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Construction

Wetted Components				
Body	303 SS (NS30)		Lead Free Brass	Nylon-6 + 30% Glass Fill
	316 SS (NS20/21)			
Operator Tube	304 Stainless Steel			
Plunger & Tube Head	430FR Stainless Steel			
Springs	302 Stainless Steel			
Shading Ring	Copper			
Seals	EPDM			



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
			Based on 120 VAC			
NS301	10	10	46	46	19	18
NS302	10	10	46	46	25	22
NS201	10	10	46	46	23	18
NS202	10	11	46	46	25	22
NS211	9	8	36	36	14	13
NS212	10	11	46	46	25	22
NS711	9	8	36	36	14	13
NS712	9	8	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)

Maximum Fluid Temperature

- 180°F (82°C)

Approvals*

- UL Recognized
- CSA Certified
- CE Certified
- NSF 61-G: Drinking Water System Components (Includes Lead Free Requirements)
- NSF 372: Drinking Water System Components (Lead Content Certification)

*Not available for all variations





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

NSF Approved Solenoid Valves

Stainless Steel, Lead Free Brass & Nylon-6 Bodies



Certified to
NSF/ANSI/CAN 61-G & 372

Normally Closed Valve Specifications (Closed when de-energized)

Pipe Size (NPT)	Orifice Size (in)	Flow Factor (Cv)	OPD ^① (PSI)			Part Number ^② (Shown with 120 VAC Lead Wire Coil)		
			Min.	Max. (Water)		Stainless Steel	Lead Free Brass	Nylon-6 + 30% Glass Fill
				AC	DC			
1/8"	1/16	0.10	0	700	300	NS301GH02C2AC5	-	-
	5/64	0.15	0	500	240	NS301GH02C2AC7	-	-
	3/32	0.21	0	400	200	NS301GH02C2AC9	-	-
	7/64	0.29	0	350	170	NS301GH02C2AD3	-	-
	1/8	0.36	0	200	140	NS301GH02C2AD5	-	-
	5/32	0.44	0	150	100	NS301GH02C2AD7	-	-
	3/16	0.65	0	100	70	NS301GH02C2AE1	-	-
1/4"	1/16	0.10	0	700	300	NS301GH02C3BC5	-	-
	5/64	0.15	0	500	240	NS301GH02C3BC7	-	-
	3/32	0.21	0	400	200	NS301GH02C3BC9	-	-
	7/64	0.29	0	350	170	NS301GH02C3BD3	-	-
	1/8	0.36	0	200	140	NS301GH02C3BD5	-	-
	5/32	0.44	0	150	100	NS301GH02C3BD7	-	-
	3/16	0.65	0	100	70	NS301GH02C3BE1	-	-
3/8"	1/8	0.36	0	200	140	NS301GH02C3CD5	-	-
	3/16	0.65	0	100	70	NS301GH02C3CE1	-	-
	1/2	4.3	8	150	150	-	NS711GH02C9CG1	-
	5/8	4.3	0	100	90	NS201GH02C7CG4	-	NS201GH02CPCG4
	5/8	4.3	4	150	100	NS211GH02C7CG4	-	NS211GH02CPCG4
1/2"	1/2	4.3	8	150	150	-	NS711GH02C9DG1	-
	5/8	4.3	0	100	90	NS201GH02C7DG4	-	NS201GH02CPDG4
	5/8	4.3	4	150	100	NS211GH02C7DG4	-	NS211GH02CPDG4
3/4"	3/4	6.7	8	150	150	-	NS711GH02C9EG5	-
	3/4	6.7	0	100	90	NS201GH02C7EG5	-	NS201GH02CPEG5
	3/4	6.7	4	150	100	NS211GH02C7EG5	-	NS211GH02CPEG5
1"	1	13	8	150	150	-	NS711GH02C9FG9	-
	1	11	0	100	100	NS201GH02C7FG9	-	NS201GH02CPFG9
	1	13	5	150	150	NS211GH02C7FG9	-	NS211GH02CPFG9
1-1/4"	1-1/4	22	8	200	150	-	NS711GH02C9GJ2	-
	1-1/4	18	0	100	100	NS201GH02C7GJ2	-	-
	1-1/4	19	5	150	150	NS211GH02C7GJ2	-	-
1-1/2"	1-1/2	30	8	200	150	-	NS711GH02C9HJ5	-
	1-1/4	25	0	100	100	NS201GH02C7HJ2	-	-
	1-1/4	25	5	150	150	NS211GH02C7HJ2	-	-
2"	2	48	8	200	150	-	NS711GH02C9JJ2	-
	1-1/4	25	0	100	100	NS201GH02C7JJ2	-	-
	1-1/4	28	5	150	150	NS211GH02C7JJ2	-	-

