Magnatrol
VALVE CORP.

Available For
Quick Delivery

Bronze and Stainless Steel 2-Way
SOLENOID VALVES

For Control Of
WATER • OIL • STEAM
AIR • GAS • CRYOGENICS
SOLVENTS • OXYGEN
CORROSIVE FLUIDS

Catalog 3006

WELCOME TO MAGNATROL

Process Control Solenoid Valves For

Water • Oil • Air • Gas • Steam • Cryogenics • Vacuum • Solvents • Brine • Oxygen • Corrosive Fluids

Magnatrol Valve Corp.

- Established 1936
- Experienced Dedicated Sales Staff
- Application / Engineering Assistance
- Excellent Product Support
- Quick Delivery

Our continued success has come from manufacturing a top quality product, product support, commitment to service and on-time delivery assuring complete customer satisfaction.

Our Products

Every valve is manufactured and tested in-house following Quality Assurance Standards where production operations are under the control of our dedicated, experienced staff and workforce.

- High Quality Bronze and Stainless Steel Solenoid Valves*
- Pressures up to 500 PSI *
- Temperatures up to 400° F *
- Cryogenic and Oxygen Service Applications
- Normally Closed (Energize to Open)
- Normally Open (Energize to Close)
- Continuous Duty Coils for all AC & DC Voltages
- NO Differential Pressure Required to Open
- Full Port-Internal Pilot Operated or Direct Acting
- 2-Way Straight Thru Design
- Packless Construction

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* **Custom Engineered Valves**, Special Alloys, Temperatures, Pressures and Applications as well as Modifications to Standard Magnatrol Valves are available through Magnatrol's **Clark-Cooper Division**. (See bottom of page 3)

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VALVE SELECTION CHART

Ordering Information - See Pages 32 & 33
For Optional Features - See Pages 26 & 27

VALVE SELECTION CHART

(For Fluids/Gases Not Listed And For Special Applications, Consult Factory)

Max . Temperature	Up To 212°F				Up To 400°F				
Construction	Bronze							Stainless Steel	
Valve Type	D	G/GR	N/NR	A/AR	M/MR	S/SR	L/LR	K/KR	W/WR
Page	18	16 & 17	6 & 7	8 & 9	10 & 11	12 & 13	14 & 15	20 & 21	22 & 23
Max. Diff. Pressure	30 PSI	50 PSI	300 PSI	500 PSI	150 PSI	180 PSI	500 PSI	500 PSI	180 PSI
Pipe Size Inches	3/8"-2"	1"-3"	1/2"-3/4"	1/2"-3"	3/8"-3/4"	1/2"-3"	1/2"-3"	1/2"-3"	1/2"-3"
Internal Port Size	Full	Full	Reduced	Full	Reduced	Full	Full	Full	Full
Air	♦	♦	♦	♦	♦		♦	♦	
Brine			♦	♦	♦		♦	♦	
Gas	♦	♦		♦	♦		♦	♦	
Oil	♦		♦	♦	♦		♦	♦	
Solvents	♦	♦	♦	♦	♦		♦	♦	
Water	♦	♦	♦	♦	♦		♦	♦	
Vacuum	♦	♦	♦	♦					
Steam					♦	♦			♦
Cryogenic					♦		♦	♦	
Oxygen, Liquid					♦		♦	♦	
Oxygen, Gaseous	♦	♦		♦			♦	♦	
Corrosive								♦	

Use the chart above to determine suitable types of Magnatrol valves for a given application.

Example: A normally closed 1/2" valve for use on 100 psi steam, there are three types suitable and the final selection can only be made after referring to Bulletins 3006-M, 3006-S and 3006-W on pages 10, 12 and 22 respectively.

Maximum Differential Pressure:
When specifying a valve, the Maximum Differential Pressure must be equal to or greater than the application. Care should be taken not to "over specify" the valve by choosing a valve with a Maximum Differential Pressure that is excessively beyond the application.
If you are unsure please consult the factory.

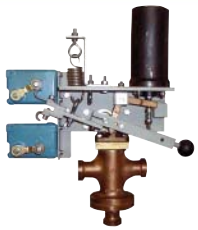
For Custom Engineered Valves,
modifications to standard Magnatrol valves and valves that fall outside standard valve capabilities,
contact Magnatrol's *Clark Cooper Division*

2-Way and 3-Way • 1/4" Thru 6"

- Pressures to 10,000
- Fluid Temperatures up to 550°F
- Dirty / Viscous & Corrosive Fluids
- Bronze, 316SS, Monel, Alloy 20 & Hastelloy
- End connections: NPT, Flange, Union, Socket Weld, Butt Weld, Pipe Nipples etc.
- Options: Remote Trip with Manual or Automatic Reset and many others

3-Valve Manifold for CNG Refueling

High Pressure Cartridge Valve 10,000 PSI


3-Way Trip Valve with 2 Position Indicating Switches and Manual Reset

CLARK - COOPER DIV.
855 INDUSTRIAL HIGHWAY - #4
CINNAMINSON, NJ 08077

Phone: 856 - 829 - 4580 • Fax: 856 - 829 - 7303
Email: techsupport@clarkcooper.com
Web: www.clarkcooper.com

Magnatrol VALVE CORP.

SOLENOID COILS
CONTINUOUS DUTY COILS

ELECTRICAL CHARACTERISTICS
Coils are stocked for the following voltages:

Voltage	6	12	24	32	48	64	75	120	208	240	480	575
50, 60 Hertz AC			•					•	•	•	•	•
DC	•	•	•	•	•	•	•	*		*		

75V DC for locomotive applications * Furnished with surge protecting capacitor

Reference should be made to the Bulletins to determine the availability of a required valve for a specific power supply.

Consult the factory for information regarding voltage and frequencies not listed.

ENCAPSULATED COIL

Valves for A.C. service can be converted for use on other A.C. voltages simply by changing the coil. Similarly D.C. valves can be converted for other D.C. voltages. Consult factory regarding conversion from A.C. to D.C. or D.C. to A.C.

CURRENT CONSUMPTION:
Current values shown in the bulletins are for 120 volts, 60 hertz. For other voltages the current is inversely proportional: For instance, if a given valve draws 0.5 amperes on 120 volts it would draw 0.25 amperes on 240 volts, or 0.125 amperes on 480 volts. Where power consumption is shown in D.C. watts, the values given should be divided by line voltage to obtain the current in amperes. Power consumption for all valves is shown in the individual bulletins.

CONSTRUCTION:
Continuous Duty Construction: Coils can be energized continuously without overheating or failure.
Wire Leads: 18" long 18 gauge wire standard (longer continuous leads available)
Encapsulated: Coils are encapsulated for temperature of intended service, providing excellent resistance to shock, moisture, oil and chemicals

COIL CLASS:

GENERAL SERVICE - CLASS "B"		HIGH TEMPERATURE - CLASS "H"	
Maximum Fluid Temperature	**Maximum Ambient Temperature**	**Maximum Fluid Temperature**	**Maximum Ambient Temperature**
212° F (/ . . ° C)	/04° F (40° C)	200° F (206° C)	012° F (100° C)

INSTALLATION:
The coil is a two wire device which may be controlled by either a single or double pole switch. The switch should always be installed in the hot leg of 120 volt circuits. Where both legs are hot, such as 240 or 480 volt circuits, a double pole switch is preferable, however, if a single pole switch is used, then the wiring should have top quality insulation since even minute leakage currents may give rise to sticking problems. On motor hookup with step control starter, full voltage should be supplied to coil immediately.

Note: Coil can be readily changed while valve is still under pressure.

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VALVE CONSTRUCTION FEATURES

Valve Construction Features:

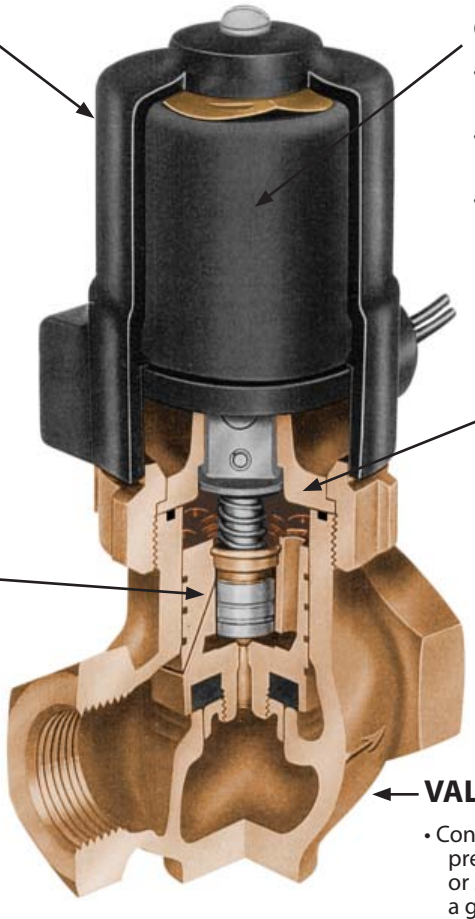
- **2-way straight thru globe design**
- **Bronze or Stainless Steel body w/ female NPT threads standard**
- **Stainless Steel available with 150# and 300# flanged ends**
- **Full port-internal pilot operated or direct acting**
- **Packless construction**
- **Continous duty coils for all voltages**
- **No differential pressure required to open**

HOUSING

- Construction: Malleable or Cast Iron
- Designed for rugged industrial use
- Self contained terminal box with 1/2" NPS conduit connection
- Available: NEMA 12, 4, 4X and Explosion Proof

COIL

- Available Class "B" or "H" insulation
- Designed for continuous duty service
- Available in most AC or DC voltages



BONNET

- A flanged metallic tube encloses the plunger and hermetically seals the top of the valve

PISTON ASSEMBLY

- A sturdily constucted stem assembly consisting of a plunger and stainless steel pilot flexibly connected to the piston
- Discs are available in various materials dictated by operating conditions

VALVE BODY

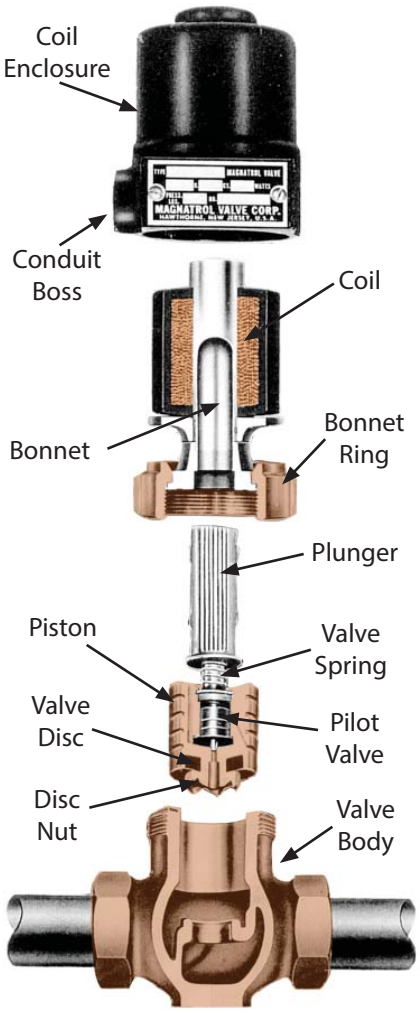
- Constructed of high pressure cast bronze or stainless steel in a globe pattern with screwed ends*
- Available in a full range of sizes

Normally Closed Valve shown is typical of Type A, 1/2" thru 1-1/4"

* Stainless Steel valves available with flanged ends. Flanged Bronze valves available through Magnatrol's **Clark-Cooper Division** (See bottom of

Easy In-Line Service

Inspect, clean or service all internal parts of full port-internal pilot operated or direct acting solenoid valves while the valve body remains in the pipeline shortening costly down time and increasing productivity.



MAGNATROL SOLENOID OPERATED VALVES are used to control the flow of liquids or gases, generally in conjunction with automatic control apparatus such as thermostat, float switch, time switch, or flow meter.

Magnatrol VALVE CORP.

BRONZE SOLENOID VALVES

Dependable • Packless

TYPE "N" - NORMALLY CLOSED
1/2" TO 3/4" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

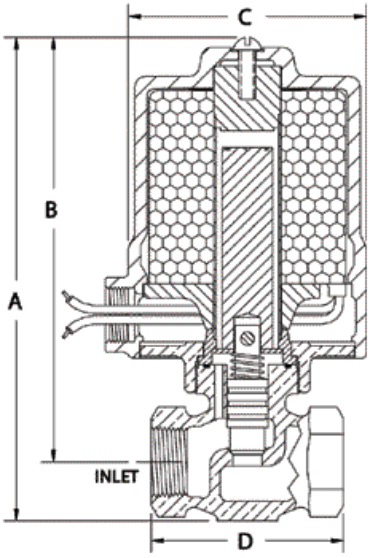
MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
300 PSI

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

DIRECT ACTING - ORIFICE SIZES 3/32" TO 1/2"

OPERATION:
Valve opens when energized and closes when de-energized. In this direct acting valve, when the coil is energized, the stem is lifted from its conical seat by the plunger.

CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
Coil Enclosure - Malleable Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Valve Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - 302 Stainless Steel
*Body Seal - Buna N
*Orifice Seal - Metal to Metal
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class B, 18" leads - (Class H available)



APPLICATION:
To control the flow of Water, Oil, Air, Gas, Solvents, Brine, Vacuum and any other fluids not reactive with construction materials and free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

Pipe Size Inches	Max. Diff. PSI	Valve Port Size	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches A	B	C	D
3/8	DISCONTINUED -- USE 1/2" VALVE WITH BUSHING											
1/2	25	3/8	18N22	25	0.4	1.2	18	6	6-1/4	5-3/8	2-3/4	2-3/4
	50	1/4	18N42									
	75	3/16	18N52									
	100	5/32	18N82									
	150	1/8	18N62									
	225	3/32	18N72									
	50	3/8	33N22	45	0.8	2.4	23	10	7-1/8	6-3/8	3-1/2	2-3/4
	75	5/16	33N32									
	100	1/4	33N42									
	150	3/16	33N52									
	300	1/8	33N62									
3/4	15	1/2	18N13	25	0.4	1.3	18	7	6-1/2	5-5/8	2-3/4	2-7/8
	35	5/16	18N33									
	30	1/2	33N13	45	0.8	2.5	23	10	7-3/8	6-1/2	3-1/2	2-7/8
	75	5/16	33N33									

Optional "Soft Seat" Orifice Seal (for applications requiring tight seating)
Viton - Suitable for Fuel Oils, Gaseous Oxygen and other compatible fluids

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

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BRONZE SOLENOID VALVES
Dependable • Packless

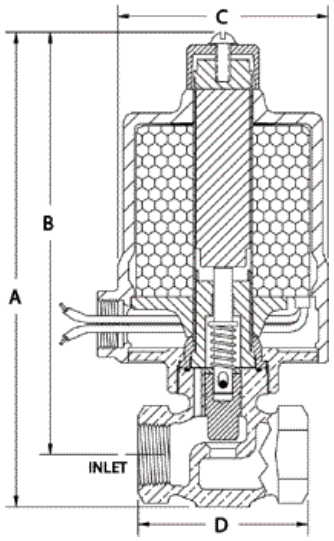
TYPE "NR" - NORMALLY OPEN
1/2" TO 3/4" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
300 PSI

DIRECT ACTING - ORIFICE SIZES 3/32" TO 1/2"

OPERATION:
Valve closes when energized and opens when de-energized. In this direct acting valve, when the coil is energized, the stem is pressed into its conical seat by the plunger.



CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
Coil Enclosure - Malleable Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Poppet - 304 Stainless Steel
*Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Buna N
*Orifice Seal - Metal to Metal
*AC Shading Coil - Copper
*Stem Pin - 304 Stainless Steel
Coil - Encapsulated Class B, 18" leads - (Class H available)

APPLICATION:
To control the flow of Water, Oil, Air, Gas, Solvents, Brine, Vacuum and any other fluids not reactive with construction materials and free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

Pipe Size Inches	Max. Diff. PSI	Valve Port Size	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches A	B	C	D
3/8	DISCONTINUED -- USE 1/2" VALVE WITH BUSHING											
1/2	23	3/8	18NR22	25	0.5	1.5	18	7	7	6-1/8	2-3/4	2-3/4
	45	1/4	18NR42									
	70	3/16	18NR52									
	90	5/32	18NR82									
	135	1/8	18NR62									
	200	3/32	18NR72									
	45	3/8	33NR22	45	1.0	2.7	23	10	7-7/8	7-1/8	3-1/2	2-3/4
	70	5/16	33NR32									
	90	1/4	33NR42									
	135	3/16	33NR52									
	270	1/8	33NR62									
3/4	13	1/2	18NR13	25	0.5	1.6	18	7	7-1/4	6-3/8	2-3/4	2-7/8
	32	5/16	18NR33									
	27	1/2	33NR13	45	1.0	2.8	23	10	8-1/8	7-1/4	3-1/2	2-7/8
	70	5/16	33NR33									

Optional "Soft Seat" Orifice Seal (for applications requiring tight seating)
Viton - Suitable for Fuel Oils, Gaseous Oxygen and other compatible fluids

Magnatrol VALVE CORP.

BRONZE SOLENOID VALVES

Dependable • Packless

TYPE "A" FULL PORT - NORMALLY CLOSED
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

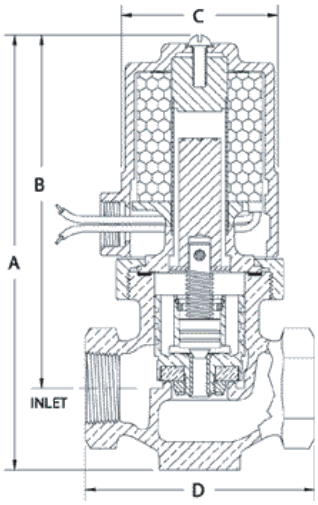
MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI

OPERATION:

Valve opens when energized and closes when de-energized. When the coil is energized the pilot valve opens, relieving the pressure above the piston, which is then lifted from its seat by the plunger. Upon de-energizing the coil, a spring closes the pilot valve and opens a bleed passageway to permit pressure to build above the piston and seat it.

CONSTRUCTION: (* Wetted parts)

*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - 302 Stainless Steel
*Body Seal - Buna N or Non Asbestos Gasket
*Orifice Seal - Buna N (Viton or Glass Filled Teflon available)
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class B, 18" leads - (Class H available)



APPLICATION:

To control the flow of Water, Oil, Air, Gas, Solvents, Brine, Vacuum and any other fluids not reactive with construction materials and free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimension In Inches				
								A	B	C	D	D(Flanged) 150#
1/2	110 200 300	18A42 18A32 18A52	25	0.4	1.2	18	8	7	5-7/8	2-3/4	3-1/4	4-3/4
	500	E33A62	45	0.8	2.4	23	16	8	6-7/8	4-1/8	3-1/4	N/A
3/4	50 110	18A23 18A43	25	0.4	1.3	18	8	7-1/8	6	2-3/4	3-1/2	5-1/2
	160	118A43	40	0.6	2.0	28						
	200 300	33A33 33A53	45	0.8	2.6	23	12	8-1/8	7	3-1/2	3-1/2	N/A
	500	E133A63	65	1.2	3.9	33	17	8-1/8	7	4-1/8	3-1/2	
1	50 110	18A24 18A44	25	0.4	1.5	18	10	7-7/8	6-5/8	2-3/4	4-1/8	5
	160	118A44	40	0.6	2.3	28						
	200 300	33A34 33A54	45	0.8	2.8	23	14	8-7/8	7-1/2	4-1/8	4-1/8	N/A
	500	E133A64	65	1.2	4.2	33	19	8-7/8	7-1/2	4-1/8	4-1/8	
1-1/4	50 90	18A25 18A45	25	0.4	1.6	18	12	8-3/8	6-3/4	2-3/4	4-1/2	7
	150	118A45	40	0.6	2.4	28						
	200 300	33A35 33A55	45	0.8	3.0	23	16	9-3/8	7-3/4	3-1/2	4-1/2	N/A
	500	†† 40A65	60	1.2	6.2	N/A	20	10-3/8	8-3/4	4-1/2	4-1/2	
1-1/2	50 115	35A26 35A46	45	0.8	3.2	23	20	10	8-1/8	4	4-7/8	7-3/4
	160	135A46	65	1.2	4.8	33						
	200 300	41A36 41A56	60	1.2	6.7	35	24	11	9-1/8	4-1/2	4-7/8	N/A
	500	141A66	85	2.0	10.0	45						
2	50 100	36A27 36A47	45	0.8	3.5	23	31	11	8-3/4	5-3/8	6	8
	150	136A47	65	1.2	5.0	33						
	200 300	42A37 42A57	60	1.2	7.4	35	36	12	9-3/4	5-3/4	6	N/A
	500	142A67	85	2.0	11.0	45						
2-1/2	50 125 200	43A28 43A48 43A38	60	1.2	8.0	35	43	12-7/8	10-1/8	5-7/8	7-1/4	11
	300	143A58	85	2.0	12.0	45						N/A
3	50 100 200	44A29 44A49 44A39	60	1.2	8.8	35	56	13-3/4	10-1/2	6-5/8	8-3/8	9-1/2
	300	144A59	85	2.0	13.0	45						N/A

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

†† Not available for DC operation

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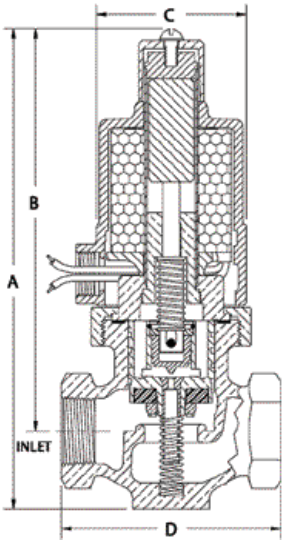
BRONZE SOLENOID VALVES
Dependable • Packless

TYPE "AR" FULL PORT - NORMALLY OPEN
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI

OPERATION:
Valve closes when energized and opens when de-energized. When the coil is energized the plunger presses the poppet, closing the pilot orifice, and opens a bleed passageway to permit pressure to build above the piston and seat it. Upon de-energizing the coil, the pilot orifice is opened, relieving the pressure above the piston allowing it to leave its seat. The bottom spring allows the valve to operate at zero pressure drop.



CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - 302 Stainless Steel
*Body Seal - Buna N or Non Asbestos Gasket
*Orifice Seal - Buna N (Viton or Glass Filled Teflon available)
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class B, 18" leads - (Class H available)

APPLICATION:
To control the flow of Water, Oil, Air, Gas, Solvents, Brine, Vacuum and any other fluids not reactive with construction materials and free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

†† Not available for DC operation

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimension In Inches				
								A	B	C	D	D(Flanged) 150#
1/2	110 200 300	18AR42 18AR32 18AR52	25	0.5	1.5	18	8	8-1/8	7	2-3/4	3-1/4	4-3/4
	500	E33AR62	45	1.0	2.7	23	16	9-3/8	8-1/4	4-1/8	3-1/4	N/A
3/4	50 110	18AR23 18AR43	25	0.5	1.6	18	9	8-1/4	7-1/8	2-3/4	3-1/2	5-1/2
	200 300	33AR33 33AR53	45	1.0	2.9	23	13	9-1/4	8-1/8	3-1/2	3-1/2	
	500	E133AR63	65	1.5	4.3	33	18	9-1/2	8-3/8	4-1/8	3-1/2	N/A
1	50 110	18AR24 18AR44	25	0.5	1.8	18	11	9	7-3/4	2-3/4	4-1/8	5
	200 300	33AR34 33AR54	45	1.0	3.0	23	14	10	8-5/8	3-1/2	4-1/8	
	500	E133AR64	65	1.5	4.5	33	19	10-1/4	8-7/8	4-1/8	4-1/8	N/A
1-1/4	50 90	18AR25 18AR45	25	0.5	1.9	18	13	9-3/4	8-1/8	2-3/4	4-1/2	7
	200 300	33AR35 33AR55	45	1.0	3.2	23	17	10-3/4	9-1/8	3-1/2	4-1/2	
	500	†† 40AR65	60	1.7	6.2	N/A	21	11	9-3/8	4-1/2	4-1/2	N/A
1-1/2	50 115	35AR26 35AR46	45	1.0	3.8	23	21	11-3/8	9-1/2	4	4-7/8	7-3/4
	200 300	41AR36 41AR56	60	1.7	6.5	35	25	11-5/8	9-3/4	4-1/2	4-7/8	
	500	141AR66	85	3.5	9.7	45						N/A
2	50 100	36AR27 36AR47	45	1.0	4.2	23	31	12-3/8	10-1/8	5-3/8	6	8
	200 300	42AR37 42AR57	60	1.7	7.3	35	36	12-5/8	10-3/8	5-3/4	6	
	500	142AR67	85	3.5	11.0	45						N/A
2-1/2	50 125 200	43AR28 43AR48 43AR38	60	1.7	8.0	35	45	13-1-2	10-3-4	5-7/8	7-1/4	11
	300	143AR58	85	3.5	13.0	45						N/A
3	50 100 200	44AR29 44AR49 44AR39	60	1.7	8.8	35	57	14-3/8	11-1/8	6-5/8	8-3/8	9-1/2
	300	144AR59	85	3.5	13.0	45						N/A

Magnatrol VALVE CORP.

BRONZE SOLENOID VALVES

Dependable • Packless

TYPE "M" - NORMALLY CLOSED
3/8" TO 3/4" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

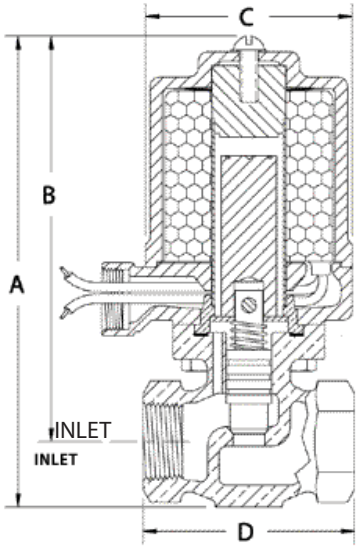
MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
150 PSI

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

DIRECT ACTING - ORIFICE SIZES 1/8" TO 1/2"

OPERATION:
Valve opens when energized and closes when de-energized. In this direct acting valve, when the coil is energized, the stem is lifted from its conical seat by the plunger.

CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
Coil Enclosure - Malleable Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Valve Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Metal to Metal
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class H, 18" leads



APPLICATION:
To control the flow of Steam, Hot Liquids, Hot Gases, Cryogenics** and any other fluids not reactive with construction materials and free of sediment. Cryogenic fluids include Liquid Oxygen (-297°F), Liquid Argon (-303°F) and Liquid Nitrogen (-320°F). Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

****Cleaning:**
· Cryogenic valves are degreased and cleaned to keep them free of moisture.
· Oxygen valves are also "black light" tested.

Pipe Size Inches	Max. Diff. PSI	Valve Port Size	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches			
									A	B	C	D
3/8	25 50 75 100 150	3/8 1/4 3/16 5/32 1/8	10M21 10M41 10M51 10M81 10M61	25	0.4	1.1	18	6	6-1/4	5-1/2	2-7/8	2-5/8
	50 75 100 150	3/8 5/16 1/4 3/16	25M21 25M31 25M41 25M51	45	0.8	2.3	23	10	7-1/8	6-3/8	3-1/2	2-5/8
1/2	25 50 75 100 150	3/8 1/4 3/16 5/32 1/8	10M22 10M42 10M52 10M82 10M62	25	0.4	1.2	18	6	6-1/4	5-1/2	2-7/8	2-3/4
	50 75 100 150	3/8 5/16 1/4 3/16	25M22 25M32 25M42 25M52	45	0.8	2.4	23	10	7-1/8	6-3/8	3-1/2	2-3/4
3/4	15 35	1/2 5/16	10M13 10M33	25	0.4	1.3	18	7	6-1/2	5-5/8	2-7/8	2-7/8
	30 75	1/2 5/16	25M13 25M33	45	0.8	2.5	23	10	7-3/8	6-1/2	3-1/2	2-7/8

Optional "Soft Seat" Orifice Seal (for applications requiring tight seating)
Viton - Suitable for Fuel Oils, Gaseous Oxygen and other compatible fluids

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

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BRONZE SOLENOID VALVES
Dependable • Packless

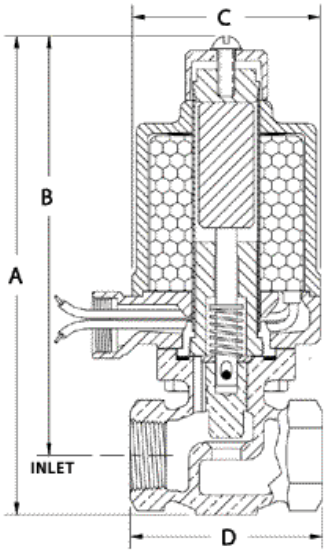
TYPE "MR" - NORMALLY OPEN
3/8" TO 3/4" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
150 PSI

DIRECT ACTING - ORIFICE SIZES 1/8" TO 1/2"

OPERATION:
Valve closes when energized and opens when de-energized. In this direct acting valve, when the coil is energized, the stem is pressed into its conical seat by the plunger.



CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
Coil Enclosure - Malleable Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
* Poppet - 304 Stainless Steel
*Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Metal to Metal
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class H, 18" leads

APPLICATION:
To control the flow of Steam, Hot Liquids, Hot Gases, Cryogenics** and any other fluids not reactive with construction materials and free of sediment. Cryogenic fluids include Liquid Oxygen (-297°F), Liquid Argon (-303°F) and Liquid Nitrogen (-320°F). Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

****Cleaning:**
· Cryogenic valves are degreased and cleaned to keep them free of moisture.
· Oxygen valves are also "black light" tested.

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26& 27)

Pipe Size Inches	Max. Diff. PSI	Valve Port Size	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches			
									A	B	C	D
3/8	23 45 70 90 135	3/8 1/4 3/16 5/32 1/8	† 10MR21 † 10MR41 † 10MR51 † 10MR81 † 10MR61	25	0.5	1.4	18	7	7	6-1/4	2-7/8	2-5/8
	45 70 90 135	3/8 5/16 1/4 3/16	25MR21 25MR31 25MR41 25MR51	45	1.0	2.6	23	10	7-7/8	7-1/8	3-1/2	2-5/8
1/2	23 45 70 90 135	3/8 1/4 3/16 5/32 1/8	10MR22 10MR42 10MR52 10MR82 10MR62	25	0.5	1.5	18	7	7	6-1/4	2-7/8	2-3/4
	45 70 90 135	3/8 5/16 1/4 3/16	25MR22 25MR32 25MR42 25MR52	45	1.0	2.7	23	10	7-7/8	7-1/8	3-1/2	2-3/4
3/4	13 32	1/2 5/16	10MR13 10MR33	25	0.5	1.6	18	7	7-1/4	6-3/8	2-7/8	2-7/8
	27 70	1/2 5/16	25MR13 25MR33	45	1.0	2.8	23	11	8-1/8	7-1/4	3-1/2	2-7/8

Optional "Soft Seat" Orifice Seal (for applications requiring tight seating)
Viton - Suitable for Fuel Oils, Gaseous Oxygen and other compatible fluids

† UL Listed Valves - Consult Factory

Magnatrol VALVE CORP.

BRONZE SOLENOID VALVES

Dependable • Packless

TYPE "S" FULL PORT - NORMALLY CLOSED
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

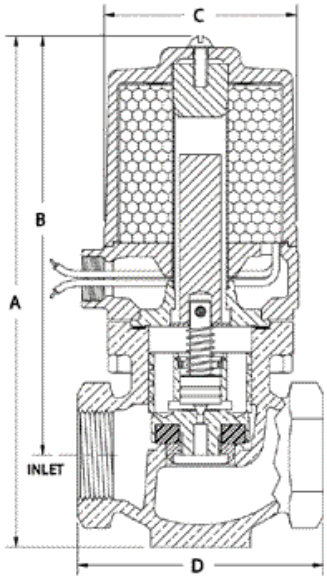
MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
200 PSI

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

OPERATION:
Valve opens when energized and closes when de-energized. When the coil is energized the pilot valve opens, relieving the pressure above the piston, which is then lifted from its seat by the plunger. Upon de-energizing the coil, a spring closes the pilot valve and opens a bleed passageway to permit pressure to build above the piston and seat it.

CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Glass Filled Teflon
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class H, 18" leads

APPLICATION:
TO CONTROL THE FLOW OF STEAM. Steam must be free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.



Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimension In Inches A	B	C	D	D(Flanged) 150#
1/2	90	† 14S22	25	0.4	1.2	18	8	7	5-7/8	2-7/8	3-1/4	4-3/4
	140	†114S42	40	0.6	1.8	28						
	180	129S42	65	1.2	3.6	33	11	8	6-7/8	3-1/2	3-1/4	N/A
3/4	50	† 14S23	25	0.4	1.3	18	9	7-1/8	6	2-7/8	3-1/2	5-1/2
	110	†114S43	40	0.6	2.0	28						
	180	129S43	65	1.2	3.9	33	12	8-1/8	7	3-1/2	3-1/2	N/A
1	25	† 16S14	25	0.4	1.5	18	11	8	6-5/8	3-1/4	4-1/2	5
	50 90	†116S24 †116S44	40	0.6	2.3	28						
	180	131S44	65	1.2	4.2	33	14	8-7/8	7-1/2	3-1/2	4-1/8	N/A
1-1/4	25	† 17S15	25	0.4	1.6	18	12	8-3/8	6-3/4	3-1/2	4-1/2	7
	50	†117S25	40	0.6	2.4	28						
	140	132S45	65	1.2	4.8	33	16	9-3/8	7-3/4	3-5/8	4-1/2	
	180	††140S45	85	2.0	9.2	N/A	20	10-3/8	8-3/4	4-1/2	4-1/2	N/A
1-1/2	25 50	35S16 35S26	45	0.8	3.2	23	20	10	8-1/8	4	4-7/8	7-3/4
	90	135S46	65	1.2	4.8	33						
	180	141S46	85	2.0	11.0	45	24	11	9-1/8	4-1/2	4-7/8	N/A
2	25 50	36S17 36S27	45	0.8	3.5	23	31	11	8-3/4	5-3/8	6	8
	115	42S47	60	1.2	7.4	35	36	12	9-3/4	5-3/8	6	
	180	142S47	85	2.0	11.0	45						N/A
2-1/2	25 50 115	43S18 43S28 43S48	60	1.2	8.0	35	43	12-7/8	10-1/8	5-7/8	7-1/4	11
	175	143S48	85	2.0	12.0	45						N/A
3	25 50 100	44S19 44S29 44S49	60	1.2	8.8	35	56	13-3/4	10-1/2	6-5/8	8-3/8	9-1/2
	150	144S49	85	2.0	13.0	45						

† UL Listed Valves - Consult Factory †† Not available for DC operation

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

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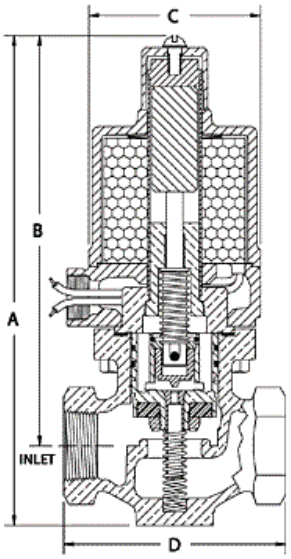
BRONZE SOLENOID VALVES
Dependable • Packless

TYPE "SR" FULL PORT - NORMALLY OPEN
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
200 PSI

OPERATION:
Valve closes when energized and opens when de-energized. When the coil is energized the plunger presses the poppet, closing the pilot orifice, and opens a bleed passageway to permit pressure to build above the piston and seat it. Upon de-energizing the coil, the pilot orifice is opened, relieving the pressure above the piston allowing it to leave its seat. The bottom spring allows the valve to operate at zero pressure drop.



CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron,1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Poppet - 303 Stainless Steel
*Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Springs - Inconel and 302 Stainless Steel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Glass Filled Teflon
*AC Shading Coil - Copper
*Stem Pin - 304 Stainless Steel
Coil - Encapsulated Class H, 18" leads

APPLICATION:
TO CONTROL THE FLOW OF STEAM. Steam must be free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimension In Inches				
								A	B	C	D	D(Flanged) 150#
1/2	90	† 14SR22	25	0.5	1.5	18	8	8-1/8	7	2-7/8	3-1/4	4-3/4
	140	†114SR42	40	0.8	2.4	28						
	180	129SR42	65	1.5	4.2	33	11	9-1/8	8	3-1/2	3-1/4	N/A
3/4	50	† 14SR23	25	0.5	1.6	18	9	7-1/8	6	2-7/8	3-1/2	5-1/2
	110	†114SR43	40	0.8	2.6	28						
	180	129SR43	65	1.5	4.3	33	13	9-1/4	8-1/8	3-1/2	3-1/2	N/A
1	25	† 16SR14	25	0.5	1.8	18	11	9-1/8	7-3/4	3-1/4	4-1/8	5
	50 90	†116SR24 †116SR44	40	0.8	2.9	28						
	180	131SR44	65	1.5	4.5	33	15	10	8-5/8	3-1/2	4-1/8	N/A
1-1/4	25 50	† 17SR15 †117SR25	25 40	0.5 0.8	1.9 3.0	18 28	13	9-3/4	8-1/8	3-1/2	4-1/2	7
	140	132SR45	65	1.5	4.8	33	17	10-3/4	9-1/8	3-5/8	4-1/2	
	180	††140SR45	85	3.5	9.0	N/A	20	11	9-3/8	4-1/2	4-1/2	N/A
1-1/2	25 50	35SR16 35SR26	45	1.0	3.8	23	21	11-3/8	9-1/2	4	4-7/8	7-3/4
	140	135SR46	60	1.5	5.7	33						
	180	141SR46	85	3.5	9.7	45	25	11-5/8	9-3/4	4-1/2	4-7/8	N/A
2	25 50	36SR17 36SR27	45	1.0	4.2	23	31	12-3/8	10-1/8	5-3/8	6	8
	115	42SR47	60	1.7	7.3	35	36	12-5/8	10-3/8	5-3/8	6	
	180	142SR47	85	3.5	11.0	45						N/A
2-1/2	25 50 115	43SR18 43SR28 43SR48	60	1.7	8.0	35	45	13-1/2	10-3/4	5-7/8	7-1/4	11
	175	143SR48	85	3.5	12.0	45						N/A
3	25 50 100	44SR19 44SR29 44SR49	60	1.7	8.8	35	57	14-3/8	11-1/8	6-5/8	8-3/8	9-1/2
	150	144SR49	85	3.5	13.0	45						

† UL Listed Valves - Consult Factory †† Not available for DC operation

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Magnatrol VALVE CORP.

BRONZE SOLENOID VALVES

Dependable • Packless

TYPE "L" FULL PORT - NORMALLY CLOSED
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI

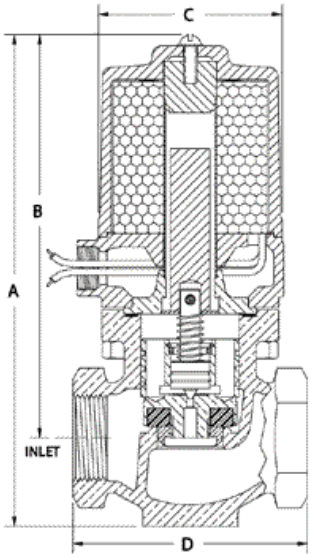
OPERATION:
Valve opens when energized and closes when de-energized. When the coil is energized the pilot valve opens, relieving the pressure above the piston, which is then lifted from its seat by the plunger. Upon de-energizing the coil, a spring closes the pilot valve and opens a bleed passageway to permit pressure to build above the piston and seat it.

CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPT conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Glass Filled Teflon
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class H, 18" leads

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

FOR STEAM APPLICATIONS SEE BULLETIN 3006-S Page 12

APPLICATION:
To control the flow of Hot Liquids, Hot Gases, Cryogenics** and any other fluids not reactive with construction materials and free of sediment. Cryogenic fluids include Liquid Oxygen (-297°F), Liquid Argon (-303°F) and Liquid Nitrogen (-320°F). Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.



Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimension In Inches A	B	C	D	D(Flanged) 150#
1/2	110 200	14L42 14L32	25	0.4	1.2	18	8	7	5-7/8	2-7/8	3-1/4	4-3/4
	300	29L52	45	0.8	2.4	23	11	8	6-7/8	3-1/2	3-1/4	N/A
	500	E29L62	45	0.8	2.4	23	16	8	6-7/8	4	3-1/4	
3/4	50 110	14L23 14L43	25	0.4	1.3	18	9	7-1/8	6	2-7/8	3-1/2	5-1/2
	200	29L33	45	0.8	2.6	23	12	8-1/8	7	3-1/2	3-1/2	N/A
	300	129L53	65	1.2	3.9	33						
	500	E129L63	65	1.2	3.9	33	17	8-1/8	7	4	3-1/2	
1	50 110	16L24 16L44	25	0.4	1.5	18	11	8	6-5/8	3-1/4	4-1/8	5
	200	31L34	45	0.8	2.8	23	14	8-7/8	7-1/2	3-1/2	4-1/8	N/A
	300	131L54	65	1.2	4.2	33						
	500	E131L64	65	1.2	4.2	33	19	8-7/8	7-1/2	4	4-1/8	
1-1/4	50 90	17L25 17L45	25	0.4	1.6	18	12	8-3/8	6-3/4	3-1/2	4-1/2	7
	200	32L35	45	0.8	3.0	23	16	9-3/8	7-3/4	3-5/8	4-1/2	N/A
	300	132L55	65	1.2	4.5	33						
	500	†† 140L65	85	2.0	9.2	N/A	20	10-3/8	8-3/4	4-1/2	4-1/2	
1-1/2	50 115	35L26 35L46	45	0.8	3.2	23	20	10	8-1/8	4	4-7/8	7-3/4
	200	41L36	60	1.2	6.7	35	24	11	9-1/8	4-1/2	4-7/8	N/A
	300 500	141L56 141L66	85	2.0	10.0	45						
2	50 100	36L27 36L47	45	0.8	3.5	23	31	11	8-3/4	5-3/8	6	8
	200 300	42L37 42L57	60	1.2	7.4	35	36	12	9-3/4	5-3/8	6	N/A
	500	142L67	85	2.0	11.0	45						
2-1/2	50 125	43L28 43L48	60	1.2	8.0	35	43	12-7/8	10-1/8	5-7/8	7-1/4	11
	200	43L38	60	1.2	8.0	35						N/A
	300	143L58	85	2.0	12.0	45						
3	50 100 200	44L29 44L49 44L39	60	1.2	8.8	35	56	13-3/4	10-1/2	6-5/8	8-3/8	9-1/2
	300	144L59	85	2.0	13.0	45						N/A

†† Not available for DC operation

** CLEANING
- Cryogenic valves are degreased & cleaned to keep them free of moisture.
- Oxygen valves are also "black light" tested.

