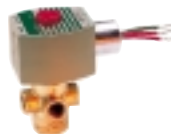
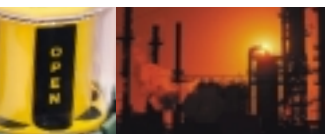


# Fluid Control Products



**ASCO**<sup>®</sup> A Constant  
Flow Of Ideas

## 2 Way General Purpose Solenoid Valves

# T A B L E O F C O N T E N T S

Series	General Description	Pipe Size	Body Material	Page
8030	Low Pressure	3/8" - 3/4"	Brass and Stainless Steel	1
8040/8215	High Flow Gas/ High Air Valves	3/8" - 3"	Aluminum	5
8210	General Service	3/8" - 2 1/2"	Brass and Stainless Steel	9
8221	Slow Closing	3/8" - 2 1/2"	Brass	15
8223	High Pressure	1/4" - 3/4"	Brass and Stainless Steel	19
8225/8280	Sub-Miniature	1/8"	Brass and Stainless Steel	21
8260	Dispensing/Bib Connection	1/4"	Plastic	23
8262/8263	General Service Compact	1/8" - 3/8"	Brass and Stainless Steel	27

**These solenoid valves have one inlet and one outlet, and are used to permit and shut off fluid flow.**

### Two Types of Operations Apply:

#### Normally Closed

Fluid is shut off when the coil is de-energized, flows through the valve when the coil is energized.

#### Normally Open

Fluid flows through the valve when the coil is de-energized, shuts off when the coil is energized.

### Two Types of Constructions Apply:

#### Direct Acting

When the solenoid is energized, the core directly opens the orifice of a Normally Closed valve or closes the orifice in a Normally Open valve. The valve will operate at pressures from 0 psi to its rated maximum. The force needed to open the valve is proportional to the orifice size and fluid pressure. As orifice size increases, so does the required force. To open larger orifices without increasing solenoid size, internal pilots are used.

#### Internally Piloted

These valves use line pressure to assist operation.

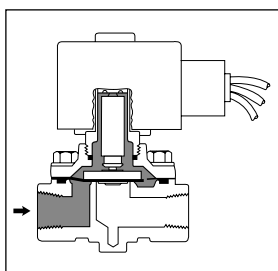
When the coil is de-energized (on a Normally Closed valve), the pilot orifice is closed and line pressure is applied to the top of the piston or diaphragm through the bleed orifice, closing the valve. When the coil is energized, the core opens the pilot orifice, relieving pressure from the diaphragm or piston. Line pressure, alone, opens the valve by lifting the diaphragm or piston off the main orifice.

*See Engineering Section for further details.*

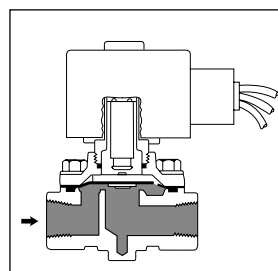
#### Standard and Optional Features:

Solenoid valves are supplied, as listed, with either Red-Hat II® molded epoxy solenoids or Red-Hat® solenoids with metal enclosures. Red-Hat II valves are identified by the letter "G" or "H" in their catalog numbers; e.g., 8030G16. Many optional features may be added to your valves; e.g., high-temperature Class H molded coils, manual operators, and metering devices.

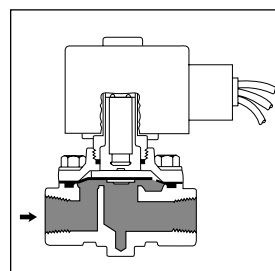
## 2 Way/2 Position Valves Flow Diagrams



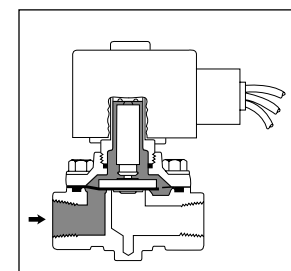
Normally Closed Valve  
De-Energized



Normally Closed Valve  
Energized



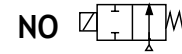
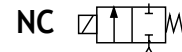
Normally Open Valve  
De-Energized



Normally Open Valve  
Energized



Direct Acting  
**Low Pressure Solenoid Valves**  
 Brass or Stainless Steel Bodies  
 3/8" to 3/4" NPT



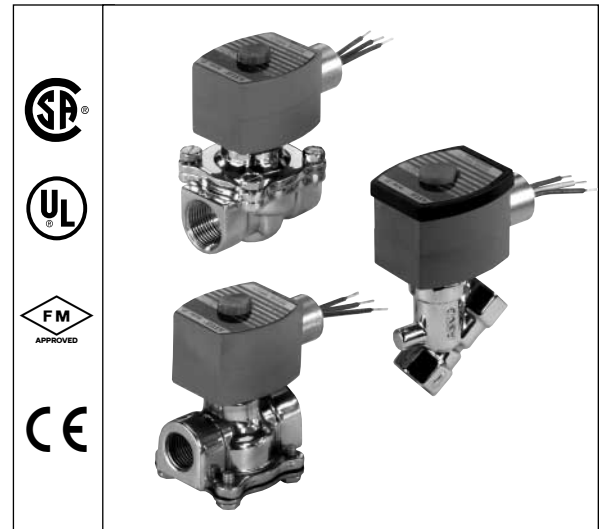
**2/2**  
 SERIES  
**8030**

**Features**

- Operate at low pressures: no minimum required; up to 15 psi maximum differential.
- Normally Closed or Normally Open operation.
- Widely used for dispensing, collating, gas shutoff, vacuum holding, and tank draining applications.
- Normally Open valve well suited for venting systems.

**Construction**

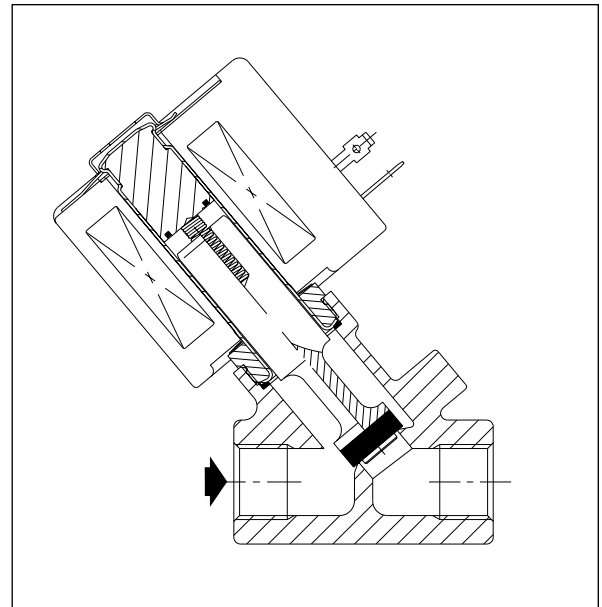
Valve Parts in Contact with Fluids		
Body	Brass	304 Stainless Steel
Seals and Disc	NBR	
Core Tube	305 Stainless Steel	
Core and Plugnut	430F Stainless Steel	
Core Spring	302 Stainless Steel	
Shading Coil	Copper	Silver
Stem	PA (Normally Open)	



**Electrical**

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	10.6	6.1	16	40	238210	238310	238214	238314
F	11.6	10.1	25	70	238610	238710	238614	238714
F	--	16.1	35	95	272610	97617	272614	97617
F	--	17.1	40	93	238610	--	238614	--
F	--	20.1	48	240	272610	--	272614	--

**Standard Voltages:** 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz), 6, 12, 24, 120, 240 volts DC. Must be specified when ordering. Other voltages available when required.



**Nominal Ambient Temperature Ranges:**

AC: 32°F to 125°F (0°C to 52°C)  
 DC: 32°F to 104°F (0°C to 40°C)

**Solenoid Enclosures**

**Standard:** Watertight, Types 1, 2, 3, 3S, 4, and 4X.  
**Optional:** Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9. (To order, add prefix "EF" to catalog number.)

**Approvals:**

CSA certified. UL listed, as indicated. FM approved (Normally Closed only except 8030G17 and 8030G67). Meets applicable CE directives.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)						Max. Fluid Temp. °F		Brass Body			Stainless Steel Body			Watt Rating/Class of Coil Insulation ①	
			Min.	Max. AC		Max. DC		AC	DC	Catalog Number	Constr. Ref. No.	UL ② Listing	Catalog Number	Constr. Ref. No.	UL ② Listing	AC	DC	
				Air-Inert Gas	Water	Air-Inert Gas	Water											
<b>NORMALLY CLOSED (Closed when de-energized)</b>																		
3/8	3/8	1.8	0	7	5	3	3	180	120	8030G10	1	○	8030G64	1	○	6.1/F	10.6/F	
3/8	3/8	1.8	0	15	15	3.5	3.5	180	150	8030G13	2	○	8030G65	2	○	10.1/F	11.6/F	
1/2	7/16	2.8	0	4	6	-	-	180	-	8030G16	3	○	8030G66	3	○	6.1/F	-	
1/2	7/16	2.8	0	15	15	-	-	200	-	8030G17	11	○	8030G67	11	○	16.1/F	-	
3/4	3/4	5	0	2	2	1	1	180	150	8030G3	9	○	-	-	-	10.1/F	11.6/F	
3/4	3/4	5	0	4	4	-	-	180	-	8030G43	9	○	-	-	-	17.1/F	-	
3/4	5/8	5.4	0	2.5	2.5	-	-	180	-	-	-	-	8030G63	10	○	10.1/F	-	
<b>NORMALLY OPEN (Open when de-energized)</b>																		
3/8	3/8	1.6	0	15	15	-	-	200	-	8030G70	12	●	-	-	-	16.1/F	-	
1/2	7/16	2.2	0	15	15	-	-	200	-	8030G71	13	●	-	-	-	20.1/F	-	
1/2	3/4	5	0	2	2	-	-	180	-	8030G82	7	●	-	-	-	10.1/F	-	
3/4	3/4	5.5	0	2	2	-	-	180	-	8030G83	8	●	-	-	-	10.1/F	-	

Notes: ① On all 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.  
 ② ○ = Safety Shutoff Valve; ● = General Purpose Valve. Refer to Engineering Section (Approvals) for details.

Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)						Max. Fluid Temp. °C		Brass Body			Stainless Steel Body			Watt Rating/Class of Coil Insulation ①	
			Min.	Max. AC		Max. DC		AC	DC	Catalog Number	Constr. Ref. No.	UL ② Listing	Catalog Number	Constr. Ref. No.	UL ② Listing	AC	DC	
				Air-Inert Gas	Water	Air-Inert Gas	Water											
<b>NORMALLY CLOSED (Closed when de-energized)</b>																		
3/8	10	1.5	0	0.5	0.3	0.2	0.2	81	48	8030G10	1	○	8030G64	1	○	6.1/F	10.6/F	
3/8	10	1.5	0	1.0	1.0	0.2	0.2	81	65	8030G13	2	○	8030G65	2	○	10.1/F	11.6/F	
1/2	11	2.4	0	0.3	0.4	-	-	81	-	8030G16	3	○	8030G66	3	○	6.1/F	-	
1/2	11	2.4	0	1.0	1.0	-	-	92	-	8030G17	11	○	8030G67	11	○	16.1/F	-	
3/4	19	4.3	0	0.1	0.1	0.1	0.1	81	65	8030G3	9	○	-	-	-	10.1/F	11.6/F	
3/4	19	4.3	0	0.3	0.3	-	-	81	-	8030G43	9	○	-	-	-	17.1/F	-	
3/4	16	4.6	0	0.2	0.2	-	-	81	-	-	-	-	8030G63	10	○	10.1/F	-	
<b>NORMALLY OPEN (Open when de-energized)</b>																		
3/8	10	1.4	0	1.0	1.0	-	-	92	-	8030G70	12	●	-	-	-	16.1/F	-	
1/2	11	1.9	0	1.0	1.0	-	-	92	-	8030G71	13	●	-	-	-	20.1/F	-	
1/2	19	4.3	0	0.1	0.1	-	-	81	-	8030G82	7	●	-	-	-	10.1/F	-	
3/4	19	4.7	0	0.1	0.1	-	-	81	-	8030G83	8	●	-	-	-	10.1/F	-	

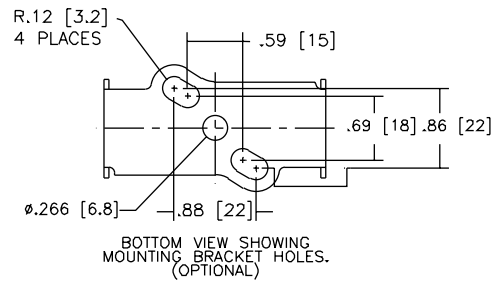
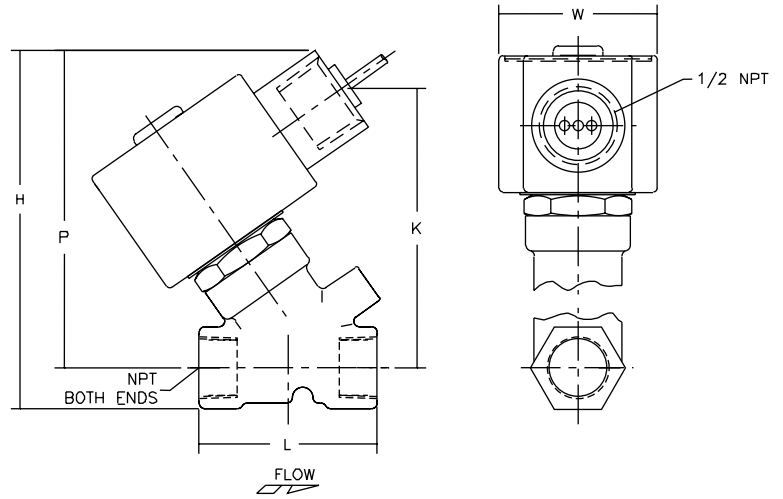
Notes: ① On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.  
 ② ○ = Safety Shutoff Valve; ● = General Purpose Valve. Refer to Engineering Section (Approvals) for details.

Dimensions: inches (mm)

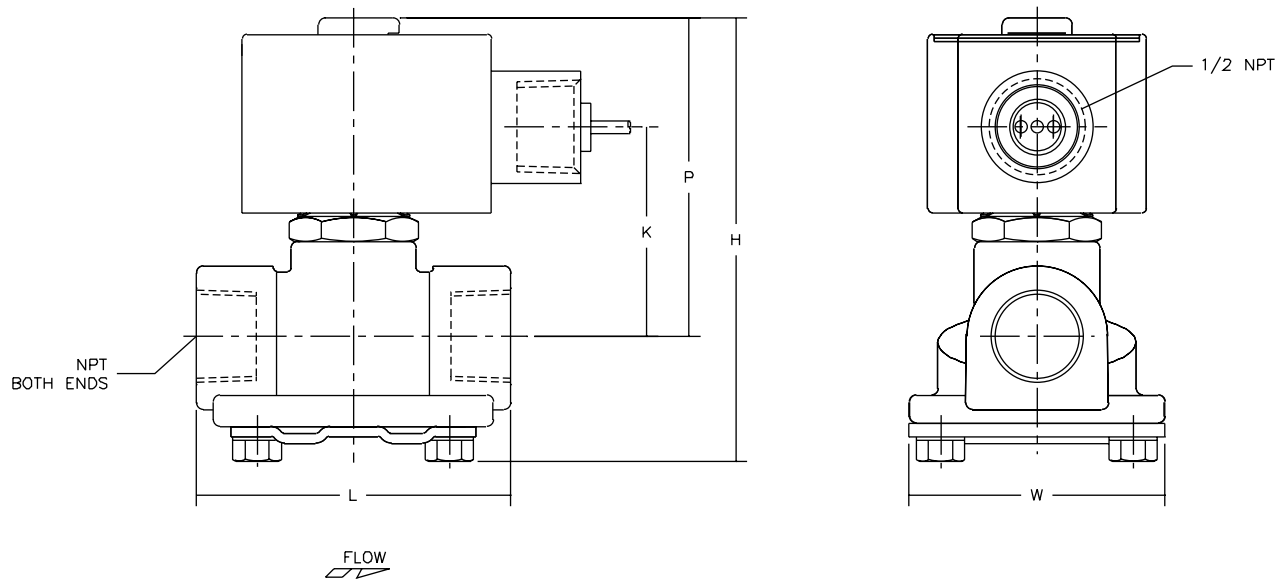
Constr. Ref. No.		H	K	L	P	W
1	ins.	3.85	3	1.91	3.41	1.69
	mm	98	76	49	87	43
2	ins.	4	3.14	1.91	3.55	1.95
	mm	102	80	49	90	50
3	ins.	4.07	3.25	2.28	3.63	1.69
	mm	103	83	58	92	43
7	ins.	3.97	1.88	2.81	2.85	2.29
	mm	101	48	71	72	58
8	ins.	3.97	1.88	2.81	2.85	2.29
	mm	101	48	71	72	58
9	ins.	4.1	2.44	2.81	3.41	2.28
	mm	104	62	71	87	58
10	ins.	4.16	2.47	2.81	3.44	2.28
	mm	106	63	71	87	58
11	ins.	4.31	3.39	2.28	3.77	2.06
	mm	110	86	58	96	52
12	ins.	4.16	1.1	1.91	3.72	2.06
	mm	106	28	49	94	52
13	ins.	4.37	1.05	2.28	3.83	2.06
	mm	111	27	58	97	52