① Operating Pressure Differential (OPD)

② See Part Number Selection Guide for Additional Voltages and Variations

3. MRP = 5X MOPD

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Normally Open Valve Specifications (Open when de-energized)

Pipe Size (NPT)	Orifice Size (in)	Flow Factor (Cv)	OPD ^① (PSI)			Part Number ^② (Shown with 120 VAC Lead Wire Coil)		
			Min.	Max. (Water)		Stainless Steel	Lead Free Brass	Nylon-6 + 30% Glass Fill
				AC	DC			
1/8"	1/16	0.10	0	325	325	NS302GH02C2AC5	-	-
	5/64	0.15	0	235	235	NS302GH02C2AC7	-	-
	3/32	0.20	0	150	150	NS302GH02C2AC9	-	-
	7/64	0.25	0	125	125	NS302GH02C2AD3	-	-
	1/8	0.30	0	100	100	NS302GH02C2AD5	-	-
	5/32	0.43	0	60	60	NS302GH02C2AD7	-	-
	3/16	0.65	0	40	40	NS302GH02C2AE1	-	-
1/4"	1/16	0.10	0	325	325	NS302GH02C3BC5	-	-
	5/64	0.15	0	235	235	NS302GH02C3BC7	-	-
	3/32	0.20	0	150	150	NS302GH02C3BC9	-	-
	7/64	0.25	0	125	125	NS302GH02C3BD3	-	-
	1/8	0.30	0	100	100	NS302GH02C3BD5	-	-
	5/32	0.43	0	60	60	NS302GH02C3BD7	-	-
	3/16	0.65	0	40	40	NS302GH02C3BE1	-	-
3/8"	1/2	4.3	7	200	150	-	NS712GH02C9CG1	-
	5/8	3.3	0	200	125	NS202GH02C7CG4	-	NS202GH02CPCG4
	5/8	3.3	3	200	125	NS212GH02C7CG4	-	NS212GH02CPCG4
1/2"	1/2	4.3	7	200	150	-	NS712GH02C9DG1	-
	5/8	4.3	0	200	125	NS202GH02C7DG4	-	NS202GH02CPDG4
	5/8	4.3	3	200	125	NS212GH02C7DG4	-	NS212GH02CPDG4
3/4"	3/4	6.7	7	200	150	-	NS712GH02C9EG5	-
	3/4	6.7	0	200	125	NS202GH02C7EG5	-	NS202GH02CPEG5
	3/4	6.7	3	200	125	NS212GH02C7EG5	-	NS212GH02CPEG5
1"	1	13	7	200	150	-	NS712GH02C9FG9	-
	1	13	5	150	150	NS212GH02C7FG9	-	NS212GH02CPFG9
1-1/4"	1-1/4	22	7	200	150	-	NS712GH02C9GJ2	-
	1-1/4	19	5	150	150	NS212GH02C7GJ2	-	-
1-1/2"	1-1/2	30	7	150	150	-	NS712GH02C9HJ5	-
	1-1/4	25	5	150	150	NS212GH02C7HJ2	-	-
2"	2	48	7	200	150	-	NS712GH02C9JJ7	-
	1-1/4	28	5	150	150	NS212GH02C7JJ2	-	-

① Operating Pressure Differential (OPD).

