



**CLARK COOPER**  
A DIVISION OF MAGNATROL VALVE CORP.

# HIGH PRESSURE SOLENOID VALVES

Available for  
Quick Delivery



Controls the flow of

- Gases & Liquids up to 15,000 PSIG
- Natural Gas, Hydrogen & other High Pressure Gases
- High Pressure Cryogenics
- Flammable Liquids & Gases

CATALOG EH-2025.1

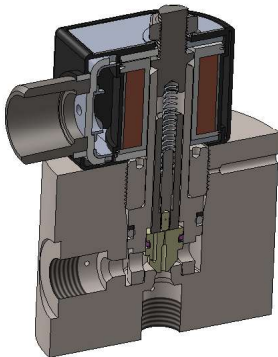
Company Overview		3
EX40	The EX40 is a 3/8" MPF reduced port valve that handles pressures up to 15,000 PSI.	4
EH40	The EH40 is a 1/4" & 1/2" NPT full port valve the handles pressures up to 10,000 PSI.	7
EH50	The EH50 is a 1/2" full port valve that handles pressures up to 10,000 PSI and features an integrated check valve.	10
EH30	The EH30 is a 1/4" NPT reduced port valve that handles pressures up to 10,000 PSI.	13
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## Background

The Clark Cooper Division of Magnatrol Valve Corporation offers a complete line of industrial solenoid valves for process control.

- Established 1914
- Experienced Applications / Engineering Staff for Customer Assistance
- Certified ISO 9001:2000 Quality Management System
- Quick Delivery

## News & Updates



Clark Cooper's latest development is the EX line.  
Highlights of the EX line:

- Operates at pressures up to 15,000 PSIG (1,030 bar)
- Perfect for hydrogen dispensing and refueling systems
- Cartridge style design for easy maintenance
- Cost effective alternative to ball valves

CRN (Canadian Registration Number) is a registration process that involves the careful review of a manufacturer's equipment design by responsible provincial engineers.

Our EH30, EH40, EH50, EH70 Series, EX30, EX40 and ER Series (up to 3") are now approved and registered for **all** Canadian Provinces.

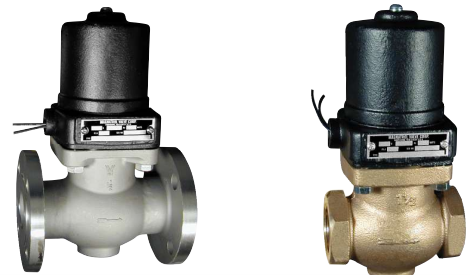


## Magnatrol

General Purpose Industrial Solenoid Valves are available direct from Magnatrol Valve Corporation.

- 1/4" to 3" Pipe Size
- Bronze and Stainless Steel
- Watertight and Explosion-Proof Solenoid Enclosure
- Pressures up to 500 PSIG
- Temperatures up to 400°F
- Quick Delivery

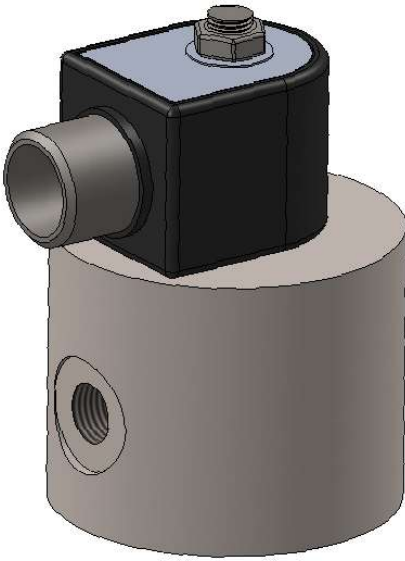
For additional information contact:  
Magnatrol Valve Corporation  
Tel: 973-427-4341  
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Email: [info@magnatrol.com](mailto:info@magnatrol.com)  
[www.magnatrol.com](http://www.magnatrol.com)  
Request Catalog 3006



# EX40 SERIES

## 3/8" MPF

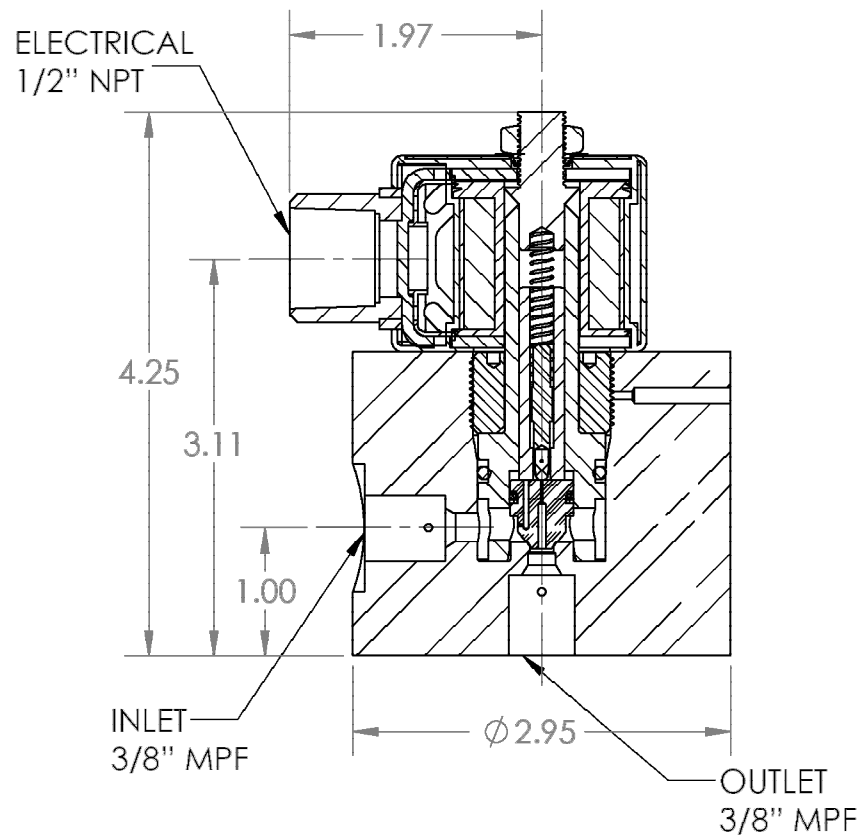
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### Features:

The reduced port EX40 is great for a wide range of media. This pilot operated valve has become a popular and effective choice in the emerging Hydrogen Dispensing market. The EX40 is also an excellent valve to control the flow of high pressure air, water, hydrogen, nitrogen, and other gases or light liquids compatible with materials of construction. The EX40 is the highest pressure valve in our collection and offers a cartridge design that alleviates your demanding maintenance requirements. The EX40 requires a 100 PSIG minimum pressure differential between inlet and outlet for operation. The valve's simple design with few moving components have made it a great choice for inlet pressures as high as 15,000 PSIG. The Normally Closed EX40 must be mounted upright and vertical. **Filters recommended for all applications.**