**IMPORTANT:** Valves may be mounted in any position, except for 8030G3 DC.

Constr. Refs. 1, 2, 3

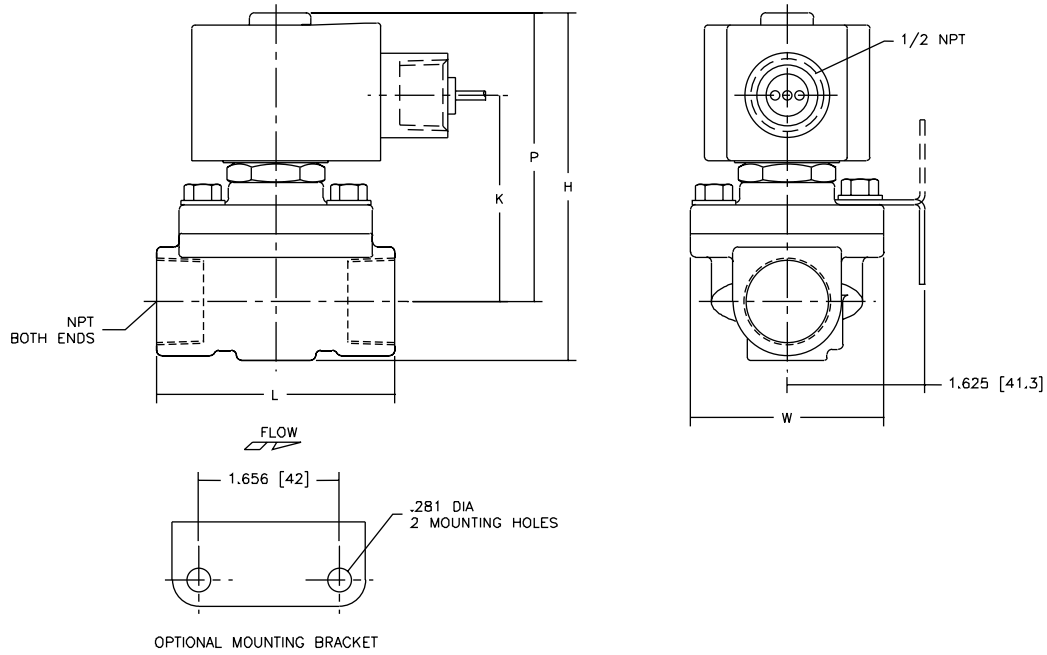


Constr. Refs. 7, 8

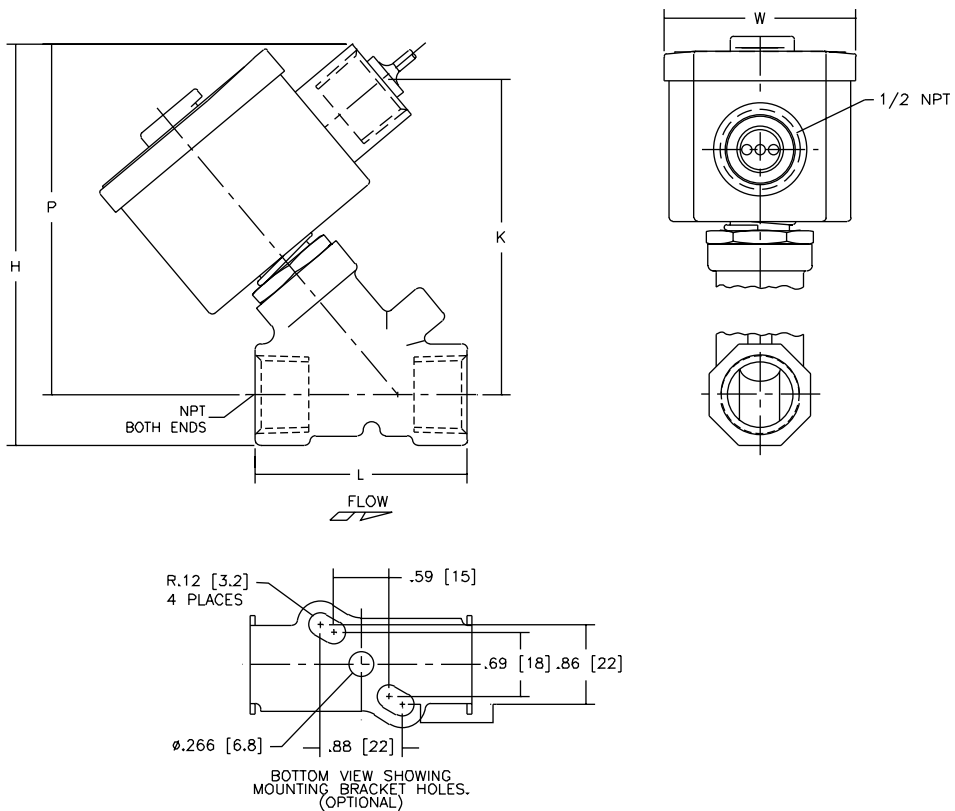


Dimensions: inches (mm)

Constr. Refs. 9, 10



Constr. Refs. 11, 12, 13



## Features

- Lightweight, low-cost valves for air service.
- Ideal for low pressure applications.
- Provides high flow, Cv up to 138 (Kv 118).
- Air and vacuum service.

## Construction

Valve Parts in Contact with Fluids	
Body	Aluminum
Seals, Diaphragms, Disc	NBR
Disc-Holder	PA (10.1 and 11.6 watt Normally Open only)
Core Guide	CA
Core Tube	305 Stainless Steel
Rider Rings	PTFE
Core and Plugnut	430F Stainless Steel
Springs	302 Stainless Steel
Shading Coil	Copper

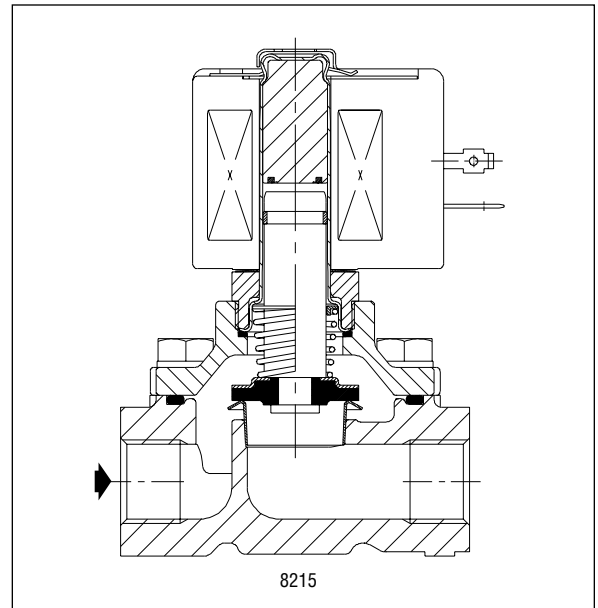
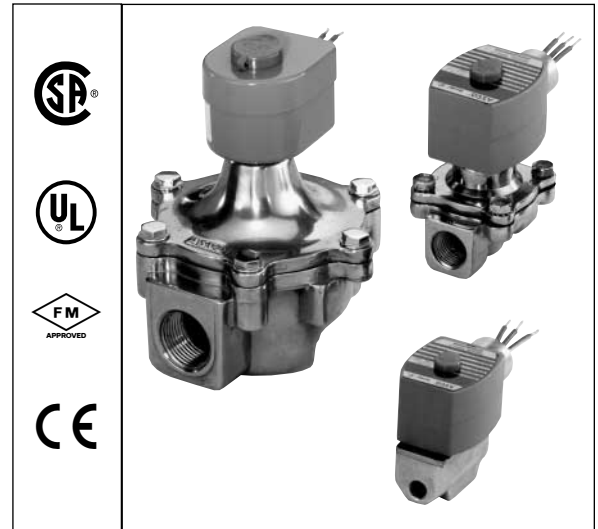
## Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part No.			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	-	6.1	16	40	238210	-	238214	-
F	11.6	10.1	25	70	238610	238710	238614	238714
B	14.9	-	-	-	-	62691	-	-
F	-	15.4	27	160	99257	-	99257	-
F	-	28.2	50	385	206409	-	206409	-

**Standard Voltages:** 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz), 6, 12, 24, 120, 240 volts DC. Must be specified when ordering. Other voltages available when required.

## Solenoid Enclosures

**Standard:** Red-Hat II - Watertight, Types 1, 2, 3, 3S, 4, and 4X; Red-Hat - Type I.  
**Optional:** Red-Hat II - Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9; Red-Hat - Explosionproof and Raintight, Types 3, 7, and 9. (Except EF8215A40 and EF8215A90, which are suitable for Types 3 and 7 (C and D) only and have a T2B temperature rating code.) To order, add prefix "EF" to catalog number.



## Nominal Ambient Temperature Ranges:

Red-Hat II/  
 Red-Hat AC: 32°F to 125°F (0°C to 52°C)  
 Red-Hat II DC: 32°F to 104°F (0°C to 40°C)  
 Red-Hat DC: 32°F to 77°F (0°C to 25°C)  
 (104°F/40°C occasionally)

## Approvals:

CSA certified. UL listed, as indicated. FM approved (Normally Closed only, except Catalog Numbers 8215A90 and 8215A40). Red-Hat II meets applicable CE directives.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)			Max. Fluid Temp. °F		Aluminum Body			Watt Rating/ Class of Coil Insulation ②	
			Min.	Max. AC	Max. DC	AC	DC	Catalog Number	Constr. Ref. No	UL ⑤ Listing	AC	DC
				Air-Fuel Gas	Air-Fuel Gas							
<b>NORMALLY CLOSED (Closed when de-energized)</b>												
1/8	5/16	1.0	0	15	-	125	-	8040H6	11	○	6.1/F	-
1/4	5/16	1.1	0	15	-	125	-	8040H7	11	○	6.1/F	-
3/8	5/16	1.2	0	15	-	125	-	8040H8	11	○	6.1/F	-
3/8	3/4	3.4	0	50	25	125	104	8215G10	2	○	10.1/F	11.6/F
3/8	3/4	3.5	5	125	125	125	104	8215G1 ①	1	○	6.1/F	11.6/F
1/2	3/4	5.4	0	2	-	125	-	8040G22	13A	○	10.1/F	-
1/2	3/4	4.4	0	50	25	125	104	8215G20	2	○	10.1/F	11.6/F
1/2	3/4	4.8	5	125	125	125	104	8215G2 ①	1	○	6.1/F	11.6/F
3/4	3/4	9.5	0	2	-	125	-	8040G23	13B	○	10.1/F	-
3/4	3/4	5.1	0	50	25	125	104	8215G30	4	○	10.1/F	11.6/F
3/4	3/4	5.1	5	125	125	125	104	8215G3 ①	3	○	6.1/F	11.6/F
1	1 5/8	21	0	25	25	125	77	8215B50 ③	6	○	15.4/F	14.9/B
1 1/4	1 5/8	32	0	25	25	125	77	8215B60 ③	6	○	15.4/F	14.9/B
1 1/2	1 5/8	35	0	25	25	125	77	8215B70 ③	6	○	15.4/F	14.9/B
2	2 3/32	60	0	25	15	125	77	8215B80 ③	7	○	15.4/F	14.9/B
2 1/2	3	117	0	5	-	125	-	8215A90	8	○	28.2/F	-
3	3	138	0	5	-	125	-	8215A40	8	○	28.2/F	-
<b>NORMALLY OPEN (Open when de-energized)</b>												
3/8	3/4	3.2	0	125	125	125	104	8215G13	9	●	10.1/F	11.6/F
1/2	3/4	4	0	125	125	125	104	8215G23	9	●	10.1/F	11.6/F
3/4	3/4	4.6	0	125	125	125	104	8215G33	10	●	10.1/F	11.6/F
1	1 5/8	22	0	25	15	125	77	8215C53	12	●	15.4/F	14.9/B
1 1/4	1 5/8	33	0	25	15	125	77	8215C63	12	●	15.4/F	14.9/B
1 1/2	1 5/8	37	0	25	15	125	77	8215C73	13	●	15.4/F	14.9/B
2	2 3/32	58	0	25	15	125	77	8215C83	14	●	15.4/F	14.9/B
2 1/2	3	117	0	5	-	125	-	8215B93 ④	15	●	28.2/F	-
<b>Notes:</b> ① Do not use for Fuel Gas. ② On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts. ③ FM Approved Process Control Valves. See Engineering Section (Approvals) for details. ④ Type 1 enclosure only. ⑤ ○ = Safety Shutoff Valve; ● = General Purpose Valve. Refer to Engineering Section (Approvals) for details.												



Specifications (Metric units)

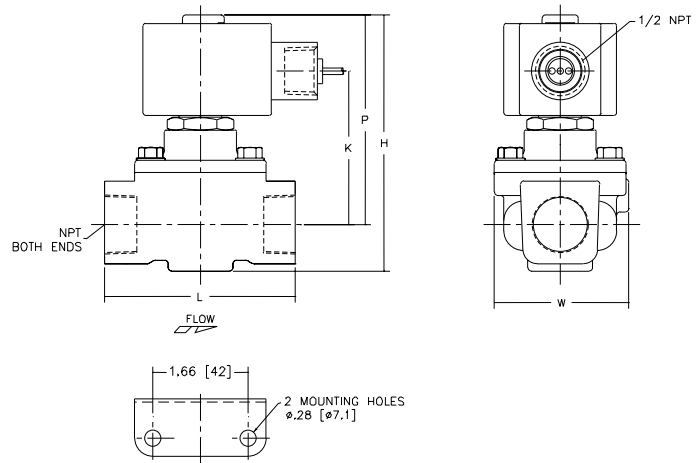
Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)			Max. Fluid Temp. °C		Aluminum Body			Watt Rating/ Class of Coil Insulation ②	
			Min.	Max. AC	Max. DC	AC	DC	Catalog Number	Constr. Ref. No	UL ⑤ Listing	AC	DC
				Air-Fuel Gas	Air-Fuel Gas							
<b>NORMALLY CLOSED (Closed when de-energized)</b>												
1/8	7.9	.86	0	1.0	-	51	-	8040H6	11	○	6.1/F	-
1/4	7.9	.94	0	1.0	-	51	-	8040H7	11	○	6.1/F	-
3/8	7.9	1.03	0	1.0	-	51	-	8040H8	11	○	6.1/F	-
3/8	19	2.91	0	3.4	1.7	51	40	8215G10	2	○	10.1/F	11.6/F
3/8	19	3.00	0.3	8.6	8.6	51	40	8215G1 ①	1	○	6.1/F	11.6/F
1/2	19	4.63	0	0.1	-	51	-	8040G22	13A	○	10.1/F	-
1/2	19	3.77	0	3.4	1.7	51	40	8215G20	2	○	10.1/F	11.6/F
1/2	19	4.11	0.3	8.6	8.6	51	40	8215G2 ①	1	○	6.1/F	11.6/F
3/4	19	8.14	0	0.1	-	51	-	8040G23	13B	○	10.1/F	-
3/4	19	4.37	0	3.4	1.7	51	40	8215G30	4	○	10.1/F	11.6/F
3/4	19	4.37	0.3	8.6	8.6	51	40	8215G3 ①	3	○	6.1/F	11.6/F
1	41	18.00	0	1.7	1.7	51	25	8215B50 ③	6	○	15.4/F	14.9/B
1 1/4	41	27.43	0	1.7	1.7	51	25	8215B60 ③	6	○	15.4/F	14.9/B
1 1/2	41	30.00	0	1.7	1.7	51	25	8215B70 ③	6	○	15.4/F	14.9/B
2	53	51.43	0	1.7	1.0	51	25	8215B80 ③	7	○	15.4/F	14.9/B
2 1/2	76	100.28	0	0.3	-	51	-	8215A90	8	○	28.2/F	-
3	76	118.28	0	0.3	-	51	-	8215A40	8	○	28.2/F	-
<b>NORMALLY OPEN (Open when de-energized)</b>												
3/8	19	2.74	0	8.6	8.6	51	40	8215G13	9	●	10.1/F	11.6/F
1/2	19	3.43	0	8.6	8.6	51	40	8215G23	9	●	10.1/F	11.6/F
3/4	19	3.94	0	8.6	8.6	51	40	8215G33	10	●	10.1/F	11.6/F
1	41	18.86	0	1.7	1.0	51	25	8215C53	12	●	15.4/F	14.9/B
1 1/4	41	28.28	0	1.7	1.0	51	25	8215C63	12	●	15.4/F	14.9/B
1 1/2	41	31.71	0	1.7	1.0	51	25	8215C73	13	●	15.4/F	14.9/B
2	53	49.71	0	1.7	1.0	51	25	8215C83	14	●	15.4/F	14.9/B
2 1/2	76	100.28	0	0.3	-	51	-	8215B93 ④	15	●	28.2/F	-
<b>Notes:</b> ① Do not use for Fuel Gas. ② On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts. ③ FM Approved Process Control Valves. See Engineering Section (Approvals) for details. ④ Type 1 enclosure only. ⑤ ○ = Safety Shutoff Valve; ● = General Purpose Valve. Refer to Engineering Section (Approvals) for details.												

Dimensions: inches (mm)

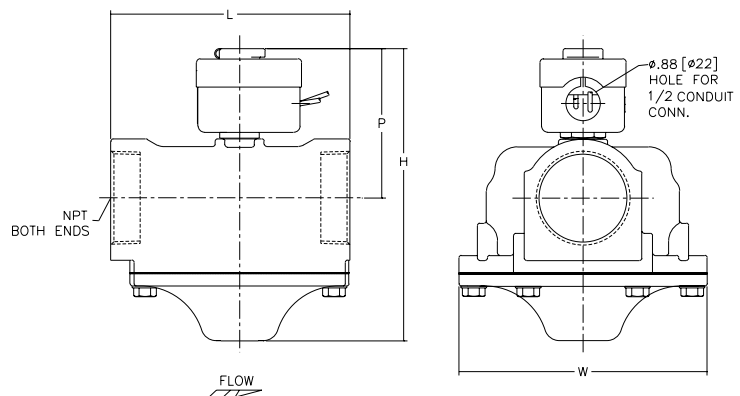
Constr. Ref. No.		H	K	L	P	W
1	ins.	3.42	2.00	2.75	2.87	2.46
	mm	87	51	70	73	63
2	ins.	4.02	2.49	2.75	3.46	2.46
	mm	102	63	70	88	63
3	ins.	3.87	2.19	3.31	3.05	2.33
	mm	98	56	84	77	59
4	ins.	4.46	2.68	3.31	3.64	2.33
	mm	113	68	84	92	59
6 ①	ins.	6.84	x	5.00	5.59	5.38
	mm	174	x	127	142	137
7 ①	ins.	7.47	x	6.09	5.94	6.31
	mm	190	x	155	151	160
8 ①	ins.	10.25	x	7.79	7.91	7.94
	mm	260	x	198	201	202
9	ins.	4.42	2.72	2.75	3.86	2.36
	mm	112	69	70	98	60
10	ins.	4.86	2.72	3.31	4.04	2.36
	mm	123	69	84	103	60
11	ins.	2.74	1.44	2.00	2.30	1.69
	mm	69	36	51	58	43
12	ins.	6.84	x	5.00	3.63	5.38
	mm	174	x	127	92	137
13	ins.	6.84	x	5.00	3.56	5.38
	mm	174	x	127	90	137
13A	ins.	4.05	2.46	2.75	3.44	2.42
	mm	103	63	70	87	62
13B	ins.	4.49	2.65	3.31	3.63	2.39
	mm	114	67	84	92	61
14 ②	ins.	7.44	x	6.09	3.81	6.31
	mm	189	x	155	97	160
15 ②	ins.	10.25	x	7.80	5.22	7.94
	mm	260	x	198	133	202

**IMPORTANT:** Valves may be mounted in any position except all DC constructions and those marked ①, which must be mounted with the solenoid vertical and upright. Constructions marked ② must be mounted with the solenoid vertical and upright or horizontal only.

