.D.) x 3/32 (2.4mm) (O.D.) POLYURETHANE TUBING

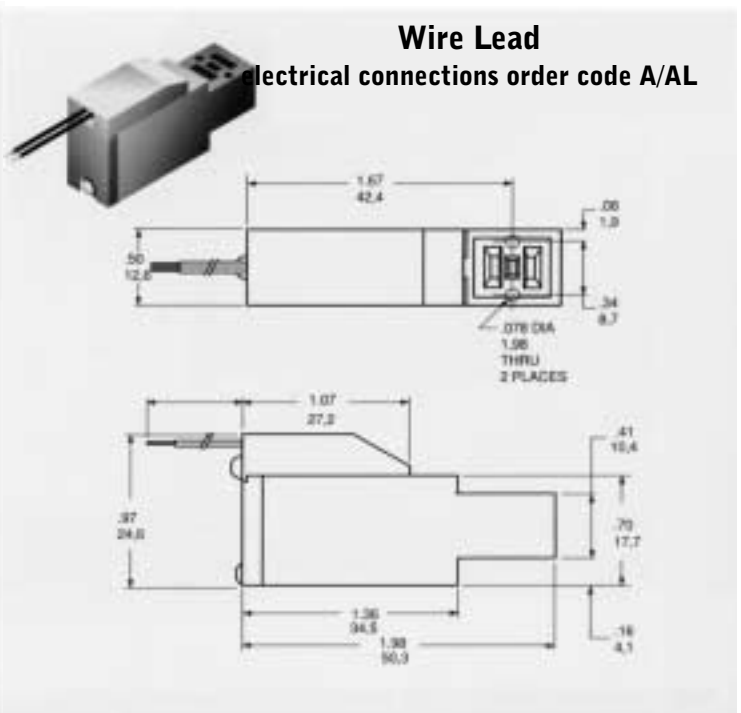
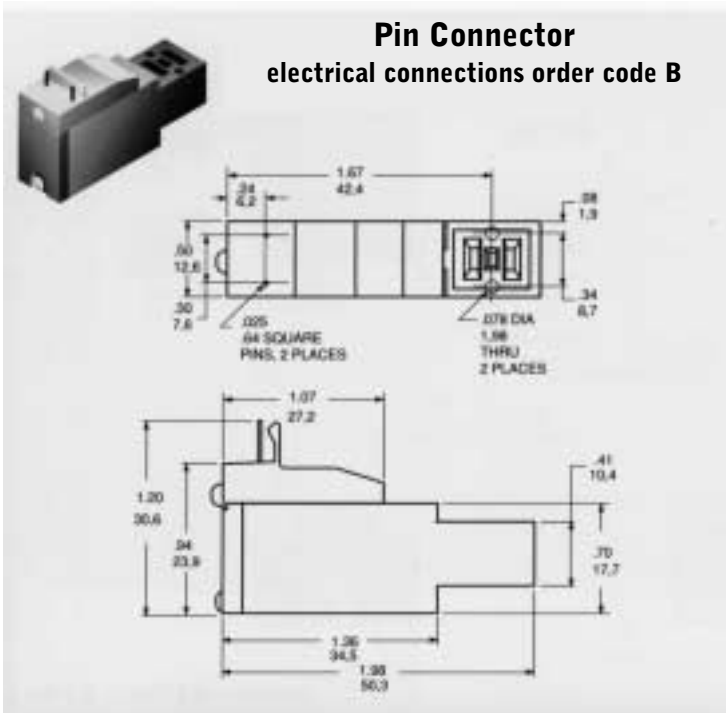
Note: Recommend use of #1 or M2 screws for 0.083 thru mounting holes.

Dimensions - 0.00 in, 0.0 mm

Electrical Options, Dimensional Specifications



Override
 Order code NL



HK5 Specifications

- 2-way or 3-way
- Multi-purpose: selector, diverter or universal (connect media to any port)
- Normally closed or normally open
- Air, inert gas or vacuum

