

S30 & S31 Series Solenoid Valves

Direct Acting • Stainless Steel & Brass

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Construction

Wetted Components		
Body	303 SS	Brass
Operator Tube	304 Stainless Steel	
Plunger & Tube Head	430FR Stainless Steel	
Springs	302 Stainless Steel	
Shading Ring	Copper	
Seals	Nitrile (Std.), EPDM, FKM, Rulon	

Coil Enclosures

- G Coil - 1/2" NPT Conduit Hub with 24" Lead Wires (NEMA 4/4X, IP65)
- Y Coil – DIN Form A – 18mm (NEMA 4, IP65)
- See Engineering Guide for additional coil enclosures

Electrical

Series/ Mode	Wattage		Inrush (VA)		Holding (VA)	
	DC	AC	50 Hz	60 Hz	50 Hz	60 Hz
S301	10	10	46	46	19	18
S302	10	10	46	46	25	22
S311	8	9	36	36	14	13
S312	8	9	36	36	19	18

- All Coils Rated for 100% Duty Cycle
- Voltage Tolerance: ±10% from nominal



Ambient Temperature (Nominal)

- 32°F to 140°F (0°C to 60°C)

Fluid Temperature by Seal Material

- Nitrile: -40°F to 180°F (-40°C to 82°C)
- EPDM: -70°F to 295°F (-57°C to 146°C)
- FKM: -20°F to 230°F (-29°C to 110°C)
- Rulon: -320°F to 366°F (-196°C to 186°C)

Approvals*

- UL Listed (MH17608)
- UL Recognized (MH17997)
- UL Safety Shut Off (MH17608) - (S3x1xxxxxxxxxS)
- CSA Certified (069111_0_000)
- CE Certified

*Not available for all variations





2-Way • Normally Closed & Normally Open • 1/8" to 3/8" NPT

S30 & S31 Series Solenoid Valves

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Normally Closed Valve Specifications (Closed when de-energized)									
Pipe Size (NPT)	Orifice Size (in)	Flow Factor (Cv)	Operating Pressure Differential (PSI)				Part Number ^② (Shown with 120 VAC Lead Wire Coil and Nitrile Seals)		
			Min.	Maximum		Stainless Steel	Brass		
				Air/Gas, Liquid & Light Oil				Steam ^①	
				AC	DC			AC	DC
1/8	1/32	.03	0	2400	2400	150	150	S301GH02N2AC1	S301GH02N8AC1
	1/32	.03	0	2000	2000	150	150	S311GH02N2AC1	S311GH02N8AC1
	3/64	.05	0	1050	1000	150	150	S301GH02N2AC3	S301GH02N8AC3
	3/64	.05	0	770	420	150	150	S311GH02N2AC3	S311GH02N8AC3
	1/16	.10	0	700	300	150	150	S301GH02N2AC5	S301GH02N8AC5
	1/16	.10	0	560	185	150	150	S311GH02N2AC5	S311GH02N8AC5
	5/64	.15	0	500	240	150	150	S301GH02N2AC7	S301GH02N8AC7
	5/64	.15	0	400	150	150	150	S311GH02N2AC7	S311GH02N8AC7
	3/32	.21	0	400	200	150	150	S301GH02N2AC9	S301GH02N8AC9
	3/32	.21	0	300	130	150	130	S311GH02N2AC9	S311GH02N8AC9
	7/64	.29	0	350	170	150	150	S301GH02N2AD3	S301GH02N8AD3
	7/64	.29	0	210	90	150	90	S311GH02N2AD3	S311GH02N8AD3
	1/8	.36	0	200	140	150	150	S301GH02N2AD5	S301GH02N8AD5
	1/8	.36	0	155	90	150	60	S311GH02N2AD5	S311GH02N8AD5
1/4	1/32	.03	0	2400	2400	150	150	S301GH02N3BC1	S301GH02N8BC1
	1/32	.03	0	2000	2000	150	150	S311GH02N3BC1	S311GH02N8BC1
	3/64	.05	0	1050	1000	150	150	S301GH02N3BC3	S301GH02N8BC3
	3/64	.05	0	770	420	150	150	S311GH02N3BC3	S311GH02N8BC3
	1/16	.10	0	700	300	150	150	S301GH02N3BC5	S301GH02N8BC5
	1/16	.10	0	560	185	150	150	S311GH02N3BC5	S311GH02N8BC5
	5/64	.15	0	500	240	150	150	S301GH02N3BC7	S301GH02N8BC7
	5/64	.15	0	400	150	150	150	S311GH02N3BC7	S311GH02N8BC7
	3/32	.21	0	400	200	150	150	S301GH02N3BC9	S301GH02N8BC9
	3/32	.21	0	300	130	150	130	S311GH02N3BC9	S311GH02N8BC9
	7/64	.29	0	350	170	150	150	S301GH02N3BD3	S301GH02N8BD3
	7/64	.29	0	210	90	150	90	S311GH02N3BD3	S311GH02N8BD3
	1/8	.36	0	200	140	150	140	S301GH02N3BD5	S301GH02N8BD5
	1/8	.36	0	155	90	150	60	S311GH02N3BD5	S311GH02N8BD5
	5/32	.44	0	150	100	150	100	S301GH02N3BD7	S301GH02N8BD7
	5/32	.44	0	105	35	105	35	S311GH02N3BD7	S311GH02N8BD7
	3/16	.65	0	100	70	100	70	S301GH02N3BE1	S301GH02N8BE1
	3/16	.65	0	75	20	75	20	S311GH02N3BE1	S311GH02N8BE1
	1/4	.85	0	50	20	50	20	S301GH02N3BE7	S301GH02N9BE7
	1/4	.85	0	35	15	35	15	S311GH02N3BE7	S311GH02N9BE7