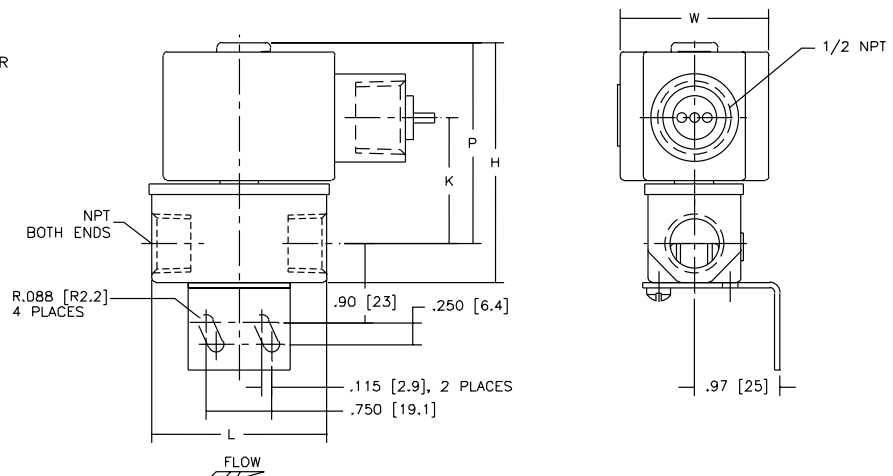
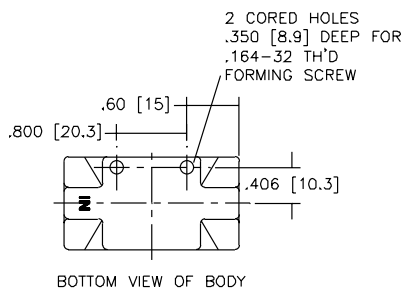
Constr. Refs. 1-4, 9, 10, 13a, 13b



Constr. Refs. 6, 7, 8, 12-15



Constr. Refs. 11



## Features

- Wide range of pressure ratings, sizes, and resilient materials provide long service life and low internal leakage.
- High Flow Valves for liquid, corrosive, and air/inert gas service.
- Industrial applications include:
  - Car wash
  - Laundry equipment
  - Air compressors
  - Industrial water control
  - Pumps

## Construction

Valve Parts in Contact with Fluids		
Body	Brass	304 Stainless Steel
Seals and Discs	NBR or PTFE	
Disc-Holder	PA	
Core Tube	305 Stainless Steel	
Core and Plugnut	430F Stainless Steel	
Springs	302 Stainless Steel	
Shading Coil	Copper	Silver

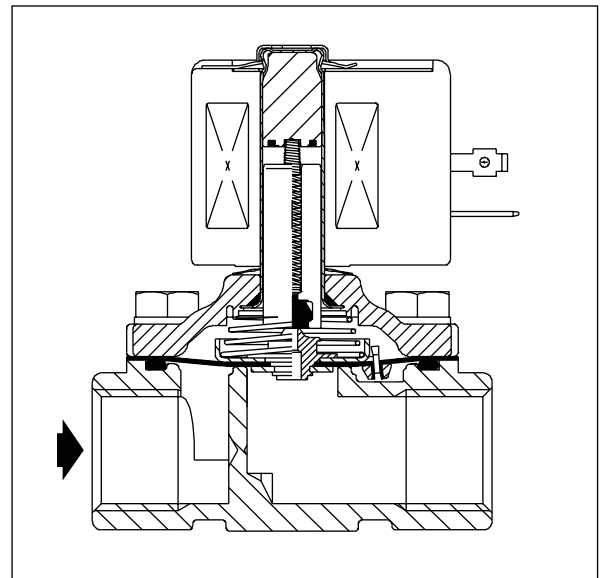
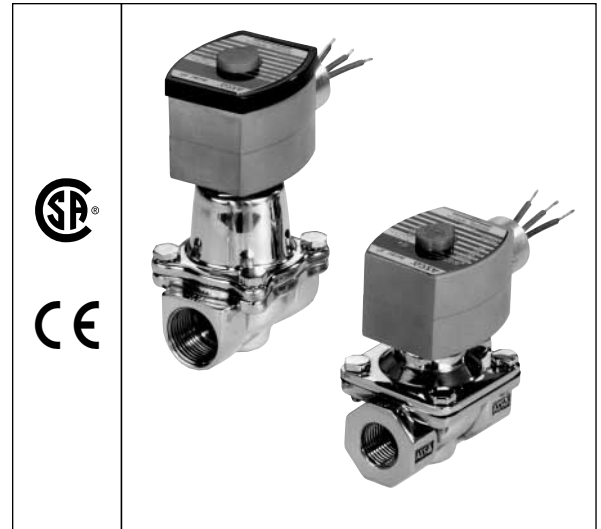
## Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	-	6.1	16	40	238210	-	238214	-
F	11.6	10.1	25	70	238610	238710	238614	238714
F	16.8	16.1	35	180	272610	97617	272614	97617
F	-	17.1	40	93	238610	-	238614	-
F	-	20	43	240	99257	-	99257	-
F	-	20.1	48	240	272610	-	272614	-
H	30.6	-	-	-	-	74073	-	74073
F	40.6	-	-	-	-	238910	-	238914

**Standard Voltages:** 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz). 6, 12, 24, 120, 240 volts DC. Must be specified when ordering. Other voltages available when required.

## Solenoid Enclosures

**Standard:** Red-Hat II - Watertight, Types 1, 2, 3, 3S, 4, and 4X; Red-Hat - Type I.  
**Optional:** Red-Hat II - Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9; Red-Hat - Explosionproof and Watertight, Types 3, 4, 4X, 7, and 9.  
 (To order, add prefix "EF" to catalog number, except Catalog Numbers 8210B57, 8210B58, and 8210B59. Valves not available with Explosionproof enclosures.)



## Nominal Ambient Temperature Ranges:

Red-Hat II/  
 Red-Hat AC: 32°F to 125°F (0°C to 52°C)  
 Red-Hat II DC: 32°F to 104°F (0°C to 40°C)  
 Red-Hat DC: 32°F to 77°F (0°C to 25°C)  
 (104°F/40°C occasionally)

## Approvals:

CSA certified. Red-Hat II meets applicable CE directives.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)							Max. Fluid Temp. °F		Brass Body			Stainless Steel Body			Watt Rating/Class of Coil Insulation ⑦		
			Min.	Max. AC			Max. DC			AC	DC	Catalog Number	Constr. Ref. No. ④	UL ⑤ Listing	Catalog Number	Constr. Ref. No. ④	UL ⑤ Listing	AC	DC	
				Air-Inert Gas	Water	Light Oil @ 300 SSU	Air-Inert Gas	Water	Light Oil @ 300 SSU											
<b>NORMALLY CLOSED (Closed when de-energized), NBR or PTFE ② Seating</b>																				
3/8	3/8	1.5	①	150	125	-	40	40	-	180	150	8210G73 ③	1P	●	8210G36 ③	1P	●	6.1/F	11.6/F	
3/8	5/8	3	0	150	150	-	40	40	-	180	150	8210G93	5D	○	-	-	-	10.1/F	11.6/F	
3/8	5/8	3	5	200	150	135	125	100	100	180	150	8210G1	6D	○	-	-	-	6.1/F	11.6/F	
3/8	5/8	3	5	300	300	300	-	-	-	175	-	8210G6	5D	○	-	-	-	17.1/F	-	
1/2	7/16	2.2	①	150	125	-	40	40	-	180	150	8210G15 ③	2P	●	8210G37 ③	2P	●	6.1/F	11.6/F	
1/2	5/8	4	0	150	150	-	40	40	-	180	150	8210G94	5D	○	-	-	-	10.1/F	11.6/F	
1/2	5/8	4	0	150	150	125	40	40	-	175	150	-	-	-	8210G87	7D	●	17.1/F	11.6/F	
1/2	5/8	4	5	200	150	135	125	100	100	180	150	8210G2	6D	○	-	-	-	6.1/F	11.6/F	
1/2	5/8	4	5	300	300	300	-	-	-	175	-	8210G7	5D	○	-	-	-	17.1/F	-	
1/2	5/8	4	5	300	300	-	300	300	-	180	125	8210G227	5D	○	-	-	-	17.1/F	40.6/H	
3/4	5/8	4.5	0	150	150	125	40	40	-	175	150	-	-	-	8210G88	7D	●	17.1/F	11.6/F	
3/4	3/4	5	5	125	125	125	100	90	75	180	150	8210G9	9D	○	-	-	-	6.1/F	11.6/F	
3/4	3/4	5	0	150	150	-	40	40	-	180	150	8210G95	8D	○	-	-	-	10.1/F	11.6/F	
3/4	3/4	6.5	5	250	150	100	125	125	125	180	150	8210G3	11D	○	-	-	-	6.1/F	11.6/F	
3/4	3/4	6	0	-	-	-	200	180	180	-	77	8210B26 ② ‡	10P	-	-	-	-	-	30.6/H	
3/4	3/4	6	0	350	300	200	-	-	-	200	-	8210G26 ② ‡	40P	●	-	-	-	-	16.1/F	-
1	1	13	0	-	-	-	100	100	80	-	77	8210B54 ‡	31D	-	8210D89	15D	-	-	30.6/H	
1	1	13	0	150	125	125	-	-	-	180	-	8210G54	41D	●	8210G89	45D	●	16.1/F	-	
1	1	13	5	150	150	100	125	125	125	180	150	8210G4	12D	○	-	-	-	6.1/F	11.6/F	
1	1	13.5	0	300	225	115	-	-	-	200	-	8210G27 ‡	42P	●	-	-	-	20.1/F	-	
1	1	13.5	10	300	300	300	-	-	-	175	-	8210G78	3P	-	-	-	-	17.1/F	-	
1 1/4	1 1/8	15	0	-	-	-	100	100	80	-	77	8210B55 ‡	32D	-	-	-	-	-	30.6/H	
1 1/4	1 1/8	15	0	150	125	125	-	-	-	180	-	8210G55	43D	●	-	-	-	16.1/F	-	
1 1/4	1 1/8	15	5	150	150	100	125	125	125	180	150	8210G8	16D	○	-	-	-	6.1/F	11.6/F	
1 1/2	1 1/4	22.5	0	-	-	-	100	100	80	-	77	8210B56 ‡	33D	-	-	-	-	-	30.6/H	
1 1/2	1 1/4	22.5	0	150	125	125	-	-	-	180	-	8210G56 ‡	44D	●	-	-	-	16.1/F	-	
1 1/2	1 1/4	22.5	5	150	150	100	125	125	125	180	150	8210G22	18D	●	-	-	-	6.1/F	11.6/F	
2	1 3/4	43	5	150	125	90	50	50	50	180	150	8210G100	20P	●	-	-	-	6.1/F	11.6/F	
2 1/2	1 3/4	45	5	150	125	90	50	50	50	180	150	8210G101	21P	●	-	-	-	6.1/F	11.6/F	
<b>NORMALLY OPEN (Open when de-energized), NBR Seating (PA Disc-Holder, except as noted)</b>																				
3/8	5/8	3	0	150	150	125	125	125	80	180	150	8210G33	23D	●	-	-	-	10.1/F	11.6/F	
3/8	5/8	3	5	250	200	200	250	200	200	180	180	8210G11 ⑧ ⑨	39D	●	-	-	-	10.1/F	11.6/F	
1/2	5/8	4	0	150	150	125	125	125	80	180	150	8210G34	23D	●	-	-	-	10.1/F	11.6/F	
1/2	5/8	3	0	150	150	100	125	125	80	180	150	-	-	-	8210G30	37D	●	10.1/F	11.6/F	
1/2	5/8	4	5	250	200	200	250	200	200	180	180	8210G12 ⑧ ⑨	39D	●	-	-	-	10.1/F	11.6/F	
3/4	3/4	5.5	0	150	150	125	125	125	80	180	150	8210G35	25D	●	-	-	-	10.1/F	11.6/F	
3/4	5/8	3	0	150	150	100	125	125	80	180	150	-	-	-	8210G38	38D	●	10.1/F	11.6/F	
3/4	3/4	6.5	5	-	-	-	250	200	200	-	180	8210C13	24D	●	-	-	-	-	16.8/F	
3/4	3/4	6.5	5	250	200	200	-	-	-	180	-	8210G13	46D	●	-	-	-	16.1/F	-	
1	1	13	0	125	125	125	-	-	-	180	-	8210B57 ⑥ ⑩	34D	●	-	-	-	20/F	-	
1	1	13	5	-	-	-	125	125	125	-	180	8210D14	26D	●	-	-	-	-	16.8/F	
1	1	13	5	150	150	125	-	-	-	180	-	8210G14	47D	●	-	-	-	16.1/F	-	
1 1/4	1 1/8	15	0	125	125	125	-	-	-	180	-	8210B58 ⑥ ⑩	35D	●	-	-	-	20/F	-	
1 1/4	1 1/8	15	5	-	-	-	125	125	125	-	180	8210D18	28D	●	-	-	-	-	16.8/F	
1 1/4	1 1/8	15	5	150	150	125	-	-	-	180	-	8210G18	48D	●	-	-	-	16.1/F	-	
1 1/2	1 1/4	22.5	0	125	125	125	-	-	-	180	-	8210B59 ⑥ ⑩	36D	●	-	-	-	20/F	-	
1 1/2	1 1/4	22.5	5	-	-	-	125	125	125	-	180	8210D32	29D	●	-	-	-	-	16.8/F	
1 1/2	1 1/4	22.5	5	150	150	125	-	-	-	180	-	8210G32	49D	●	-	-	-	16.1/F	-	
2	1 3/4	43	5	-	-	-	125	125	125	-	150	8210I03	30P	●	-	-	-	-	16.8/F	
2	1 3/4	43	5	125	125	125	-	-	-	180	-	8210G103	50P	●	-	-	-	16.1/F	-	
2 1/2	1 3/4	45	5	-	-	-	125	125	125	-	150	8210I04	27P	●	-	-	-	-	16.8/F	
2 1/2	1 3/4	45	5	125	125	125	-	-	-	180	-	8210G104	51P	●	-	-	-	16.1/F	-	

Notes: ① 5 psi on Air; 1 psi on Water.  
 ② Valve provided with PTFE main disc.  
 ③ Valve includes Ultem (G.E. trademark) piston.  
 ④ Letter "D" denotes diaphragm construction; "P" denotes piston construction.  
 ⑤ ○ Safety Shutoff Valve; ● General Purpose Valve.  
 Refer to Engineering Section (Approvals) for details.

⑥ Valves not available with Explosionproof enclosures.  
 ⑦ On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.  
 ⑧ AC construction also has PA seating.  
 ⑨ No disc-holder.  
 ⑩ Stainless Steel disc-holder.  
 ‡ Must have solenoid mounted vertical and upright.

Specifications (Metric units)