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

3. MRP = 5X MOPD

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NS30 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
NS30	1	G	H	02	C	2A	C5

① **Valve Series**

NS30	Direct Acting
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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
----------	--------------

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
----------	------

⑦ **Body Material/Pipe Size**

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

⑧ **Orifice Size**

C5	1/16"
C7	5/64"
C9	3/32"
D3	7/64"
D5	1/8"
E1	3/16"

⑨ **Optional Suffix**

(blank)	No Option
C	CE Declaration
E	CSA Certification
M	Manual Override (NC Valves Only)

*3C Not Available with Normally Open Configuration

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NS20 & NS21 Series Part Number Selection

Valve Series	Operating Mode	Coil Housing	Coil Class	Voltage	Seal Material	Body Material/ Pipe Size
①	②	③	④	⑤	⑥	⑦
NS20	1	G	H	02	C	7CG4

① **Valve Series**

NS20	Zero-Differential Piloted Diaphragm
NS21	Piloted Diaphragm

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
----------	--------------

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
----------	------

⑦ **Body Material/Pipe Size**

PCG4	Nylon-6, 3/8" NPT
PDG4	Nylon-6, 1/2" NPT
PEG5	Nylon-6, 3/4" NPT
PFG9	Nylon-6, 1" NPT
7CG4	316 Stainless Steel, 3/8" NPT
7DG4	316 Stainless Steel, 1/2" NPT
7EG5	316 Stainless Steel, 3/4" NPT
7FG9	316 Stainless Steel, 1" NPT
7GJ2	316 Stainless Steel, 1-1/4" NPT
7HJ2	316 Stainless Steel, 1-1/2" NPT
7JJ2	316 Stainless Steel, 2" NPT

⑧ **Optional Suffix**

(blank)	No Option
C	CE Declaration
E	CSA Certification
K	Mounting Bracket
M	Manual Override (NC Valves Only)



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NS71 Series Part Number Selection

Valve Series	Operating Mode	Coil Housing	Coil Class	Voltage	Seal Material	Body Material/ Pipe Size
①	②	③	④	⑤	⑥	⑦
NS71	1	G	H	02	C	9CG1

① **Valve Series**

NS71	Piloted Diaphragm
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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
----------	--------------

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
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⑦ **Body Material/Pipe Size**

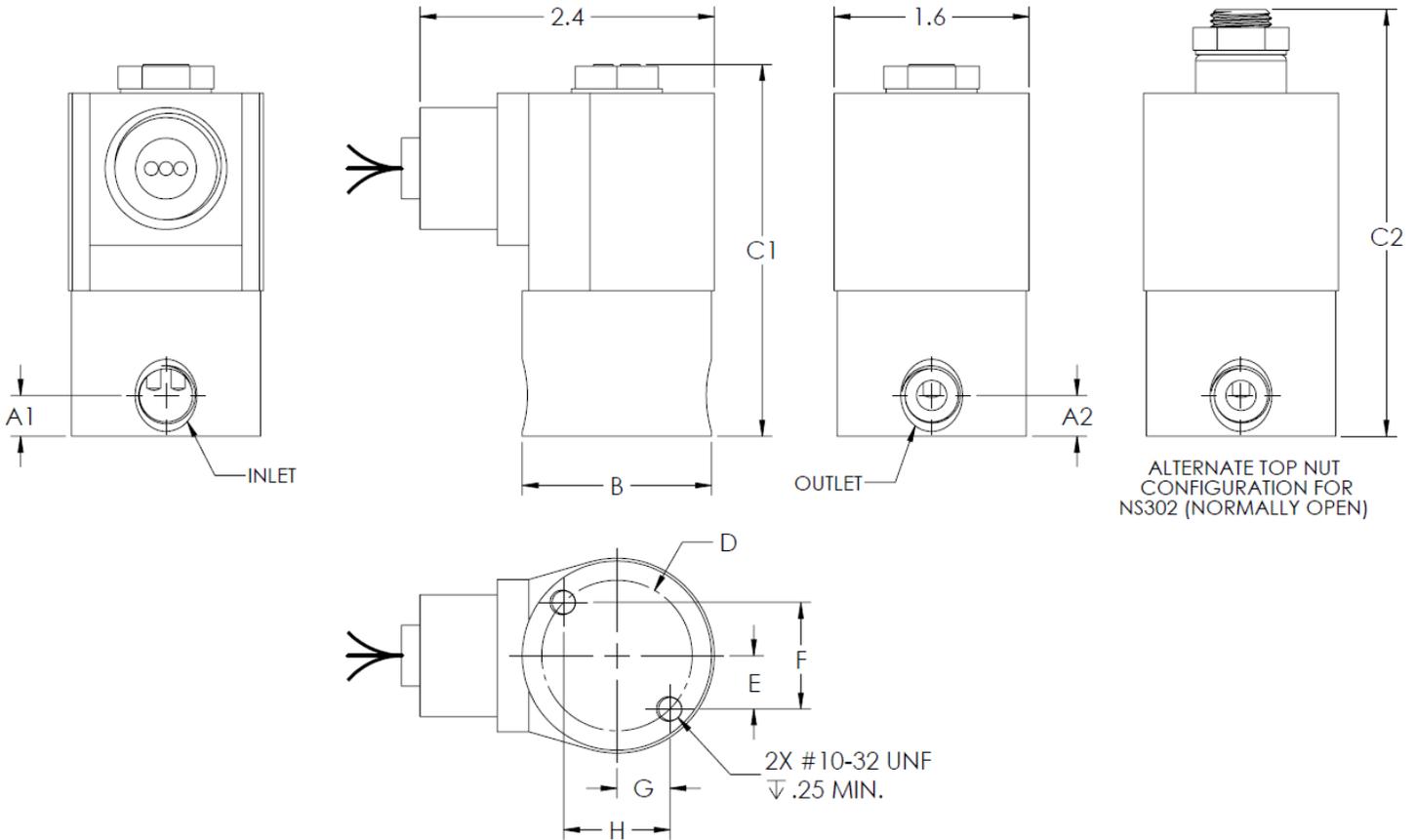
9CG1	Lead Free Brass, 3/8" NPT
9DG1	Lead Free Brass, 1/2" NPT
9EG5	Lead Free Brass, 3/4" NPT
9FG9	Lead Free Brass, 1" NPT
9GJ2	Lead Free Brass, 1-1/4" NPT
9HJ5	Lead Free Brass, 1-1/2" NPT
9JJ7	Lead Free Brass, 2" NPT