① EPDM or Rulon seals required for steam.

3. UL Recognized Only for Valves with MOPD >1200 PSI

② See part number selection guide for additional voltages and variations.

4. MRP = 5X MOPD or 6000 PSI Max.

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2-Way • Normally Closed & Normally Open • 1/8" to 3/8" NPT

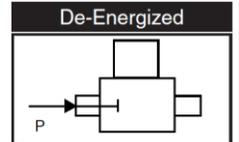
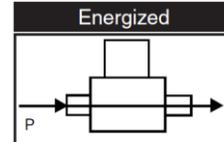
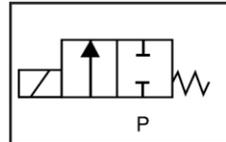
S30 & S31 Series Solenoid Valves

Direct Acting • Stainless Steel & Brass

Normally Closed Valve Specifications (Continued)

Pipe Size (NPT)	Orifice Size (in)	Flow Factor (Cv)	Operating Pressure Differential (PSI)				Part Number ^② (Shown with 120 VAC Lead Wire Coil and Nitrile Seals)		
			Min.	Maximum				Stainless Steel	Brass
				Air/Gas, Liquid & Light Oil		Steam ^①			
				AC	DC	AC	DC		
3/8	1/8	.36	0	200	140	150	140	S301GH02N3CD5	S301GH02N9CD5
	1/8	.36	0	155	90	150	60	S311GH02N3CD5	S311GH02N9CD5
	5/32	.44	0	150	100	150	100	S301GH02N3CD7	S301GH02N9CD7
	5/32	.44	0	105	35	105	35	S311GH02N3CD7	S311GH02N9CD7
	3/16	.65	0	100	70	100	70	S301GH02N3CE1	S301GH02N9CE1
	3/16	.65	0	75	20	75	20	S311GH02N3CE1	S311GH02N9CE1
	1/4	.85	0	50	20	50	20	S301GH02N3CE7	S301GH02N9CE7
	1/4	.85	0	35	15	35	15	S311GH02N3CE7	S311GH02N9CE7
	9/32	1.0	0	35	15	35	15	S301GH02N3CF1	S301GH02N9CF1
	9/32	1.0	0	20	10	20	10	S311GH02N3CF1	S311GH02N9CF1
	3/8	1.3	0	20	5	20	5	S301GH02N3CF5	S301GH02N9CF5
	3/8	1.3	0	15	5	15	5	S311GH02N3CF5	S311GH02N9CF5

- ① EPDM or Rulon seals required for steam.
- ② See part number selection guide for additional voltages and variations.
- 3. UL Recognized Only for Valves with MOPD >1200 PSI
- 4. MRP = 5X MOPD or 6000 PSI Max.