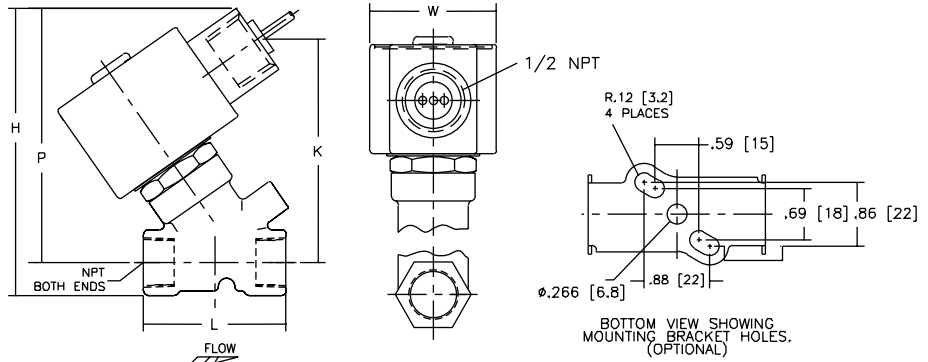
Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)							Max. Fluid Temp. °C		Brass Body			Stainless Steel Body			Watt Rating/ Class of Coil Insulation ⑦	
			Min.	Max. AC			Max. DC			AC	DC	Catalog Number	Constr. Ref. No. ④	UL ⑤ Listing	Catalog Number	Constr. Ref. No. ④	UL ⑤ Listing	AC	DC
				Air-Inert Gas	Water	Light Oil @ 300 SSU	Air-Inert Gas	Water	Light Oil @ 300 SSU										
<b>NORMALLY CLOSED (Closed when de-energized), NBR or PTFE ② Seating</b>																			
3/8	10	1.29	①	10	9	-	3	3	-	81	65	8210G73 ③	1P	●	8210G36 ③	1P	●	6.1/F	11.6/F
3/8	16	2.57	0	10	10	-	3	3	-	81	65	8210G93	5D	○	-	-	-	10.1/F	11.6/F
3/8	16	2.57	0.3	14	10	9	9	7	7	81	65	8210G1	6D	○	-	-	-	6.1/F	11.6/F
3/8	16	2.57	0.3	21	21	21	-	-	-	79	-	8210G6	5D	○	-	-	-	17.1/F	-
1/2	11	1.89	①	10	9	-	3	3	-	81	65	8210G15 ③	2P	●	8210G37 ③	2P	●	6.1/F	11.6/F
1/2	16	3.43	0	10	10	-	3	3	-	81	65	8210G94	5D	○	-	-	-	10.1/F	11.6/F
1/2	16	3.43	0	10	10	9	3	3	-	79	65	-	-	-	8210G87	7D	●	17.1/F	11.6/F
1/2	16	3.43	0.3	14	10	9	9	7	7	81	65	8210G2	6D	○	-	-	-	6.1/F	11.6/F
1/2	16	3.43	0.3	21	21	21	-	-	-	79	-	8210G7	5D	○	-	-	-	17.1/F	-
1/2	16	3.43	0.3	21	21	-	21	21	-	81	52	8210G227	5D	○	-	-	-	17.1/F	40.6F
3/4	16	3.86	0	10	10	9	3	3	-	79	65	-	-	-	8210G88	7D	●	17.1/F	11.6/F
3/4	19	4.29	0.3	9	9	9	7	6	5	81	65	8210G9	9D	○	-	-	-	6.1/F	11.6/F
3/4	19	4.29	0	10	10	-	3	3	-	81	65	8210G95	8D	○	-	-	-	10.1/F	11.6/F
3/4	19	5.57	0.3	17	10	7	9	9	9	81	65	8210G3	11D	○	-	-	-	6.1/F	11.6/F
3/4	19	5.14	0	-	-	-	14	12	12	-	25	8210B26 ② ‡	10P	-	-	-	-	-	30.6/H
3/4	19	5.14	0	24	21	14	-	-	-	92	-	8210G26 ② ‡	40P	●	-	-	-	16.1F	-
1	25	11.14	0	-	-	-	7	7	6	-	25	8210B54 ‡	31D	-	8210D89	15D	-	-	30.6/H
1	25	11.14	0	10	9	9	-	-	-	81	-	8210G54	41D	●	8210G89	45D	●	16.1/F	-
1	25	11.14	0.3	10	10	7	9	9	9	81	65	8210G4	12D	○	-	-	-	6.1/F	11.6/F
1	25	11.57	0	21	16	8	-	-	-	92	-	8210G27 ‡	42P	●	-	-	-	20.1/F	-
1	25	11.57	0.7	21	21	21	-	-	-	79	-	8210G78	3P	-	-	-	-	17.1/F	-
1 1/4	29	12.86	0	-	-	-	7	7	6	-	25	8210B55 ‡	32D	-	-	-	-	-	30.6/H
1 1/4	29	12.86	0	10	9	9	-	-	-	81	-	8210G55	43D	●	-	-	-	16.1/F	-
1 1/4	29	12.86	0.3	10	10	7	9	9	9	81	65	8210G8	16D	○	-	-	-	6.1/F	11.6/F
1 1/2	32	19.29	0	-	-	-	7	7	6	-	25	8210B56 ‡	33D	-	-	-	-	-	30.6/H
1 1/2	32	19.29	0	10	9	9	-	-	-	81	-	8210G56 ‡	44D	●	-	-	-	16.1/F	-
1 1/2	32	19.29	0.3	10	10	7	9	9	9	81	65	8210G22	18D	●	-	-	-	6.1/F	11.6/F
2	44	36.86	0.3	10	9	6	3	3	3	81	65	8210G100	20P	●	-	-	-	6.1/F	11.6/F
2 1/2	44	38.57	0.3	10	9	6	3	3	3	81	65	8210G101	21P	●	-	-	-	6.1/F	11.6/F
<b>NORMALLY OPEN (Open when de-energized), NBR Seating (PA Disc-Holder, except as noted)</b>																			
3/8	16	2.57	0.0	10	10	10	9	9	9	81	65	8210G33	23D	●	-	-	-	10.1/F	11.6/F
3/8	16	2.57	0.3	17	14	14	17	14	14	81	81	8210G11 ⑧ ⑨	39D	●	-	-	-	10.1/F	11.6/F
1/2	16	3.43	0	10	10	9	9	9	6	81	65	8210G34	23D	●	-	-	-	10.1/F	11.6/F
1/2	16	2.57	0	10	10	7	9	9	6	81	65	-	-	-	8210G30	37D	●	10.1/F	11.6/F
1/2	16	3.43	0.3	17	14	14	17	14	14	81	81	8210G12 ⑧ ⑨	39D	●	-	-	-	10.1/F	11.6/F
3/4	19	4.71	0	10	10	9	9	9	6	81	65	8210G35	25D	●	-	-	-	10.1/F	11.6/F
3/4	16	2.57	0	10	10	7	9	9	6	81	65	-	-	-	8210G38	38D	●	10.1/F	11.6/F
3/4	19	5.57	0.3	-	-	-	17	14	14	-	81	8210C13	24D	●	-	-	-	-	16.8/F
3/4	19	5.57	0.3	17	14	14	-	-	-	81	-	8210G13	46D	●	-	-	-	16.1/F	-
1	25	11.14	0	9	9	9	-	-	-	81	-	8210B57 ⑥ ⑩	34D	●	-	-	-	20/F	-
1	25	11.14	0.3	-	-	-	9	9	9	-	81	8210D14	26D	●	-	-	-	-	16.8/F
1	25	11.14	0.3	10	10	9	-	-	-	81	-	8210G14	47D	●	-	-	-	16.1/F	-
1 1/4	29	12.86	0	9	9	9	-	-	-	81	-	8210B58 ⑥ ⑩	35D	●	-	-	-	20/F	-
1 1/4	29	12.86	0.3	-	-	-	9	9	9	-	81	8210D18	28D	●	-	-	-	-	16.8/F
1 1/4	29	12.86	0.3	10	10	9	-	-	-	81	-	8210G18	48D	●	-	-	-	16.1/F	-
1 1/2	32	19.29	0	9	9	9	-	-	-	81	-	8210B59 ⑥ ⑩	36D	●	-	-	-	20/F	-
1 1/2	32	19.29	0.3	-	-	-	9	9	9	-	81	8210D32	29D	●	-	-	-	-	16.8/F
1 1/2	32	19.29	0.3	10	10	9	-	-	-	81	-	8210G32	49D	●	-	-	-	16.1/F	-
2	44	36.86	0.3	-	-	-	9	9	9	-	65	8210I03	30P	●	-	-	-	-	16.8/F
2	44	36.86	0.3	9	9	9	-	-	-	81	-	8210G103	50P	●	-	-	-	16.1/F	-
2 1/2	44	38.57	0.3	-	-	-	9	9	9	-	65	8210I04	27P	●	-	-	-	-	16.8/F
2 1/2	44	38.57	0.3	9	9	9	-	-	-	81	-	8210G104	51P	●	-	-	-	16.1/F	-
<b>Notes:</b> ① 0.3 bar on Air; 0.0 bar on Water. ② Valve provided with PTFE main disc. ③ Valve includes Ultem (G.E. trademark) piston. ④ Letter "D" denotes diaphragm construction; "P" denotes piston construction. ⑤ ○ Safety Shutoff Valve; ● General Purpose Valve. Refer to Engineering Section (Approvals) for details.											⑥ Valves not available with Explosionproof enclosures. ⑦ On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts. ⑧ AC construction also has PA seating. ⑨ No disc-holder. ⑩ Stainless Steel disc-holder. ‡ Must have solenoid mounted vertical and upright.								

Dimensions: inches (mm)

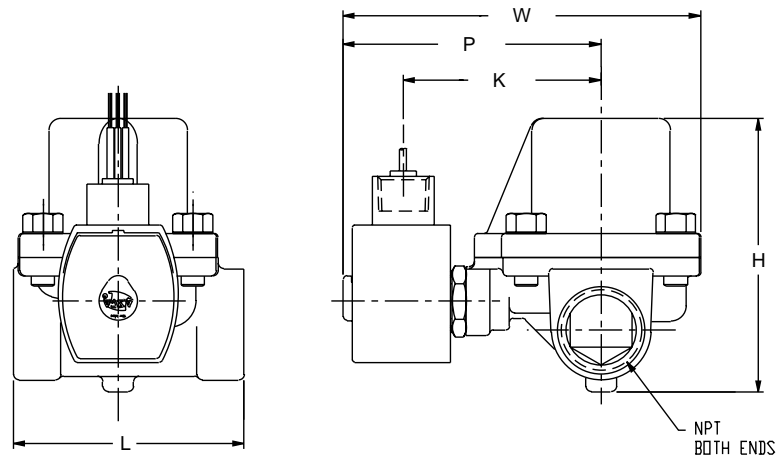
Constr. Ref. No.		H	K	L	P	W
1*	ins.	3.85	3.00	1.91	3.41	1.69
	mm	98	76	49	87	43
2*	ins.	4.17	3.25	2.28	3.63	1.69
	mm	106	83	58	92	43
3	ins.	4.44	3.22	3.75	4.19	5.81
	mm	113	82	95	106	147
5	ins.	3.84	2.31	2.75	3.28	2.28
	mm	98	59	70	83	58
6*	ins.	3.38	1.94	2.75	2.80	2.28
	mm	86	49	70	71	58
7	ins.	4.19	2.50	2.81	3.47	2.39
	mm	106	64	71	88	61
8	ins.	4.13	2.47	2.81	3.44	2.29
	mm	105	63	71	87	58
9*	ins.	3.66	2.10	2.81	2.96	2.28
	mm	93	53	71	75	58
10*①	ins.	5.25	X	2.81	4.59	2.31
	mm	133	X	71	117	59
11*	ins.	4.16	2.66	3.84	3.52	2.75
	mm	106	68	98	89	70
15*	ins.	5.34	X	3.75	4.47	3.84
	mm	136	X	95	114	98
20*	ins.	7.33	3.71	5.06	4.57	4.87
	mm	186	94	129	116	124
21*	ins.	7.33	3.71	5.50	4.57	4.87
	mm	186	94	140	116	124
23	ins.	4.35	2.65	2.75	3.79	2.28
	mm	110	67	70	96	58
24	ins.	5.06	X	3.78	4.44	2.75
	mm	129	X	96	113	70
25	ins.	4.64	2.81	2.81	3.94	2.28
	mm	118	71	71	100	58
26	ins.	6.53	X	3.75	4.91	3.19
	mm	166	X	95	125	81
27	ins.	8.22	X	5.50	5.47	4.87
	mm	209	X	140	139	124
28	ins.	6.53	X	3.66	4.91	3.19
	mm	166	X	93	125	81
29	ins.	7.03	X	4.38	5.06	4.40
	mm	179	X	111	129	112

① Valves must be mounted with solenoid vertical and upright.  
\* DC dimensions slightly larger.

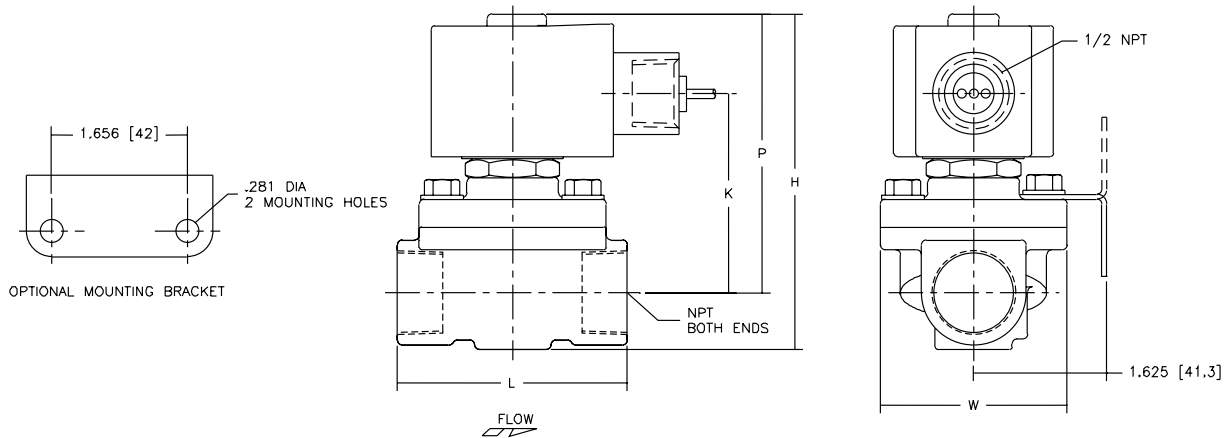
Constr. Refs. 1, 2



Constr. Ref. 3



Constr. Refs. 5-9, 11, 20, 21, 23, 25, 37, 38

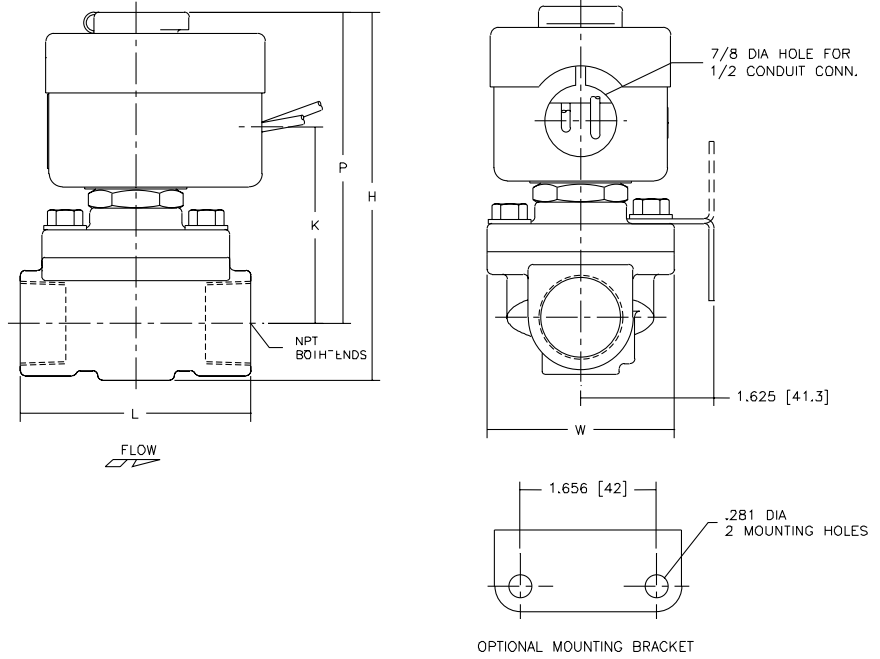


Dimensions: inches (mm)

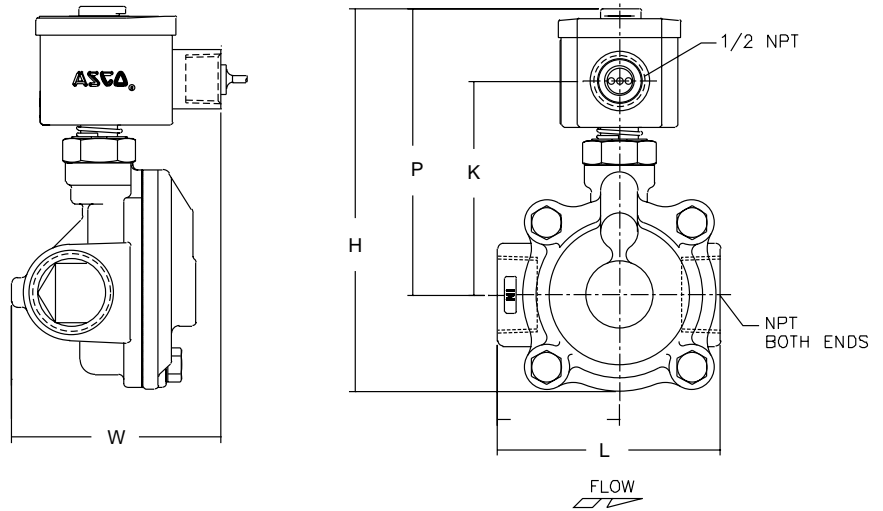
30	ins.	8.22	X	5.06	5.47	4.87
	mm	209	X	129	139	124
31	ins.	5.25	X	3.75	4.44	3.25
	mm	133	X	95	113	83
32	ins.	5.69	X	3.66	4.69	3.25
	mm	145	X	93	119	83
33	ins.	6.06	X	4.38	4.94	3.91
	mm	154	X	111	125	99
34	ins.	6.91	X	3.75	6.09	3.25
	mm	176	X	95	155	83
35	ins.	7.34	X	3.66	6.34	3.25
	mm	186	X	93	161	83
36	ins.	7.66	X	4.38	6.56	3.91
	mm	195	X	111	167	99
37	ins.	4.61	2.75	2.81	3.89	2.39
	mm	117	70	71	99	61
38	ins.	4.61	2.75	2.81	3.89	2.39
	mm	117	70	71	99	61
39	ins.	5.42	2.31	2.75	4.86	3.80
	mm	138	59	70	123	97
40	ins.	5.20	3.29	2.81	4.50	2.28
	mm	132	83	71	114	58
41	ins.	5.13	3.10	3.75	4.32	3.25
	mm	130	79	95	110	83
42	ins.	6.43	4.40	3.93	5.62	3.25
	mm	163	112	100	143	83
43	ins.	5.57	3.35	3.66	4.57	3.25
	mm	142	85	93	116	83
44	ins.	5.90	3.57	4.38	4.79	3.91
	mm	150	91	111	122	99
45	ins.	5.26	3.17	3.75	4.38	3.84
	mm	134	81	95	111	98
46	ins.	4.95	3.10	3.84	4.31	2.75
	mm	126	79	98	110	70
47	ins.	6.43	3.59	3.75	4.81	3.52
	mm	163	91	95	122	90
48	ins.	6.43	3.59	3.66	4.81	3.73
	mm	163	91	93	122	95
49	ins.	6.91	3.75	4.38	4.96	4.40
	mm	176	95	111	126	112
50	ins.	8.13	4.15	5.06	5.37	4.87
	mm	207	105	129	136	124
51	ins.	8.13	4.15	5.50	5.37	5.18
	mm	207	105	140	136	132

**IMPORTANT:** Valves may be mounted in any position, except as noted in specifications table.

Constr. Refs. 10, 15, 24, 26-36



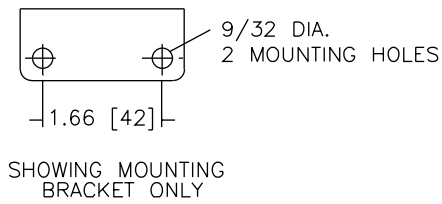
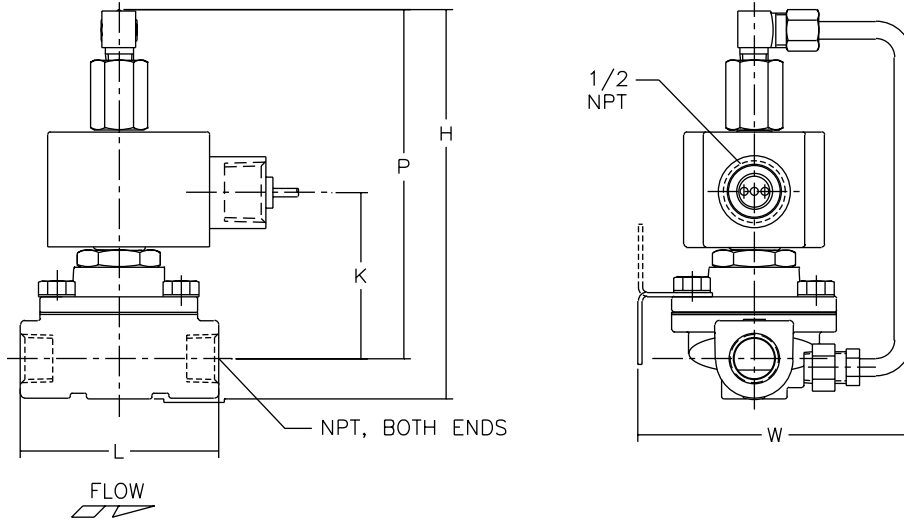
Constr. Refs. 12, 16, 18



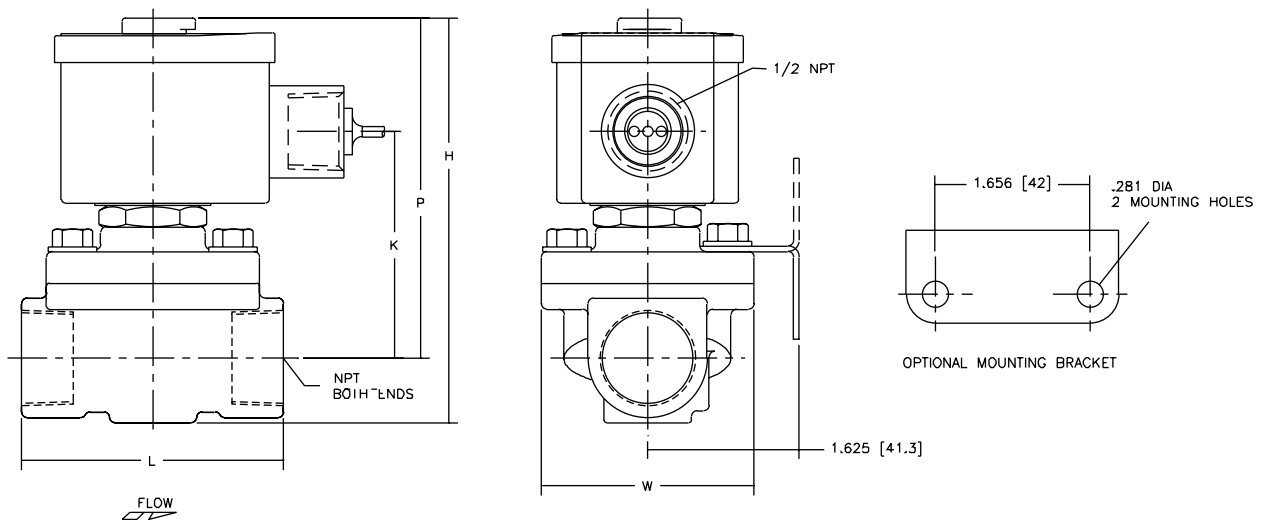
**Note:** Valve must be mounted with solenoid vertical and upright.