⑧ **Optional Suffix**

(blank)	No Option
C	CE Declaration
E	CSA Certification
K	Mounting Bracket
M	Manual Override (NC Valves Only)

Drawing 1

NS30 Series – 1/8" to 3/8" – Stainless Steel

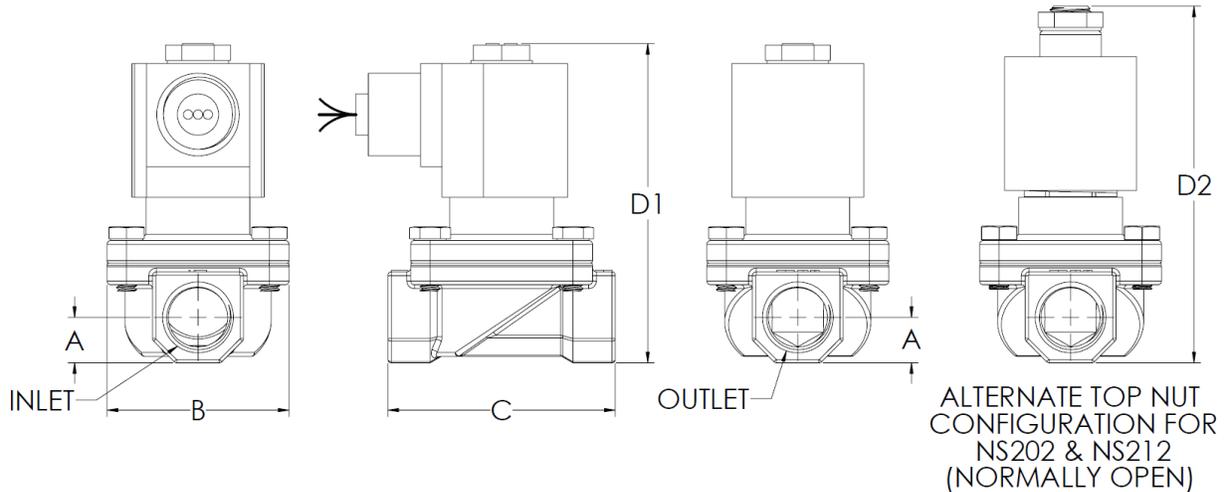


Pipe Size	Series/Mode	A1	A2	B	C1	C2	D	E	F	G	H	Weight
1/8" NPT	NS301	0.27	0.27	∅1.18	3.00	n/a	∅0.91	0.34	0.69	0.30	0.59	1.1 lb
	NS302	0.27	0.27	∅1.18	n/a	3.42	∅0.91	0.34	0.69	0.30	0.59	1.1 lb
1/4" NPT	NS301	0.34	0.34	∅1.55	3.15	n/a	∅1.23	0.44	0.88	0.44	0.88	1.1 lb
	NS302	0.34	0.34	∅1.55	n/a	3.49	∅1.23	0.44	0.88	0.44	0.88	1.1 lb
3/8" NPT	NS301	0.97	0.43	∅1.57	3.61	n/a	∅1.23	0.44	0.88	0.44	0.88	1.3 lb

- NS30 series valves can be mounted in any position.
- Dimensions shown in inches.
- Drawing not to scale.