### Dimensions



Normally Closed



# EX40 SERIES 3/8" MPF









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## How To Order

Base Model Number	Orifice	DC Voltage	Suffix Option Field(s)																				
EX40	03																						
<table border="1"> <tr> <td>03</td> <td>3/16"</td> </tr> </table>		03	3/16"	<table border="1"> <tr> <td>D012</td> <td>12 DC</td> </tr> <tr> <td>D024</td> <td>24 DC</td> </tr> <tr> <td>D120</td> <td>120 DC</td> </tr> </table>	D012	12 DC	D024	24 DC	D120	120 DC	<table border="1"> <tr> <td>DN</td> <td>Din Connector (Not Explosion Proof)</td> </tr> <tr> <td>GS</td> <td>General Service (Not Explosion Proof)</td> </tr> <tr> <td>HY</td> <td>Hydrogen Service (Helium leak test)</td> </tr> <tr> <td>OX</td> <td>Oxygen Clean</td> </tr> <tr> <td>VT</td> <td>Viton O-Rings</td> </tr> <tr> <td>T5</td> <td>Class 5 Leakage Testing</td> </tr> </table>	DN	Din Connector (Not Explosion Proof)	GS	General Service (Not Explosion Proof)	HY	Hydrogen Service (Helium leak test)	OX	Oxygen Clean	VT	Viton O-Rings	T5	Class 5 Leakage Testing
03	3/16"																						
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HY	Hydrogen Service (Helium leak test)																						
OX	Oxygen Clean																						
VT	Viton O-Rings																						
T5	Class 5 Leakage Testing																						

\* Standard Connection is LF6 Medium Pressure Fitting for 3/8" Tubing (9/16 - 18 thread)

## Possible EX40 Options & Add-Ons

				
72" Lead Length	Din Connector	Screw Terminal	General Service	Hydrogen Service
				
Oxygen Clean	NEMA 4X	Class V Leakage Testing	Stainless Steel Tags	Viton O-Rings

The following are standard on the EX40:

		
Explosion Proof	Stainless Steel Valve Body	22 W Coil

## Certifications



CRN - Canadian  
Registration Number

# EX40 SERIES

## 3/8" MPF

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### Construction

Valve Body:	316 SS
Piston:	PEEK®
O Ring (Standard):	Buna-N (-50° to 225°F)
O Ring (Optional):	Viton (0° to 400°F)
Piston Rings:	302 SS / PTFE
Cartridge:	316 SS & 430 SS
Pilot & Seal:	303 SS & PTFE
Spring:	302 SS*
Plunger:	430 SS

\*Standard material

### Pressure

Maximum pressures shown are measured in PSIG

	3/16" Orifice Size
Normally Closed AC Voltage:	-
Normally Closed DC Voltage:	15,000
Normally Open AC Voltage:	-
Normally Open DC Voltage:	-
Minimum Pressure Differential:	100

### Flow

	3/16" Orifice Size
C <sub>v</sub>	0.50

### Electrical (Coil)

Power:	22 Watts
Insulation:	Class "H"
Duty:	Continuous
Connection:	1/2" NPT, 18" Leads
Enclosure	
Explosion Proof (Standard):	NEMA 3, 3S, 4, 4X, 7, 9
General Service:	NEMA 1, 2, 3, 3S, 4, 4X

### Possible Media

General Gases  
& Light LiquidsFuels &  
Light OilsFlammable  
Gases

Hydrogen



Oxygen



Corrosives

Sea & Salt  
WaterViscous  
Liquids

Steam



Cryogenics

# EH40 SERIES

## 1/4 - 1/2" PIPE SIZE

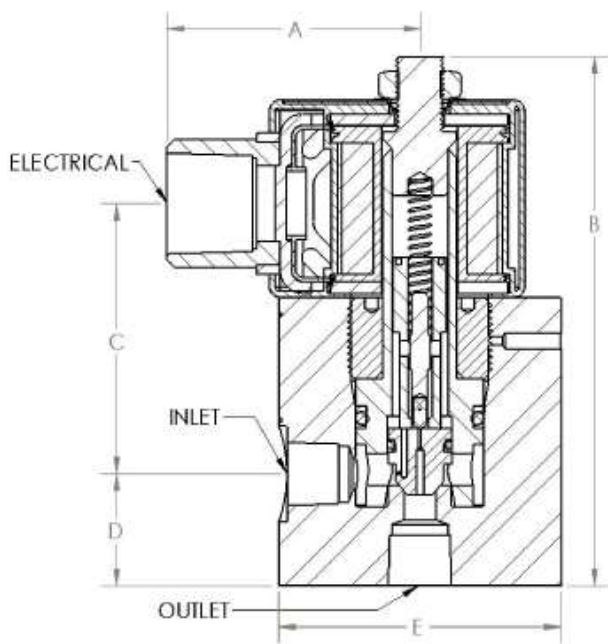
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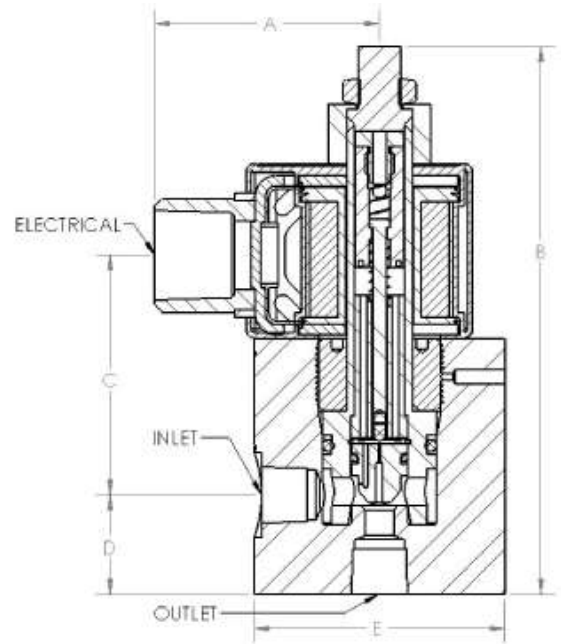
### Features:

The EH40 is a 2-way, unidirectional, full port solenoid valve that is great for a wide range of fluids and gases. This pilot operated valve can be used to control the flow of media such as high pressure air, water, natural gas, hydrogen, nitrogen, and other gases or light liquids compatible with materials of construction. Available in both 1/4" (EH40-04) and 1/2" (EH40-08) sizes, the EH40 is the workhorse of our collection and offers a cartridge design that alleviates your demanding maintenance requirements. The EH40 requires 50 PSIG minimum pressure differential between inlet and outlet for operation. The design is optimal for pressures of 50 to 10,000 PSIG. The Normally Closed DC powered EH40 valves must be mounted upright and vertical, while all other EH40 valves can be universally mounted. **Filters are recommended for all applications.**

### Dimensions



Normally Closed



Normally Open

	Inlet/ Outlet	Electrical	Ship Weights (lbs.)	Reference Dimensions (inches)				
				A	B	C	D	E
EH40-04 Normally Closed	¼" NPT	½" NPT Conduit	2.85	2.0	4.1	2.1	0.9	ø 2.20
EH40-04 Normally Open			3.10	2.0	4.8	2.1	0.9	ø 2.20
EH40-08 Normally Closed	½" NPT		6.05	2.0	4.7	2.2	1.3	ø 2.95
EH40-08 Normally Open			6.04	2.0	5.4	2.2	1.3	ø 2.95

# EH40 SERIES

## 1/4 - 1/2" PIPE SIZE
















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### How To Order




Base Model Number	Connection Size	AC/DC Voltage and Hertz	Suffix Option Field (s)																																						
EH40	<table><tr><td>04</td><td>¼"</td></tr><tr><td>08</td><td>½"</td></tr></table>	04	¼"	08	½"	<table><tr><td>A024</td><td>24 / 60</td></tr><tr><td>A120</td><td>120 / 60</td></tr><tr><td>A240</td><td>240 / 60</td></tr><tr><td>D012</td><td>12 DC</td></tr><tr><td>D024</td><td>24 DC</td></tr><tr><td>D120</td><td>120 DC</td></tr></table>	A024	24 / 60	A120	120 / 60	A240	240 / 60	D012	12 DC	D024	24 DC	D120	120 DC	<table><tr><td>DN</td><td>Din Connector (Not Explosion Proof)</td></tr><tr><td>GS</td><td>General Service (Not Explosion Proof)</td></tr><tr><td>HY</td><td>Hydrogen Service (Helium leak test)</td></tr><tr><td>NO</td><td>Normally Open</td></tr><tr><td>OX</td><td>Oxygen Clean</td></tr><tr><td>S4</td><td>SAE J1926 Size "4" Connection</td></tr><tr><td>S8</td><td>SAE J1926 Size "8" Connection</td></tr><tr><td>TC</td><td>Tube Connector</td></tr><tr><td>VT</td><td>Viton O-rings (Higher temps &amp; resistance)</td></tr><tr><td>XP</td><td>22 Watt Coil (Higher Pressure)</td></tr><tr><td>T5</td><td>Class 5 Leakage Test</td></tr></table>	DN	Din Connector (Not Explosion Proof)	GS	General Service (Not Explosion Proof)	HY	Hydrogen Service (Helium leak test)	NO	Normally Open	OX	Oxygen Clean	S4	SAE J1926 Size "4" Connection	S8	SAE J1926 Size "8" Connection	TC	Tube Connector	VT	Viton O-rings (Higher temps & resistance)	XP	22 Watt Coil (Higher Pressure)	T5	Class 5 Leakage Test
04	¼"																																								
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A024	24 / 60																																								
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XP	22 Watt Coil (Higher Pressure)																																								
T5	Class 5 Leakage Test																																								

Possible EH40 Options & Add-Ons

### Possible EH40 Options & Add-Ons

							
72" Lead Length	Din Connector	Screw Terminal	1/4 Tab (spade)	General Service	Hydrogen Service	Normally Open	Oxygen Clean
							
SAE Port	Tube Connector	Class V Leakage Testing	Stainless Steel Tags	Viton O-Rings	22 W Coil	ATEX/IECEX	

The following are standard on the EH40:

		
Explosion Proof	Stainless Steel Valve Body	NEMA 4X

### Certifications



CRN - Canadian Registration Number



\*Consult Factory for Listing and Pricing Details.



See Website for certification details.



# EH40 SERIES 1/4 - 1/2" PIPE SIZE

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## Construction

Valve Body:	316 SS
Piston:	PEEK®
O Ring (Standard):	Buna-N (-50° to 225°F)
O Ring (Optional):	Viton (0° to 400°F)
Piston Rings:	Buna / Viton
Cartridge:	316 SS & 430 SS
Pilot / Seal:	303 SS / PTFE
Spring:	302 SS
Plunger:	430 SS
Bonnet Retainer:	430 SS

\* See Temp Limits for UL Listed Coils

\*Consult Sales for maximum allowable inlet pressures for Fluid Temps Exceeding 300°F.

## Pressure

Maximum pressures shown are measured in PSIG

	1/4" Pipe Size	1/2" Pipe Size
Normally Closed AC Voltage (Standard):	7,500	7,500
Normally Closed AC Voltage (Higher Wattage):	10,000	10,000
Normally Closed DC Voltage (Standard):	3,500	3,600
Normally Closed DC Voltage (Higher Wattage):	10,000	7,200
Normally Open AC Voltage:	5,500	6,500
Normally Open DC Voltage (Higher Wattage):	5,500	6,200
Minimum Required Pressure Differential:	50	50

\*\* For Oils and Hydraulic Fluids with viscosities greater than water, the maximum differential pressure is the value in the table divided by 2.

## Flow

	1/4" Pipe Size	1/2" Pipe Size
C <sub>v</sub>	1.1	4.5

Standard Sealing Is Class 2, Per ANSI/FCI 92-2-2001

## Electrical (Coil)

	Standard	High Wattage
Power:	10 Watts	22 Watts
AC Inrush:	1 amp @ 120V AC	2.5 amp @ 120V AC
AC Holding:	0.1 amp @ 120V AC	0.2 amp @ 120V AC
Insulation:	Class "F"	Class "H"
Duty:	Continuous	Continuous
Connection:	1/2" NPT, 18" Leads	1/2" NPT, 18" Leads
Enclosure		
Explosion Proof (Standard):***	NEMA 3, 3S, 4, 4X, 7, 9	NEMA 3, 3S, 4, 4X, 7, 9
General Service:	NEMA 1, 2, 3, 3S, 4, 4X	NEMA 1, 2, 3, 3S, 4, 4X

\*\*\* All for use in:  
Class I Div 1 & 2, Groups A, B, C, D;  
Class II Div 1 & 2, Groups E, F, G

10 Watt Solenoid Coils:

- Temperature Code T4: Ambient Temperature range of -20 C to 65.6 C and maximum fluid temperature of 121.1 C

22 Watt Solenoid Coils:

- Temperature Code T3C: Ambient Temperature range of -20 C to 50 C and maximum fluid temperature of 65.0 C