Dimensions: inches (mm)

Constr. Refs. 39



Constr. Refs. 40-51





### Features

- Pilot Operated, Normally Open or Normally Closed.
- Snubber slows disc closing speed to protect system against water hammer damage more effectively than other techniques.
- Pressure spike due to water hammer reduced to a point eliminating the need for suppressors or other controls in most water systems.
- Fluid Controls Institute Inc. evaluations have classified these valves:

Pipe Sizes	FCI-82-1 Class
3/8", 1/2", 3/4"	CC
1", 1 1/4", 1 1/2", 2", 2 1/2"	BB

### Construction

Valve Parts in Contact with Fluids	
Body	Brass
Disc	NBR
Seals	PTFE & NBR
Core Tube	305 Stainless Steel
Core and Plugnut	430F Stainless Steel
Springs	302 Stainless Steel
Piston	Stainless Steel or Brass
Shading Coil	Copper

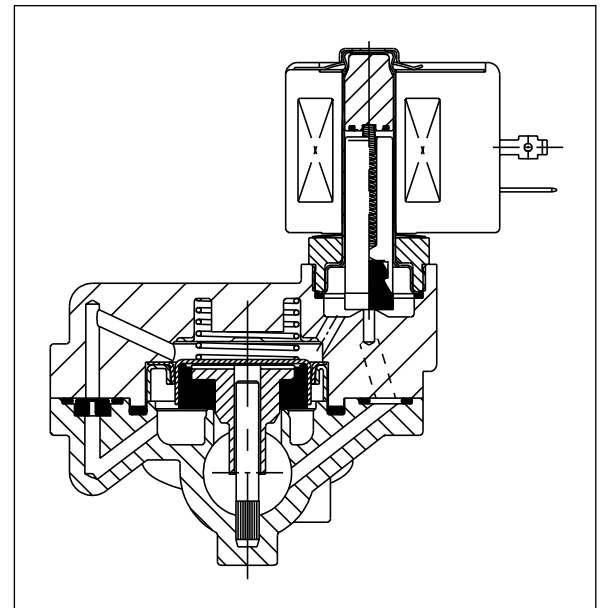
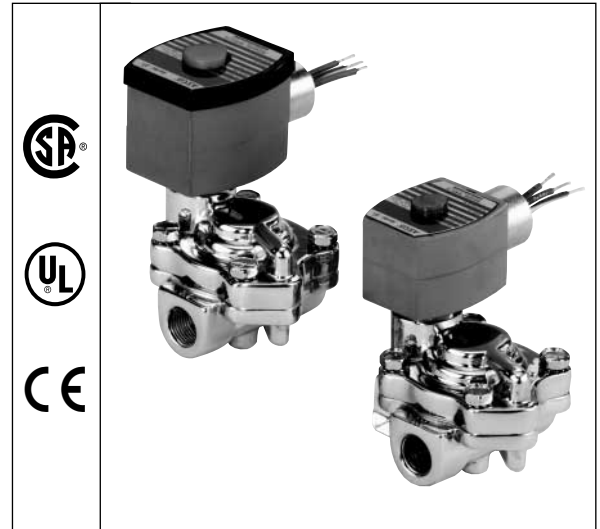
### Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part No.			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	11.6	6.1	16	30	238210	238710	238214	238714
F	16.8	16.1	35	95	272610	97617	272614	97617
F	22.6	-	-	-	-	238710	-	238714

**Standard Voltages:** 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz).  
6, 12, 24, 120, 240 volts DC. Must be specified when ordering. Other voltages are available when required.

### Solenoid Enclosures

**Standard:** Red-Hat II - Watertight, Types 1, 2, 3, 3S, 4, and 4X; Red-Hat - Type I.  
**Optional:** Red-Hat II - Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9; Red-Hat - Explosionproof and Raintight, Types 3, 7, and 9. (To order, add prefix "EF" to catalog number.)



### Nominal Ambient Temperature Ranges:

Red-Hat II/  
Red-Hat AC: 32°F to 125°F (0°C to 52°C)  
Red-Hat II DC: 32°F to 104°F (0°C to 40°C)  
Red-Hat DC: 32°F to 77°F (0°C to 25°C)  
(104°F/40°C occasionally)

### Approvals:

CSA certified. UL listed, General Purpose Valves.  
Red-Hat II meets applicable CE directives.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)			Maximum Fluid Temp. °F		Brass Body		Watt Rating/ Class of Coil Insulation ③	
			Min. ①	Max. AC	Max. DC	AC	DC	Catalog Number	Constr. Ref. No.	AC	DC
				Water ②	Water ②						
<b>NORMALLY CLOSED (Closed when de-energized)</b>											
3/8	9/16	3	5	150	125	180	150	8221G1	1	6.1/F	11.6/F
1/2	9/16	3.5	5	150	125	180	150	8221G3	1	6.1/F	11.6/F
3/4	3/4	5.5	5	150	125	180	150	8221G5	2	6.1/F	11.6/F
1	1	11.5	5	150	125	180	150	8221G7	5	6.1/F	11.6/F
1 1/4	1 1/8	13	5	150	125	180	150	8221G9	6	6.1/F	11.6/F
1 1/2	1 1/4	24	5	150	125	180	150	8221G11	7	6.1/F	11.6/F
2	1 3/4	36	5	150	125	180	150	8221G13	11	6.1/F	22.6/F
2 1/2	1 3/4	38	5	150	125	180	150	8221G15	12	6.1/F	22.6/F
<b>NORMALLY OPEN (Open when de-energized)</b>											
3/8	9/16	3	5	-	125	-	150	822121	15	-	16.8/F
3/8	9/16	3	5	150	-	180	-	8221G21	3	16.1/F	-
1/2	9/16	3.5	5	-	125	-	150	822123	15	-	16.8/F
1/2	9/16	3.5	5	150	-	180	-	8221G23	3	16.1/F	-
3/4	3/4	5.5	5	-	125	-	150	822125	16	-	16.8/F
3/4	3/4	5.5	5	150	-	180	-	8221G25	4	16.1/F	-
1	1	11.5	5	-	125	-	150	822127	17	-	16.8/F
1	1	11.5	5	150	-	180	-	8221G27	8	16.1/F	-
1 1/4	1 1/8	13	5	-	125	-	150	822129	18	-	16.8/F
1 1/4	1 1/8	13	5	150	-	180	-	8221G29	9	16.1/F	-
1 1/2	1 1/4	24	5	-	125	-	150	822131	19	-	16.8/F
1 1/2	1 1/4	24	5	150	-	180	-	8221G31	10	16.1/F	-
2	1 3/4	36	5	-	125	-	150	822133	20	-	16.8/F
2	1 3/4	36	5	150	-	180	-	8221G33	13	16.1/F	-
2 1/2	1 3/4	38	5	-	125	-	150	822135	21	-	16.8/F
2 1/2	1 3/4	38	5	150	-	180	-	8221G35	14	16.1/F	
<b>Notes:</b> ① Valves require a 5 psi Minimum Pressure Differential to open. Once open, they remain open with 3 psi differential pressure. ② Refer to Steam/Hot Water Valve Series for Hot Water constructions. ③ On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.											

Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)			Maximum Fluid Temp. °C		Brass Body		Watt Rating/ Class of Coil Insulation ③	
			Min. ①	Max. AC	Max. DC	AC	DC	Catalog Number	Constr. Ref. No.	AC	DC
				Water ②	Water ②						
<b>NORMALLY CLOSED (Closed when de-energized)</b>											
3/8	14	2.57	0.3	10	9	81	65	8221G1	1	6.1/F	11.6/F
1/2	14	3.00	0.3	10	9	81	65	8221G3	1	6.1/F	11.6/F
3/4	19	4.71	0.3	10	9	81	65	8221G5	2	6.1/F	11.6/F
1	25	9.86	0.3	10	9	81	65	8221G7	5	6.1/F	11.6/F
1 1/4	29	11.14	0.3	10	9	81	65	8221G9	6	6.1/F	11.6/F
1 1/2	32	20.57	0.3	10	9	81	65	8221G11	7	6.1/F	11.6/F
2	44	30.86	0.3	10	9	81	65	8221G13	11	6.1/F	22.6/F
2 1/2	44	32.57	0.3	10	9	81	65	8221G15	12	6.1/F	22.6/F
<b>NORMALLY OPEN (Open when de-energized)</b>											
3/8	14	2.57	0.3	-	9	-	65	822121	15	-	16.8/F
3/8	14	2.57	0.3	10	-	81	-	8221G21	3	16.1/F	-
1/2	14	3.00	0.3	-	9	-	65	822123	15	-	16.8/F
1/2	14	3.00	0.3	10	-	81	-	8221G23	3	16.1/F	-
3/4	19	4.71	0.3	-	9	-	65	822125	16	-	16.8/F
3/4	19	4.71	0.3	10	-	81	-	8221G25	4	16.1/F	-
1	25	9.86	0.3	-	9	-	65	822127	17	-	16.8/F
1	25	9.86	0.3	10	-	81	-	8221G27	8	16.1/F	-
1 1/4	29	11.14	0.3	-	9	-	65	822129	18	-	16.8/F
1 1/4	29	11.14	0.3	10	-	81	-	8221G29	9	16.1/F	-
1 1/2	32	20.57	0.3	-	9	-	65	822131	19	-	16.8/F
1 1/2	32	20.57	0.3	10	-	81	-	8221G31	10	16.1/F	-
2	44	30.86	0.3	-	9	-	65	822133	20	-	16.8/F
2	44	30.86	0.3	10	-	81	-	8221G33	13	16.1/F	-
2 1/2	44	32.57	0.3	-	9	-	65	822135	21	-	16.8/F
2 1/2	44	32.57	0.3	10	-	81	-	8221G35	14	16.1/F	-

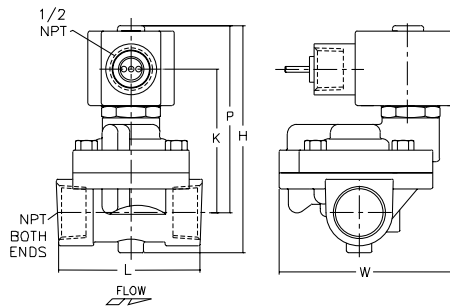
**Notes:** ① Valves require a 0.3 bar Minimum Pressure Differential to open. Once open, they remain open with 0.2 bar differential pressure.  
 ② Refer to Steam/Hot Water Valve Series for Hot Water constructions.  
 ③ On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.

Dimensions: inches (mm)

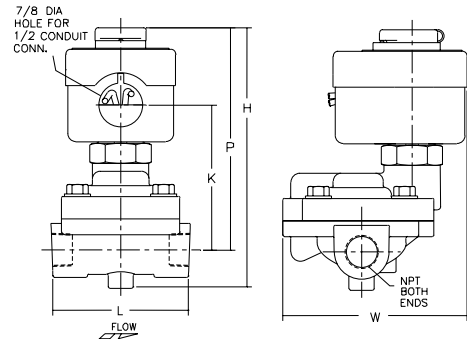
Constr. Ref. No.		H	K	L	P	W
1	ins.	4.34	2.69	2.72	3.59	3.41
	mm	110	68	69	91	87
2	ins.	4.53	2.69	2.78	3.75	3.41
	mm	115	68	71	95	87
3	ins.	5.22	3.14	2.72	4.47	3.69
	mm	133	80	69	114	94
4	ins.	5.41	3.30	2.78	4.62	3.69
	mm	137	84	71	117	94
5	ins.	5.62	3.15	3.75	4.03	3.16
	mm	143	80	95	102	80
6	ins.	5.56	3.15	3.66	4.03	3.56
	mm	141	80	93	102	90
7	ins.	6.12	3.30	4.38	4.19	4.12
	mm	156	84	111	106	105
8	ins.	6.53	3.59	3.75	4.91	3.16
	mm	166	91	95	125	80
9	ins.	6.47	3.59	3.56	4.91	3.56
	mm	164	91	93	125	90
10	ins.	7.03	3.74	4.38	5.06	4.12
	mm	179	95	111	129	105
11	ins.	7.38	3.71	5.06	4.59	4.72
	mm	188	94	129	117	120
12	ins.	7.38	3.71	5.50	4.59	5.19
	mm	188	94	140	117	132
13	ins.	8.22	4.15	5.06	5.47	4.72
	mm	209	105	129	139	120
14	ins.	8.22	4.15	5.50	5.47	5.19
	mm	209	105	140	139	132
15	ins.	5.22	X	2.72	4.47	3.69
	mm	133	X	69	114	94
16	ins.	5.41	X	2.78	4.62	3.69
	mm	137	X	71	117	94
17	ins.	6.53	X	3.75	4.91	3.16
	mm	166	X	95	125	80
18	ins.	6.47	X	3.66	4.91	3.56
	mm	164	X	93	125	90
19	ins.	7.03	X	4.38	5.06	4.12
	mm	179	X	111	129	105
20	ins.	8.22	X	5.06	5.47	4.72
	mm	209	X	129	139	120
21	ins.	8.22	X	5.50	5.47	5.19
	mm	209	X	140	139	132

**IMPORTANT:** Valves may be mounted in any position.

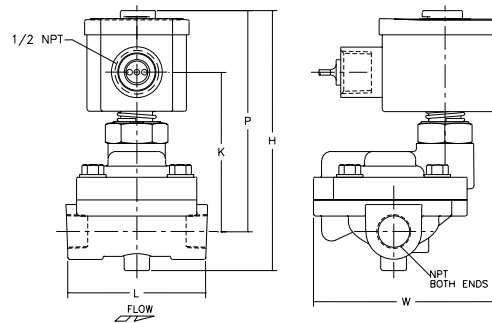
Constr. Refs. 1, 2



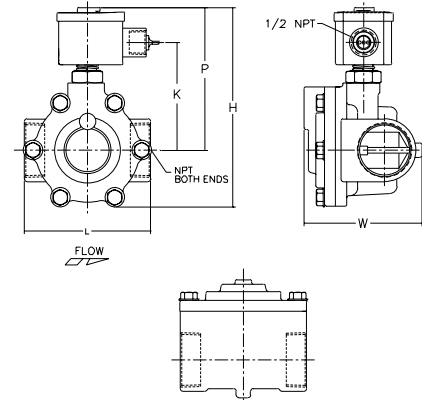
Constr. Refs. 15, 16



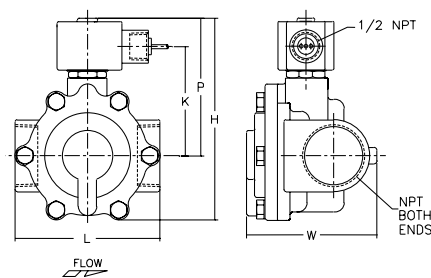
Constr. Refs. 3, 4



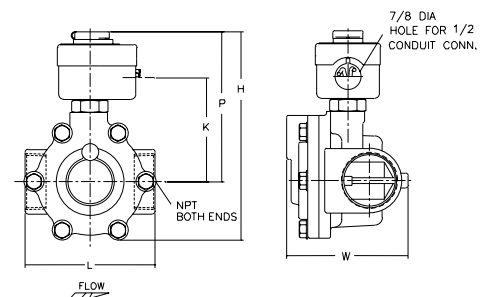
Constr. Refs. 8, 9, 10, 13, 14



Constr. Refs. 5, 6, 7, 11, 12



Constr. Refs. 17 - 21



### Features

- Rugged piston construction built to withstand pressure ratings of 450 to 1500 psi.
- Angle body design for high flows.
- Ideal for high pressure water applications, such as car washes.
- Mountable in any position.