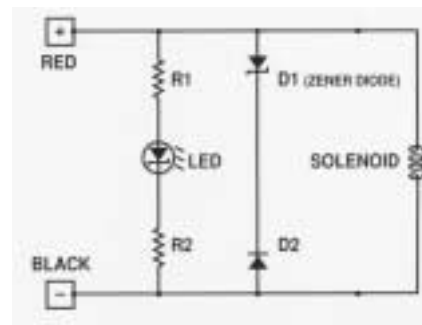
Media	Air, vacuum or inert gases (consult factory for other gas and liquid media)		
Vacuum/Pressure Range			
B and H seal material	28" Hg to 100 psig (6.8 bar)		
E and F seal material	28" Hg to 60 psig (4.1 bar)		
Ambient Temp. Range			
B seal material	32° to 125° F (0° to 50° C)		
F seal material	32° to 212° F (0° to 100° C)		
E and H seal material	32° to 175° F (0° to 80° C)		
Coil Temp. Rise (any voltage single valve on subbase)	45° F (25°C) standard power 32° F (18°C) low power option		
Response Time (on/off)	.010/.004 (sec.)		
Voltage Tolerance	Plus 10%, minus 15% of rated voltage		
Coil Voltages	4.5VDC, 12VDC, 24VDC		
Flow @ 100 psig	3.0 SCFM [85 Lpm] standard power		
Flow @ 60 psig	1.5 SCFM [42 Lpm] low power option		
Cv			
Standard power	.05		
Low power option	.035		
Fill Time [sec.] 0 to 80 psig [standard power]	1 cu.in. .06 sec.	10 cu.in. .60 sec.	100 cu.in. 6.0 sec.
Exhaust Time [sec.] 100 to 20 psig [standard power]	1 cu.in. .10 sec.	10 cu.in. 1.0 sec.	100 cu.in. 10.0 sec.
Leak Rate [Max. Allowed]	2 cc/minute		
Type of Operation	Direct solenoid		
Effective Area	.0020 inch ² standard power .0014 inch ² low power option		
Lubrication	None required (if used, must be compatible with seal materials)		
Filtration	40 Micron Recommended		
Weight	35 gm (1.2 oz)		
Valve Wetted Materials	Thermoset Epoxy, Radel R [®] , 304 and 303 stainless steel, seal material as specified		

HK5 Specifications Electrical Specifications

Voltage	Resistance (Ohms)	Current (Amps)	Power (Watts)
4.5VDC	13.5	.333	1.50
4.5VDC w/LED	13.2	.340	1.53
4.5VDC LOW POWER	28.1	.160	.72
4.5VDC LOW POWER w/LED	26.9	.167	.75
12VDC	88.0	.136	1.63
12VDC w/LED	83.9	.143	1.72
12VDC LOW POWER	169	.071	.85
12VDC LOW POWER w/LED	154	.078	.94
24VDC	367	.065	1.55
24VDC w/LED	333	.072	1.73
24VDC LOW POWER	726	.033	.79
24VDC LOW POWER w/LED	600	.040	.96

- All coils conform to class B insulation systems.
- Resistance and current are nominal valves.
- Valve assemblies are "hi-pot" tested at 1,000VAC for one second.
- Ensure proper voltage supply per voltage level rating, +10%, -15%.

Surge suppression (zener diodes) available with electrical connections order code C and CL.



- 4.5 VDC: $V_z(D1) = 12$ VOLTS
- 12 VDC: $V_z(D1) = 18$ VOLTS
- 24 VDC: $V_z(D1) = 36$ VOLTS

VALVES

Order Codes

H K 5 H 2 24 AL NR S R (example)

OPTIONS

- A FACTORY ASSEMBLED TO MULTIPLE STATION MANIFOLD
- O NORMALLY OPEN - SEE NOTE
- R ROTATED COIL

ASSEMBLED SUBBASES - SEE NOTE

- M 3 WAY, M3 PORTS
- S 3 WAY, 10-32 UNF PORTS ON TWO SURFACES
- T 3 WAY TUBE COVER
- Y 3 WAY 10-32 UNF PORTS ON ONE SURFACE
- Z 2 WAY 10-32 UNF PORTS

OVERRIDES

- NR NO OVERRIDE
- NL NON-LOCKING OVERRIDE

ELECTRICAL CONNECTIONS

- P .025 SQUARE PINS
- A WIRE LEADS (50 CM)
- AL WIRE LEADS (100 CM)
- B .025 SQUARE PIN HEADER
- C LED W/ZENERS & CONNECTOR (30 CM)
- CL LED W/ZENERS & CONNECTOR (100 CM)

