

### Features

- Moulded one-piece solenoid with highly efficient solenoid cartridge and special low wattage coil
- 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
- Air or inert gas only
- Lower-cost alternative to intrinsically safe valves in critical applications not requiring a safety barrier

### Construction

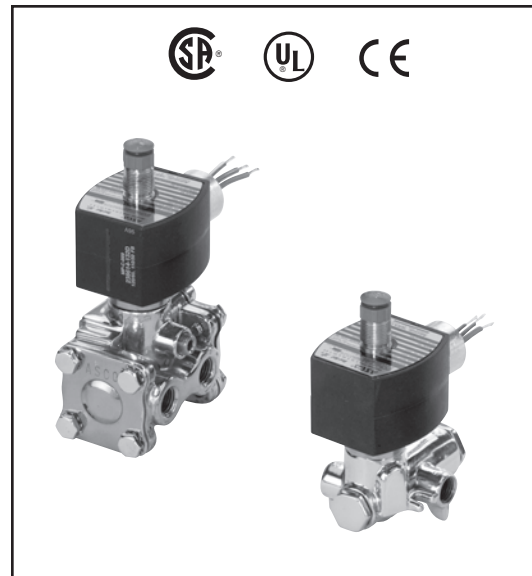
Valve Parts in Contact with Fluids	
Body	Brass      Stainless Steel
Seals and Discs	NBR
Sleeve	304L Stainless Steel
Core and Plugnut	430F Stainless Steel
Core Springs	302 Stainless Steel
Pilot Seat Cartridge (Series 8316 & 8344 only)	POM
Rider Rings	PTFE
Spring Retainer	POM

### Electrical

Description	Wattage	Max. Ambient Temp.	T Code	Insulation Class	TPL
Standard Ambient Version	1.4W	140°F(60°C)	T6	F	-
High Ambient Version	1.8W	179°F(80°C)	T5	F	TPL #23033
Surge Suppression Version	1.7W	140°F(60°C)	T5	F	-
Surge Suppression High Ambient Version	2.0W	179°F(80°C)	T5	F	TPL #23033

Description	Wattage	Voltage (DC)	Min. Pull In (mA)	3way Drop Out (mA)	2way Drop Out (mA)	Coil resistance @68°F(20°C) (ohms)
Standard Ambient Version	1.4W	12V	83.5	13.9	3.2	102
		24V	42.0	7.0	1.6	410
		48V	21.4	3.6	0.8	1640
		120V	8.7	1.4	0.3	10000
High Ambient Version	1.8W	12V	94.3	15.7	3.6	80
		24V	47.9	8.0	1.8	320
		48V	24.0	4.0	0.9	1260
Surge Suppression Version	1.7W	12V	94.3	15.7	3.6	80
		24V	47.9	8.0	1.8	320
		48V	22.7	3.8	0.9	1470
Surge Suppression High Ambient Version	2.0W	12V	105.3	17.6	4.0	64
		24V	54.1	9.0	2.1	270
		48V	24.0	4.0	0.9	1260

24VDC Spare Coil P/N	Standard Ambient Temp. Version	High Ambient Temp. Version
General Purpose	238710-902-D*	238710-908-D*
Explosionproof	238714-902-D*	238714-905-D*
Explosionproof, Corrosion Resistant	274714-902-D*	274714-905-D*
Explosionproof, Surge Suppression	276006-006-D*	276006-106-D*
Explosionproof, Corrosion Resistant, Surge Suppression	276007-006-D*	276007-106-D*



SPECIAL SERVICE VALVES

### Nominal Ambient Temp. Ranges

Series	Body Material	Temperature Range
8316/15444	Brass & Stainless Steel	-40°F to 140°F (-40°C to 60°C)
8317		
8344/18897		
8223	Stainless Steel	-4°F to 140°F (-20°C to 60°C)
8316/17596	Stainless Steel	-59°F to 140°F (-50°C to 60°C)
8316/21104		

### Approvals

**8317/8223:** UL listed General Purpose Valves (MP618), CSA certified (10381). Meets applicable CE directives.

**83344/18897, 8316 as 15444, 17596 & 21104:** UL listed solenoid (Hazardous Location Classified), CSA certified solenoid only, nonincendive for Class I, Division 2 UL E12264 for -40°F (-40°C). Meets applicable CE directives.

