

## Features

- Molded one-piece solenoid with highly efficient solenoid cartridge and special low wattage coil.
- Increased Ambient temperature capabilities up to 80°C (175°F).
- Designed for use in automation of plant control systems to provide:
  - PLC compatibility
  - Reduced battery drain
  - Reduced heat rise
  - Reduced wiring cost
- Wide selection includes 2/2 Normally Closed, 3/2 Normally Closed (including Quick Exhaust), 3/2 Universal, and 4/2 with single or dual solenoid.
- Air or inert gas only.
- Lower-cost alternative to intrinsically safe valves in critical applications not requiring a safety barrier.

## Construction

Valve Parts in Contact with Fluids		
Body	Brass	Stainless Steel
Seals and Discs	NBR, FKM, CR, as listed	
Sleeve	304L Stainless Steel	
Core and Plugnut	430F Stainless Steel	
Core Springs	302 Stainless Steel	
Pilot Seat Cartridge (Series 8316 & 8344 only)	CA	
Rider Rings	PTFE	
Spring Retainer	CA	

## Electrical

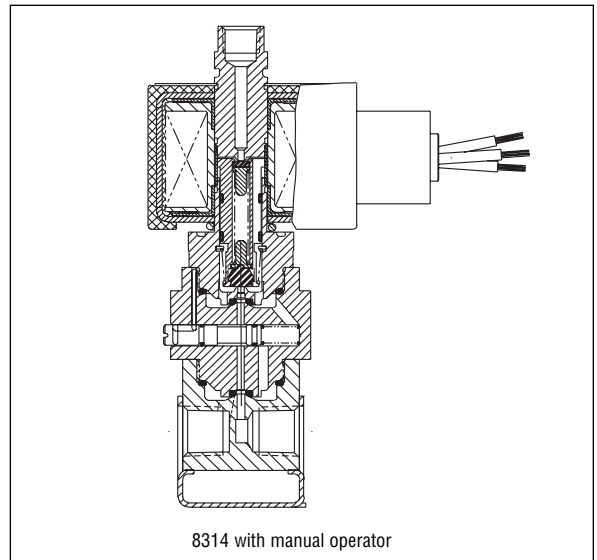
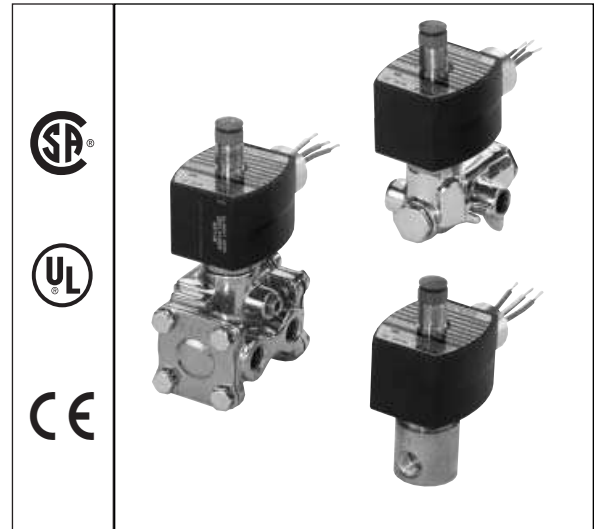
**Coil:** Continuous duty Class F. **IMPORTANT:** Leakage current existing in your system above 8 mA will cause improper operation.

DC Watt Rating and Power Consumption	24 DC Spare Coil Part No.		Maximum Line Resistance vs. Length of Wire		
	General Purpose	Explosionproof	Power Source	Max. Loop Resistance	Max. Wire Run 18 AWG 7x26 Stranded (ft)
1.8 at 68°F (20°C)	238710-908-D	238714-905-D	Volts	Ohms	
<b>Low Power Solenoid:</b> Standard voltages 12, 24 and 48 VDC Nominal Operating Range +10%, -15% Must be specified when ordering  <b>Typical 24 Volts DC System:</b> Min. pull-in: 0.051 amps Min. dropout: 0.008 amps Coil resistance: 320 ohms at 68°F (20°C) ±10% Max. ambient temp: 175°F (80°C)			21	3.8	260
			22	23.4	1590
			23	43	2920
			24	62.6	4260
Note: The applicable T code for the 1.8 watt construction is T5 (100°C)					

**Ordering:** EV X 8316G381V - 23033, EV X 8314G300 - 23033

## 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. For explosionproof with 316 Stainless Steel hub and trim, specify prefix "EV".) Surge suppression coils also available "MF" prefix.  
 See *Optional Features Section* for other available options.