### Construction

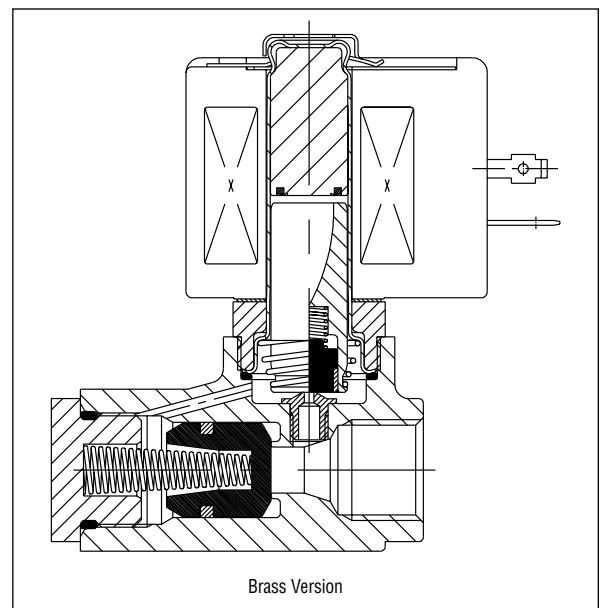
Valve Parts in Contact with Fluids		
Body	Brass	300 Stainless Steel
Seals and Disc	NBR, PA, PTFE	PTFE, NBR
Core Tube	305 Stainless Steel	
Core and Plugnut	430F Stainless Steel	
Core Spring	302 Stainless Steel	
Shading Coil	Copper	Silver
Stem	PA (Normally Open)	



### Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	-	10.1	25	50	238610	-	238614	-
F	22.6	17.1	40	70	238610	238710	238614	238714

**Standard Voltages:** 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz).  
6, 12, 24, 120, 240 volts DC. Must be specified when ordering. Other voltages available when required.



### Solenoid Enclosures

**Standard:** Watertight, Types 1, 2, 3, 3S, 4, and 4X.  
**Optional:** Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9.  
(To order, add prefix "EF" to catalog number.)

### Nominal Ambient Temperature Ranges:

AC: 32°F to 125°F (0°C to 52°C)  
DC: 32°F to 104°F (0°C to 40°C)

### Approvals:

CSA certified. Meets applicable CE directives.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)							Maximum Fluid Temp. °F		Brass Body		Stainless Steel Body		Watt Rating/Class of Coil Insulation	
			Min.	Max. AC			Max. DC			AC	DC	Catalog Number	Constr. Ref. No.	Catalog Number	Constr. Ref. No.	AC	DC
				Air-Inert Gas	Water	Light Oil @ 300 SSU	Air-Inert Gas	Water	Light Oil @ 300 SSU								
<b>NORMALLY CLOSED (Closed when de-energized)</b>																	
1/4	5/16	1.5	10	750	750	750	-	-	-	200	-	8223G21	1	-	-	10.1/F	-
1/4	5/16	1.5	10	1500	1500	1500	500	500	500	200	150	8223G25	1	-	-	17.1/F	22.6/F
3/8	5/16	1.5	10	750	750	750	400	400	400	200	150	8223G23	1	-	-	10.1/F	22.6/F
3/8	5/16	1.5	10	1500	1500	1500	500	500	500	200	150	8223G27	1	-	-	17.1/F	22.6/F
1/2	3/8	3.2	25	1500	1500	1500	500	500	500	200	150	8223G3	2	8223G10	4	17.1/F	22.6/F
3/4	3/4	7.8	25	750	750	750	450	450	450	200	150	8223G5	3	8223G12	5	17.1/F	22.6/F

Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)							Maximum Fluid Temp. °C		Brass Body		Stainless Steel Body		Watt Rating/Class of Coil Insulation	
			Min.	Max. AC			Max. DC			AC	DC	Catalog Number	Constr. Ref. No.	Catalog Number	Constr. Ref. No.	AC	DC
				Air-Inert Gas	Water	Light Oil @ 300 SSU	Air-Inert Gas	Water	Light Oil @ 300 SSU								
<b>NORMALLY CLOSED (Closed when de-energized)</b>																	
1/4	8	1.29	0.7	52	52	52	-	-	-	92	-	8223G21	1	-	-	10.1/F	-
1/4	8	1.29	0.7	103	103	103	34	34	34	92	65	8223G25	1	-	-	17.1/F	22.6/F
3/8	8	1.29	0.7	52	52	52	28	28	28	92	65	8223G23	1	-	-	10.1/F	22.6/F
3/8	8	1.29	0.7	103	103	103	34	34	34	92	65	8223G27	1	-	-	17.1/F	22.6/F
1/2	10	2.74	1.7	103	103	103	34	34	34	92	65	8223G3	2	8223G10	4	17.1/F	22.6/F
3/4	19	6.69	1.7	52	52	52	31	31	31	92	65	8223G5	3	8223G12	5	17.1/F	22.6/F

Dimensions: inches (mm)

Constr. Ref. No.		H	K	L	P	W
1	ins.	3.41	1.91	2.44	2.88	1.95
	mm	87	49	62	73	50
2	ins.	4.32	2.17	3.03	3.13	1.95
	mm	110	55	77	80	50
3	ins.	5.03	2.64	3.60	3.61	2.00
	mm	128	67	91	92	51
4	ins.	4.34	2.15	2.50	3.13	1.95
	mm	110	55	64	80	50
5	ins.	5.03	2.53	3.53	3.50	3.50
	mm	128	64	90	89	89

**Constr. Refs. 1 - 5**

1/2 NPT

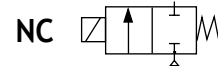
OUTLET NPT 2 PLACES

INLET

INLET LOCATED ON BOTTOM FOR CAT. NO'S 8223G3,5,10 & 12



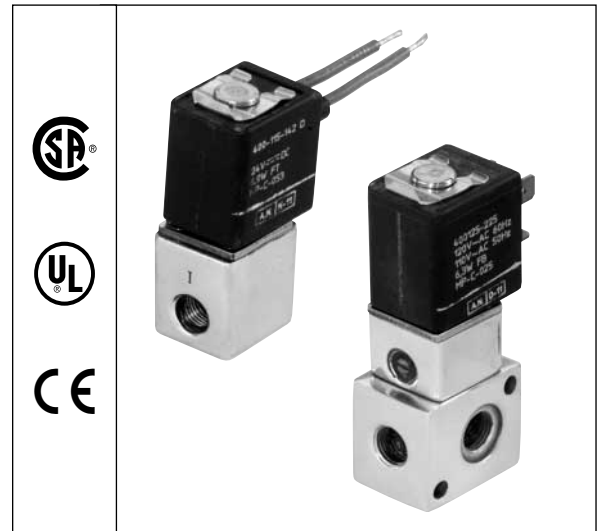
Direct Acting  
**Sub-Miniature Solenoid Valves**  
 Brass, Stainless Steel or Aluminum Bodies  
 1/8" NPT



2/2  
 SERIES  
 8225  
 8280

**Features**

- Economical, Normally Closed valves for a wide range of OEM applications.
- Convertable from AC to DC by changing the molded epoxy open frame coil.
- Individual valves handle mildly aggressive fluids.
- Group mounted valves (max. 10 valves) have aluminum bodies and built-in manual operators for air service.
- Mountable in any position.



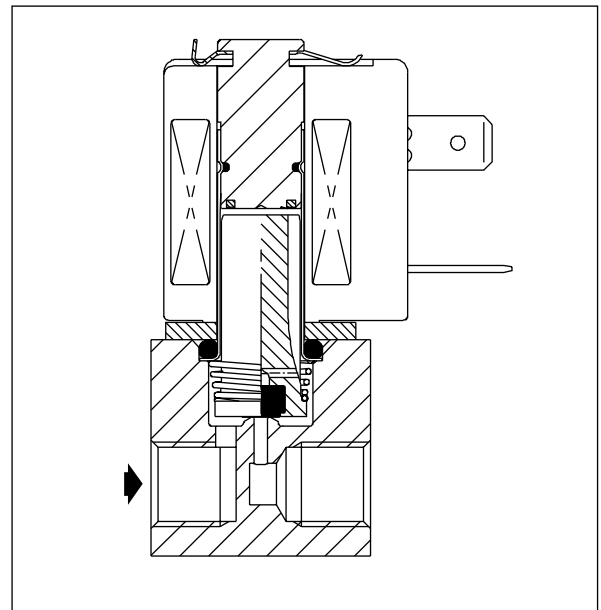
**Construction**

Valve Parts in Contact with Fluids		
<b>Body</b>		
<b>Individual Valves</b>	Brass	Stainless Steel
<b>Group Mounted</b>	Aluminum	
<b>Seals and Discs</b>	NBR or FKM	
<b>Core and Plugnut</b>	430F Stainless Steel	
<b>Core Springs</b>	302 Stainless Steel	
<b>Shading Coil</b>	Copper	

**Electrical**

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number	
	DC Watts	AC			AC	DC
		Watts	VA Holding	VA Inrush		
F	6.9	6.3	8.8	12.1	400125	400125

**Standard Voltages:** 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC 50 Hz). 6, 12, 24, 120, 240 volts DC. Must be specified when ordering. Other voltages available when required.



**Solenoid**

**Standard:** Molded epoxy open frame solenoid can be converted from AC to DC by simply changing the coil.

**Optional:** 3x DIN 46244 coil; 1/2" Threaded Conduit Hub.

**Nominal Ambient Temperature Ranges:**

AC: 32°F to 135°F (0°C to 57°C)  
 DC: 32°F to 77°F (0°C to 25°C)

**Approvals:**

CSA certified. UL Recognized Component. Meets applicable CE directives.

### Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)						Max. Fluid Temp. °F		Open Frame Solenoid		Watt Rating/Class of Coil Insulation	
			Max. AC			Max. DC			AC	DC	Brass Body Catalog Number	Stainless Steel Body Catalog Number	AC	DC
			Air-Inert Gas	Water	Light Oil @ 300 SSU	Air-Inert Gas	Water	Light Oil @ 300 SSU						
<b>NORMALLY CLOSED (Closed when de-energized), FKM Disc</b>														
1/8	3/64	.05	500	500	500	200	200	200	180	77	U8225B1V	U8225B5V	6.3/F	6.9/F
1/8	1/16	.07	300	300	300	125	125	125	180	77	U8225B2V	U8225B6V	6.3/F	6.9/F
1/8	3/32	.17	175	175	175	30	30	30	180	77	U8225B3V	U8225B7V	6.3/F	6.9/F
1/8	1/8	.23	125	125	125	20	20	20	180	77	U8225B4V	U8225B8V	6.3/F	6.9/F

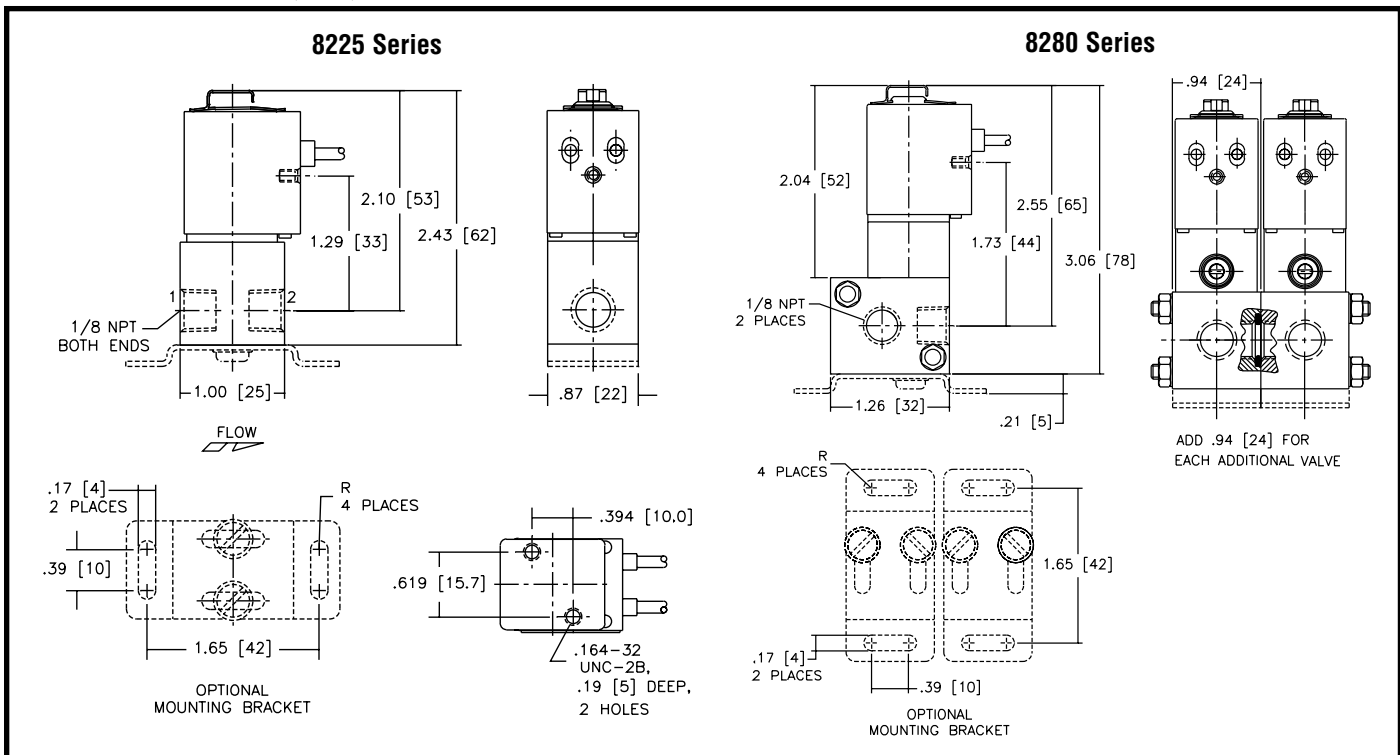
Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)						Max. Fluid Temp. °F		Open Frame Solenoid		Watt Rating/Class of Coil Insulation	
			Max. AC			Max. DC			AC	DC	Operator Only Catalog Number	Sub-Base Construction Catalog Number	AC	DC
			Air-Inert Gas	Water	Light Oil @ 300 SSU	Air-Inert Gas	Water	Light Oil @ 300 SSU						
<b>GROUP MOUNTING - NORMALLY CLOSED (Closed when de-energized), Aluminum Body, NBR Disc</b>														
1/8	3/64	.05	150			150			180	77	U8280B1	U8280B2	6.3/F	6.9/F

### Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)						Max. Fluid Temp. °C		Open Frame Solenoid		Watt Rating/Class of Coil Insulation	
			Max. AC			Max DC			AC	DC	Brass Body Catalog Number	Stainless Steel Body Catalog Number	AC	DC
			Air-Inert Gas	Water	Light Oil @ 300 SSU	Air-Inert Gas	Water	Light Oil @ 300 SSU						
<b>NORMALLY CLOSED (Closed when de-energized), FKM Disc</b>														
1/8	1.2	.04	34	34	34	14	14	14	81	27	U8225B1V	U8225B5V	6.3/F	6.9/F
1/8	1.6	.06	21	21	21	9	9	9	81	27	U8225B2V	U8225B6V	6.3/F	6.9/F
1/8	2.4	.15	12	12	12	2	2	2	81	27	U8225B3V	U8225B7V	6.3/F	6.9/F
1/8	3.2	.20	9	9	9	1	1	1	81	27	U8225B4V	U8225B8V	6.3/F	6.9/F

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)						Max. Fluid Temp. °C		Open Frame Solenoid		Watt Rating/Class of Coil Insulation	
			Max. AC			Max. DC			AC	DC	Operator Only Catalog Number	Sub-Base Construction Catalog Number	AC	DC
			Air-Inert Gas	Water	Light Oil @ 300 SSU	Air-Inert Gas	Water	Light Oil @ 300 SSU						
<b>GROUP MOUNTING - NORMALLY CLOSED (Closed when de-energized), Aluminum Body, NBR Disc</b>														
1/8	1.2	.04	10			10			81	25	U8280B1	U8280B2	6.3/F	6.9/F

### Dimensions: inches (mm)



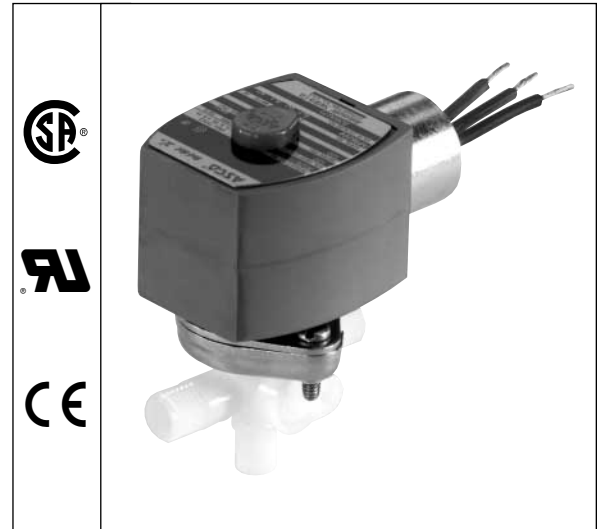


**Features**

- Corrosion resistant plastic bodies.
- Available with compression fitting ends for metal or plastic tube to save installation cost.
- Mountable in any position.
- Dispensing vending construction NSF listed.

**Construction**

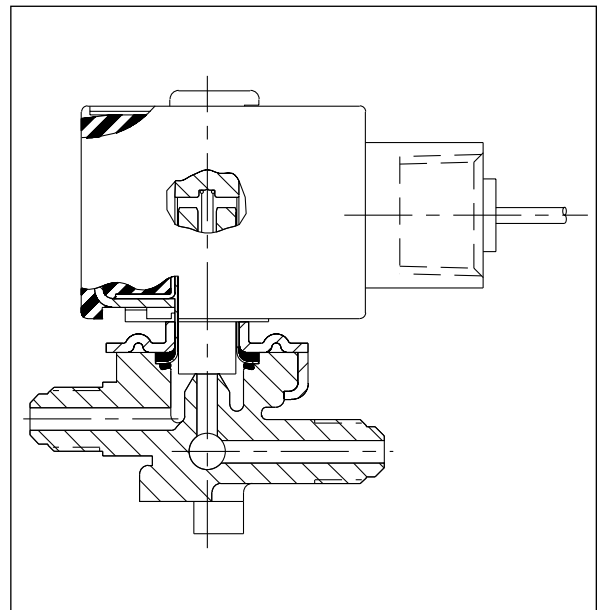
Valve Parts in Contact with Fluids	
Body	CA, PA, PP
Seals and Disc	NBR
Core Tube	305 Stainless Steel
Core and Plugnut	430F Stainless Steel
Springs	302 Stainless Steel
Shading Coil	Copper



**Electrical**

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number	
	DC Watts	AC			General Purpose	
		Watts	VA Holding	VA Inrush	AC	DC
B	6.4	6.5	9.2	17.3	174879	180555
F	10.6	6.1	16	30	238210	238310

**Standard Voltages:** 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz). 6, 12, 24, 120, 240 volts DC. Must be specified when ordering. Other voltages available when required.