**8317/8223 with EF/EV Prefix:** UL listed (Hazardous Location Classified), Class I, Division 2 UL E25549. Certified CSA valve (13976). Meets applicable CE directives.

SIL 3 capable per IEC 61508 on 8316 const. Third party certification provided by EXIDA.

### 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 catalogue number. For explosionproof with 316 Stainless Steel hub and trim, specify prefix "EV".) Surge suppression coils also available "MF" prefix.

For Optional Features, consult factory.

Specifications

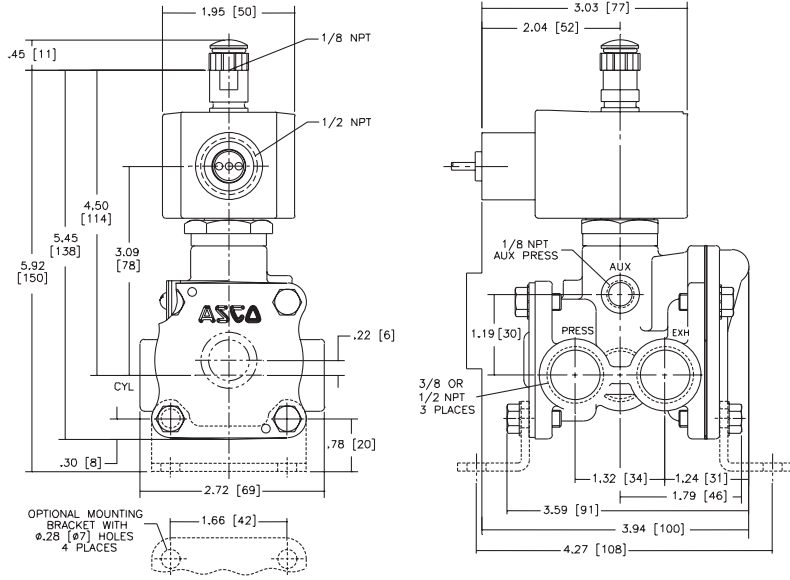
Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor		Operating Pressure Differential (psi)		Max. Fluid and Ambient Temp. °F	Brass Body		Stainless Steel Body	
				Air-Inert Gas			Catalogue Number	Const. Ref.	Catalogue Number	Const. Ref.
		Pressure to Cylinder	Cylinder to Exhaust	Min.	Max.					
<b>2/2 VALVES, NORMALLY CLOSED, with NBR Disc</b>										
1/2	3/8	3.2		25	150	140	-	-	8223G310	20
<b>3/2 VALVES, NORMALLY CLOSED (Closed when de-energized) with NBR Disc - SIL 3 Certified by Exida ⑨</b>										
1/4	5/16	1.5	1.5	④	150	140	EFX8316G301MF/15444 ③	3	EVX8316G381MF/15444 ③	3
1/4	5/16	1.5	1.5	0 ⑦	110	140	-	-	EVX8316G381MB/17596 ⑧	3
1/4	5/16	1.5	1.5	15 ⑥	110	140	-	-	EVX8316G381MB/21104 ⑧	3
3/8	5/16	1.6	1.6	④	150	140	EFX8316G302MF/15444 ③	3	EVX8316G382MF/15444 ③	3
3/8	5/16	1.6	1.6	0 ⑦	110	140	-	-	EVX8316G382MB/17596 ⑧	3
3/8	5/16	1.6	1.6	15 ⑥	110	140	-	-	EVX8316G382MB/21104 ⑧	3
3/8	5/8	4	4	⑤	150	140	EFX8316G303MF/15444 ③	3A	-	-
1/2	5/8	4	4	⑤	150	140	EFX8316G304MF/15444 ③	3A	EVX8316G384MF/15444 ③	3A
<b>3/2 VALVES, UNIVERSAL (Normally Closed or Normally Open) "Quick Exhaust" with NBR Diaphragm and NBR Disc</b>										
1/4	②	.08	.73	5	150	140	8317G307 ①	6	8317G308 ①	7
<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			Catalogue Number	Const. Ref.	Catalogue Number	Const. Ref.
		Pressure to Cylinder	Cylinder to Exhaust	Min.	Max.					
1/4	1/4	.80	1	30	150	140	EFX8344G370MF/18897 ①③	9	EFX8344G344MF/18897 ③	12
3/8	3/8	1.4	2.2	20	150	140	EFX8344G372MF/18897 ①③	11	EFX8344G380MF/18897 ③	10
1/2	3/8	1.4	2.2	20	150	140	EFX8344G374MF/18897 ①③	11	EFX8344G382MF/18897 ③	10
3/4	3/4	5.2	5.6	20	150	140	EFX8344G376MF/18897 ①③	13	-	-
1	3/4	5.2	5.6	20	150	140	EFX8344G378MF/18897 ①③	13	-	-