## Nominal Ambient Temperature Ranges:

8314, 8262, 8317: -40°F to 175°F (-40°C to 80°C)  
 8316 Suffix V: 32°F to 175°F (0°C to 80°C)  
 All other: -4°F to 175°F (-20°C to 80°C)

Refer to *Engineering Section* for details.

## Approvals:

UL listed General Purpose Valves (Hazardous Location Classified). EV8345G381 solenoid only UL listed. CSA certified; nonincendive for Class I, Division 2 UL E25549. Meets applicable CE directives.

Refer to *Engineering Section* for details.

## Important:

These solenoids are intended for use on clean, dry air or inert gas filtered to 50 micrometers or better. To prevent freezing, the dew point of the media should be at least 18°F (-8°C) below the minimum temperature to which any portion of the clean air or gas system could be exposed. Instrument air in compliance with ANSI/ISA Standard S7.3-1975 (R1981) exceeds the above requirements and is, therefore, an acceptable medium for these valves.



Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor		Operating Pressure Differential (psi)		Max. Fluid and Ambient Temp. °F	Brass Body		Stainless Steel Body	
				Air-Inert Gas			Catalog Number	Constr. Ref. No.	Catalog Number	Constr. Ref. No.
		Pressure to Cylinder	Cylinder to Exhaust	Min.	Max.					
<b>2/2 VALVES, NORMALLY CLOSED, with NBR Disc</b>										
1/4	1/16	.08		0	150	140	8262G320	18	8262G386	18
3/8	5/16	1.5		10	150	140	8223G323	19	-	-
1/2	3/8	3.2		25	150	140	8223G303	20	8223G310	20
<b>3/2 VALVES, UNIVERSAL OPERATION (Pressure at any port) with NBR Disc</b>										
1/4	1/16	.08	.08	0	150	140	8314G300	1	8314G301	2
<b>3/2 VALVES, NORMALLY CLOSED (Closed when de-energized) with NBR Disc or FKM as Listed</b>										
1/4	5/16	1.5	1.5	⑥	150	140	8316G301③	3	EV8316G381V⑤	3
3/8	5/16	1.6	1.6	⑥	150	140	8316G302③	3	EV8316G382V⑤	3
3/8	5/8	4	4	⑥	150	140	8316G303③	3A	-	-
1/2	5/8	4	4	⑥	150	140	8316G304③	3A	EV8316G384V⑤	3A
3/4	11/16	5.5	5.5	10	150	140	8316G374③	4	-	-
1	1	13	13	10	150	140	8316G334③	5	-	-
<b>3/2 VALVES, UNIVERSAL (Normally Closed or Normally Open) "Quick Exhaust" with CR Diaphragm and NBR Disc</b>										
1/4	②	.08	.73	5	150	140	8317G307①	6	8317G308①	7
<b>4/2 VALVES, with NBR Disc and Seals</b>										
1/4	1/16	.08	.08	10	150	140	8345G301①③	8	EV8345G381①③	8
<b>4/2 VALVES, Brass Body with NBR Disc</b>										
Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor		Operating Pressure Differential (psi)		Max. Fluid and Ambient Temp. °F	Single Solenoid		Dual Solenoid	
				Air-Inert Gas			Catalog Number	Constr. Ref. No.	Catalog Number	Constr. Ref. No.
		Pressure to Cylinder	Cylinder to Exhaust	Min.	Max.					
1/4	1/4	.80	1	10	150	140	8344G370①③	9	8344G344③	12
3/8	3/8	1.4	2.2	10	150	140	8344G372①③	11	8344G380③	10
1/2	3/8	1.4	2.2	10	150	140	8344G374①③	11	8344G382③	10
3/4	3/4	5.2	5.6	10	150	140	8344G376①③	13	8344G354③	14
1	3/4	5.2	5.6	10	150	140	8344G378①③	13	8344G356③	14