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:
- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

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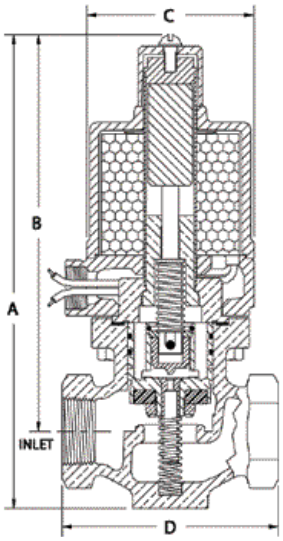
BRONZE SOLENOID VALVES
Dependable • Packless

TYPE "LR" FULL PORT - NORMALLY OPEN
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI

OPERATION:
Valve closes when energized and opens when de-energized. When the coil is energized the plunger presses the poppet, closing the pilot orifice, and opens a bleed passageway to permit pressure to build above the piston and seal it. Upon de-energizing the coil, the pilot orifice is opened, relieving the pressure above the piston allowing it to leave its seat. The bottom spring allows the valve to operate at zero pressure drop.



CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPT conduit conn.
*Plunger - 430 Stainless Steel
*Poppet - 303 Stainless Steel
*Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Springs - Inconel and 302 Stainless Steel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Glass Filled Teflon
*AC Shading Coil - Copper
*Stem Pin - 304 Stainless Steel
Coil - Encapsulated Class H, 18" leads

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

FOR STEAM APPLICATIONS SEE BULLETIN 3006-SR Page 13

APPLICATION:
To control the flow of Hot Liquids, Hot Gases, Cryogenics** and any other fluids not reactive with construction materials and free of sediment. Cryogenic fluids include Liquid Oxygen (-297°F), Liquid Argon (-303°F) and Liquid Nitrogen (-320°F). Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

**** CLEANING**
- Cryogenic valves are degreased & cleaned to keep them free of moisture.
- Oxygen valves are also "black light" tested.

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:
- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimension In Inches				
								A	B	C	D	D(Flanged) 150#
1/2	110 200	14LR42 14LR32	25	0.5	1.5	18	18	8-1/8	7	2-7/8	3-1/4	4-3/4
	300	29LR52	45	1.0	2.7	23	11	9-1/8	8	3-1/2	3-1/4	N/A
	500	E29LR62	45	1.0	2.7	23	16	9-1/8	8	4	3-1/4	
3/4	50 110	14LR23 14LR43	25	0.5	1.6	18	9	8-1/4	7-1/8	2-7/8	3-1/2	5-1/2
	200	29LR33	45	1.0	2.9	23	13	9-1/4	8-1/8	3-1/2	3-1/2	N/A
	300	129LR53	65	1.5	4.3	33						
	500	E129LR63	65	1.5	4.3	33	18	9-1/4	8-1/8	4	3-1/2	
1	50 110	16LR24 16LR44	25	0.5	1.8	18	11	9-1/8	7-3/4	3-1/4	4-1/8	5
	200	31LR34	45	1.0	3.0	23	15	10	8-5/8	3-1/2	4-1/8	N/A
	300	131LR54	65	1.5	4.5	33						
	500	E131LR64	65	1.5	4.5	33	20	10	8-5/8	4	4-1/8	
1-1/4	50 90	17LR25 17LR45	25	0.5	1.9	18	13	9-3/4	8-1/8	3-1/2	4-1/2	7
	200 300	32LR35 132LR55	45 65	1.0 1.5	3.2 4.8	23 33	17	10-3/4	9-1/8	3-5/8	4-1/2	N/A
	500	†† 140LR65	85	3.5	9.0	N/A	20	11	9-3/8	4-1/2	4-1/2	
1-1/2	50 115	35LR26 35LR46	45	1.0	3.8	23	21	11-3/8	9-3/8	4	4-7/8	7-3/4
	200	41LR36	60	1.7	6.5	35	25	11-5/8	9-3/4	4-1/2	4-7/8	N/A
	300 500	141LR56 141LR66	85	3.5	9.7	45						
2	50 100	36LR27 36LR47	45	1.0	4.2	23	31	12-3/8	10-1/8	5-3/8	6	8
	200 300	42LR37 42LR57	60	1.7	7.3	35	36	12-5/8	10-3/8	5-3/8	6	N/A
	500	142LR67	85	3.5	11.0	45						
2-1/2	50 125 200	43LR28 43LR48 43LR38	60	1.7	8.0	35	45	13-1/2	10-3/4	5-7/8	7-1/4	11
	300	143LR58	85	3.5	12.0	45						N/A
3	50 100 200	44LR29 44LR49 44LR39	60	1.7	8.8	35	57	14-3/8	11-1/8	6-5/8	8-3/8	9-1/2
	300	144LR59	85	3.5	13.0	45						N/A

†† Not available for DC operation

Magnatrol VALVE CORP.

BRONZE SOLENOID VALVES

Dependable • Packless

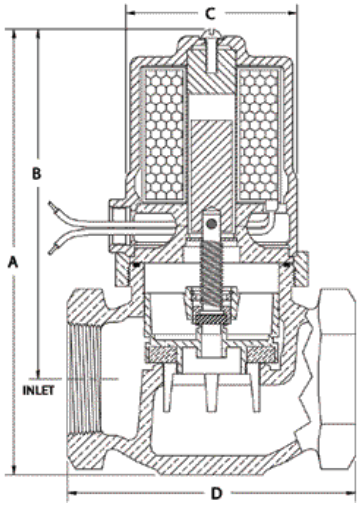
MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
150 PSI

TYPE "G" FULL PORT - NORMALLY CLOSED
1" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

OPERATION:
Valve opens when energized and closes when de-energized. When the coil is energized the pilot valve opens, relieving the pressure above the piston, which is then lifted from its seat by the plunger. Upon de-energizing the coil, a spring closes the pilot valve and opens a bleed passageway to permit pressure to build above the piston and seat it.

CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve Stem - 303 Stainless Steel
*Pilot Valve Disc Holder - Brass
*Pilot Valve Seal - Buna N (Viton available)
*Bonnet Tube - 304 Stainless Steel
*Spring - 302 Stainless Steel
*Body Seal - Buna N or Non Asbestos Gasket
*Orifice Seal - Buna N (Viton or Glass Filled Teflon available)
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class B, 18" leads - (Class H available)



APPLICATION:
To control the flow of Water, Air, Gas, Solvents, Vacuum and any other fluids not reactive with construction materials and free of sediment. Buna N seating of the pilot and main orifices make the valves ideal for TIGHT SEATING, LOW PRESSURE and LOW FLOW conditions. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimension In Inches				
								A	B	C	D	D(Flanged) 150#
1	20 30 50	† 18G24 118G24 133G24	25 40 65	0.4 0.6 1.2	1.4 2.3 4.0	18 28 33	9 9 13	7-1/2 7-1/2 8-1/2	6-1/8 6-1/8 7-1/8	2-3/4 2-3/4 3-1/2	4-1/8 4-1/8 4-1/8	6-3/4
1-1/4	20 30 50	† 18G25 118G25 133G25	25 40 65	0.4 0.6 1.2	1.5 2.4 4.1	18 28 33	10 10 14	8 8 8-7/8	6-3/8 6-3/8 7-3/8	2-7/8 2-7/8 3-1/2	4-3/8 4-3/8 4-3/8	7
1-1/2	15 25 35	† 18G26 118G26 133G26	25 40 65	0.4 0.6 1.2	1.7 2.5 4.2	18 28 33	12 12 16	8-1/8 8-1/8 9-1/8	6-1/2 6-1/2 7-1/2	3-1/8 3-1/8 3-1/2	4-3/4 4-3/4 4-3/4	7-3/4
2	18 30 50	33G27 133G27 233G27	45 65 80	0.8 1.2 1.8	3.4 4.2 9.0	23 33 40	20 20 20	9-7/8 9-7/8 9-7/8	7-7/8 7-7/8 7-7/8	3-3/4 3-3/4 3-3/4	5-3/4 5-3/4 5-3/4	10
2-1/2	25 35	43G28 143G28	60 85	1.2 2.0	7.8 12.0	35 45	38 38	12-1/8 12-1/8	8-5/8 9-5/8	5-7/8 5-7/8	7-7/8 7-7/8	11
3	25 35	44G29 144G29	60 85	1.2 2.0	8.6 13.0	35 45	46 46	13 13	10 10	6-5/8 6-5/8	8 8	13-5/16

† UL Listed Valves - Consult Factory

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

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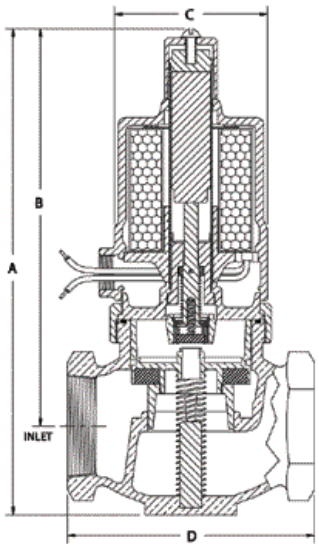
BRONZE SOLENOID VALVES
Dependable • Packless

TYPE "GR" FULL PORT - NORMALLY OPEN
1" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
150 PSI

OPERATION:
Valve closes when energized and opens when de-energized. When the coil is energized the plunger presses the poppet, closing the pilot orifice, and opens a bleed passageway to permit pressure to build above the piston and seat it. Upon de-energizing the coil, the pilot orifice is opened, relieving the pressure above the piston allowing it to leave its seat. The bottom spring allows the valve to operate at zero pressure drop.



Strainers are recommended for use with solenoid valves

(See page 19)

CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve Stem - 303 Stainless Steel
*Pilot Valve Disc Holder - Brass
*Pilot Valve Seal - Buna N (Viton available)
*Bonnet Tube - 304 Stainless Steel
*Spring - 302 Stainless Steel
*Body Seal - Buna N or Non Asbestos Gasket
*Orifice Seal - Buna N (Viton or Glass Filled Teflon available)
*AC Shading Coil - Copper
*Stem Pin - Inconel

APPLICATION:
To control the flow of Water, Air, Gas, Solvents, Vacuum and any other fluids not reactive with construction materials and free of sediment. Buna N seating of the pilot and main orifices make the valves ideal for TIGHT SEATING, LOW PRESSURE and LOW FLOW conditions. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

When you order please supply the following:
- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimension In Inches				
								A	B	C	D	D(Flanged) 150#
1	20 35	† 18GR24 33GR24	25 45	0.5 1.0	1.5 3.0	18 23	9 13	8-5/8 9-5/8	7-1/4 8-1/4	2-3/4 2-3/4	4-1/8 4-1/8	6-3/4
1-1/4	20 35	† 18GR25 33GR25	25 45	0.5 1.0	1.9 3.2	18 23	10 14	9-3/8 10-1/4	7-3/4 8-3/4	2-7/8 3-1/2	4-3/8 4-3/8	7
1-1/2	15 25	† 18GR26 33GR26	25 45	0.5 1.0	2.0 3.8	18 23	12 16	9-1/2 10-1/2	7-7/8 8-7/8	3-1/8 3-1/2	4-3/4 4-3/4	7-3/4
2	18 30	33GR27 133GR27	45 65	1.0 1.5	4.2 4.5	23 33	21 21	11-1/4 11-1/4	9-1/4 9-1/4	3-3/4 3-3/4	5-3/4 5-3/4	10
2-1/2	25	43GR28	60	1.7	8.0	35	39	12-3/4	10-1/4	5-7/8	7-7/8	11
3	25	44GR29	60	1.7	8.8	35	47	13-5/8	10-5/8	6-5/8	8	13-5/16

† UL Listed Valves - Consult Factory

BRONZE SOLENOID VALVES
Dependable • Packless

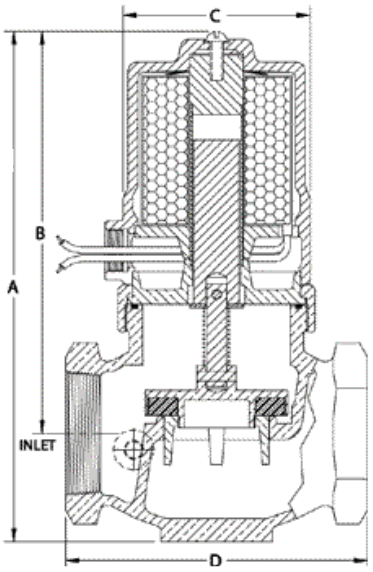
TYPE "D" FULL PORT - NORMALLY CLOSED
3/8" TO 2" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
150 PSI

OPERATION:
Valve opens when energized and closes when de-energized. In this direct acting valve the disc holder assembly is lifted from its seat by the plunger.

CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Disc Holder - Brass
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit con
*Plunger - 430 Stainless Steel
*Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - 302 Stainless Steel
*Body Seal - Buna N
*Orifice Seal - Buna N (Viton or Glass Filled Teflon available
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class B, 18" leads - (Class H available)



APPLICATION:
To control the flow of Water, Air, Gas, Solvents, Vacuum and any other fluids not reactive with construction materials and free of sediment. Buna N seating of the main orifice make the valves ideal for TIGHT SEATING, LOW PRESSURE and LOW FLOW conditions. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimension In Inches				
								A	B	C	D	D(Flanged) 150#
3/8	15 30	18D11 33D11	25 45	0.4 0.8	1.0 2.3	18 23	7 10	6-1/4 7-1/8	5-3/8 6-3/8	2-3/4 3-1/2	2-7/8 2-7/8	N/A
1/2	10 20	18D12 33D12	25 45	0.4 0.8	1.1 2.4	18 23	7 10	6-1/4 7-1/4	5-1/2 6-3/8	2-3/4 3-1/2	3-1/8 3-1/8	4-3/4
3/4	4 7.5	18D13 33D13	25 45	0.4 0.8	1.2 2.5	18 23	8 12	6-7/8 7-3/4	5-3/4 6-3/4	2-3/4 3-1/2	3-1/2 3-1/2	5-1/2
1	2 3.5	18D14 33D14	25 45	0.4 0.8	1.4 2.7	23 33	9 13	7-1/2 8-1/2	6-1/8 7-1/8	2-3/4 3-1/2	4-1/8 4-1/8	6-3/4
1-1/4	1.3 2.3	18D15 33D15	25 45	0.4 0.8	1.5 2.8	18 23	10 14	8 8-7/8	6-3/8 7-3/8	2-7/8 3-1/2	4-3/8 4-3/8	7
1-1/2	0.8 1.5	18D16 † 33D16	25 45	0.4 0.8	1.7 3.0	18 23	12 15	8-1/8 9-1/8	6-1/2 7-1/2	3-1/8 3-1/2	4-3/4 4-3/4	7-3/4
2	0.8 1.2	33D17 † 133D17	45 65	0.8 1.2	3.4 4.2	23 33	19 19	9-7/8 9-7/8	7-7/8 7-7/8	3-3/4 3-3/4	5-3/4 5-3/4	10

† UL Listed Valves - Consult Factory

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

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STRAINERS
Bronze • Stainless Steel

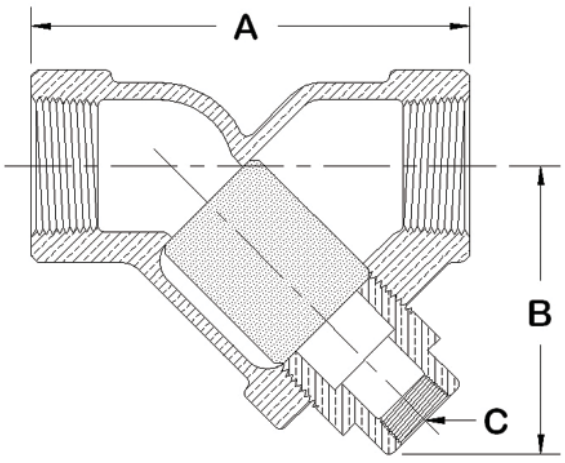
APPLICATION:
The presence of foreign particles in an automatic valve may seriously affect its dependability. The installation of a strainer close to the inlet side of the valve is the best means of preventing the entrance of pipe chips, scale, rust, pipe dope, welding slag or sediment into the valve, provided the screen is periodically removed for cleaning.

CONSTRUCTION:
Strainer bodies have screwed ends. Screens are stainless steel with opening sizes as listed in tables below. Other sizes can be furnished upon request. Liberal straining area provides for fluid passage at minimum pressure drop. Screens are easily removed for cleaning. Strainers are furnished with NPT blow-off connections unplugged. See charts below for blow-off sizes (C Dim.)

CLEANING FOR CRYOGENIC & OXYGEN SERVICE:
- Strainers for Cryogenic applications are degreased and cleaned to keep them free of moisture.
- Strainers for Oxygen service are degreased and cleaned then "black light" tested.

BRONZE 1/4" TO 3" PIPE SIZE

Pipe Size Inches	Screen Size	Type No.	Ship Wt. Lbs.	Dimensions In Inches		
				A	B	C
1/4	60 Mesh 0.009 Openings	BR 0	3/4	2-3/4	2-1/4	1/4
3/8		BR 1	3/4	2-3/4	2-1/4	1/4
1/2		BR 2	3/4	2-3/4	2-1/4	1/4
3/4		BR 3	1-1/2	3	2-9/16	3/8
1		BR 4	2-1/4	3-3/4	2-3/4	3/8
1-1/4	0.16 Diameter Perforations Lined With 30 Mesh	BR 5	3-1/4	4-7/16	3-5/8	3/4
1-1/2		BR 6	4-1/2	4-15/16	3-7/8	3/4
2		BR 7	7	6-1/8	5-1/16	1
2-1/2		BR 8	12-1/2	8-1/4	6	1-1/4
3		BR 9	18	9	6-3/4	1-1/2



STAINLESS STEEL 1/2" TO 2" PIPE SIZE

Pipe Size Inches	Screen Size	Type No.	Ship Wt. Lbs.	Dimensions In Inches		
				A	B	C
1/2	60 Mesh 0.009 Openings	SS 2	1-1/2	3	2-3/8	1/4
3/4		SS 3	2-1/4	3-3/4	2-13/16	3/8
1		SS 4	3-1/4	4-5/8	3-1/8	3/8
1-1/2	0.16 Diameter Perforations Lined w/30 Mesh	SS 6	6-3/4	5-5/8	4-3/4	3/4
2		SS 7	11-1/2	7	6	1

PRESSURE TEMPERATURE RATINGS

MATERIAL	STEAM	LIQUIDS
BRONZE	300 PSI @ 400°F	600 PSI @ 100°F
STAINLESS STEEL	845 PSI @ 750°F	1,440 PSI @ 100°F

Magnatrol VALVE CORP.

STAINLESS STEEL SOLENOID VALVES

Dependable • Packless

TYPE "J" - NORMALLY CLOSED
3/8" TO 1/2" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
300 PSI

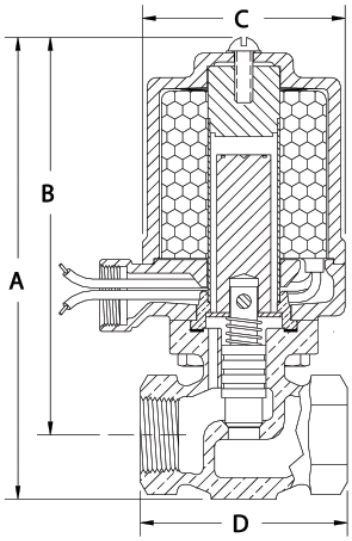
FOR OPTIONS AND ACCESSORIES SEE PAGES 26 & 27

DIRECT ACTING - ORIFICE SIZES 1/8" TO 3/8"

OPERATION:
Valve opens when energized and closes when de-energized. In this direct acting valve, when the coil is energized, the stem is lifted from its conical seat by the plunger.

CONSTRUCTION: (*Wetted parts)

*Valve Body - 304 Stainless Steel Globe Pattern - NPT ends
Coil Enclosure - Malleable Iron,1/2 " NPT conduit conn.
*Plunger - 430 Stainless Steel
*Valve Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Metal to Metal
*AC Shading Coil - Silver
*Stem Pin - Inconel
Coil - Encapsulated Class H, 18" leads



APPLICATION:
To control the flow of Steam, Hot Liquids, Hot Gases, Cryogenics and any other fluids not reactive with construction materials and free of sidement. Cryogenic fluids include liquid oxygen (-297°F), liquid argon(-303°F) and liquid nitrogen (-320°F). Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

Pipe Size Inches	Max. Diff. PSI	Valve Port Size	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches			
									A	B	C	D
3/8	25	3/8	10J21	25	0.4	1.1	18	6	6-1/4	5-1/2	2-7/8	2-3/4
	75	3/16	10J51									
	150	1/8	10J61									
	50	3/8	25J21	45	0.8	2.3	23	10	7-1/8	6-3/8	3-1/2	2-3/4
	150	3/16	25J51									
	300	1/8	25J61									
1/2	25	3/8	10J22	25	0.4	1.2	18	6	6-1/4	5-1/2	2-7/8	2-3/4
	75	3/16	10J52									
	150	1/8	10J62									
	50	3/8	25J22	45	0.8	2.4	23	10	7-1/8	6-3/8	3-1/2	2-3/4
	150	3/16	25J52									
	300	1/8	25J62									

Optional "Soft Seat" Orifice Seal:
(for applications requiring tight seating):

- **Viton** - Suitable for Fuel Oils, Gaseous Oxygen and other compatible fluids

**** CLEANING**

- Cryogenic valves are degreased & cleaned to keep them free of moisture.
- Oxygen valves are also "black light" tested.

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

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STAINLESS STEEL SOLENOID VALVES

Dependable • Packless

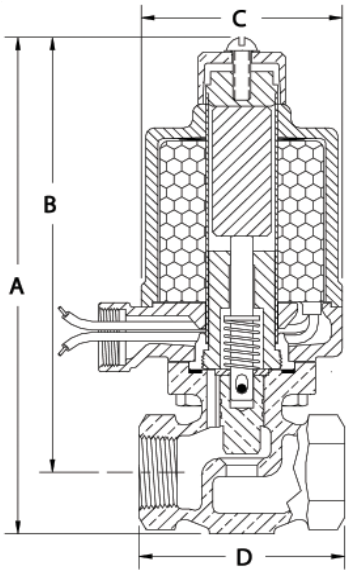
TYPE "JR" - NORMALLY OPEN
3/8" TO 1/2" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
300 PSI

DIRECT ACTING - ORIFICE SIZES 1/8" TO 3/8"

OPERATION:
Valve closes when energized and opens when de-energized. In this direct acting valve, when the coil is energized, the stem is pressed into its conical seat by the plunger.



CONSTRUCTION: (*Wetted parts)

*Valve Body - 304 Stainless Steel Globe Pattern - NPT ends
Coil Enclosure - Malleable Iron,1/2 " NPT conduit conn.
*Plunger - 430 Stainless Steel
*Poppet - 304 Stainless Steel
*Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Metal to Metal
*AC Shading Coil - Silver
*Stem Pin - Inconel
Coil - Encapsulated Class H, 18" leads

APPLICATION:
To control the flow of Steam, Hot Liquids, Hot Gases, Cryogenics and any other fluids not reactive with construction materials and free of sidement. Cryogenic fluids include liquid oxygen (-297°F), liquid argon (-303°F) and liquid nitrogen (-320°F). Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS AND ACCESSORIES SEE PAGES 26 & 27

**** CLEANING**

- Cryogenic valves are degreased & cleaned to keep them free of moisture.
- Oxygen valves are also "black light" tested.

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

Pipe Size Inches	Max. Diff. PSI	Valve Port Size	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches			
									A	B	C	D
3/8	23	3/8	10JR21	25	0.5	1.4	18	7	7	6-1/4	2-7/8	2-3/4
	70	3/16	10JR51									
	135	1/8	10JR61									
	45	3/8	25JR21	45	1.0	2.6	23	10	7-7/8	7-1/8	3-1/2	2-3/4
	135	3/16	25JR51									
	300	1/8	25JR61									
1/2	23	3/8	10JR22	25	0.5	1.5	18	7	7	6-1/4	2-7/8	2-3/4
	70	3/16	10JR52									
	135	1/8	10JR62									
	45	3/8	25JR22	45	1.0	2.7	23	10	7-7/8	7-1/8	3-1/2	2-3/4
	135	3/16	25JR52									
	300	1/8	25JR62									

Optional "Soft Seat" Orifice Seal:
(for applications requiring tight seating):

- **Viton** - Suitable for Fuel Oils, Gaseous Oxygen and other compatible fluids

Magnatrol VALVE CORP.

STAINLESS STEEL SOLENOID VALVES

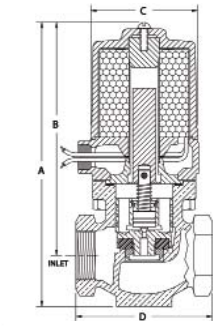
Dependable • Packless

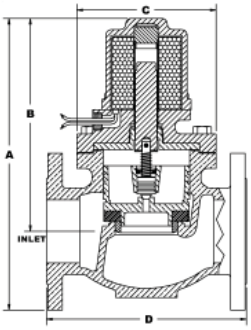
TYPE "K" FULL PORT - NORMALLY CLOSED
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI

OPERATION:
Valve opens when energized and closes when de-energized. When the coil is energized the pilot valve opens, relieving the pressure above the piston, which is then lifted from its seat by the plunger. Upon de-energizing the coil, a spring closes the pilot valve and opens a bleed passageway to permit pressure to build above the piston and seat it.





CONSTRUCTION:
(*Wetted parts - No Copper Bearing Alloys in contact with fluid)

*Valve Body - 304 Stainless Steel Globe Pattern - NPT ends
(For Flanged Ends see Options page 24)
*Piston - 303 Stainless Steel
Coil Enclosure - Malleable or Cast Iron,1/2 " NPS conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Glass Filled Teflon
*AC Shading Coil - Silver
*Stem Pin - Inconel
Coil - Encapsulated Class H, 18" leads

FOR STEAM APPLICATIONS SEE BULLETIN 3006-W Page 22

APPLICATION:
To control the flow of Corrosive Fluids, Deionized Water, Condensate, Ammonias, Vegetable Oils, Fuel Oils, Cryogenics, Flammable Liquids.** Cryogenic fluids include liquid oxygen (-297°F), liquid argon (-303°F) and liquid nitrogen (-320°F). Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Pipe Size Inches	Max. Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches					
								A	B	C	D NPT	D (Flanged) 150#	D (Flanged) 300#
1/2	110 200	14K42 14K32	25	0.4	1.2	18	7	7	5-7/8	2-7/8	3-1/4	6	6-1/2
	300 500	29K52 E29K62	45	0.8	2.4	23	10 15	8	6-7/8	3-1/2 4			
3/4	110	14K43	25	0.4	1.3	18	8	7-1/8	6	2-7/8	3-1/2	6	6-1/2
	200	29K33	45	0.8	2.6	23	11	8-1/8	7	3-1/2			
	300 500	129K53 E129K63	65	1.2	3.9	33	16			4			
1	110	16K44	25	0.4	1.5	18	10	8	6-5/8	3-1/4	4-1/8	6-1/2	7-1/2
	200	31K34	45	0.8	2.8	23	13	8-7/8	7-1/2	3-1/2			
	300 500	131K54 E131K64	65	1.2	4.2	33	18			4			
1-1/2	115	35K46	45	0.8	3.2	23	17	10	8-1/8	4	4-7/8	6-1/2	7-1/2
	200	41K36	60	1.2	6.7	35	21	11	9-1/8	4-1/2			
	300 500	141K56 141K66	85	2.0	10.0	45							
2	100	36K47	45	0.8	3.5	23	27	11	8-3/4	5-3/8	6	8	9
	200 300	42K37 42K57	60	1.2	7.4	35	32	12	9-3/4				
	500	142K67	85	2.0	11.0	45							
3	100 200	44K49F1 44K39F1	60	1.2	8.8	35	68	13-3/4	10-1/2	6-5/8	N/A	9-1/2	N/A
	300	144K59F3	85	2.0	13.0	45	81					N/A	12-1/2

Shipping Weights above apply to Threaded Ends Only (except 3" which are Flanged Only)
For Flanged Ends contact factory for complete weight and dimensions
3" STAINLESS STEEL VALVES ARE SUPPLIED WITH FLANGED ENDS ONLY

**** CLEANING**
- Cryogenic valves are degreased & cleaned to keep them free of moisture.
- Oxygen valves are also "black light" tested.