2-Way • Normally Closed & Normally Open • 1/8" to 3/8" NPT

S30 & S31 Series Solenoid Valves

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Normally Open Valve Specifications (Open when de-energized)

Pipe Size (NPT)	Orifice Size (in)	Flow Factor (Cv)	Operating Pressure Differential (PSI)				Part Number ^② (Shown with 120 VAC Lead Wire Coil and Nitrile Seals)		
			Min.	Maximum		Stainless Steel	Brass		
				Air/Gas, Liquid & Light Oil				Steam ^①	
				AC	DC			AC	DC
1/8	1/32	.03	0	2400	2400	150	150	S302GH02N2AC1	S302GH02N8AC1
	1/32	.03	0	2000	2000	150	150	S312GH02N2AC1	S312GH02N8AC1
	3/64	.05	0	600	600	150	150	S302GH02N2AC3	S302GH02N8AC3
	3/64	.05	0	350	350	150	150	S312GH02N2AC3	S312GH02N8AC3
	1/16	.10	0	325	325	150	150	S302GH02N2AC5	S302GH02N8AC5
	1/16	.10	0	200	200	150	150	S312GH02N2AC5	S312GH02N8AC5
	5/64	.15	0	235	235	150	150	S302GH02N2AC7	S302GH02N8AC7
	5/64	.15	0	140	140	140	140	S312GH02N2AC7	S312GH02N8AC7
	3/32	.21	0	150	150	150	150	S302GH02N2AC9	S302GH02N8AC9
	3/32	.21	0	105	105	105	105	S312GH02N2AC9	S312GH02N8AC9
	7/64	.29	0	125	125	125	125	S302GH02N2AD3	S302GH02N8AD3
	7/64	.29	0	80	80	80	80	S312GH02N2AD3	S312GH02N8AD3
	1/8	.36	0	100	100	100	100	S302GH02N2AD5	S302GH02N8AD5
	1/8	.36	0	60	60	60	60	S312GH02N2AD5	S312GH02N8AD5
1/4	1/32	.03	0	2400	2400	150	150	S302GH02N3BC1	S302GH02N8BC1
	1/32	.03	0	2000	2000	150	150	S312GH02N3BC1	S312GH02N8BC1
	3/64	.05	0	600	600	150	150	S302GH02N3BC3	S302GH02N8BC3
	3/64	.05	0	350	350	150	150	S312GH02N3BC3	S312GH02N8BC3
	1/16	.10	0	325	325	150	150	S302GH02N3BC5	S302GH02N8BC5
	1/16	.10	0	200	200	150	150	S312GH02N3BC5	S312GH02N8BC5
	5/64	.15	0	235	235	150	150	S302GH02N3BC7	S302GH02N8BC7
	5/64	.15	0	140	140	140	140	S312GH02N3BC7	S312GH02N8BC7
	3/32	.21	0	150	150	150	150	S302GH02N3BC9	S302GH02N8BC9
	3/32	.21	0	105	105	105	105	S312GH02N3BC9	S312GH02N8BC9
	7/64	.29	0	125	125	125	125	S302GH02N3BD3	S302GH02N8BD3
	7/64	.29	0	80	80	80	80	S312GH02N3BD3	S312GH02N8BD3
	1/8	.36	0	100	100	100	100	S302GH02N3BD5	S302GH02N8BD5
	1/8	.36	0	60	60	60	60	S312GH02N3BD5	S312GH02N8BD5
	5/32	.44	0	60	60	60	60	S302GH02N3BD7	S302GH02N8BD7
	5/32	.44	0	45	45	45	45	S312GH02N3BD7	S312GH02N8BD7
3/16	.65	0	40	40	40	40	S302GH02N3BE1	S302GH02N8BE1	
3/16	.65	0	30	30	30	30	S312GH02N3BE1	S312GH02N8BE1	

① EPDM or Rulon seals required for steam.

② See part number selection guide for additional voltages and variations.