**Nominal Ambient Temperature Range:**

AC: 32°F to 125°F (0°C to 52°C)  
DC: 32°F to 104°F (0°C to 40°C)

**Solenoid Enclosures**

**Standard:** Watertight, Types 1, 2, 3, 3S, 4, and 4X.  
**Optional:** Open Frame Solenoid, Junction Box enclosures.

**Approvals:**

CSA certified. UL Recognized Component. Meets applicable CE directives.

Specifications (English units)

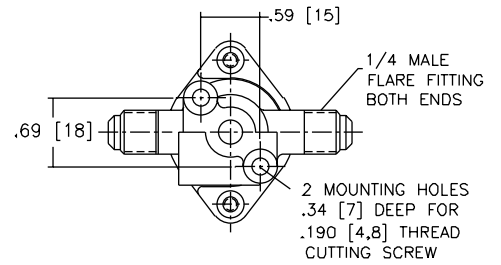
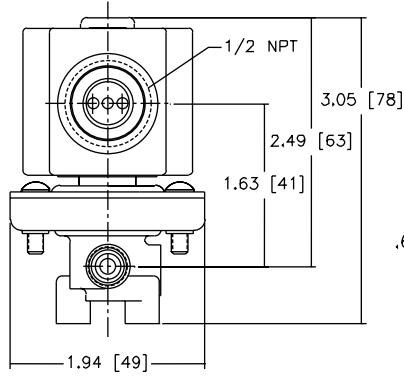
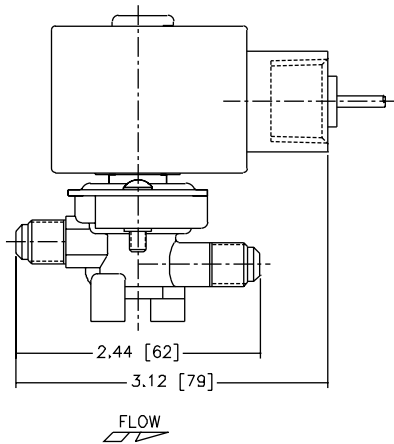
Pipe Connections	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)				Max. Fluid Temp. °F		Plastic Body		Watt Rating/ Class of Coil Insulation ②	
			Max. AC		Max. DC		AC	DC	Catalog Number	Constr. Ref. No.	AC	DC
			Air-Inert Gas	Water	Air-Inert Gas	Water						
<b>GENERAL SERVICE CONSTRUCTION - CA Body, Watertight enclosure with leads</b>												
1/4" Male Flare	9/64	.35	120	120	50	50	130	120	8260G42	1	6.1/F	10.6/F
Bib for 1/4" I.D. Tube	9/64	.35	120	120	50	50	130	120	8260G54	2	6.1/F	10.6/F
1/4" O.D. ① Compression	9/64	.35	120	120	50	50	130	120	8260G71	3	6.1/F	10.6/F
<b>GENERAL SERVICE CONSTRUCTION - PP Body, Open Frame Solenoid and Spade Terminal Coils</b>												
1/4" O.D. ① Compression	1/16	.09	150	150	60	60	130	120	USM826073	5	6.5/B	6.4/B
	3/32	.19	100	100	20	20	130	120	USM826074	5	6.5/B	6.4/B
	1/8	.31	60	60	10	10	130	120	USM826075	5	6.5/B	6.4/B
	5/32	.43	35	35	5	5	130	120	USM826076	5	6.5/B	6.4/B
<b>DISPENSING VENDING CONSTRUCTION - NSF Listed - PP Body, Open Frame Solenoid and Spade Terminal Coils</b>												
1/4" O.D. ① Compression	1/16	.09	150	150	60	60	130	120	USM826077	4	6.5/B	6.4/B
	3/32	.19	100	100	20	20	130	120	USM826078	4	6.5/B	6.4/B
	1/8	.31	60	60	10	10	130	120	USM826079	4	6.5/B	6.4/B
	5/32	.43	35	35	5	5	130	120	USM826080	4	6.5/B	6.4/B
<b>DISPENSING VENDING CONSTRUCTION - NSF Listed - PA Body, Open Frame Solenoid and Spade Terminal Coils</b>												
3/8" O.D. ① Compression	5/16	1.3	5	5	-	-	130	-	USM826090	6	6.5/B	-
<b>PA Body, Open Frame Solenoid and Spade Terminal Coils</b>												
3/8" O.D. ① Compression	5/16	1.3	5	5	-	-	130	-	USM826089	6	6.5/B	-
<b>Notes:</b> ① Fittings not supplied with valve. To order, refer to List Price Schedule. Kit No. 224150 - plastic tubing, and Kit No. 224151 - metal tubing. ② On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.												

Specifications (Metric units)

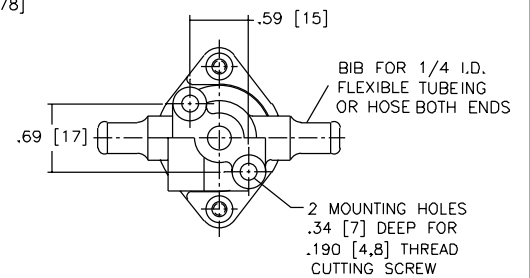
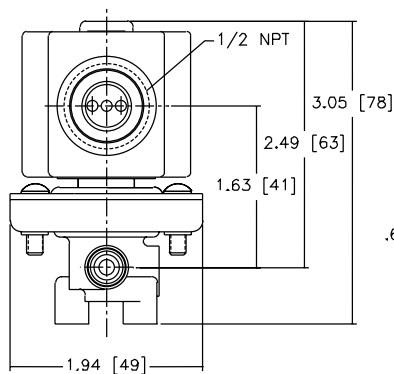
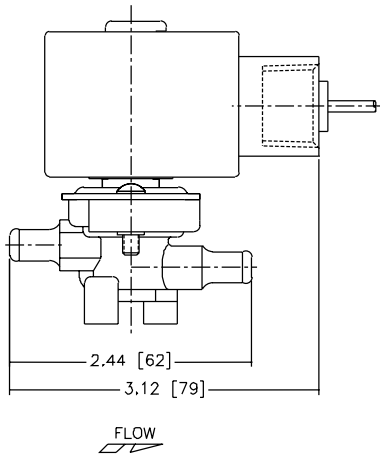
Pipe Connections	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)				Max. Fluid Temp. °C		Plastic Body		Watt Rating/ Class of Coil Insulation ②	
			Max. AC		Max. DC		AC	DC	Catalog Number	Constr. Ref. No.	AC	DC
			Air-Inert Gas	Water	Air-Inert Gas	Water						
<b>GENERAL SERVICE CONSTRUCTION - CA Body, Watertight enclosure with leads</b>												
1/4" Male Flare	3.6	.30	8.3	8.3	3.4	3.4	54	49	8260G42	1	6.1/F	10.6/F
Bib for 1/4" I.D. Tube	3.6	.30	8.3	8.3	3.4	3.4	54	49	8260G54	2	6.1/F	10.6/F
1/4" O.D. ① Compression	3.6	.30	8.3	8.3	3.4	3.4	54	49	8260G71	3	6.1/F	10.6/F
<b>GENERAL SERVICE CONSTRUCTION - PP Body, Open Frame Solenoid and Spade Terminal Coils</b>												
1/4" O.D. ① Compression	1.6	.08	10.3	10.3	4.1	4.1	54	49	USM826073	5	6.5/B	6.4/B
	2.4	.16	6.9	6.9	1.4	1.4	54	49	USM826074	5	6.5/B	6.4/B
	3.2	.27	4.1	4.1	0.7	0.7	54	49	USM826075	5	6.5/B	6.4/B
	4.0	.37	2.4	2.4	0.3	0.3	54	49	USM826076	5	6.5/B	6.4/B
<b>DISPENSING VENDING CONSTRUCTION - NSF Listed - PP Body, Open Frame Solenoid and Spade Terminal Coils</b>												
1/4" O.D. ① Compression	1.6	.08	10.3	10.3	4.1	4.1	54	49	USM826077	4	6.5/B	6.4/B
	2.4	.16	6.9	6.9	1.4	1.4	54	49	USM826078	4	6.5/B	6.4/B
	3.2	.27	4.1	4.1	0.7	0.7	54	49	USM826079	4	6.5/B	6.4/B
	4.0	.37	2.4	2.4	0.3	0.3	54	49	USM826080	4	6.5/B	6.4/B
<b>DISPENSING VENDING CONSTRUCTION - NSF Listed - PA Body, Open Frame Solenoid and Spade Terminal Coils</b>												
3/8" O.D. ① Compression	7.9	1.11	0.3	0.3	-	-	54	-	USM826090	6	6.5/B	-
<b>PA Body, Open Frame Solenoid and Spade Terminal Coils</b>												
3/8" O.D. ① Compression	7.9	1.11	0.3	0.3	-	-	54	-	USM826089	6	6.5/B	-
<b>Notes:</b> ① Fittings not supplied with valve. To order, refer to List Price Schedule. Kit No. 224150 - plastic tubing, and Kit No. 224151 - metal tubing. ② On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.												

Dimensions: inches (mm)

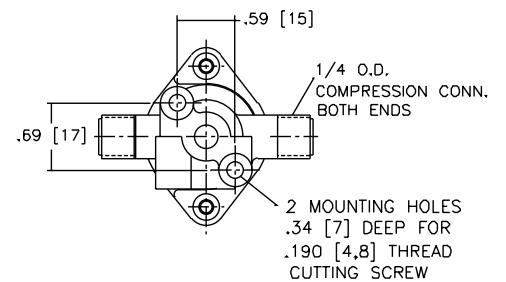
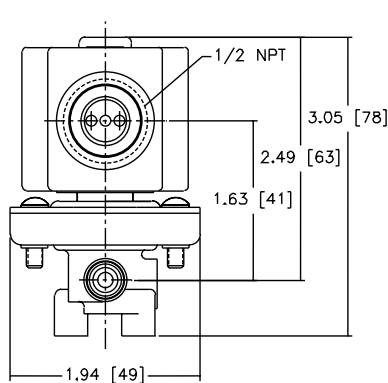
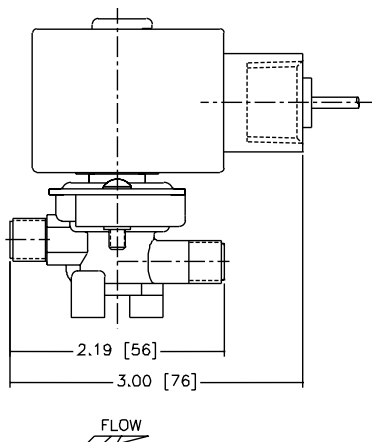
Constr. Refs. 1



Constr. Refs. 2



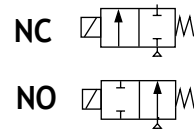
Constr. Refs. 3







Direct Acting  
**General Service Solenoid Valves**  
 Brass or Stainless Steel Bodies  
 1/8" to 3/8" NPT



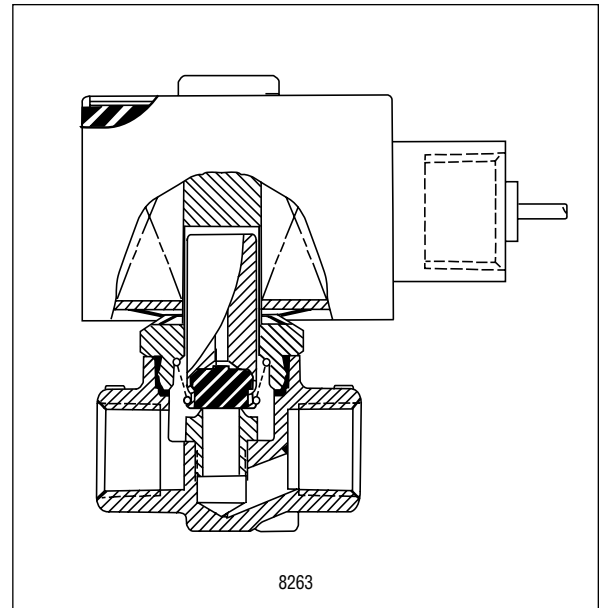
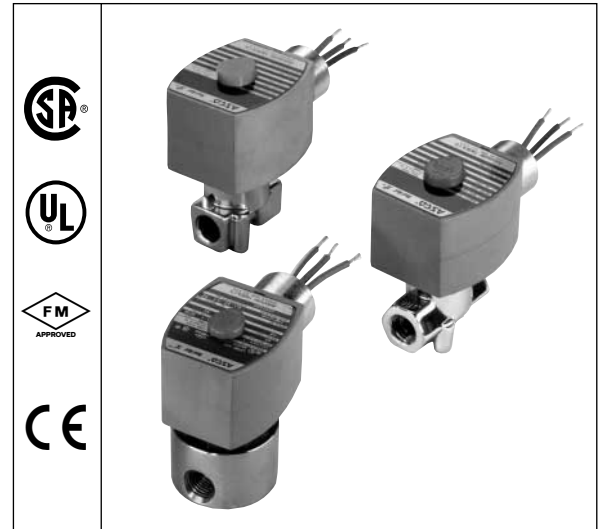
2/2  
 SERIES  
**8262**  
**8263**

**Features**

- Reliable, proven design with high flows.
- Small poppet valves for tight shutoff.
- Wide range of elastomers for specialty service.
- Mountable in any position.
- Brass body construction for general atmospheres; Stainless Steel for corrosive atmospheres.

**Construction**

Valve Parts in Contact with Fluids		
<b>Body</b>	Brass	303/304 Stainless Steel
<b>Seals and Discs</b>	NBR or Cast UR	
<b>Core Tube</b>	305 Stainless Steel	
<b>Core and Plugnut</b>	430F Stainless Steel	
<b>Springs</b>	302 Stainless Steel	
<b>Shading Coil</b>	Copper	Silver
<b>Stem</b>	PA (Normally Open)	
<b>Note:</b> All 1/8" NPT Normally Open valves contain CA. All 1/4" NPT Normally Open valves contain PA.		



**Electrical**

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part No.			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	10.6	6.1	16	30	238210	238310	238214	238314
F	11.6	10.1	25	50	238610	238710	238614	238714
F	22.6	17.1	40	70	238610	238710	238614	238714
<b>Standard Voltages</b> 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz). 6, 12, 24, 120, 240 volts DC. Must be specified when ordering. Other voltages available when required.								

**Nominal Ambient Temperature Ranges:**

AC: 32°F to 125°F (0°C to 52°C)  
 DC: 32°F to 104°F (0°C to 40°C)

**Solenoid Enclosures**

**Standard:** Watertight, Types 1, 2, 3, 3S, 4, and 4X.  
**Optional:** Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9.  
 (To order, add prefix "EF" to catalog number)

**Approvals:**

CSA certified. UL listed, as indicated. Normally Closed Valves FM approved. Meets applicable CE directives.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)						Max. Fluid Temp. °F		Brass Body			Stainless Steel Body			Watt Rating/ Class of Coil Insulation ②	
			Max. AC			Max. DC			AC	DC	Catalog Number	Constr. Ref. No.	UL ③ Listing	Catalog Number	Constr. Ref. No.	UL ③ Listing	AC	DC
			Air-Inert Gas	Water	Lt. Oil @ 300 SSU	Air-Inert Gas	Water	Lt. Oil @ 300 SSU										
<b>NORMALLY CLOSED (Closed when de-energized), NBR Disc</b>																		
1/8	3/64	.06	750	750	530	650	640	550	180	120	8262G1	1	○	8262G12	1	○	6.1/F	10.6/F
1/8	3/32	.20	275	290	130	150	140	145	180	120	8262G14	1	○	8262G15	1	○	6.1/F	10.6/F
1/8	1/8	.34	155	180	140	80	80	80	180	120	8262G2	1	○	8262G6	1	○	6.1/F	10.6/F
1/4	3/64	.06	750	750	500	500	500	500	180	120	8262G19	16	○	8262G80	11	○	6.1/F	10.6/F
1/4	3/64	.06	1500	1500	1100	475	475	450	140	140	8262G200	17	●	-	-	-	10.1/F	11.6/F
1/4	3/64	.06	2200	2000	1100	-	-	-	140	140	-	-	-	8262G214	12	●	10.1/F	-
1/4	3/32	.17	360	340	160	150	125	125	180	120	8262G20	16	○	8262G86	11	○	6.1/F	10.6/F
1/4	1/8	.35	140	165	90	65	60	60	180	120	8262G22	16	○	8262G7	11	○	6.1/F	10.6/F
1/4	1/8	.35	300	300	200	75	70	70	180	150	8262G232	17	○	-	-	-	10.1/F	11.6/F
1/4	5/32	.50	180	200	145	40	40	45	180	150	8262G202	4	○	8262G220	12	○	10.1/F	11.6/F
1/4	7/32	.72	90	100	100	25	25	25	180	150	8262G208	4	○	8262G226	12	○	10.1/F	11.6/F
1/4	7/32	.85	40	50	40	17	20	21	180	120	8262G13	2	○	8262G36	11	○	6.1/F	10.6/F
1/4	9/32	.88	60	75	60	18	15	18	180	150	8262G210	4	○	-	-	-	10.1/F	11.6/F
1/4	9/32	.88	90	100	90	25	20	22	180	150	8262G212	6	○	8262G230	13	○	17.1/F	22.6/F
1/4	9/32	.96	27	36	28	15	16	16	180	120	8262G90	2	○	8262G38	11	○	6.1/F	10.6/F
3/8	1/8	.35	160	150	90	65	60	60	180	120	8263G2	3	○	8263G330	3	○	6.1/F	10.6/F
3/8	5/32	.52	100	100	100	35	35	35	180	150	8263G200	5	○	8263G331	5	○	10.1/F	11.6/F
3/8	7/32	.72	100	100	100	25	25	25	180	150	8263G206	5	○	8263G332	5	○	17.1/F	11.6/F
3/8	9/32	.85	100	100	70	-	-	-	180	—	8263G210	7	○	8263G333	7	○	17.1/F	-
<b>NORMALLY OPEN (Open when de-energized), NBR Disc (except where noted)</b>																		
1/8	1/16	.09	500	300	225	400	250	150	180	120	8262G91	8	●	8262G92	8	●	6.1/F	10.6/F
1/8	3/32	.15	275	200	150	190	110	110	180	120	8262G93	8	●	8262G94	8	●	6.1/F	10.6/F
1/8	1/8	.21	125	100	85	80	60	50	180	120	8262G31	8	●	8262G35	8	●	6.1/F	10.6/F
1/4	3/64	.06	750	700	700	500	500	500	140	140	8262G260 ①	9	●	8262G130 ①	14	●	10.1/F	11.6/F
1/4	3/32	.17	300	250	230	200	150	125	140	140	8262G261 ①	9	●	8262G134 ①	14	●	10.1/F	11.6/F
1/4	1/8	.35	130	110	100	80	60	60	180	150	8262G262	9	●	8262G138	14	●	10.1/F	11.6/F
1/4	5/32	.49	85	75	60	45	30	30	180	150	8262G263	4	●	8262G142	14	●	10.1/F	11.6/F
1/4	7/32	.83	45	45	40	25	20	20	180	150	8262G264	4	●	8262G148	14	●	10.1/F	11.6/F
1/4	9/32	.96	30	25	20	15	15	15	180	150	8262G265	4	●	8262G152	14	●	10.1/F	11.6/F
<b>Notes:</b> ① Cast UR disc supplied as standard. ② On 50 hertz service, the rating for the 6.1/F solenoid is 8.1 watts. ③ ○ Safety Shutoff Valve; ● General Purpose Valve. Refer to Engineering Section (Approvals) for details.																		