Strainers are recommended for use with solenoid valves
(See page 19)

When you order please supply the following:
- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

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STAINLESS STEEL SOLENOID VALVES

Dependable • Packless

TYPE "KR" FULL PORT - NORMALLY OPEN
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

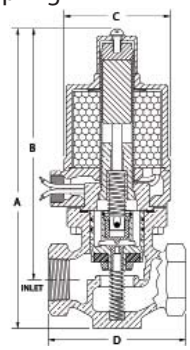
MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI

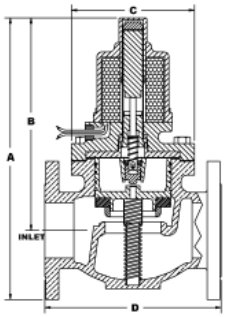
OPERATION:
Valve closes when energized and opens when de-energized. When the coil is energized the plunger presses the poppet, closing the pilot orifice, and opens a bleed passageway to permit pressure to build above the piston and seat it. Upon de-energizing the coil, the pilot orifice is opened, relieving the pressure above the piston allowing it to leave its seat. The bottom spring allows the valve to operate at zero pressure drop.

CONSTRUCTION:
(*Wetted parts - No Copper Bearing Alloys in contact with fluid)

*Valve Body - 304 Stainless Steel Globe Pattern - NPT ends
(For Flanged Ends see Options page 24)
*Piston - 303 Stainless Steel
Coil Enclosure - Malleable or Cast Iron, 1/2 " NPS conduit conn.
*Plunger - 430 Stainless Steel
*Poppet - 303 Stainless Steel
*Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Glass Filled Teflon
*AC Shading Coil - Silver
*Stem Pin - 304 Stainless Steel
Coil - Encapsulated Class H, 18" leads

FOR STEAM APPLICATIONS SEE BULLETIN 3006-WR Page 23





APPLICATION:
To control the flow of Corrosive Fluids, Deionized Water, Condensate, Ammonias, Vegetable Oils, Fuel Oils, Cryogenics, Flammable Liquids.** Cryogenic fluids include liquid oxygen (-297°F), liquid argon (-303°F) and liquid nitrogen (-320°F). Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

**** CLEANING**
- Cryogenic valves are degreased & cleaned to keep them free of moisture.
- Oxygen valves are also "black light" tested.

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:
- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

Pipe Size Inches	Max. Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches					
								A	B	C	D	D (Flanged) 150#	D (Flanged) 300#
1/2	110	14KR42	25	0.5	1.5	18	7	8-1/8	7	2-7/8	3-1/4	6	6-1/2
	200	14KR32											
	300	29KR52	45	1.0	2.7	23	10	9-1/8	8	3-1/2			
	500	E29KR62					15			4			
3/4	110	14KR43	25	0.5	1.6	18	8	8-1/4	7-1/8	2-7/8	3-1/2	6	6-1/2
	200	29KR33	45	1.0	2.9	23	12	9-1/4	8-1/8	3-1/2			
	300	129KR53	65	1.5	4.3	33							
	500	E129KR63					17			4			
1	110	16KR44	25	0.5	1.8	18	10	9-1/8	7-3/4	3-1/4	4-1/8	6-1/2	7-1/2
	200	31KR34	45	1.0	3.0	23	14	10	8-5/8	3-1/2			
	300	131KR54	65	1.5	4.5	33							
	500	E131KR64					20			4			
1-1/2	115	35KR46	45	1.0	3.8	23	18	11-3/8	9-1/2	4	4-7/8	6-1/2	7-1/2
	200	41KR36	60	1.7	6.5	35	22	11-5/8	9-3/4	4-1/2			
	300	141KR56	85	3.5	9.7	45							
	500	141KR66											
2	100	36KR47	45	1.0	4.2	23	27	12-3/8	10-1/8	5-3/8	6	8	9
	200	42KR37	60	1.7	7.3	35	32	12-5/8	10-3/8				
	300	42KR57											
	500	142KR67	85	3.5	11.0	45							
3	100	44KR49F1	60	1.7	8.8	35	69	14-3/8	11-1/8	6-5/8	N/A	9-1/2	N/A
	200	44KR39F1											
	300	144KR59F3	85	3.5	13.0	45	82					N/A	12-1/2

Shipping Weights above apply to Threaded Ends Only (except 3" which are Flanged Only)
For Flanged Ends contact factory for complete weight and dimensions
3" STAINLESS STEEL VALVES ARE SUPPLIED WITH FLANGED ENDS ONLY

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Magnatrol VALVE CORP.

STAINLESS STEEL SOLENOID VALVES

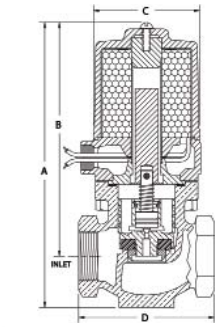
Dependable • Packless

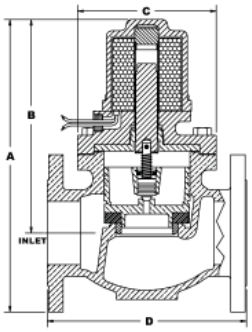
TYPE "W" FULL PORT - NORMALLY CLOSED
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
200 PSI

OPERATION:
Valve opens when energized and closes when de-energized. When the coil is energized the pilot valve opens, relieving the pressure above the piston, which is then lifted from its seat by the plunger. Upon de-energizing the coil, a spring closes the pilot valve and opens a bleed passageway to permit pressure to build above the piston and seat it.





FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

CONSTRUCTION:
(*Wetted parts - No Copper Bearing Alloys in contact with fluid)
*Valve Body - 304 Stainless Steel Globe Pattern - NPT ends
(For Flanged Ends see Options page 24)
*Piston - 303 Stainless Steel
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Glass Filled Teflon
*AC Shading Coil - Silver
*Stem Pin - Inconel
Coil - Encapsulated Class H, 18" leads

APPLICATION:
To control the flow of STEAM. Steam must be free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

Pipe Size Inches	Max. Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches				
								A	B	C	D	D (Flanged) 150#
1/2	90	14W22	25	0.4	1.2	18	7	7	5-7/8	2-7/8	3-1/4	6
	140	114W42	40	0.6	1.8	28						
	180	129W42	65	1.2	3.6	33	10	8	6-7/8	3-1/2		
3/4	50	14W23	25	0.4	1.3	18	8	7-1/8	6	2-7/8	3-1/2	6
	110	114W43	40	0.6	2.0	28						
	180	129W43	65	1.2	3.9	33	11	8-1/8	7	3-1/2		
1	25	16W14	25	0.4	1.5	18	10	8	6-5/8	3-1/4	4-1/8	6-1/2
	50 90	116W24 116W44	40	0.6	2.3	28						
	180	131W44	65	1.2	4.2	33	13	8-7/8	7-1/2	3-1/2		
1-1/2	25 50	35W16 35W26	45	0.8	3.2	23	17	10	8-1/8	4	4-7/8	6-1/2
	90	135W46	65	1.2	4.8	33						
	180	141W46	85	2.0	10.0	45	21	11	9-1/8	4-1/2		
2	25 50	36W17 36W27	45	0.8	3.5	23	27	11	8-3/4	5-3/8	6	8
	115	42W47	60	1.2	7.4	35	32	12	9-3/4			
	180	142W47	85	2.0	11.0	45						
3	25 50 100	44W19F1 44W29F1 44W49F1	60	1.2	8.8	35	68	13-3/4	10-1/2	6-5/8	N/A	9-1/2
	150	144W49F1	85	2.0	13.0	45						

Shipping Weights above apply to Threaded Ends Only (except 3" which are Flanged Only)
For Flanged Ends contact factory for complete weight and dimensions
3" STAINLESS STEEL VALVES ARE SUPPLIED WITH FLANGED ENDS ONLY

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

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Magnatrol Valve Corporation • P.O. Box 17 • 67 Fifth Avenue • Hawthorne • New Jersey • 07507
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STAINLESS STEEL SOLENOID VALVES

Dependable • Packless

TYPE "WR" FULL PORT - NORMALLY OPEN
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
400° F
MAX. STATIC PRESSURE
200 PSI

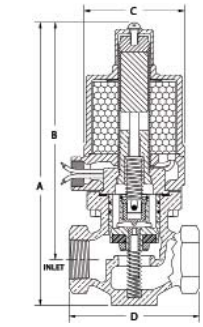
OPERATION:

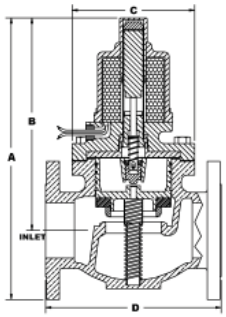
Valve closes when energized and opens when de-energized. When the coil is energized the plunger presses the poppet, closing the pilot orifice, and opens a bleed passageway to permit pressure to build above the piston and seat it. Upon de-energizing the coil, the pilot orifice is opened, relieving the pressure above the piston allowing it to leave its seat. The bottom spring allows the valve to operate at zero pressure drop.

CONSTRUCTION:

(*Wetted parts - No Copper Bearing Alloys in contact with fluid)

*Valve Body - 304 Stainless Steel Globe Pattern - NPT ends
(For Flanged Ends see Options page 24)
*Piston - 303 Stainless Steel
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Poppet - 303 Stainless Steel
*Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel
*Body Seal - Non Asbestos Gasket
*Orifice Seal - Glass Filled Teflon
*AC Shading Coil - Silver
*Stem Pin - 304 Stainless Steel
Coil - Encapsulated Class H, 18" leads





APPLICATION:

To control the flow of STEAM. Steam must be free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

Pipe Size Inches	Max. Diff. PSI	Type No.	Watts AC	Amps Hold 120-60	Amps Inrush 120-60	Watts DC	Ship Wt. Lbs.	Dimensions In Inches				
								A	B	C	D	D (Flanged) 150#
1/2	90	14WR22	25	0.5	1.5	18	7	8-1/8	7	2-7/8	3-1/4	6
	140	114WR42	40	0.8	2.4	28						
	180	129WR42	65	1.5	4.2	33	10	9-1/8	8	3-1/2		
3/4	50	14WR23	25	0.5	1.6	18	8	8-1/4	7-1/8	2-7/8	3-1/2	6
	110	114WR43	40	0.8	2.6	28						
	180	129WR43	65	1.5	4.3	33	12	9-1/4	8-1/8	3-1/2		
1	25	16WR14	25	0.5	1.8	18	10	9-1/8	7-3/4	3-1/4	4-1/8	6-1/2
	50 90	116WR24 116WR44	40	0.8	2.9	28						
	180	131WR44	65	1.5	4.5	33	14	10	8-5/8	3-1/2		
1-1/2	25 50	35WR16 35WR26	45	1.0	3.8	23	18	11-3/8	9-1/2	4	4-7/8	6-1/2
	90	135WR46	65	1.5	5.7	33						
	180	141WR46	85	3.5	9.7	45	22	11-5/8	9-3/4	4-1/2		
2	25 50	36WR17 36WR27	45	1.0	4.2	23	27	12-3/8	10-1/8	5-3/8	6	8
	115	42WR47	60	1.7	7.3	35	32	12-5/8	10-3/8			
	180	142WR47	85	3.5	11.0	45						
3	25 50 100	44WR19F1 44WR29F1 44WR49F1	60	1.7	8.8	35	69	14-3/8	11-1/8	6-5/8	N/A	9-1/2
	150	144WR49F1	85	3.5	13.0	45						

Shipping Weights above apply to Threaded Ends Only (except 3" which are Flanged Only)
For Flanged Ends contact factory for complete weight and dimensions
3" STAINLESS STEEL VALVES ARE SUPPLIED WITH FLANGED ENDS ONLY

Magnatrol VALVE CORP.

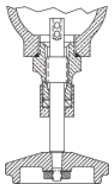
OPTIONAL FEATURES

For Dependable • Packless Solenoid Valves

See Individual Options For Availability For Use With Specific Valve Types

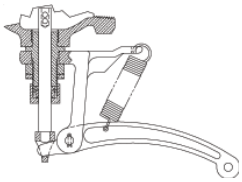
BOTTOM MOUNTED OPTIONS Note: Only One Bottom Mount Option Can Be Installed On Each Valve

MANUAL OVERRIDE



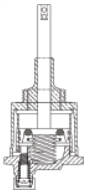
(Normally Closed valves only)
(Designated by Prefix "MO")
Enables manual opening of solenoid valve during power failure or to override automatic controls.

LEVER



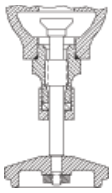
(Normally Closed valves only)
(Designated by Prefix "LV")
Enables rapid opening of solenoid valve. Can be chain operated for use at inaccessible locations.

DASHPOT



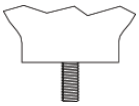
(Designated by Prefix "DP")
Furnished for clean liquids to reduce water hammer effect sometimes encountered in long pipe runs by slowing valve closing.

FLOW CONTROL



(Normally Closed, NR & MR valves, only) (Designated by Prefix "FC")
Provides a manual method of reducing or throttling the flow.