**Notes:** ① There are two exhaust flows in the exhaust mode (pilot and main). The pilot exhaust must be connected to the main exhaust when the air or inert gas cannot be exhausted to atmosphere.  
 ② For "Quick Exhaust" valves, pressure port is 1/16", exhaust port is 1/4".  
 ③ **IMPORTANT:** A Minimum Operating Pressure Differential must be maintained between the pressure and exhaust ports. Supply and exhaust piping must be full area, unrestricted. ASCO flow controls and other similar components must be installed in the cylinder lines only.  
 ⑤ Diaphragm and main disc FKM only (pilot is low-temperature NBR).  
 ⑥ Zero minimum when valve selection gasket is in external position and proper auxiliary air pressure is applied. Minimum 15 psi Operating Pressure Differential when selection gasket is in the internal position.



Specifications (Metric units)

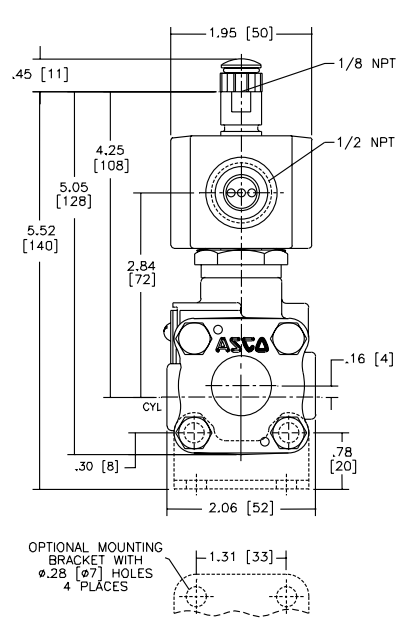
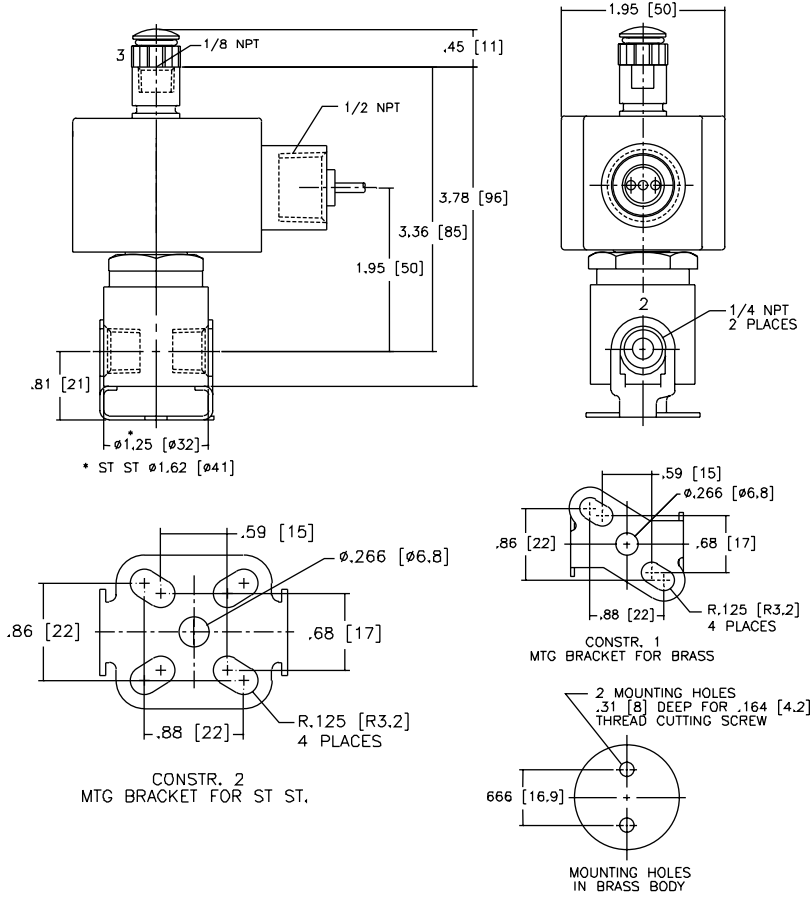
Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m <sup>3</sup> /h)		Operating Pressure Differential (bar)		Max. Fluid and Ambient Temp. °C	Brass Body		Stainless Steel Body	
				Air-Inert Gas			Catalog Number	Constr. Ref. No.	Catalog Number	Constr. Ref. No.
		Pressure to Cylinder	Cylinder to Exhaust	Min.	Max.					
<b>2/2 VALVES, NORMALLY CLOSED, with NBR Disc</b>										
1/4	2	.07		0	10	59	8262G320	18	8262G386	18
3/8	8	1.29		0.7	10	59	8223G323	19	-	-
1/2	10	2.74		1.7	10	59	8223G303	20	8223G310	20
