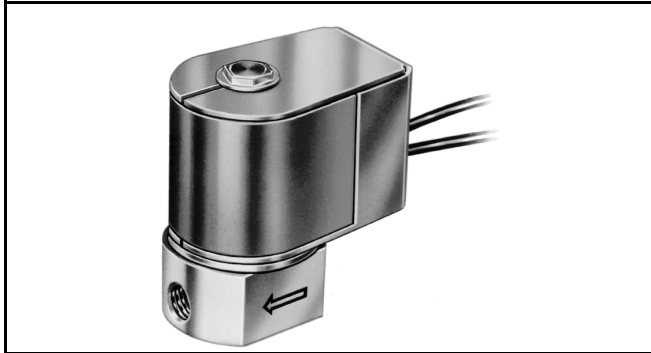


## V4046C, V8046C Magnetic Valves

### SPECIFICATION DATA



### APPLICATION

The V4046C and V8046C Magnetic (solenoid) Valves provide On-Off control of natural or LP gas flow for pilot burners in commercial and industrial applications.

### SPECIFICATIONS

**Models:** See Table 1.

**Types of Gas:** Suitable for all domestic gases including high sulfur content LP gas.

**Valve Material:** Aluminum.

**Valve Pattern:** Straight-through.

**Pipe Size:** See Fig. 1.

**Dimensions:** See Fig. 2.

**Valve Action on Power Failure:** All models close in one second maximum.

### FEATURES

- Normally closed valves which open immediately when energized.
- V4046C is for line voltage applications; V8046C is for 24 Vac applications.
- Provides on-off control of manufactured, Liquefied Petroleum (LP), and natural gases with high sulfur content.
- Used with pilot burners in industrial applications.
- All models close in one second (maximum) on power failure.
- Heavily loaded spring plunger maintains valve seating when the coil is de-energized, permitting the valve to be mounted in any position.
- Valve may be pipe-mounted or mounted on bracket support furnished by the installer.
- Powerhead assembly can be rotated 360 angular degrees.
- Solenoid coil is field-replaceable without removing the valve body from the piping connection.

#### Mounting:

Can be mounted in any position. Mounts directly in pipe line or on a support bracket. See Fig. 2 for tapped holes provided in bottom of valve body. Conduit outlet on powerhead can be rotated through 360 degrees with respect to valve body.

**Wiring Connection:** Two 36-in. (915 mm) leadwires; 1/2 in. conduit bushing.

**Ambient Temperature Range:** -40°F to +125°F (-40°C to +54°C).

#### Approvals:

Underwriters Laboratories, Inc. Listed: File NO. MH1639, V3, S3; Guide No. YIOZ; V4046C, V8046C for gas.  
Factory Mutual Listed: V4046C, V8046C for gas.  
CSA 158158-250000605.8, Guide Numbers C3371-03, 83.  
(60 Hz models only).



**Replacement Parts:** Coil assemblies include coil, leadwire, insulator and bobbin. See Table 3.

**Table 1. Model Specifications.**

Model	Pipe Size (in.)	Thread	Pressure Rating <sup>a</sup>		Gas Flow		Gas Heat Capacity <sup>a</sup>	Operation Energized	Voltages (60 Hz)
			psi	kPa	cfh <sup>b</sup>	m/hr	btuh <sup>c</sup>		
V4046C	1/8	1/8 - 27 NPT	10	69	20	0.57	20,000	Opens Immediately	120
	1/4 Small Body	1/4 - 18 NPT			20	0.57	20,000		120
	1/4 Large Body	1/4 - 18 NPT			55	1.56	55,000		120
	3/8	3/8 - 18 NPT			67	1.90	67,700		120
	3/8	3/8 - 18 NPT			67	1.90	67,700		208
V8046C	1/8	1/8 - 27 NPT	10	69	20	0.57	20,000	Opens Immediately	24
	1/4 Small Body	1/4 - 18 NPT			20	0.57	20,000		24
	1/4 Large Body	1/4 - 18 NPT			55	1.56	55,000		24
	3/8	3/8 - 18 NPT			67	1.90	67,700		24

<sup>a</sup> 1/2 psi in CSA rating.