## Possible Media



General Gases  
& Light Liquids



Fuels &  
Light Oils



Flammable  
Gases



Hydrogen



Oxygen



Corrosives



Sea & Salt  
Water



Viscous  
Liquids



Steam



Cryogenics

(856) 829-4580  
info@magnatrol.com  
www.clarkcooper.com

**CLARK COOPER**  
SPECIALIZING IN ADVANCED APPLICATIONS

# EH50 SERIES 1/2" PIPE SIZE

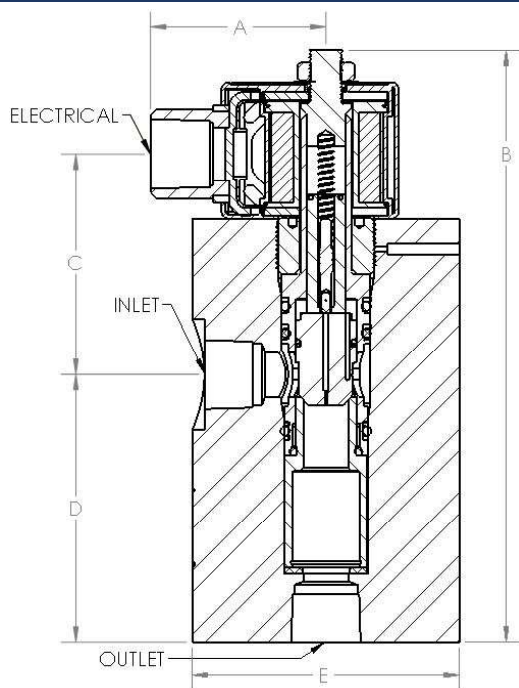
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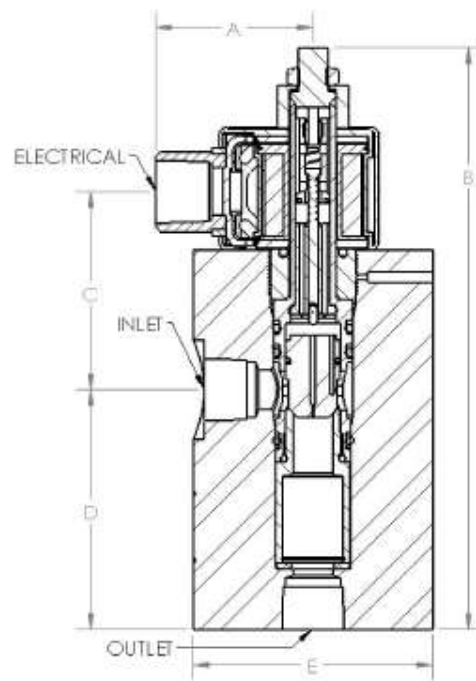
## Features:

The full port EH50 offers a wide range of solutions for your application needs, and is best used to control the flow of high pressure air, water, natural gas, hydrogen, nitrogen and other gases or light liquids compatible with materials of construction. This pilot operated valve is a great choice for differential pressures as high as 10,000 PSI. The valve comes in a 1/2" NPT connection size and requires a 100 PSIG minimum pressure differential between inlet and outlet for operation. The EH50 offers many of the benefits of our EH40, but with the available option of an **integrated check valve**. The EH50 is an ideal choice for CNG equipment and applications, whether your system utilizes a single-line buffer or a 3-bank cascade filling scheme. The valve also features a cartridge that can be easily removed for maintenance. The Normally Closed EH50 valves must be mounted upright and vertical, while the Normally Open EH50 valves are universal mount. **Filters recommended for all applications.**

## Dimensions



Normally Closed



Normally Open

					Reference Dimensions (inches)				
	Inlet/ Outlet	Electrical	Ship Weight (Aluminum Body)	Ship Weight (316 SS Body)	A	B	C	D	E
EH50-08 Normally Closed	1/2" NPT	1/2" NPT Conduit	4.25 lbs.	9.75 lbs.	2.0	6.6	2.5	3.0	ø3.00
EH50-08 Normally Open			4.50 lbs.	10.0 lbs.	2.0	7.3	2.5	3.0	ø3.00

# EH50 SERIES

## 1/2" PIPE SIZE

11

### How To Order

Base Model Number

EH50

—

Port Size

08

081/2"

—

AC/DC Voltage and Hertz

A02424 / 60A120120 / 60A240240 / 60D01212 DCD02424 DC D120120 DC

—

Suffix Option Field (s)

CKIntegrated Check Valve

DNDin Connector (Not Explosion Proof)

GSGeneral Service (Not Explosion Proof)

HYClass 5 Leakage test with Helium

NONormally Open

OXOxygen Clean

SS316 SS Valve Body

TCTube Connector



















VTViton O-Ring

XP22 Watt Coil (Higher Pressure)

T5Class 5 Leakage Test with Air

Possible FH50 Options & Add-Ons

### Possible EH50 Options & Add-Ons

								
Integrated Check Valve	72" Lead Length	Din Connector	Screw Terminal	1/4 Tab (spade)	General Service	Hydrogen Service	Normally Open	Oxygen Clean
								
Stainless Steel Valve Body	SAE Port	Tube Connector	Universal Mount	NEMA 4X	Class V Leakage Testing	Stainless Steel Tags	Viton O-Rings	22 W Coil

The following are standard on the EH50:



Explosion Proof

### Certifications



CRN - Canadian Registration Number

# EH50 SERIES

## 1/2" PIPE SIZE

12

### Construction

Valve Body:	7075-T6 Anodized Aluminum* / 316 SS
Piston:	PEEK
O Ring (Standard):	Buna-N (-50° to 225°F)
O Ring (Optional):	Viton (0° to 400°F)
Piston Rings / Seal:	302 SS / PTFE
Cartridge:	316 SS & 430 SS
Pilot / Seal:	303 SS / PTFE
Spring:	302 SS
Plunger:	430 SS
Bonnet Retainer:	430 SS
Cartridge Gasket:	Nylon
Optional Check Valve:	304 SS / PEEK

\*Standard material

### Pressure

Maximum pressures shown are measured in PSIG

	Normally Closed	Normally Open
AC Voltage (Standard 10 W):	7,500	7,500
AC Voltage (Higher Wattage 22 W):	10,000	-
DC Voltage (Standard 10 W):	3,500	2,500
DC Voltage (Higher Wattage 22 W):	5,000	5,700
Minimum Pressure Differential:	100	100

\*\* For Oils and Hydraulic Fluids with viscosities greater than water, the maximum differential pressure is the value in the table divided by 2.