<b>3/2 VALVES, UNIVERSAL OPERATION (Pressure at any port) with NBR Disc</b>										
1/4	2	.07	.07	0.00	10	59	8314G300	1	8314G301	2
<b>3/2 VALVES, NORMALLY CLOSED (Closed when de-energized) with NBR Disc or FKM as Listed</b>										
1/4	8	1.29	1.29	⑥	10	59	8316G301 ③	3	EV8316G381V ⑤	3
3/8	8	1.37	1.37	⑥	10	59	8316G302 ③	3	EV8316G382V ⑤	3
3/8	16	2.57	2.57	⑥	10	59	8316G303 ③	3A	-	-
1/2	16	3.43	3.43	⑥	10	59	8316G304 ③	3A	EV8316G384V ⑤	3A
3/4	17	4.71	4.71	0.7	10	59	8316G374 ③	4	-	-
1	25	11.14	11.14	0.7	10	59	8316G334 ③	5	-	-
<b>3/2 VALVES, UNIVERSAL (Normally Closed or Normally Open) "Quick Exhaust" with CR Diaphragm and NBR Disc</b>										
1/4	-51 ②	.07	.63	0.3	10	59	8317G307 ①	6	8317G308 ①	7
<b>4/2 VALVES, with NBR Disc and Seals</b>										
1/4	2	.07	.07	0.7	10	59	8345G301① ③	8	EV8345G381 ① ③	8
<b>4/2 VALVES, Brass Body with NBR Disc</b>										
Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m <sup>3</sup> /h)		Operating Pressure Differential (bar)		Max. Fluid and Ambient Temp. °C	Single Solenoid		Dual Solenoid	
				Air-Inert Gas			Catalog Number	Constr. Ref. No.	Catalog Number	Constr. Ref. No.
		Pressure to Cylinder	Cylinder to Exhaust	Min.	Max.					
1/4	6	0.69	0.86	0.7	10	59	8344G370 ① ③	9	8344G344 ③	12
3/8	10	1.20	1.89	0.7	10	59	8344G372 ① ③	11	8344G380 ③	10
1/2	10	1.20	1.89	0.7	10	59	8344G374 ① ③	11	8344G382 ③	10
3/4	19	4.46	4.80	0.7	10	59	8344G376 ① ③	13	8344G354 ③	14
1	19	4.46	4.80	0.7	10	59	8344G378 ① ③	13	8344G356 ③	14