3. UL Recognized Only for Valves with MOPD >1200 PSI

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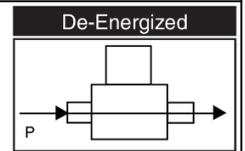
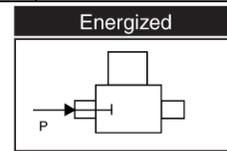
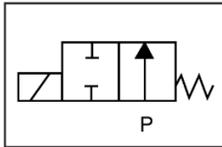
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Direct Acting • Stainless Steel & Brass

Normally Open Valve Specifications (Continued)

Pipe Size (NPT)	Orifice Size (in)	Flow Factor (Cv)	Operating Pressure Differential (PSI)				Part Number ^② (Shown with 120 VAC Lead Wire Coil and Nitrile Seals)		
			Min.	Maximum		Stainless Steel	Brass		
				Air/Gas, Liquid & Light Oil				Steam ^①	
				AC	DC			AC	DC
3/8	1/8	.36	0	100	100	100	100	S302GH02N3CD5	S302GH02N9CD5
	1/8	.36	0	60	60	60	60	S312GH02N3CD5	S312GH02N9CD5
	5/32	.44	0	60	60	60	60	S302GH02N3CD7	S302GH02N9CD7
	5/32	.44	0	45	45	45	45	S312GH02N3CD7	S312GH02N9CD7
	3/16	.65	0	40	40	40	40	S302GH02N3CE1	S302GH02N9CE1
	3/16	.65	0	30	30	30	30	S312GH02N3CE1	S312GH02N9CE1

- ① EPDM or Rulon seals required for steam.
- ② See part number selection guide for additional voltages and variations.
- 3. UL Recognized Only for Valves with MOPD >1200 PSI
- 4. MRP = 5X MOPD or 6000 PSI Max.





2-Way • Normally Closed & Normally Open • 1/8" to 3/8" NPT

S30 & S31 Series Solenoid Valves

Direct Acting • Stainless Steel & Brass

S30 & S31 Series Part Number Selection

Valve Series	Operating Mode	Coil Housing	Coil Class	Voltage	Seal Material	Body Material/ Pipe Size	Orifice Size
①	②	③	④	⑤	⑥	⑦	⑧
S30	1	G	H	02	N	2A	C1

① **Valve Series**

S30	Direct Acting (10W AC or DC coil)
S31	Direct Acting (8W DC or 9W AC coil)

② **Operating Mode**

1	2-Way Normally Closed (NC)
2	2-Way Normally Open (NO)

③ **Coil Type**

G	1/2" NPT Conduit with 24" Lead Wires
Y	DIN (Form A – 18mm)

④ **Coil Class**

H	H Class Coil
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⑤ **Voltage**

02	120 VAC, 60 Hz; 110 VAC, 50 Hz
03	208 VAC, 60 Hz
04	240 VAC, 60 Hz; 220 VAC, 50 Hz
24	24 VAC, 50/60 Hz
15	12 VDC
16	24 VDC

⑥ **Seal Material**

C	EPDM
N	Nitrile
V	FKM
R	Rulon

*Only used with E7 orifice (9E7)
 **9C & 3C not available as normally open configuration
 ***Not available for all variations

⑦ **Body Material/Pipe Size**

8A	Brass, 1/8" NPT
8B	Brass, 1/4" NPT
9B	*Brass, 1/4" NPT
9C	**Brass, 3/8" NPT
2A	303 Stainless Steel, 1/8" NPT
3B	303 Stainless Steel, 1/4" NPT
3C	**303 Stainless Steel, 3/8" NPT

⑧ **Orifice Size**

C1	1/32"
C3	3/64"
C5	1/16"
C7	5/64"
C9	3/32"
D3	7/64"
D5	1/8"
E1	3/16"
E7	1/4" (NC Valves Only)
F1	9/32" (NC Valves Only)
F5	3/8" (NC Valves Only)

⑨ **Optional Suffix**

(blank)	No Option
C	CE Declaration
E	CSA Certification
M	Manual Override (NC Valves Only)
N	Cleaned for Oxygen Service
P	Nickel Plated Plunger & Tube
S	***UL Safety Rated (NC Valves Only)