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.  
 ④ At temperatures below 32°F: 15 psi minimum mainline operating pressure differential when valve selection gasket is in external position and proper auxiliary air pressure is applied. See graph on page 36 for auxiliary pressure vs. mainline pressure. Minimum 40 psi operating pressure differential when selection gasket is in the internal position.  
 ⑤ At temperatures below 32°F: 25 psi minimum mainline operating pressure differential when valve selection gasket is in external position and proper auxiliary air pressure is applied. See graph on page 36 for auxiliary pressure vs. mainline pressure. Minimum 50 psi operating pressure differential when selection gasket is in the internal position.  
 ⑥ **IMPORTANT:** Internal Pilot Construction: 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.  
 ⑦ **IMPORTANT:** External Pilot Construction: Zero minimum operating pressure differential when the gasket is in the external position and proper auxiliary air pressure is applied. See graph on page 36 for pilot line pressure vs. mainline pressure.  
 ⑧ At -59°F (-50°C), these constructions have a reduced life expectancy. Consult factory for details.  
 ⑨ SIL 3 Certified by Exida, only valid when used as Normally Closed. Safety manual and FMEDA (Failure Modes Effects and Diagnostic Analysis) report available.  
 ⑩ **IMPORTANT:** Supervisory and leakage current above the drop out current of 7mA for 24V DC will cause improper operation. Consult your local ASCO sales office for additional assistance.

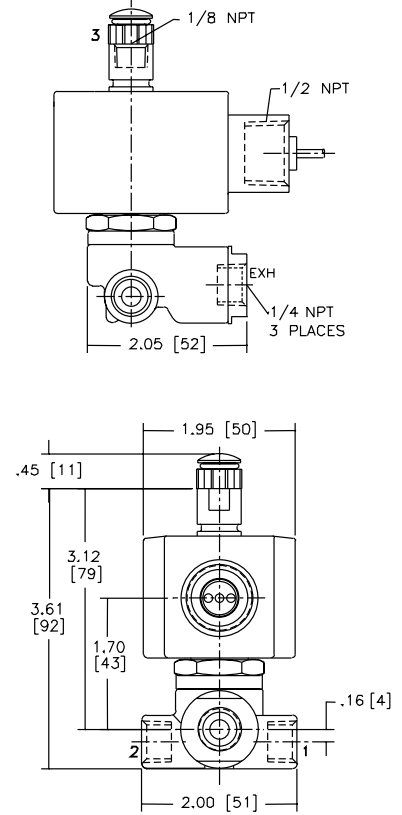
SPECIAL SERVICE VALVES

Dimensions: inches (mm)