**Notes:** ① There are two exhaust flows in the exhaust mode (pilot and main). The pilot exhaust must be connected to the main exhaust when the air or inert gas cannot be exhausted to atmosphere.  
 ② For "Quick Exhaust" valves, pressure port is 1/16", exhaust port is 1/4".  
 ③ **IMPORTANT:** A Minimum Operating Pressure Differential must be maintained between the pressure and exhaust ports. Supply and exhaust piping must be full area, unrestricted. ASCO flow controls and other similar components must be installed in the cylinder lines only.  
 ⑤ Diaphragm and main disc FKM only (pilot is low-temperature NBR).  
 ⑥ Zero minimum when valve selection gasket is in external position and proper auxiliary air pressure is applied. Minimum 1.0 bar operating pressure differential when selection gasket is in the internal position.

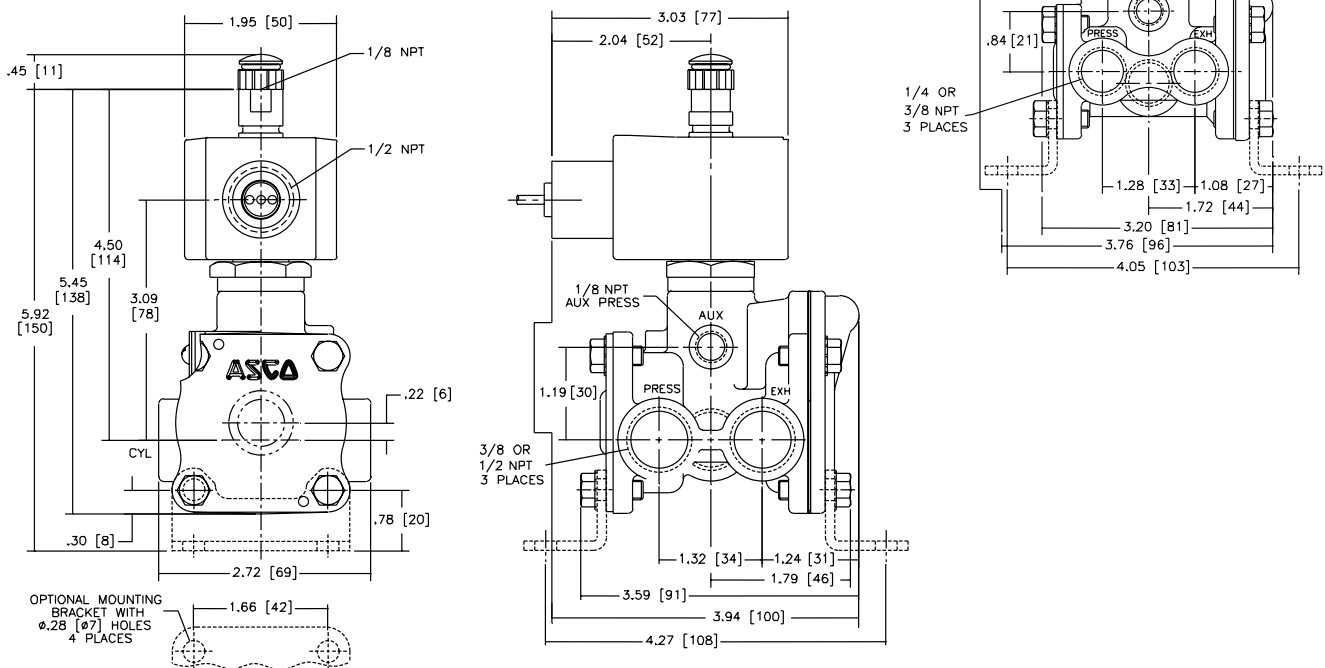
Dimensions: inches (mm)

Constr. Ref. 1, 2

Constr. Ref. 3



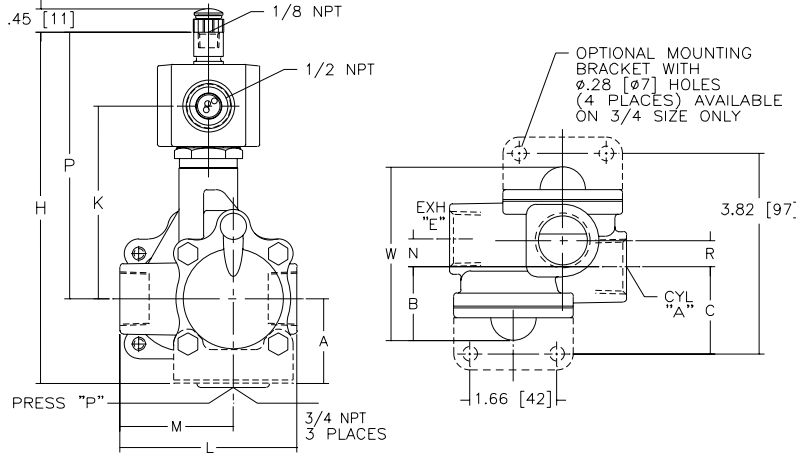
Constr. Ref. 3A



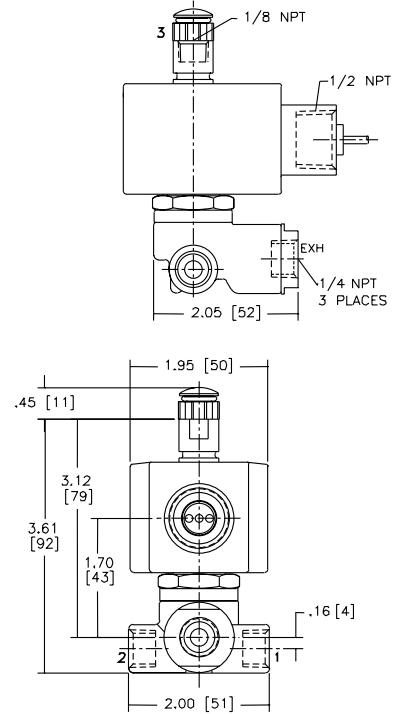
Dimensions: inches (mm)