<sup>b</sup> See body sizes, Fig. 2. 55 cfh (1.56 cmh) is for large body valve with 1/4-18 NPT threads; 67 cfh (1.90 cmh) is for large body valve with 3/8-18 NPT threads.

<sup>c</sup> Natural gas, 1000 btu/cu ft measured at one inch pressure drop, 0.64 specific gravity. See Gas Capacity Conversion Factors.

**Table 2. Coil VA Ratings.**

Model	24 Vac, 60 Hz	120 Vac, 60 Hz	208 Vac, 60 Hz
V4046C	—	13.8	13.7
V8046C	14.1	—	—

**Table 3. Coil Assemblies for V4046C, V8046C Valves.**

Part Number	Used On
116671A	V4046C; 120 Vac, 60 Hz
116782A	V4046C; 208 Vac, 60 Hz
11668A	V8046C; 24 Vac, 60 Hz

## Gas Valve Sizing

- Check the burner nameplate for:
  - the type of gas used, and
  - the gas flow capacity. The capacity will be listed in British thermal units per hour (Btuh) or in cubic feet per hour (cfh).
- Contact the local gas utility for information regarding:
  - the specific gravity (sp gr) and
  - the Btu per cubic foot (Btucf) for the type of gas used.

- Find the capacity in cfh. If the capacity is listed in Btu, convert to cfh using the following formula:  

$$\text{Capacity in cfh} = \frac{\text{Btuh (burner nameplate)}}{\text{Btu/cu ft (gas utility)}}$$

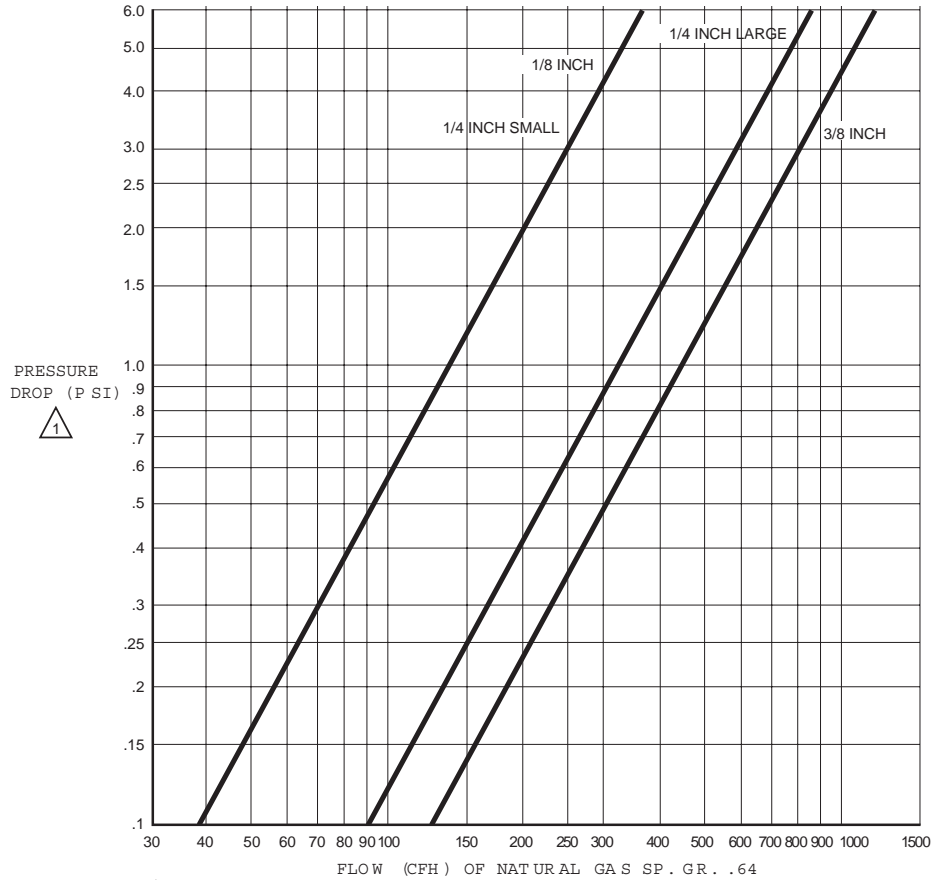
- For gases with specific gravity other than 0.64, multiply the burner cfh using the proper conversion factor in Table 4.