Drawing 2a

NS20 & NS21 Series – 3/8" to 3/4" - Stainless Steel

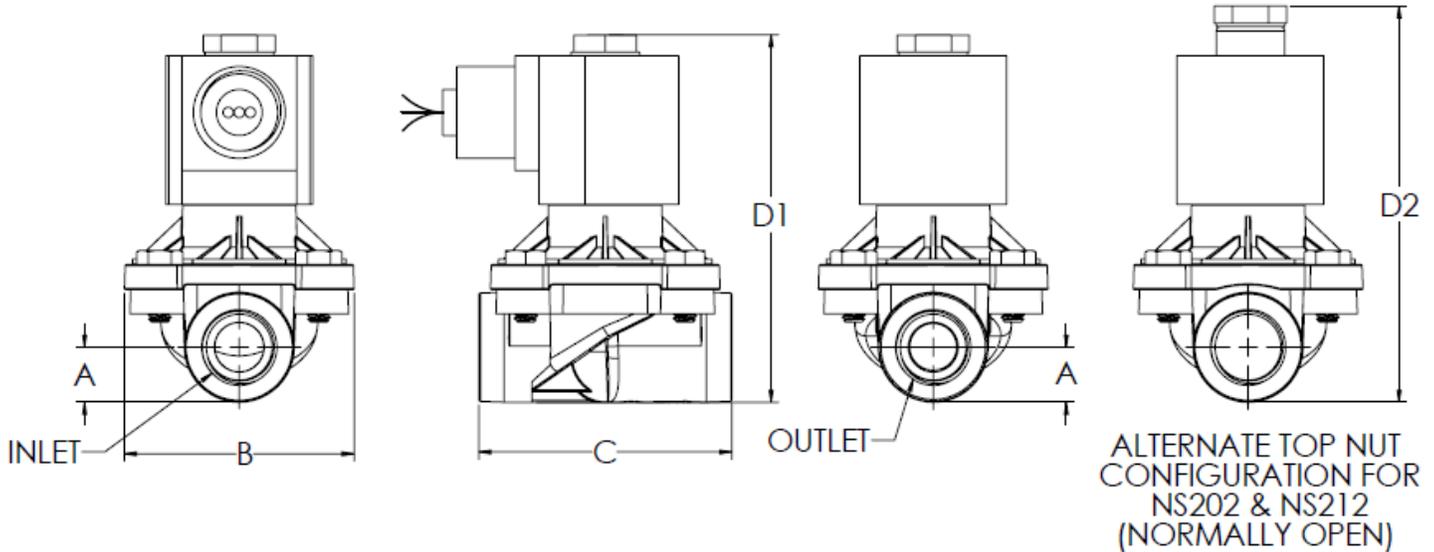


Pipe Size	Series/Mode	A	B	C	D1		D2	Weight
3/8" NPT	NS201	0.56	2.23	2.76	3.91		n/a	2.0 lb
	NS202	0.56	2.23	2.76	n/a		4.39	2.0 lb
	NS211	0.56	2.23	2.76	3.64 (AC)	4.06 (DC)	n/a	2.5 lb
	NS212	0.56	2.23	2.76	n/a		4.39	2.5 lb
1/2" NPT	NS201	0.56	2.23	2.76	3.91		n/a	2.0 lb
	NS202	0.56	2.23	2.76	n/a		4.39	2.0 lb
	NS211	0.56	2.23	2.76	3.64 (AC)	4.06 (DC)	n/a	2.5 lb
	NS212	0.56	2.23	2.76	n/a		4.39	2.5 lb
3/4" NPT	NS201	0.65	2.23	2.76	4.12		n/a	2.2 lb