Constr. Ref. No.		A	B	C	H	K	L	M	N	P	R	W
4	ins.	1.61	1.41	1.66	6.78	3.68	3.38	2.16	.53	5.09	.50	3.31
	mm	41	36	42	172	93	86	55	13	129	13	84
5	ins.	X	1.78	X	7.40	3.93	4.44	2.81	.87	5.34	1.74	5.31
	mm	X	45	X	188	100	113	71	22	136	44	135

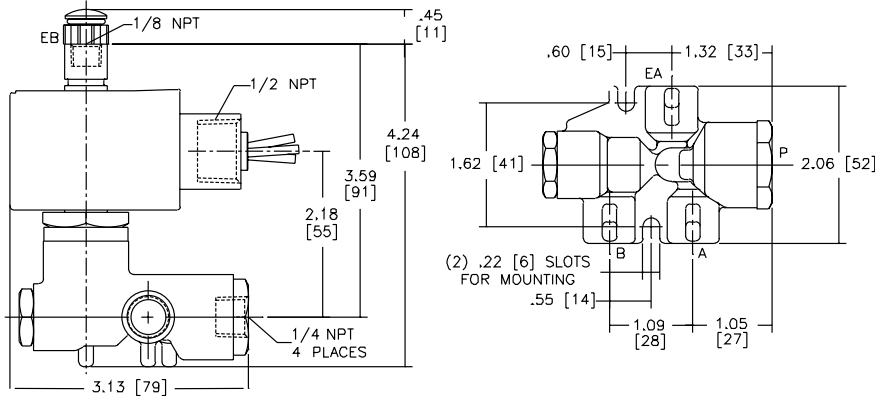
Constr. Ref. 4, 5



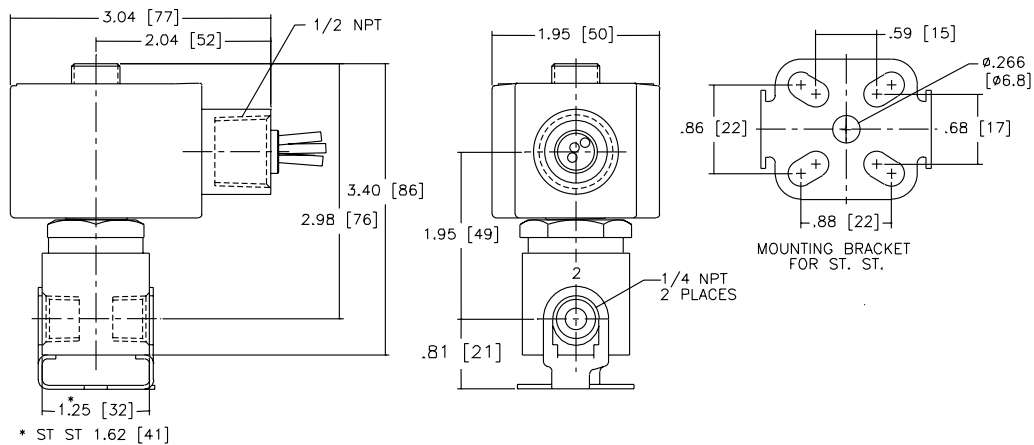
Constr. Ref. 6, 7



Constr. Ref. 8



Constr. Ref. 18

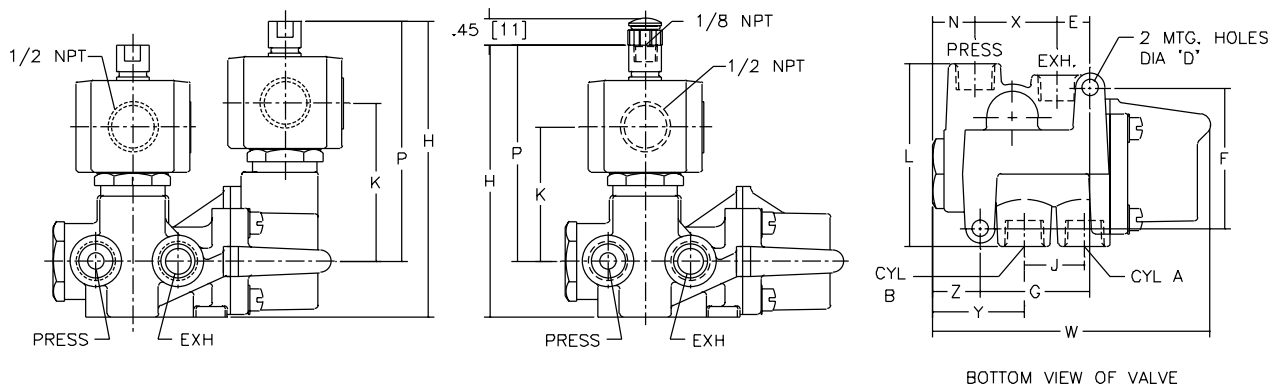




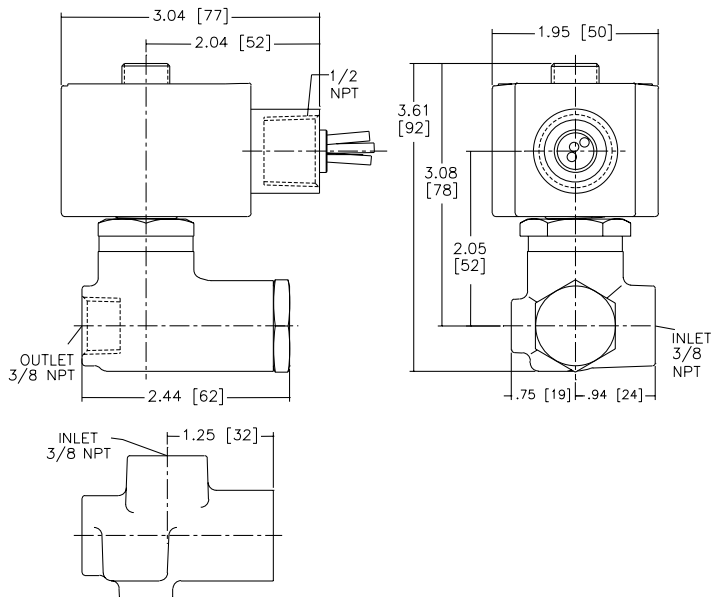
Dimensions: inches (mm)

Constr. Ref. No.		Dia "D"	E	F	G	H	J	K	L	N	P	W	X	Y	Z	Exhaust Pipe Size
9	ins.	0.28	.56	2.41	1.88	4.67	1.03	2.30	3.12	.72	3.72	4.75	1.41	1.56	.81	3/8
	mm	7	14	61	48	119	26	58	79	18	95	121	36	40	21	