### Flow

	Normally Closed	Normally Open
C <sub>v</sub>	4.5	4.5

Standard Sealing Is Class 2, Per ANSI/FCI 92-2-2001

### Electrical (Coil)

	Standard	High Wattage
Power:	10 Watts	22 Watts
AC Inrush:	1 amp @ 120V AC	2.5 amp @ 120V AC
AC Holding:	0.1 amp @ 120V AC	0.2 amp @ 120V AC
Insulation:	Class "F"	Class "H"
Duty:	Continuous	Continuous
Connection:	1/2" NPT, 18" Leads	1/2" NPT, 18" Leads
Enclosure		
Explosion Proof (Standard):	NEMA 3, 3S, 4, 4X, 7, 9	NEMA 3, 3S, 4, 4X, 7, 9
General Service:	NEMA 1, 2, 3, 3S, 4, 4X	NEMA 1, 2, 3, 3S, 4, 4X

### Possible Media



General Gases  
& Light Liquids



Fuels &  
Light Oils



Flammable  
Gases



Hydrogen



Oxygen



Corrosives



Sea & Salt  
Water



Viscous  
Liquids



Steam



Cryogenics



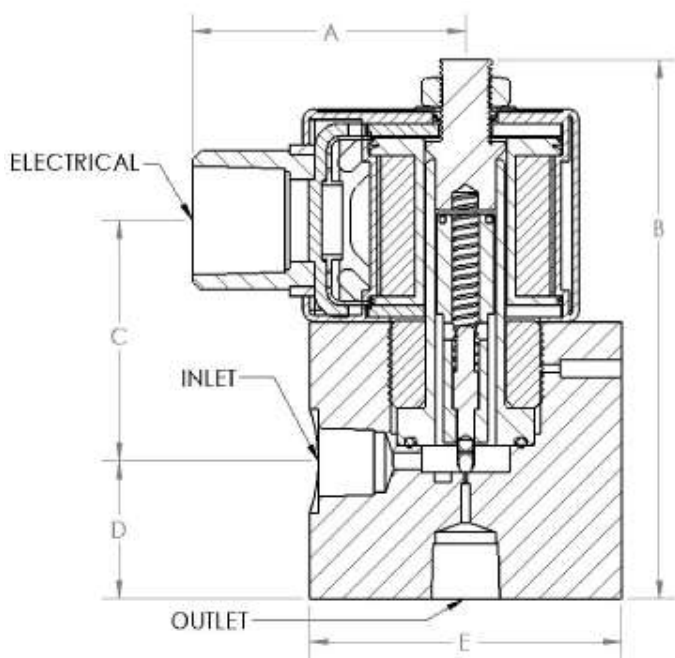
# EH30 SERIES 1/4" PIPE SIZE

13

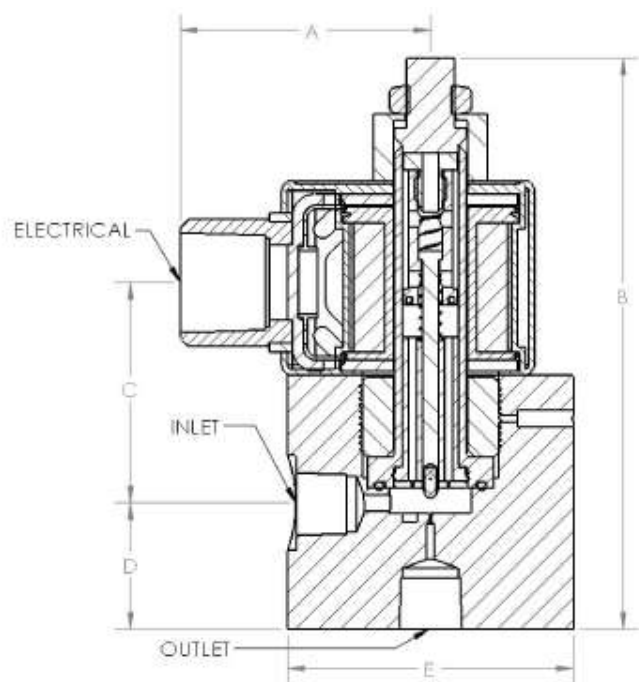


## Features:

The EH30 is a 2-way, unidirectional reduced port solenoid valve that is great for a wide range of fluids and gases. This direct acting valve offers a solution to a variety of applications to control the flow of high pressure air, water, natural gas, hydrogen, nitrogen and other gases or light liquids compatible with materials of construction. Suitable for cryogenic applications, this low flow, high pressure valve packages great versatility in a compact design for pressures of zero to 10,000 PSIG. No minimum pressure is required for opening, and it will not "burp" due to any rapid spikes in inlet pressure. Both the Normally Closed and Normally Open versions can be universally mounted, as a standard. They both may be mounted in any orientation. **Filters recommended for all applications.**



Normally Closed



Normally Open

				Reference Dimensions (inches)				
	Inlet/Outlet	Electrical	Ship Weight (lbs.)	A	B	C	D	E
EH30-04 Normally Closed	1/4" NPT	1/2" NPT Conduit	2.90	2.0	3.9	1.7	1.0	ø 2.20
EH30-04 Normally Open			3.15	2.0	4.5	1.7	1.0	ø 2.20

# EH30 SERIES












## 1/4" PIPE SIZE

14



### How To Order

Base Model Number		Connection & Orifice Size		AC/DC Voltage and Hertz		Suffix Option Field (s)																																		
EH30	—		—		—																																			
		<table><tr><td>041</td><td>¼", 0.019"</td></tr><tr><td>042</td><td>¼", 0.032"</td></tr></table>	041	¼", 0.019"	042	¼", 0.032"		<table><tr><td>A024</td><td>24 / 60</td></tr><tr><td>A120</td><td>120 / 60</td></tr><tr><td>A240</td><td>240 / 60</td></tr><tr><td>D012</td><td>12 DC</td></tr><tr><td>D024</td><td>24 DC</td></tr><tr><td>D120</td><td>120 DC</td></tr></table>	A024	24 / 60	A120	120 / 60	A240	240 / 60	D012	12 DC	D024	24 DC	D120	120 DC		<table><tr><td>DN</td><td>Din Connector (Not Explosion Proof)</td></tr><tr><td>GS</td><td>General Service (Not Explosion Proof)</td></tr><tr><td>HY</td><td>Class 5 Leakage Test with Helium</td></tr><tr><td>NO</td><td>Normally Open</td></tr><tr><td>OX</td><td>Oxygen Clean</td></tr><tr><td>CY</td><td>Cryogenic Service</td></tr><tr><td>TC</td><td>Tube Connector</td></tr><tr><td>T5</td><td>Class 5 Leakage Test with Air</td></tr><tr><td>S2</td><td>SAE J1926 Size "2" Connection</td></tr></table>	DN	Din Connector (Not Explosion Proof)	GS	General Service (Not Explosion Proof)	HY	Class 5 Leakage Test with Helium	NO	Normally Open	OX	Oxygen Clean	CY	Cryogenic Service	TC	Tube Connector	T5	Class 5 Leakage Test with Air	S2	SAE J1926 Size "2" Connection
041	¼", 0.019"																																							
042	¼", 0.032"																																							
A024	24 / 60																																							
A120	120 / 60																																							
A240	240 / 60																																							
D012	12 DC																																							
D024	24 DC																																							
D120	120 DC																																							
DN	Din Connector (Not Explosion Proof)																																							
GS	General Service (Not Explosion Proof)																																							
HY	Class 5 Leakage Test with Helium																																							
NO	Normally Open																																							
OX	Oxygen Clean																																							
CY	Cryogenic Service																																							
TC	Tube Connector																																							
T5	Class 5 Leakage Test with Air																																							
S2	SAE J1926 Size "2" Connection																																							