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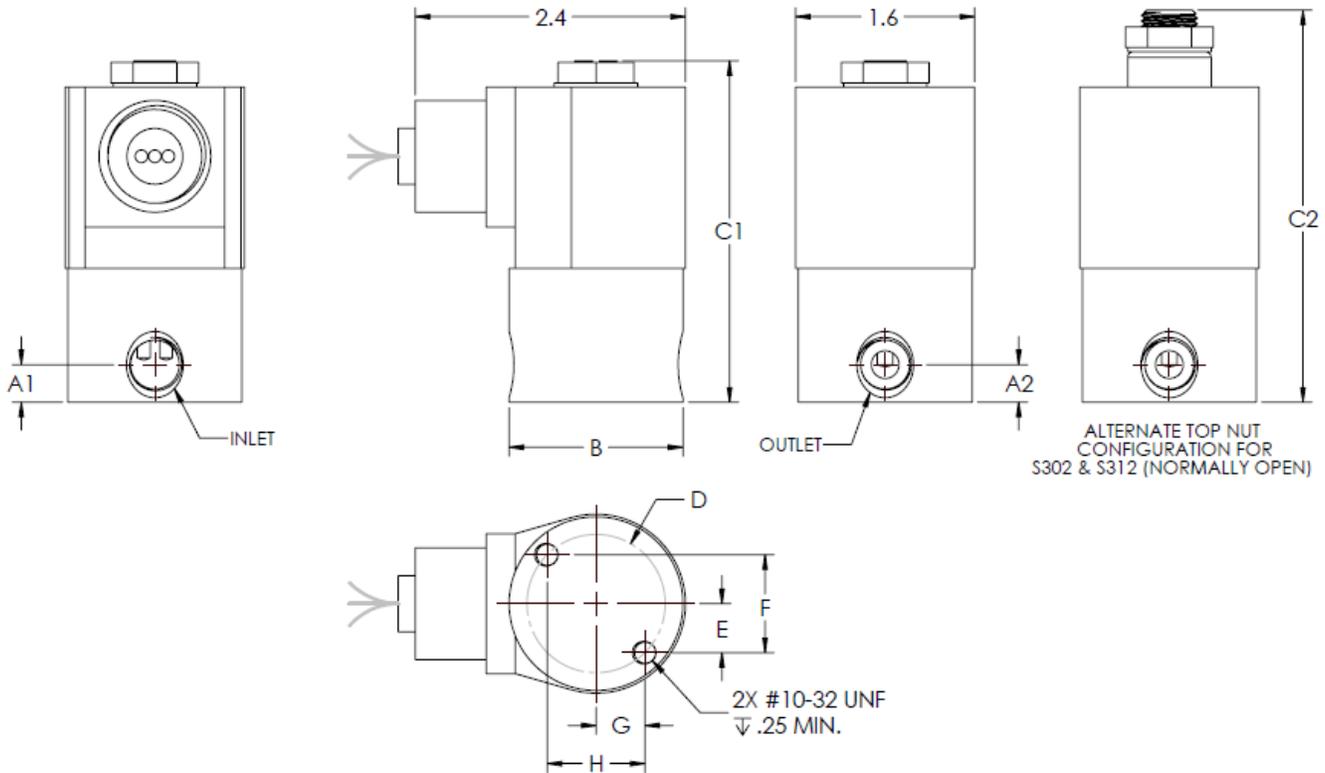
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S30 & S31 Series Solenoid Valves

Direct Acting • Stainless Steel & Brass

Drawing 1

S30 & S31 Series – 2, 3 & 8 Body Valves



Pipe Size	Series/Mode	A1	A2	B	C1	C2	D	E	F	G	H	Weight
1/8" NPT	S301	0.27	0.27	ø1.18	3.00	n/a	ø0.91	0.34	0.69	0.30	0.59	1.1 lb
	S311	0.27	0.27	ø1.18	2.81	n/a	ø0.91	0.34	0.69	0.30	0.59	1.1 lb
	S302	0.27	0.27	ø1.18	n/a	3.42	ø0.91	0.34	0.69	0.30	0.59	1.1 lb
	S312	0.27	0.27	ø1.18	n/a	3.00	ø0.91	0.34	0.69	0.30	0.59	1.1 lb
1/4" NPT	S301	0.34	0.34	ø1.55	3.15	n/a	ø1.23	0.44	0.88	0.44	0.88	1.1 lb
	S311	0.34	0.34	ø1.55	2.81	n/a	ø1.23	0.44	0.88	0.44	0.88	1.1 lb
	S302	0.34	0.34	ø1.55	n/a	3.49	ø1.23	0.44	0.88	0.44	0.88	1.1 lb
	S312	0.34	0.34	ø1.55	n/a	3.06	ø1.23	0.44	0.88	0.44	0.88	1.1 lb
3/8" NPT 3 Body Stainless Steel Valves Only	S301	0.97	0.43	ø1.57	3.61	n/a	ø1.23	0.44	0.88	0.44	0.88	1.3 lb
	S311	0.97	0.43	ø1.57	3.28	n/a	ø1.23	0.44	0.88	0.44	0.88	1.3 lb
	S302	0.97	0.43	ø1.57	n/a	3.96	ø1.23	0.44	0.88	0.44	0.88	1.3 lb
	S312	0.97	0.43	ø1.57	n/a	3.53	ø1.23	0.44	0.88	0.44	0.88	1.3 lb

- S30 & S31 series valves can be mounted in any position.
- Dimensions shown in inches.
- Drawing not to scale.