10	ins.	0.34	.76	3.12	2.62	4.89	1.50	2.11	3.18	.83	3.77	6.06	1.86	1.89	.83	1/2
	mm	9	16	79	67	118	38	70	81	21	90	154	48	49	21	
11	ins.	0.34	.76	3.12	2.62	4.65	1.50	2.11	3.18	.83	3.53	6.06	1.86	1.89	.83	1/2
	mm	9	35	97	99	138	53	54	116	40	99	210	54	67	30	
12	ins.	0.28	.56	2.41	1.88	5.06	1.03	2.71	3.12	.72	4.12	4.81	1.41	1.56	.81	3/8
	mm	7	14	61	48	129	26	69	79	18	105	122	36	40	21	
13	ins.	0.34	.78	3.12	2.62	5.27	1.50	2.49	3.19	.84	4.16	6.06	1.88	1.91	.84	1
	mm	9	16	79	67	134	38	63	81	21	106	154	48	49	21	
14	ins.	0.34	1.38	3.81	3.88	6.09	2.09	3.18	4.56	1.56	4.59	8.25	2.12	2.62	1.16	1
	mm	9	35	97	99	155	53	81	116	40	117	210	54	67	30	

Constr. Ref. 9, 10, 11, 12, 13, 14



Constr. Ref. 19



Constr. Ref. 20