### Possible EH30 Options & Add-Ons

						
72" Lead Length	Din Connector	Screw Terminal	1/4 Tab (spade)	General Service	Hydrogen Service	Normally Open
						
Oxygen Service	Tube Connector	Class V Leakage Testing	NEMA 4X	Stainless Steel Tags	SAE Port	

The following are standard on the EH30:

		
Explosion Proof	Stainless Steel Valve Body	Universal Mount

### Certifications



CRN - Canadian Registration Number

### Construction

Valve Body:	316 SS
O Ring (Standard):	PTFE (cryo to 400°F)
Cartridge:	316 SS & 430 SS
Pilot / Seal:	303 SS / PTFE (cryo to 400°F)
Spring:	302 SS
Plunger:	430 SS
Bonnet Retainer:	430 SS
Fluid Temperature:	-423°F to +400°F

\* See Temp Limits for UL Listed Coils

### Pressure

Maximum pressures shown are measured in PSIG

	Orifice Size	
	0.019"	0.032"
Normally Closed AC Voltage:	10,000	10,000
Normally Closed DC Voltage:	10,000	6,300
Normally Open AC Voltage:	7,500	2,800
Normally Open DC Voltage:	4,300	1,800

### Flow

Orifice Size	0.019"	0.032"
C <sub>v</sub>	0.005	0.020

Standard Sealing Is Class 2, Per ANSI/FCI 92-2-2001

### Electrical (Coil)

	AC Power			DC Power		
Wattage	10			22		
Voltage	24	120	240	12	24	120
Inrush (RMS amps)	2.6	0.6	0.3	N/A		
Holding (RMS amps)	1.2	0.3	0.17	1.8	0.9	0.2
Insulation	Class F			Class H		
Connection	1/2" NPT, 18" Leads					
Standard Coil ***	NEMA 3, 3S, 4, 4X, 7, 9					
General Service Coil	NEMA 1, 2, 3, 3S, 4, 4X					

\*\*\* All for use in:

Class I Div 1 & 2, Groups A, B, C, D;  
Class II Div 1 & 2, Groups E, F, G

10 Watt Solenoid Coils:

- Temperature Code T4: Ambient Temperature range of -20 C to 65.6 C and maximum fluid temperature of 121.1 C

22 Watt Solenoid Coils:

- Temperature Code T3C: Ambient Temperature range of -20 C to 50 C and maximum fluid temperature of 65.0 C

### Possible Media



General Gases  
and Liquids



Fuels &  
Light Oils



Flammable  
Gases



Hydrogen



Oxygen



Corrosives



Sea & Salt  
Water



Viscous  
Liquids



Steam



Cryogenics

# EH70 SERIES

## 1/2" TO 2" PIPE SIZE

16



### Features:

The powerful, full port EH70 is a 2-way, unidirectional solenoid valve that is great for a wide range of temperatures, fluids and gases. It is a popular choice for natural gas applications in hazardous locations, as well as cryogenic conditions. This pilot assisted, direct operated valve can be configured with an Explosion Proof certified coil for all hazardous locations. Orifice sizes range from 1/2" to 2", and allow maximum inlet pressures of up to 1,500 PSIG. The versatile EH70 requires no minimum pressure for opening, and for sizes 1/2" & 3/4" sizes, can be mounted in any orientation. Normally Closed and Normally Open configurations are available for all sizes. This valve is CRN certified with all Canadian provinces. The stainless steel and PTFE internal components allow such media as deionized water, condensate, ammonias, vegetable oils, fuel oils, natural gas, hydrogen, cryogenics, flammable liquids and gases and other gases or liquids compatible with materials of construction. **Filters recommended for all applications.**

### How To Order

Base Model Number		Connection size in NPT		Connection type		AC/DC Voltage and Hertz		Fluid		Suffix Option Field (s)	
EH70											
08	½"	A	NPT	A024	24 / 60	G	Gas	CY	Cryogenic Service		
12	¾"	B	Socket Weld	A120	120 / 60	L	Liquid	DN	Din Connector (Not Explosion Proof)		
16	1"	G	150# Flange	A240	240 / 60	D	Liquid + Gas	ETL	ETL Certified / Explosion Proof		
24	1 ½"	H	300# Flange	D024	24 DC			HY	Class 5 Leakage Test with Helium		
32	2"	J	600# Flange	D120	120 DC			NO	Normally Open		
				D240	240 DC			OX	Oxygen Clean		

### Note for 'D-CY' Option:

Code 'D-CY' is to be used with Mixed Gas and Liquid Cryogenic Fluid.

It is not available in the 2" Size.

### Possible Media

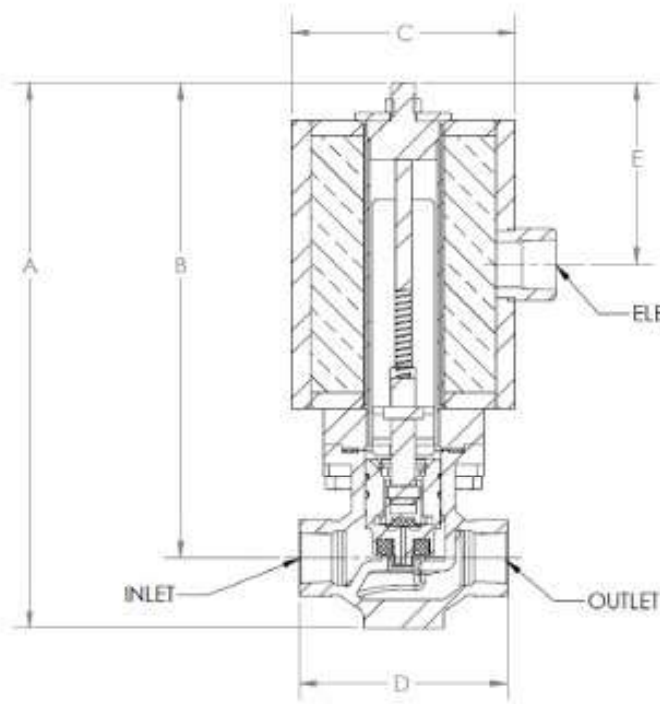
General Gases and Liquids	Fuels & Light Oils	Flammable Gases	Hydrogen	Oxygen	Corrosives	Sea & Salt Water	Viscous Liquids	Steam	Cryogenics