MOUNTING STUD



(Designated by Prefix "MS")
3/8"-16 thread can be furnished in bottom of body to facilitate mounting on bracket. (Not available on 2", 2-1/2" and 3")

DRAIN

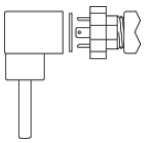
(Normally Closed, NR & MR valves, only)
(Designated by Prefix "DR") - 1/4" NPT plug supplied in bottom of valve to facilitate draining of liquid

OTHER OPTIONS

PILOT TAP

(Designated by Prefix "PT")
Type D, G & GR Valves can be furnished with 1/8" tapped hole for pilot connection or pressure gauge.

DIN CONNECTOR



(Designated by Suffix "DN")
Provides 3 prong connector for easy power connect / disconnect.
Not available for Explosion-Proof.

"HUM FREE": (No AC Hum/Buzz)
(Designated by Suffix "HF") - The "HUM FREE" option eliminates the "AC hum" associated with AC operated solenoid valves. Enables valves to be used where an AC hum would not be acceptable and AC is the only power source available. IE: Hospitals, labs, schools (class rooms), homes, office environments etc. & when 24 vac is required for 40 series valves.

Leak / Dead Tight:
(Normally Closed valves only)
(Designated by Suffix "LT") - The Leak / Dead Tight Option offers 'soft' resilient seating or 'gapless' seal for low pressure applications 50 PSI or less. Consult Factory for Max. Diff. Pressure and Valve Type availability.

Flanged Ends for Bronze and Stainless Steel Valves:
(Designated by Suffix "F1" for 150 lb or "F3" for 300 lb Flanges) F1 or F3 Flanged ends available on all stainless steel valves. F1 Flanged ends available on bronze valves. F3 Flanged ends for bronze valves available through our Clark-Cooper Division.

Explosion-Proof and Watertight Solenoids:
(Designated by Prefix "F") – are Explosion-proof and NEMA 4, 7C & D, 9E, F & G suitable for use in hazardous locations requiring Class I, Groups C & D & Class II Groups E, F, and G equipment.

NEMA 4X:
(Designated by Prefix "F" AND Suffix "ZP") – are suitable for use in locations requiring a NEMA 4X designation. "ZP" (Zinc Plating) replaces the standard paint used on the Coil housing (cup and base). The additional corrosion protection satisfies NEMA 4X requirements.
Internal construction, pressure ratings, power consumption, and external dimensions are the same as for standard valves.

Nickel Plating:
(Designated by Suffix "NP") - Plating is 0.0005" Thick Meets Mil Spec. C26074

Universal Mount Valves For Mounting In Vertical Pipe Runs
(See Magnatrol Universal Mount Catalog 3006-UM)

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POSITION INDICATORS
For Normally Closed Solenoid Valves

Position Switches

CONSTRUCTION:

Housing - 316 Stainless Steel with 1/2" NPT Conduit Connection
Contact - SPDT (Single Pole/Double Throw)
Lead Wires - 36 inches long, 18 gauge standard leads potted-in PVC

OPERATION:

Switch is activated by a ferromagnetic "target" attached to the valve's piston

PS shown with valve body adaptor

"PS" - General Purpose/NEMA 4, 4X
"PSF" - Explosion Proof

SPDT Contact
Electrical Rating:
4A @ 120 VAC / 3A @ 24 VDC
2A @ 240 VAC / 1.25A @ 48 VDC
0.5A @ 125 VDC & 250 VDC

The PS and PSF can be wired AC or DC, N/O or N/C, consume no power to operate, and leave no current leakage or voltage drop

PS General Purpose & Water Tight (SPDT Switch) shown on 3" Stainless Steel Valve

Position Switches With LED Visual Indication

Position Switch on right shown energizing Red LED

"PL" - General Purpose/NEMA 4, 4X
"PLF" - Explosion Proof

SPDT Contact
Electrical Rating:
0.25A @ 120 VAC / 3A @ 24 VDC
(3A @ 120 VAC / 2A @ 24 VDC without the LEDs)

The PL and PLF can be wired AC or DC, N/O or N/C

Ambiant Temperature: -40°F to 221°F (106°C)

NOTE: ONLY ONE BOTTOM MOUNTED OPTION CAN BE INSTALLED ON EACH VALVE

For multiple switches and where a switch and a bottom mounted option are required, contact our Clark Cooper Division.

(See bottom of Page 3)

Position Display - Visual Indication ONLY

"PD" - General Purpose / NEMA 4, 4X / Explosion Proof

CONSTRUCTION:

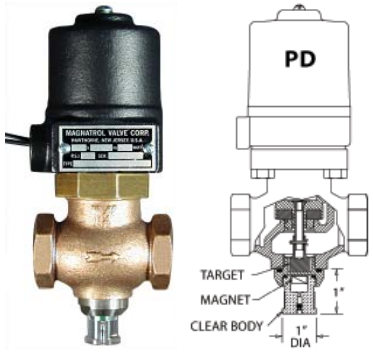
Housing - Clear High-Strength Polycarbonate

APPLICATION:

Visual indication that valve is Open / Closed

OPERATION:

When the valve is in the closed position, a ferromagnetic "target" attached to the valve's piston, lifts a green colored magnet into the adapter hiding it from view. When the valve is energized, (open position), the magnet drops down to a visible position.



Position Indicators for Normally Closed Valve Only
Available on Type A, S, L, K, W & G Valves

HOW TO ORDER:
Indicate Option when Ordering:
Use the appropriate Prefix:
PS, PSF, PL, PLF, or PD

Example:

PS18A44 indicates a Position Switch mounted on a Type 18A44 valve.

Magnatrol VALVE CORP.

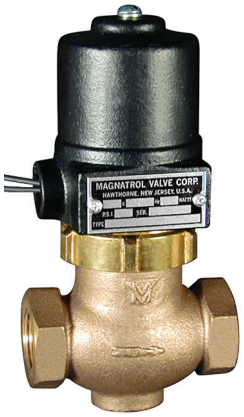
BRONZE SOLENOID VALVES

Dependable • Packless

TYPE "P" FULL PORT - NORMALLY CLOSED
1/2" TO 1-1/2" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI



OPERATION:
Valve opens when energized and closes when de-energized. When the coil is energized the pilot valve opens, relieving the pressure above the piston, which is then lifted from its seat by the plunger. Upon de-energizing the coil, a spring closes the pilot valve and opens a bleed passageway to permit pressure to build "above" the piston and seat it.

CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Plunger Spring - 304 Stainless Steel
*Pilot Valve - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - 302 Stainless Steel
*Body Seal - Buna N or Non Asbestos Gasket
*Orifice Seal - Buna N (Viton or Glass Filled Teflon available)
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class B, 18" leads

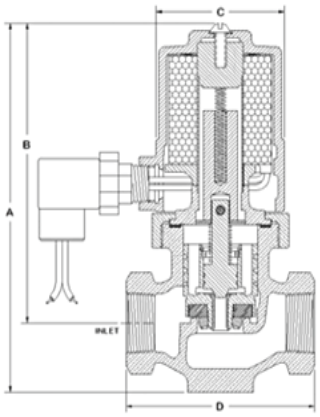
APPLICATION:
To control the flow of Water, Oil, Air, Gas, Solvents, Brine, Vacuum and any other fluids not reactive with construction materials and free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top. Valve can be mounted in ANY POSITION (See box at right).

The "P" Valve is:

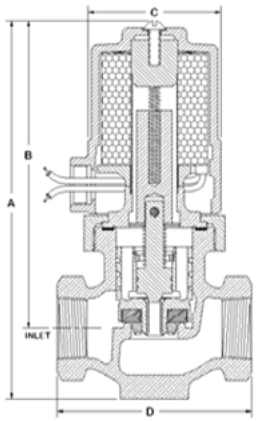
Multipoised:
Ability to be mounted in any position.

Spring Loaded:
The term used to indicate that the valve has a plunger spring. A spring-loaded plunger permits the valve to be mounted in any position without causing malfunction.

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Ship Wt. Lbs.	Dimension In Inches			
					A	B	C	D
1/2	110 200 300	118P42HF 118P32HF 118P52HF	28	8	7	5-7/8	2-3/4	3-1/4
3/4	50 110	118P23HF 118P43HF	28	8	7-1/2	6	2-3/4	3-1/2
	200 300	133P33HF 133P53HF	33	12	8-1/8	7	4-1/8	
1	50 110	118P24HF 118P44HF	28	10	7-7/8	6-5/8	2-3/4	4-1/8
	200 300	133P34HF 133P54HF	33	14	8-7/8	7-1/2	3-1/2	
1-1/2	115 200 300	41P46HF 41P36HF 41P56HF	35	24	11	9-1/8	4-1/2	4-7/8



For AC POWER SOURCE
Shown with "HF" Rectifier



For DC POWER SOURCE
Drop "HF" Suffix. i.e.: 118P44

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

Explosion Proof:
Available for DC Power Source **ONLY** (Valves without "HF" suffix). Use Prefix "F" (i.e. F118P44).

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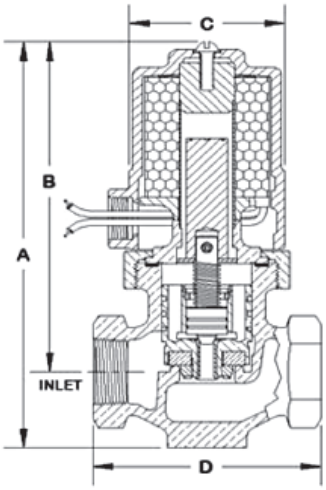
BRONZE SOLENOID VALVES
Dependable • Packless

"SANDY WELL WATER" FULL PORT - NORMALLY CLOSED
1/2" TO 3" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI

OPERATION:
Valve opens when energized and closes when de-energized. When the coil is energized the pilot valve opens, relieving the pressure above the piston, which is then lifted from its seat by the plunger. Upon de-energizing the coil, a spring closes the pilot valve and opens a bleed passageway to permit pressure to build above the piston and seat it.



CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - 302 Stainless Steel
*Body Seal - Buna N or Non Asbestos Gasket
*Orifice Seal - Buna N (Viton or Glass Filled Teflon available)
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class B, 18" leads - (Class H available)

APPLICATION:
To control the flow of "Sandy Well Water", the valve is designed with the piston and other components "turned down", offering additional clearance, allowing the valve to operate with fluids containing some sediment typically found in well water. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

†† Not available for DC operation

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Watts AC	Ship Wt. Lbs.	Dimension In Inches			
						A	B	C	D
1/2	50 80	18A22-V 118A22-V	25 40	18 28	8	7	5-7/8	2-3/4	3-1/4
3/4	50 75	18A23-V 118A23-V	25 40	18 28	8	7-1/8	6	2-3/4	3-1/2
	125	233A23-V	80	40	12	8-1/8	7	3-1/2	3-1/2
1	50 75	18A24-V 118A24-V	25 40	18 28	10	7-7/8	6-5/8	2-3/4	4-1/8
	125 200	133A24-V 233A24-V	65 80	33 N/A	14	8-7/8	7-1/2	2-3/4	4-1/8
1-1/4	50 75 110	18A25-V 118A25-V 133A25-V	25 40 65	18 28 33	12	8-3/8	6-3/4	2-3/4	4-1/2
	300	140A45-V	85	N/A	16	9-3/8	7-3/4	3-1/2	4-1/2
1-1/2	50 75	35A26-V 135A26-V	45 65	23 33	20	10	8-1/8	4	4-7/8
	125	41A26-V	60	35	24	11	9-1/8	4-1/2	4-7/8
2	30 50 75	36A17-V 136A17-V 136A27-V	45 65 65	23 33 33	31	11	8-3/4	5-3/8	6
	125 185	42A27-V 142A27-V	60 85	35 45	36	12	9-3/4	5-3/8	6
2-1/2	30 50 75	43A18-V 143A18-V 243A18-V	60 85 115	35 45 65	43	12-7/8	10-1/8	5-7/8	7-1/4
3	30 50 75	44A19-V 144A19-V 244A19-V	60 85 115	35 45 65	56	13-3/4	10-1/2	6-5/8	8-3/8

Magnatrol VALVE CORP.

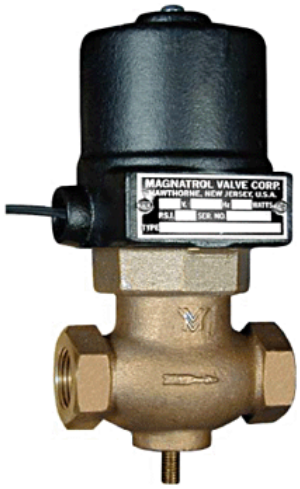
BRONZE SOLENOID VALVES

Dependable • Packless

"GRITTY COOLANT" FULL PORT - NORMALLY CLOSED
1/2" TO 1-1/2" PIPE SIZE

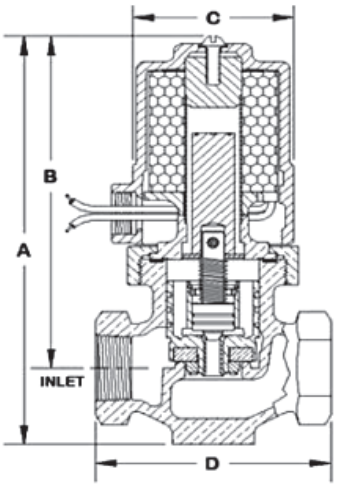
NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI



OPERATION:
Valve opens when energized and closes when de-energized. When the coil is energized the pilot valve opens, relieving the pressure above the piston, which is then lifted from its seat by the plunger. Upon de-energizing the coil, a spring closes the pilot valve and opens a bleed passageway to permit pressure to build above the piston and seat it.

CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Pilot Valve - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - 302 Stainless Steel
*Body Seal - Buna N or Non Asbestos Gasket
*Orifice Seal - Buna N (Viton or Glass Filled Teflon available)
*AC Shading Coil - Copper
*Stem Pin - Inconel
Coil - Encapsulated Class B, 18" leads - (Class H available)



APPLICATION:
To control the flow of "Coolant", the valve is designed with the piston "turned down" and a larger pilot port, offering additional clearance, allowing the valve to operate with fluids containing some grit/sediment typically found in coolant. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Watts AC	Ship Wt. Lbs.	Dimension In Inches			
						A	B	C	D
1/2	80 200 300	MS18A42-C MS33A22-C MS233A42-C	25 40 80	18 23 40	8	7	5-7/8	2-3/4	3-1/4
3/4	80 125	MS18A43-C MS33A23-C	25 45	18 23	8	7-1/8	6	2-3/4	3-1/2
	200 300	MS133A23-C MS233A43-C	65 80	33 40	12	8-1/8	7	3-1/2	3-1/2
1	200 300	MS233A24-C MS233A44-C	80 80	40 40	10	7-7/8	6-5/8	2-3/4	4-1/8
1-1/4	200 300	MS233A25-C MS233A45-C	80 80	40 40	12	8-3/8	6-3/4	2-3/4	4-1/2
1-1/2	300	MS241A46-C	115	65	20	10	8-1/8	4	4-7/8

"A" Dimension does not include the "MS" Mounting Stud (Approx. 7/8")

Note: The addition of any bottom mounted option would replace the "MS" Mounting Stud and change the prefix to reflect the appropriate option.

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

†† Not available for DC operation

MAGNATROL VALVE CORPORATION
Magnatrol Valve Corporation • P.O. Box 17 • 67 Fifth Avenue • Hawthorne • New Jersey • 07507
info@magnatrol.com • Phone: 973-427-4341 • Fax: 973-427-7611 • www.magnatrol.com

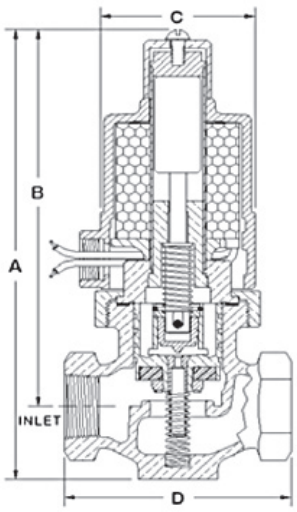
BRONZE SOLENOID VALVES
Dependable • Packless

"GRITTY COOLANT" FULL PORT - NORMALLY OPEN
1/2" TO 1-1/2" PIPE SIZE

NO DIFFERENTIAL PRESSURE REQUIRED TO OPEN

MAX. FLUID TEMP.
212° F
MAX. STATIC PRESSURE
300 PSI
Except valves listed for 500 PSI

OPERATION:
Valve closes when energized and opens when de-energized. When the coil is energized the plunger presses the poppet, closing the pilot orifice, and opens a bleed passageway to permit pressure to build above the piston and sealing it. Upon de-energizing the coil, the pilot orifice is opened, relieving the pressure above the piston, allowing it to leave its seat. The bottom spring allows the valve to operate at zero pressure drop.



CONSTRUCTION: (* Wetted parts)
*Valve Body - Cast Bronze, Globe Pattern - NPT ends
*Piston - Cast Bronze
Coil Enclosure - Malleable or Cast Iron, 1/2" NPS conduit conn.
*Plunger - 430 Stainless Steel
*Poppet - 303 Stainless Steel
*Stem - 303 Stainless Steel
*Bonnet Tube - 304 Stainless Steel
*Spring - Inconel and 302 Stainless Steel
*Body Seal - Buna N or Non Asbestos Gasket
*Orifice Seal - Buna N (Viton or Glass Filled Teflon available)
*AC Shading Coil - Copper
*Stem Pin - 304 Stainless Steel
Coil - Encapsulated Class B, 18" leads - (Class H available)

APPLICATION:
To control the flow of Water, Oil, Air, Gas, Solvents, Brine, Vacuum and any other fluids not reactive with construction materials and free of sediment. Valve operates from zero to maximum differential pressure indicated in table. Valve must be mounted in horizontal pipe with solenoid enclosure vertical and on top.

FOR OPTIONS & ACCESSORIES SEE PAGES 26 & 27

Strainers are recommended for use with solenoid valves

(See page 19)

When you order please supply the following:

- Pipe Size
- Valve Type
- Voltage (AC or DC)
- Hertz
- Fluid
- Fluid Temperature
- Max. Diff. Pressure
- Optional Features

(See pages 26 & 27)

†† Not available for DC operation

Pipe Size Inches	Max Diff. PSI	Type No.	Watts AC	Watts AC	Ship Wt. Lbs.	Dimension In Inches			
						A	B	C	D
1/2	200	MS33AR42-C	45	23	8	9-3/8	8-1/4	4-1/8	3-1/4
3/4	50	MS18AR23-C	25	18	9	8-1/4	7-1/8	2-3/4	3-1/2
	110	MS233AR43-C	80	40	13	9-1/4	8-1/8	3-1/2	3-1/2
1	110 200 300	MS33AR44-C MS233AR24-C MS233AR44-C	45 80 80	23 40 40	14	10	8-5/8	3-1/2	4-1/8

"A" Dimension does not include the "MS" Mounting Stud (Approx. 7/8")

Note: The addition of any bottom mounted option would replace the "MS" Mounting Stud and change the prefix to reflect the appropriate option.

REQUEST A QUOTE

Fill In The Information Below

If you have any questions or wish to request a quote:

Phone: 973-427-4341 • Fax: 973-427-7611

E-Mail: info@magnatrol.com

We appreciate the opportunity to quote on your requirements.

For immediate quote – Fill in the information below and CALL: 973-427-4341
For same day quote – Fill in the information below and FAX: 973-427-7611
For quote within 24 hrs – Go online to www.magnatrol.com, and go to Quick Quote

YOUR COMPANY DATA

Company Name: _____ **Phone:** _____

Contact (Your Name): _____ **Fax:** _____

Your RFQ Reference (If Any): _____

Type of Business: ☐ OEM ☐ Re-Seller ☐ Consumer/End User

E-Mail: _____

VALVE DATA

Desired Delivery: _____

Your Reference (Optional): _____

Quantity: _____

Valve Construction Material: ☐ Bronze or ☐ Stainless Steel

Pipe Size: (1/4" thru 3"): _____

Normally: ☐ **Closed** (Energize To Open) or ☐ **Open** (Energize To Close)

Voltage: ☐ **AC:**_____ Volts/_____ Hz or ☐ **DC:**_____ Volts

Maximum Differential Pressure: _____ PSI

Fluid: _____

Maximum Fluid Temperature: _____ °F

Optional Feature: (See Optional Feature Details On Pages 26 & 27)

Choose One (1) Of The Following Per Valve: ☐ MO ☐ LV ☐ DP ☐ FC ☐ MS ☐ DR ☐ PD ☐ PS ☐ PL

Additional Options: ☐ HF ☐ LT ☐ NP ☐ PT ☐ DN ☐ ZP *(Can be combined with one (1) of the above Optional Features)*

Enclosure Options: (For Solenoid Housing)
☐ General Purpose (Prefix "G" - NEMA 12)
☐ Explosion Proof (Prefix "F")
☐ NEMA 4 (Prefix "E")
☐ NEMA 4X (Prefix "E" & Suffix "ZP")

Comments: _____

_____

_____

Quantity Discounts: Consult Factory

Delivery: Most orders ship in 7-10 days. Small emergency orders can be shipped in 1-2 days.

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ORDERING GUIDELINES

Magnatrol Solenoid Valves

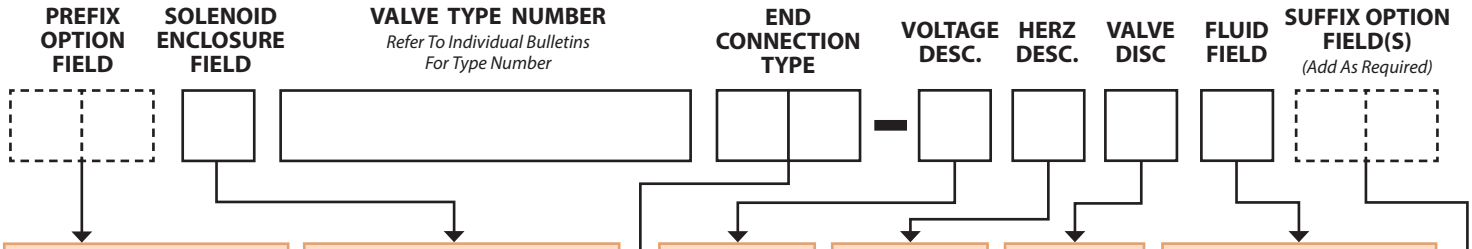
If you have any questions or wish to request a quote:

Phone: 973-427-4341 • Fax: 973-427-7611

E-Mail: info@magnatrol.com

MAGNATROL VALVE TYPE NUMBER DETAIL

For Additional Information On Options See Optional Features Pages 26 & 27



Prefix Letters for Options: (*Choose One*)

- **DP** - Dashpot (Consult factory for valve type availability)
- **DR** - Drain Plug **
- **FC** - Flow Control **
- **LV** - Lever *
- **MO** - Manual Override *
- **MS** - Mounting Stud
- **PD** - Position Display *
- **PL** - Position Switch w/LED *
- **PS** - Position Switch *

Prefix Letters for Solenoid Enclosures:

- **G** - General Purpose NEMA12
- **E** - NEMA 4
- **E with ZP Suffix** - NEMA 4X
- **F** - Explosion Proof & NEMA 4

End Connection Description:

- **SC** - Screwed, FNPT
- **F1** - 150# Flange
- **F3** - Flanged

Voltage Description:

- **A** - 120
- **B** - 208
- **C** - 240
- **D** - 480
- **E** - 575
- **F** - 6
- **G** - 12
- **H** - 24

Hertz Description:

- **A** - 50/60
- **B** - 50
- **C** - 60
- **D** - DC

Disc Material: †

- **B** - Buna N
- **T** - Teflon
- **V** - Viton
- **M** - Metal

Fluids:

- **C** - Gritty Coolant
- **G** - Gas/Air/Oxygen
- **H** - Hot Liquid ††
- **O** - Oil/Fuel Oil
- **S** - Steam
- **V** - Sandy Well Water
- **W** - Cold Liquid †††
- **Z** - Cryogenics/Liquid O_2

Suffix Letters for Options:

- **CR** - Clean For Freon/Refrigerant
- **CY** - Clean For Oxygen
- **CZ** - Clean For Cryogenics
- **DN** - Din Connector
- **HF** - Hum Free
- **HT** - High Temperature Coil
- **LL** - 6' Long Lead Wires
- **LT** - Leak Tight (Soft Seat Pilot)
- **NP** - Nickel Plated (.005 Thickness) Meets Mil Spec C26074
- **PT** - Pilot Tap ***
- **RB** - Reducing Bushing
- **ZP** - Zinc Plated Solenoid Housing

Metal Tags:

- **AL** - Aluminum Tag
- **SS** - Stainless Steel

† Refer to Individual Bulletins for Standard Orifice Seal/Disc Material.
NOTE: (For N, NR, M, MR, J & JR this field is used to show a change to the Valve Body Seal Material

†† Use fluid designation "H" for light liquids up to 400° F. and Brine applications.

††† Use fluid designation "W" for light liquids under 212° F. (i.e. Water, Jet Fuel, Kerosene, Gasoline, Naptha, Alcohol, Soluable Oil, Coolant, Freon and Refrigerant).

* Normally Closed Valves Only

** Normally Closed and NR & MR Valves/FC not available on G valve type

*** Pilot Tap: Can be used along with any other option.
Available On Type D, G and GR only.

Consult Factory for Assistance with:

- Additional voltages
- End Connections not shown
- Fluid Field designations

Check individual bulletins for listed valves

Magnatrol VALVE CORP.

TERMS & CONDITIONS OF SALE
CONTACT INFORMATION

Solenoid valve questions can be answered quickly and accurately over the phone:

Phone: 973-427-4341 • Fax: 973-427-7611

TERMS & CONDITIONS OF SALE

1. **Catalog:** This catalog supersedes all previous issues.
2. **Quotations:** Quotations are made for acceptance within 60 days and are subject to change or withdrawal without notice.
3. **Prices and Discounts:** All prices and discounts are in accordance with the prices and discounts established by Magnatrol and are subject to change without notice.
4. **Terms:** Net 30 days, subject to establishment of credit.
5. **Shipments:** All shipments are F.O.B. factory, Hawthorne, New Jersey. Our responsibility ends with delivery of merchandise to the transportation company and issuance to us of formal shipping receipt.
6. **Minimum Billing:** Minimum billing charge is $50.00 net.
7. **Cancellations:** Orders are subject to cancellation only with our consent.
8. **Shipping Date:** There shall be no liability for default or delay in shipping. All orders, contracts, and agreements are made subject to delays contingent upon accidents, strikes, embargoes or other causes beyond our control.
9. **Design and Materials:** All materials and designs are subject to change without notice.
10. **Weights and Dimensions:** Weights and dimensions listed in this catalog are as close to actual as is practicable but are not guaranteed and are subject to change without notice.
11. **Errors:** All clerical errors are subject to correction.
12. **Returns for Repair:** Valves retuned for repair must be shipped prepaid and accompanied by a detailed report regarding service application, installation and nature of trouble or malfunction.
13. **Returns for Credit:** Returns for credit will be accepted only with our consent. Credit will be subject to restocking charge and any additional expenses incurred in restoring valves to salable condition. Credit will be issued only to original purchaser.
14. **Taxes:** Any manufacturer's excise tax, use tax, sales tax or tax or duty of any nature shall be paid by the buyer. In the event that the seller is required to pay any such taxes or duties, the buyer shall reimburse seller therefore. The buyer may provide seller with an exemption certificate or other documents acceptable to taxing or customs authorities at the time an order is placed.
15. **Guarantee:** MAGNATROL valves are guaranteed to be free from any defects in material and workmanship for one year or 500,000 cycles, whichever comes first. Our guarantee solely conveys the right to repair or replace free of charge, any defective valves, or parts, thereof, returned to us transportation charges prepaid, within one year after date of original shipment from factory.

This guarantee shall not apply if the valve has been:

- Improperly Installed
- Used for other than intended service
- Repaired without authorization

VISA MasterCard

Member of FCI Fluid Controls Institute, Inc.

UL *Check individual bulletins for listed valves*

MAGNATROL CONTACT INFORMATION

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