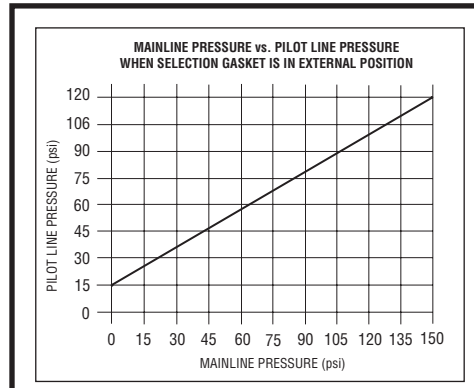
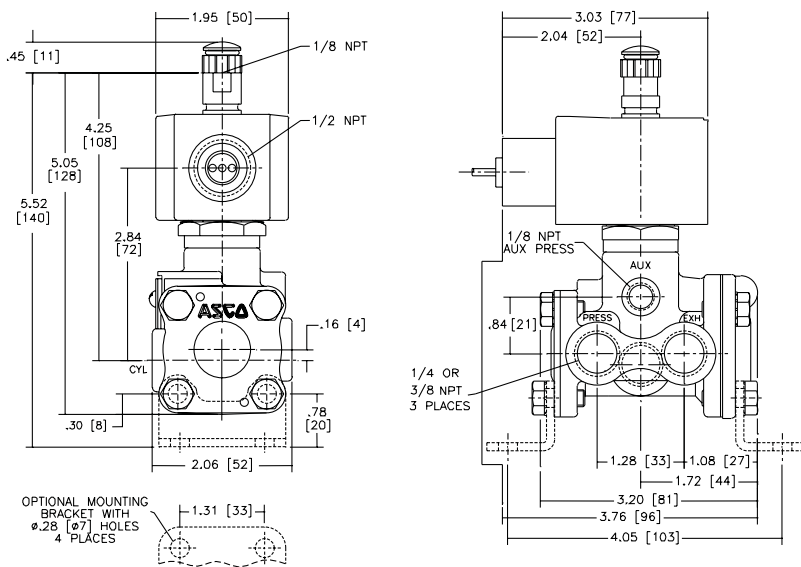
Const. Ref. 3A



Const. Ref. 6. 7



Const. Ref. 3



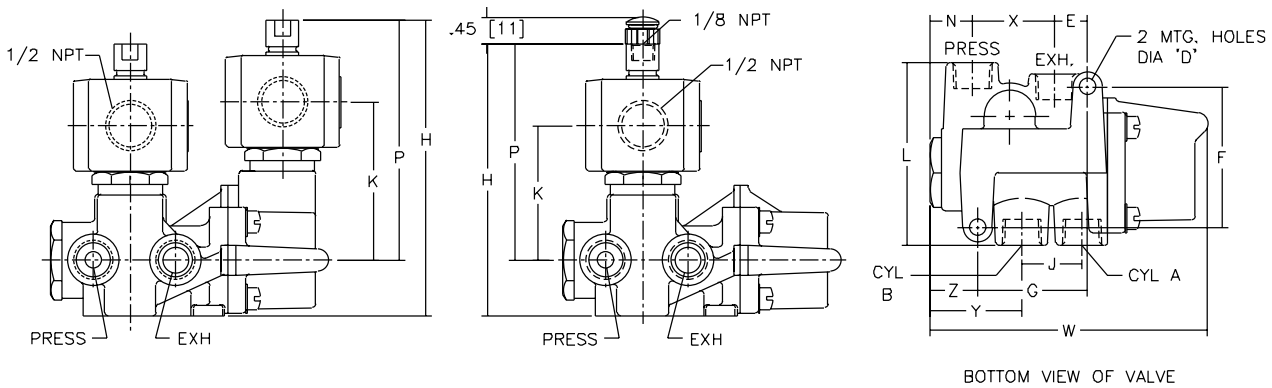
SPECIAL  
SERVICE VALVES

Dimensions: inches (mm)

Const. Ref.		Dia "D"	E	F	G	H	J	K	L	N	P	W	X	Y	Z	Exhaust Pipe Size
9	ins.	Ø .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.	Ø .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.	Ø .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.	Ø .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.	Ø .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	

SPECIAL SERVICE VALVES

Const. Ref. 9, 10, 11, 12, 13



Const. Ref. 20