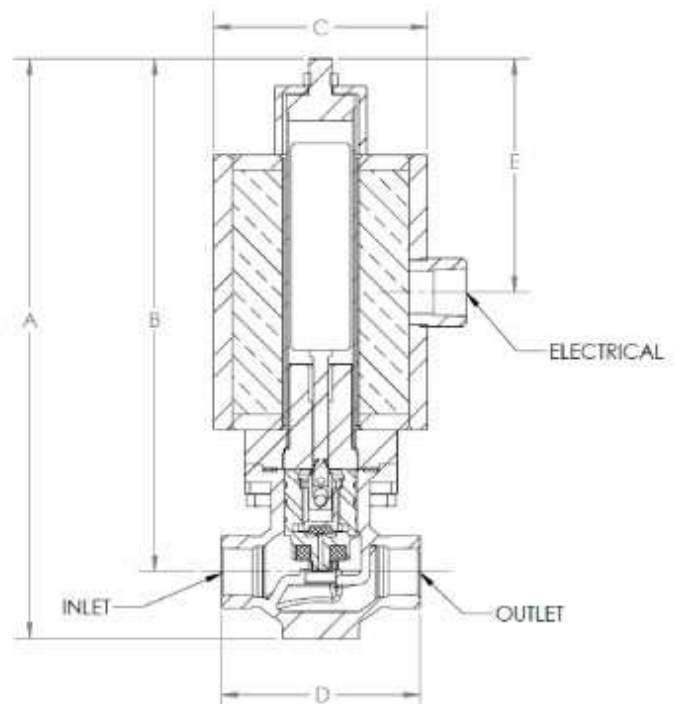
# EH70 SERIES 1/2" TO 2" PIPE SIZE

17

## Dimensions



Normally Closed



Normally Open

Reference Dimensions (Inches)											
Valve	Pipe Size	Normally	A	B	C	D					E
						NPT & Socket Weld	150# Flange**	300# Flange**	600# Flange	SAE	
EH70-08	1/2"	Closed	8.5	7.4	ø 3.5	3.25	5.50	6.00	6.50	N/A	2.8
		Open	9.5	8.4							3.8
EH70-12	3/4"	Closed	8.8	7.6	ø 3.5	3.50	5.75	6.50	7.00	N/A	2.8
		Open	9.7	8.6							3.8
EH70-16	1"	Closed	9.3	7.8	ø 3.5	4.13	7.00	7.25	7.75	N/A	2.8
		Open	10.3	8.8							3.8
EH70-24	1 1/2"	Closed	11.6	9.8	ø 4.5	4.94	7.63	8.25	8.94	N/A	3.3
		Open	12.7	10.8							4.5
EH70-32	2"	Closed	12.4	10.2	ø 4.5	6.00	9.00	9.63	10.38	N/A	3.3
		Open	13.7	11.4							4.5

\*\* ANSI Raised Face

# EH70 SERIES

## 1/2" TO 2" PIPE SIZE

18

### Possible EH70 Options & Add-Ons



Cryogenic Service



72" Lead Length



Din Connector



Hydrogen Service



Normally Open



Oxygen Clean



ETL Certified - Explosion Proof



Stainless Steel Tags



Tube Connector



Single Switch



NEMA 4X



Class V Leakage Test



Manual Override

### The following are standard on the EH70:



Stainless Steel Valve Body



Universal Mount  
\*1/2" and 3/4" only

### Certifications



CRN  
(Canadian Registration Number)



ETL Listed solenoid is an available option, at an additional price.

Conforms to UL Std. 1203  
Certified to CAN/CSA Std. C22.2 No.30

\*Consult Factory for Listing and Pricing Details.

# EH70 SERIES

## 1/2" TO 2" PIPE SIZE

19

### Construction

Valve Body:	316 SS (CF8M)
Piston:	303 SS
Piston Rings:	PTFE (cryo to 400°F)
Plunger:	430 SS
Pilot Valve:	303 SS
Bonnet Tube:	304 SS
Bonnet Base Flange:	304 SS
Spring:	302 SS
Gasket:	PTFE Based (Durlon 9000™)
Valve Disc:	PTFE

### Flow & Wattage

Pipe & Orifice Size	Max Inlet Pressure (psig)	Cv	Coil	Voltages Available	Approx Current (amps)
1/2"	1500	3.5	200 Series	24V AC/DC	2.6
3/4"	1200	7.5		120V AC/DC	0.7
1"	1200	13		220V AC/DC	0.5
1 1/2"	1200	25	300 Series	24V AC/DC	3.6
				120V AC/DC	1.0
2"	1200	48		220V AC/DC	0.5

Pressures Reduced for "D-CY" and "MN" Options.

### Electrical (Coil)

#### Standard Coil:

- NEMA 4 (indoor/outdoor watertight)
- 1/2" NPT Female conduit connection
- 36" leads
- Continuous Service

#### Coil Option:

- ETL Listing for UL-1203, CAN/CSA C22.2 No. 30 certified for hazardous locations:  
Explosion-Proof for Class I, Division 1, Groups A-D for Operating Temperature Code T2D  
in -20 to +85 degrees C ambient; seal welded construction