Specifications (Metric units)

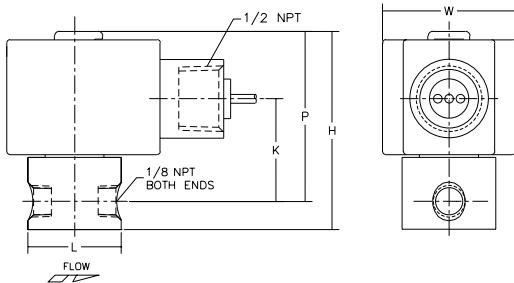
Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m3/h)	Operating Pressure Differential (bar)						Max. Fluid Temp. °C		Brass Body			Stainless Steel Body			Watt Rating/ Class of Coil Insulation ②	
			Max. AC			Max. DC			AC	DC	Catalog Number	Constr. Ref. No.	UL ③ Listing	Catalog Number	Constr. Ref. No.	UL ③ Listing	AC	DC
			Air-Inert Gas	Water	Lt. Oil @ 300 SSU	Air-Inert Gas	Water	Lt. Oil @ 300 SSU										
<b>NORMALLY CLOSED (Closed when de-energized), NBR Disc</b>																		
1/8	1.2	.05	52	52	37	45	44	38	81	48	8262G1	1	○	8262G12	1	○	6.1/F	10.6/F
1/8	2.4	.17	19	20	9	10	10	10	81	48	8262G14	1	○	8262G15	1	○	6.1/F	10.6/F
1/8	3.2	.29	11	12	10	6	6	6	81	48	8262G2	1	○	8262G6	1	○	6.1/F	10.6/F
1/4	1.2	.05	52	52	34	34	34	34	81	48	8262G19	16	○	8262G80	11	○	6.1/F	10.6/F
1/4	1.2	.05	103	103	76	33	33	31	60	60	8262G200	17	●	-	-	-	10.1/F	11.6/F
1/4	1.2	.05	152	138	76	-	-	-	60	60	-	-	-	8262G214	12	●	10.1/F	-
1/4	2.4	.15	25	23	11	10	9	9	81	48	8262G20	16	○	8262G86	11	○	6.1/F	10.6/F
1/4	3.2	.30	10	11	6	4	4	4	81	48	8262G22	16	○	8262G7	11	○	6.1/F	10.6/F
1/4	3.2	.30	21	21	14	5	5	5	81	65	8262G232	17	○	-	-	-	10.1/F	11.6/F
1/4	4.0	.43	12	14	10	3	3	3	81	65	8262G202	4	○	8262G220	12	○	10.1/F	11.6/F
1/4	5.6	.62	6	7	7	2	2	2	81	65	8262G208	4	○	8262G226	12	○	10.1/F	11.6/F
1/4	5.6	.73	3	3	3	1	1	1	81	48	8262G13	2	○	8262G36	11	○	6.1/F	10.6/F
1/4	7.1	.75	4	5	4	1	1	1	81	65	8262G210	4	○	-	-	-	10.1/F	11.6/F
1/4	7.1	.75	6	7	6	2	1	2	81	65	8262G212	6	○	8262G230	13	○	17.1/F	22.6/F
1/4	7.1	.82	2	2	2	1	1	1	81	48	8262G90	2	○	8262G38	11	○	6.1/F	10.6/F
3/8	3.3	.30	11	10	6	4	4	4	81	48	8263G2	3	○	8263G330	3	○	6.1/F	10.6/F
3/8	4.0	.45	7	7	7	2	2	2	81	65	8263G200	5	○	8263G331	5	○	10.1/F	11.6/F
3/8	5.6	.62	7	7	7	2	2	2	81	65	8263G206	5	○	8263G332	5	○	17.1/F	11.6/F
3/8	7.1	.73	7	7	5	-	-	-	81	-	8263G210	7	○	8263G333	7	○	17.1/F	-
<b>NORMALLY OPEN (Open when de-energized), NBR Disc (except where noted)</b>																		
1/8	1.6	.08	34	21	16	28	17	10	81	48	8262G91	8	●	8262G92	8	●	6.1/F	10.6/F
1/8	2.4	.13	19	14	10	13	8	8	81	48	8262G93	8	●	8262G94	8	●	6.1/F	10.6/F
1/8	3.2	.18	9	7	6	6	4	3	81	48	8262G31	8	●	8262G35	8	●	6.1/F	10.6/F
1/4	1.2	.05	52	48	48	34	34	34	59	59	8262G260 ①	9	●	8262G130 ①	14	●	10.1/F	11.6/F
1/4	2.4	.15	21	17	16	14	10	9	59	59	8262G261 ①	9	●	8262G134 ①	14	●	10.1/F	11.6/F
1/4	3.2	.30	9	8	7	6	4	4	81	65	8262G262	9	●	8262G138	14	●	10.1/F	11.6/F
1/4	4.0	.42	6	5	4	3	2	2	81	65	8262G263	4	●	8262G142	14	●	10.1/F	11.6/F
1/4	5.6	.71	3	3	3	2	1	1	81	65	8262G264	4	●	8262G148	14	●	10.1/F	11.6/F
1/4	7.1	.82	2	2	1	1	1	1	81	65	8262G265	4	●	8262G152	14	●	10.1/F	11.6/F
<b>Notes:</b> ① Cast UR disc supplied as standard. ② On 50 Hertz service, the rating for the 6.1/F solenoid is 8.1 watts. ③ ○ Safety Shutoff Valve; ● General Purpose Valve. Refer to Engineering Section (Approvals) for details.																		

Dimensions: inches (mm)

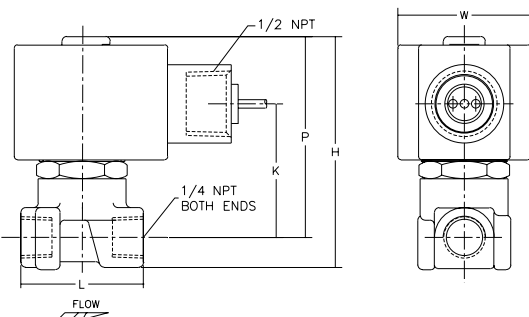
Constr. Ref. No.		H	K	L	P	W
1	ins.	2.52	1.30	1.19	2.16	1.69
	mm	64	33	30	55	43
2	ins.	2.98	1.71	1.56	2.57	1.69
	mm	76	43	40	65	43
3	ins.	3.07	1.63	1.88	2.49	1.69
	mm	78	41	48	63	43
4	ins.	3.20	1.78	1.56	2.79	1.95
	mm	81	45	40	71	50
5	ins.	3.25	1.70	2.00	2.77	1.95
	mm	83	43	51	70	50
6	ins.	3.16	1.78	1.56	2.75	1.95
	mm	80	45	40	70	50
7	ins.	3.25	1.70	2.00	2.67	1.95
	mm	83	43	51	68	50
8	ins.	3.15	1.32	1.19	2.18	1.69
	mm	80	34	30	55	43
9	ins.	3.23	1.67	1.25	2.81	1.95
	mm	82	42	32	71	50
11	ins.	2.94	1.71	1.56	2.57	1.69
	mm	75	43	40	65	43
12	ins.	3.12	1.78	1.56	2.75	1.95
	mm	79	45	40	70	50
13	ins.	3.12	1.78	1.56	2.75	1.95
	mm	79	45	40	70	50
14	ins.	3.16	1.65	1.56	2.79	1.95
	mm	80	42	40	71	50
16	ins.	3.01	1.73	1.25	2.59	1.69
	mm	76	44	32	66	43
17	ins.	3.19	1.80	1.25	2.77	1.95
	mm	81	46	32	70	50

IMPORTANT: Valves may be mounted in any position.

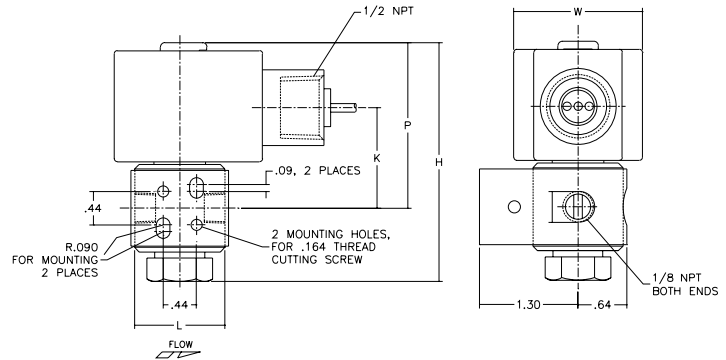
Constr. Refs. 1



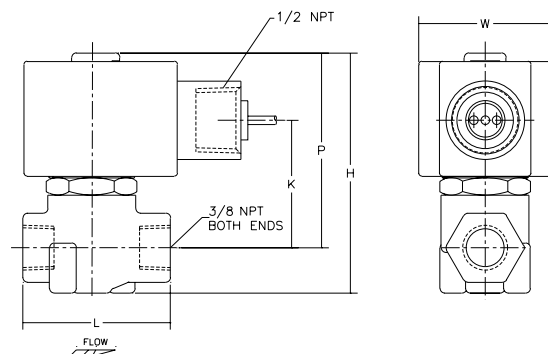
Constr. Refs. 2, 4, 6, 9



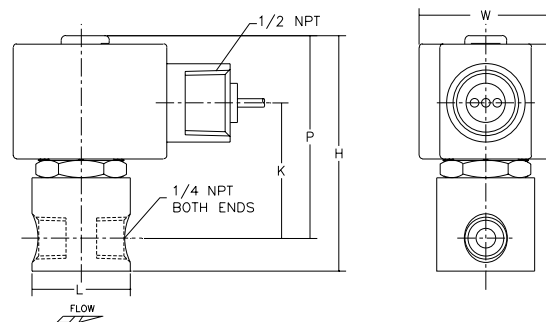
Constr. Refs. 8



Constr. Refs. 3, 5, 7

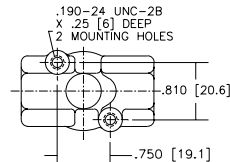


Constr. Refs. 11-14, 16, 17

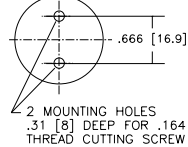


Mounting Details

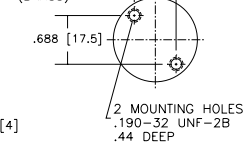
MOUNTING HOLES IN VALVE BODY  
BRASS-CONSTR. REFS. 3, 5, 7



CONSTR. REF. 9, 16, 17

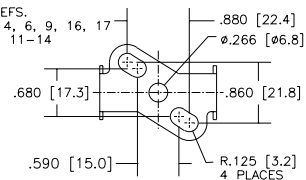


CONSTR. REF. 1 (BRASS)



MOUNTING BRACKET

CONSTR. REFS. BRASS: 2, 4, 6, 9, 16, 17  
ST. ST.: 1, 11-14





## Americas

### USA

#### Alabama

Birmingham, AL 35244  
Tel (205) 988-8169  
Fax (205) 988-9675

#### Alaska

Contact Southern CA office

#### Arizona

Contact Southern CA office

#### Arkansas

Contact Eastern OK office

#### California

Orange, CA 92868  
Tel (714) 937-0811  
Fax (714) 937-1390

#### Colorado

Littleton, CO 80122  
Tel (303) 779-6990  
Fax (303) 773-0859

#### Connecticut (Northern)

Contact Central/Northern NY office

#### Connecticut (Southern)

Contact NJ office

#### Delaware

Contact NJ office

#### Florida

Contact Alabama office,  
toll-free (800) 531-2019

#### Georgia

Contact Alabama office

#### Hawaii

Contact Southern CA office

#### Idaho (Northern)

Contact Southern CA office

#### Idaho (Southern)

Contact Colorado office

#### Illinois

Westmont, IL 60559  
Tel (630) 789-4810  
Fax (630) 789-4820

#### Indiana

C. M. Buck & Associates, Inc.  
Indianapolis, IN 46268  
Tel (317) 293-5704  
Fax (317) 293-0281

#### Iowa (Eastern)

Contact Illinois office,  
toll-free (800) 437-1416

#### Iowa (Western)

Contact Colorado office

#### Kansas

Contact Colorado office

#### Kentucky

McNay Equipment Co.  
Louisville, KY 40299  
Tel (502) 491-0333  
Fax (502) 499-7149

#### Louisiana

Contact Texas office

#### Maine

Contact Northern NY office

#### Maryland

Contact Southern NJ office

#### Massachusetts

Contact Northern NY office

#### Michigan

Southfield, MI 48076  
Tel (248) 645-2620  
Fax (248) 645-9696

#### Minnesota

Plymouth, MN 55447  
Tel (612) 577-0427  
Fax (612) 577-0524

#### Mississippi

Contact Alabama office

#### Missouri (Eastern)

Contact Illinois office,  
toll-free (800) 437-1416

#### Missouri (Western)

Contact Colorado office

#### Montana

Contact Southern CA office

#### Nebraska

Contact Colorado office

#### Nevada (Northern)

Contact Southern CA office

#### Nevada (Southern)

Contact Southern CA office

#### New Hampshire

Contact Northern NY office

#### New Jersey

Marlton, NJ 08053  
Tel (856) 985-8700  
Fax (856) 985-5030  
Headquarters:  
Hanover Road, Florham Park  
NJ, 07932  
Tel (973) 966-2000  
Fax (973) 966-2628

#### New Mexico

Contact Southern CA office

#### New York

(Central/Northern)  
N. Syracuse, NY 13212  
Tel (315) 453-3877  
Fax (315) 453-3795

#### New York (Metropolitan)

Contact NJ office

#### North Carolina

PL&E Sales, Inc.  
Charlotte, NC 28210  
Tel (704) 366-9222  
Fax (704) 366-9227

#### North Dakota

Contact Minnesota office

#### Ohio (Northern)

Contact Michigan office

#### Ohio (Southern)

McNay Equipment Co., Inc.  
Cincinnati, OH 45242  
Tel (513) 489-4770  
Fax (513) 489-1470

#### Oklahoma

Automatic Engineering, Inc.  
Tulsa, OK 74120  
Tel (918) 585-5703  
Fax (918) 585-5707

#### Oregon

Contact Northern CA office

#### Pennsylvania (Eastern)

Contact Southern NJ office

#### Pennsylvania (Western)

Continental Sales & Engrg. Co.  
Pittsburgh, PA 15235  
Tel (412) 241-5660  
Fax (412) 243-1329

#### Rhode Island

Contact Northern NY office

#### South Carolina

Contact North Carolina office

#### South Dakota

Contact Minnesota office

#### Tennessee

Contact Alabama office

#### Texas

Dallas, TX 75243  
Tel (972) 699-1781  
Fax (972) 669-9852

#### Utah

Contact Colorado office

#### Vermont

Contact Northern NY office

#### Virginia (Northern)

Contact Southern NJ office

#### Virginia (Southern)

Richmond, VA 23288  
Tel (804) 282-3523  
Fax (804) 282-3522

#### Washington

Contact Northern CA office

#### West Virginia

Contact Western PA office

#### Wisconsin

Milwaukee, WI 53217  
Tel (414) 351-8400  
Fax (414) 351-8404

#### Wyoming

Contact Colorado office

#### Caribbean (Puerto Rico)

Mario R. Franceschini, Inc.  
San Juan, PR 00907  
Tel (787) 725-7080  
Fax (787) 721-5762

## ARGENTINA

ASCO Joucomatic  
Tel (54) 11-4718-0322 x249  
Fax (54)-11-4797-4164

## BRAZIL

#### Main Office

ASCOVAL Ind. E. Com Ltda.  
São Paulo  
Tel (55) 11-7295-5333  
Fax (55) 11-7295-3970

#### Grande Do Sul

Port Alegre 90550-004  
Tel (011) 55-51-343-4699  
Fax (011) 55-51-343-4867

#### Sao Paulo

Campinas 13052-200  
Tel (011) 55-192-227-7755  
Fax (011)-55-192-227-2399

#### Minas Gerais

Belo Horizonte 30430-680  
Tel (011) 55-31-295-2470  
Fax (011)-55-31-295-3606

#### Rio De Janeiro

Bonsucesso 21032-600  
Tel (011) 55-21-270-2290  
Fax (011)-55-21-270-208

## CANADA

#### Main Office

ASCOLECTRIC Limited  
Brantford, Ontario N3T 5M8  
Tel (519) 758-2700  
Fax (519) 758-5540

#### British Columbia

Burnaby, V5G 4E1  
Tel (604) 294-1767  
Fax (604) 294-9935

#### Alberta, Saskatchewan, and Manitoba (incl. Thunder Bay)

Calgary T2E 7L4  
Tel (403) 207-8571  
Fax (403) 207-8581

#### Ontario (excl. Ottawa Valley & Thunder Bay)

Mississauga, L5N 1A6  
Tel (905) 821-2711  
Fax (905) 821-2780

#### Quebec & Ottawa Valley

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