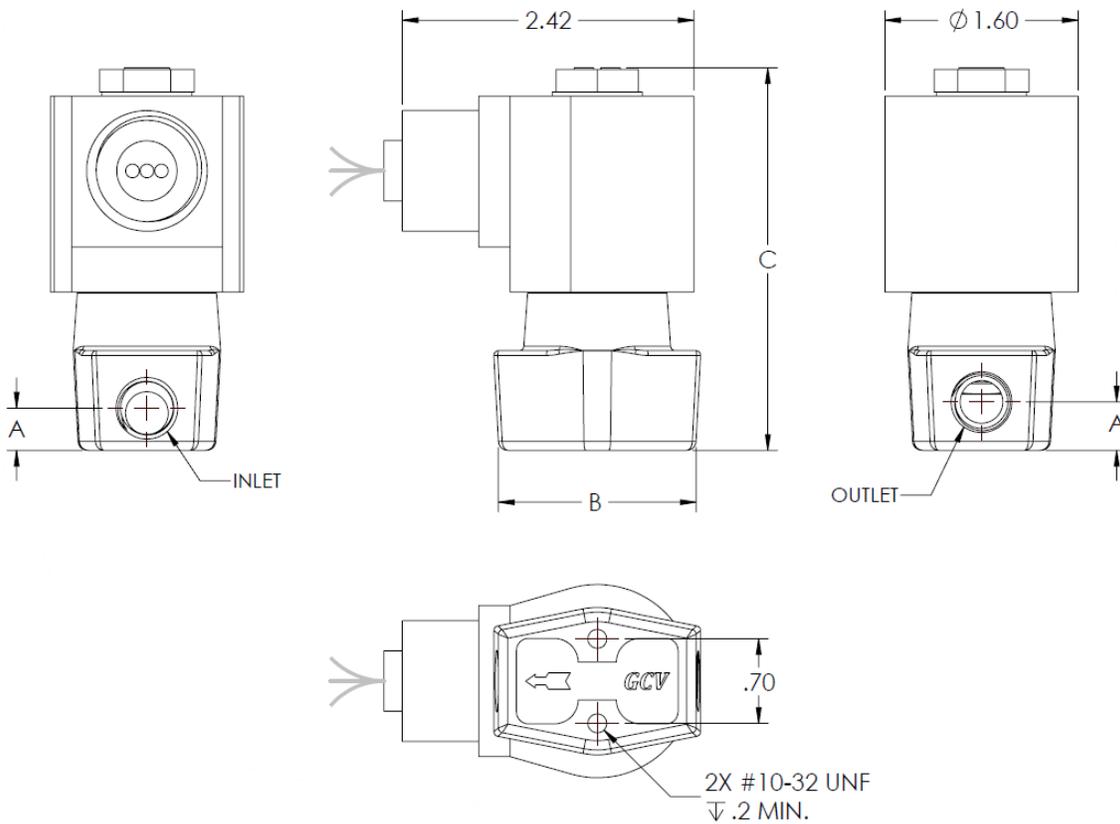
2-Way • Normally Closed & Normally Open • 1/8" to 3/8" NPT

S30 & S31 Series Solenoid Valves

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Drawing 2

S30 & S31 Series – 9 Body Valves



Pipe Size	Series/Mode	A	B	C	Weight
1/4" NPT 9 Body Brass Valves with E7 Orifice Only (9BE7)	S301	0.36	1.72	3.25	1.1 lb
	S311	0.36	1.72	2.92	1.1 lb
3/8" NPT 9 Body Brass Valves Only	S301	0.41	1.72	3.25	1.1 lb
	S311	0.41	1.72	2.92	1.1 lb

- S30 & S31 series valves can be mounted in any position.
- Dimensions shown in inches.
- Drawing not to scale.