#### Coil Option:

- NEMA 4x epoxy coating

# EP70 SERIES 1/2" PIPE SIZE

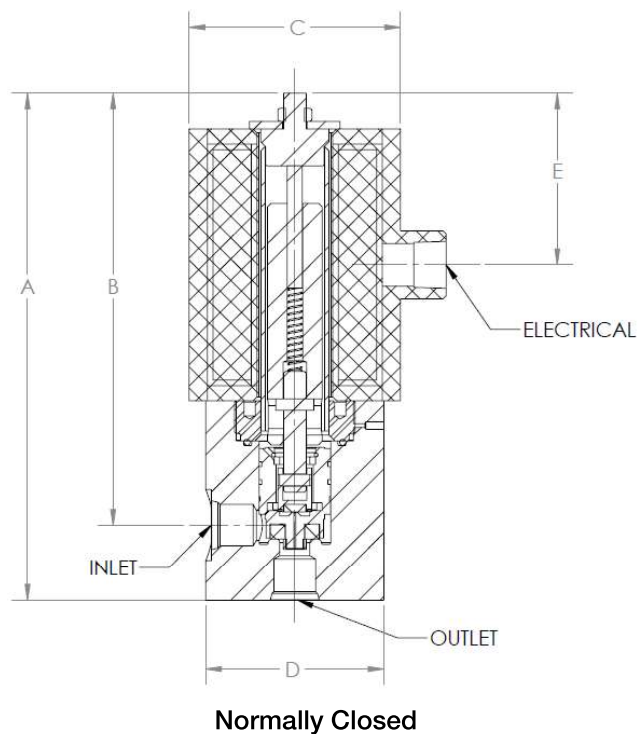
20



## Features:

The powerful, full port EP70 is great for a wide range of liquid flow rates and temperatures. This pilot assisted, direct operated valve can be configured with a UL/CSA certified explosion proof coil for Class 1, Division 1, Group A-D locations. The EP70 has NPT or SAE connections, and allows inlet pressures of up to 5000 psig. There is no minimum required pressure differential for opening/closing. The combination of a high power coil and larger internal bleed orifices, as compared to our other EH Series products, provides for less sensitivity to fluid viscosities and particulates. The EP70 can be used with water, fuel oils, flammable liquids and other liquids compatible with the construction materials. **Filters recommended for all applications.**

## Dimensions



	Pipe Size	Ship Weight (lbs.)	Reference Dimensions (inches)				
			A	B	C	D	E
EP70-08	1/2"	15	8.4	7.2	ø 3.5	3.0	2.8
EP70-12	3/4"		9.75	8.4	ø 4.5	3.2	3.3



# EP70 SERIES

## 1/2" PIPE SIZE

21

### How To Order

Base Model Number	Connection size		Connection type		AC/DC Voltage and Hertz		Suffix Option Field (s)	
EP70							L	
	08	1/2"	A	NPT	A024	24 / 60	DN	Din Connector
	12	3/4"	N	SAE	A120	120 / 60	ETL	ETL Listed Solenoid
					A240	240 / 60	CY	Cryogenic Service
					D012	12 DC	OX	Oxygen Cleaning
					D024	24 DC	SS	Stainless Steel Tags
					D120	120 DC	T5	Class 5 Leakage Test with Air

### Possible EP70 Options & Add-Ons



72" Lead Length



Din Connector



Stainless Steel Tags



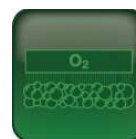
Class V Leakage Testing



NEMA 4X



ETL Listed Explosion Proof



Oxygen Clean



Cryogenic Cleaning

The following are standard on the EP70:



Stainless Steel Valve Body

### Certifications



ETL Listed solenoid is an available option, at an additional price.

Conforms to UL Std. 1203  
Certified to CAN/CSA Std. C22.2 No.30

\*Consult Factory for Listing and Pricing Details.

### Construction

Valve Body:	316 SS (CF8M)
Piston:	303 SS
Piston Rings:	PTFE (cryo to 400°F)
Plunger:	430 SS
Pilot Valve:	303 SS
Bonnet Tube:	304 SS
Bonnet Base:	304 SS
Spring:	302 SS
Body O-Ring	Viton (STD)
Valve Disc:	PTFE

### Pressure

Maximum pressures shown are measured in PSIG

	Pipe Size	
	1/2"	3/4"
Normally Closed Standard AC:	5,000	2,160
Normally Closed Standard DC:	5,000	2,160
Minimum Pressure Differential:	0	0

### Flow & Wattage

Pipe Size	C <sub>v</sub>	Watts
1/2"	3.5	80
3/4"	7.5	116

### Electrical (Coil)











#### Standard Coil:

- NEMA 4 (indoor / outdoor watertight)
- 1/2" NPT Female conduit connection
- 36" leads

#### Coil Options:

- ETL Listing for UL-1203, CAN/CSA C22.2 No. 30 certified for hazardous locations: Explosion-proof for Class I, Division 1, Groups A-D for Operating Temperature Code T2D in -20 to +85 degrees C ambient, seal welded construction
- NEMA 4x epoxy coating

### Possible Media

									
General Liquids	Fuels & Light Oils	Flammable Gases	Hydrogen	Oxygen	Corrosives	Sea & Salt Water	Viscous Liquids	Steam	Cryogenics

# REQUEST FOR QUOTE

**We appreciate the opportunity to quote on your requirements.**

**For immediate quote:** Fill in the information below and CALL 856-829-4580

**For same day quote:** Fill in the information below and FAX to 856-829-7303

**For next day quote:** Email your requirements to techsupport@clarkcooper.com or use the Request For Quote form on our website www.clarkcooper.com

## YOUR COMPANY INFORMATION

Date: \_\_\_\_\_

Name: \_\_\_\_\_ Dept. or Title: \_\_\_\_\_

Company: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_ Fax: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Email: \_\_\_\_\_

Type of Business: ☐ Resale / Distributor ☐ OEM ☐ End User

## VALVE INFORMATION

Quantity: \_\_\_\_\_ Requested Delivery: \_\_\_\_\_

**Valve Type:**  
(check one)

- ☐ EH30 Series ☐ EX30 Series  
☐ EH40 Series ☐ EX40 Series  
☐ EH50 Series ☐ EP70 Series  
☐ EH70 Series

**Flow Designation:**

- ☐ Normally Closed (Energize to Open)  
☐ Normally Open (Energize to Close)

**Certifications:**

- ☐ CRN (Canadian Registration Number)  
☐ ETL Listed Solenoid

### Valve Features

Pipe Size: \_\_\_\_\_

End Connection: ☐ NPT

☐ 150#FL

☐ 300#FL

☐ Other: \_\_\_\_\_

### Solenoid Features

Voltage: ☐ AC \_\_\_\_\_ Volts \_\_\_\_\_ Hz

☐ DC \_\_\_\_\_ Volts

Enclosure Construction:

☐ Watertight ☐ Explosion Proof

☐ Other: \_\_\_\_\_

### Operating Conditions

Fluid: \_\_\_\_\_

Max. Op. Press. Diff.: \_\_\_\_\_

Fluid Temp: \_\_\_\_\_

Viscosity: \_\_\_\_\_

Flow Rate or C<sub>v</sub>: \_\_\_\_\_

Max. Press. Drop: \_\_\_\_\_

Ambient Temp: \_\_\_\_\_

Options / Application Notes: \_\_\_\_\_

## CONTACT INFORMATION



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Fax: (856) 829-7303

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Roebling, NJ 08554



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A DIVISION OF MAGNATROL VALVE CORP.

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