**Table 4. Gas Conversion Factors.**

Type of Gas	sp gr (average)	Multiply cfh by
Manufactured	0.60	0.968
Mixed	0.70	1.046
LP-Propane	1.53	1.546
LP-Butane	1.98	1.759

- Use the corrected burner capacity in cfh when determining the gas valve size in Fig. 1.
- Determine the maximum pressure drop to be taken across the valve. If pressure drop is not in pounds per square inch (psi), multiply the value in known pressure units by the conversion factor.
- Plot the capacity (cfh) vs. pressure drop (psi) in Fig. 1 to find the proper valve size.

NOTE: Use the corrected cfh for gas other than 0.64 sp gr.



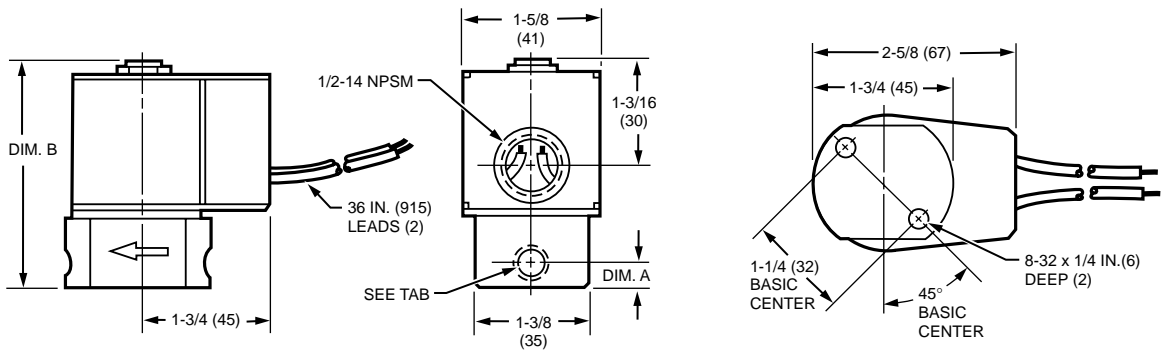
△ TO CONVERT PRESSURE DROP IN INCHES WC TO PSI UNITS, MULTIPLY UNITS IN INCHES WC By .0361.

TO CONVERT PRESSURE DROP FROM PSI TO INCHES WC, MULTIPLY UNITS IN PSI BY 27.7.

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Fig. 1. Pressure drop (psi) vs. flow capacity (cfh) on V4046C, V8046C gas valves only.

Dimensions. See Fig. 2.



MODEL	BODY SIZE	THREAD SIZE	DIM. A		DIM. B	
			IN	MM	IN	MM
V4046C, V8046C	SMALL	1/8-27 NPT	5/16	8	2-3/4	70
	SMALL	1/4-18 NPT	3/8	10	3	76
	LARGE	1/4-18 NPT	1/2	13	3-1/4	83
	LARGE	3/8-18 NPT	1/2	13	3-1/4	83

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Fig. 2. V4046C, V8046C approximate dimensions in in. (mm).

**Honeywell**

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**Automation and Control Solutions**

Honeywell  
1985 Douglas Drive North  
Golden Valley, MN 55422

Honeywell Limited-Honeywell Limitée  
35 Dynamic Drive  
Scarborough, Ontario  
M1V 4Z9