VOLTAGE

- 04 4.5V DC
- L04 4.5V DC LOW WATT
- 12 12V DC
- L12 12V DC LOW WATT
- 24 24V DC
- L24 24V DC LOW WATT

PORTING (determines type of gasket supplied with valve)

- 3 3 WAY, 3 PORT
- 2 2 WAY, 2 PORT

SEAL MATERIAL

- B NBR [BUNA NITRILE] 32° F TO 125° F (0° C TO 50° C)
- E EPDM [ETHYLENE PROPYLENE] 32° F TO 175° F (0° C TO 80° C)
- F FKM [FLUOROCARBON] 32° F TO 212° F (0° C TO 100° C)
- H HNBR [HIGHLY SATURATED NITRILE] 32° F TO 175° F (0° C TO 80° C)

SUBBASE AND MANIFOLDS

H K 5 M06 (example)

- 025M 3 WAY, M3 PORTS
- 025S 3 WAY, 10-32 UNF PORTS
- 025T 3 WAY TUBE COVER WITH 20MM SCREWS AND NUTS
- 025Y 3 WAY 10-32 UNF PORTS ON ONE SURFACE
- 025Z 2 WAY 10-32 UNF PORTS
- MM02 2 STN MANIFOLD
- MM02A 2 STN MANIFOLD, ASSEMBLED
- MM03 3 STN MANIFOLD
- MM03A 3 STN MANIFOLD, ASSEMBLED
- M04 4 STN MANIFOLD
- M04A 4 STN MANIFOLD, ASSEMBLED - SEE NOTE
- M06 6 STN MANIFOLD
- M06A 6 STN MANIFOLD ASSEMBLED - SEE NOTE
- M08 8 STN MANIFOLD
- M08A 8 STN MANIFOLD, ASSEMBLED - SEE NOTE
- M10 10 STN MANIFOLD
- M10A 10 STN MANIFOLD, ASSEMBLED - SEE NOTE
- M12 12 STN MANIFOLD
- M12A 12 STN MANIFOLD, ASSEMBLED - SEE NOTE
- BOP BLOCK OFF PLATE, NBR GASKET
- BOPA BLOCK OFF PLATE, NBR GASKET, ASSEMBLED
- BOPF BLOCK OFF PLATE, FKM GASKET
- BOPFA BLOCK OFF PLATE, FKM GASKET, ASSEMBLED
- BOPH BLOCK OFF PLATE, HNBR GASKET
- BOPHP BLOCK OFF PLATE, HNBR GASKET, ASSEMBLED

ACCESSORIES

ORDER CODE DESCRIPTION

- 35000B NBR GASKET (BOP) BAG OF 10
- 35000E EPDM GASKET (BOP) BAG OF 10
- 35000F FKM GASKET (BOP) BAG OF 10
- 35000H HNBR GASKET (BOP) BAG OF 10
- 35002B NBR GASKET (VALVE, 2-WAY), BAG OF 10
- 35002E EPDM GASKET (VALVE, 2-WAY) BAG OF 10
- 35002F FKM GASKET (VALVE, 2-WAY), BAG OF 10
- 35002H HNBR GASKET (VALVE, 2-WAY), BAG OF 10
- 35003B NBR GASKET (VALVE, 3-WAY), BAG OF 10
- 35003E EPDM GASKET (VALVE, 3-WAY), BAG OF 10
- 35003F FKM GASKET (VALVE, 3-WAY), BAG OF 10
- 35003H HNBR GASKET (VALVE, 3-WAY), BAG OF 10
- 35006 PLUG-IN CONNECTOR (30 CM), ELECTRICAL CONNECTIONS ORDER CODE C
- 35007 PLUG-IN CONNECTOR (100 CM), ELECTRICAL CONNECTIONS ORDER CODE CL
- 35008 .025 SQUARE PINS IDC CONNECTOR, BAG OF 10, ELECTRICAL CONNECTIONS ORDER CODE B
- 35008L .025 SQUARE PINS IDC CONNECTOR WITH 50 CM LEADS, BAG OF 10
- 35008LL .025 SQUARE PINS IDC CONNECTOR WITH 100 CM LEADS BAG OF 10

NOTE: ALL VALVES ARE ASSEMBLED NORMALLY CLOSED TO MANIFOLDS AND SUBBASES, UNLESS OPTION "O", NORMALLY OPEN, IS SPECIFIED.



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Internet. Our Internet address is
<http://www.humphrey-products.com>