	NS202	0.65	2.23	2.76	n/a		4.6	2.2 lb
	NS211	0.65	2.23	2.76	3.85 (AC)	4.27 (DC)	n/a	3.3 lb
	NS212	0.65	2.23	2.76	n/a		4.6	3.3 lb

- NS20 & NS21 series 3/8" to 3/4" valves can be mounted in any position.
- Dimensions shown in inches.
- Drawing not to scale.

Drawing 2b

NS20 & NS21 Series – 3/8" to 3/4" – Nylon-6

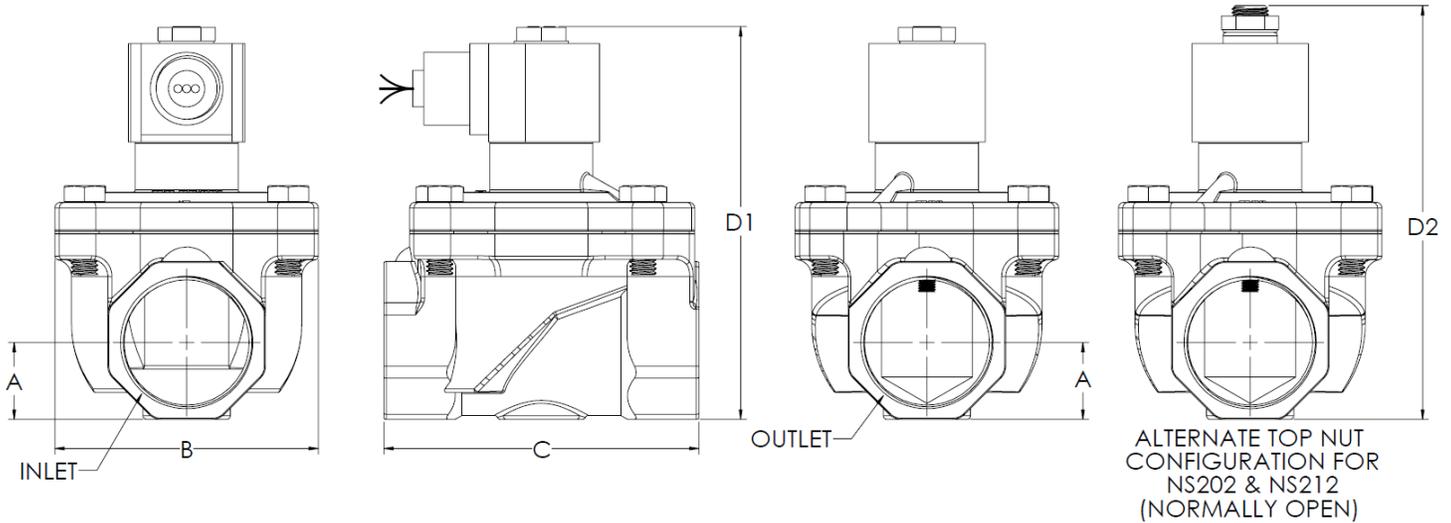


Pipe Size	Series/Mode	A	B	C	D1		D2	Weight
3/8" NPT	NS201	0.56	2.35	2.76	4.06		n/a	1.0 lb
	NS202	0.56	2.35	2.76	n/a		4.39	1.0 lb
	NS211	0.56	2.35	2.76	3.64 (AC)	4.06 (DC)	n/a	1.0 lb
	NS212	0.56	2.35	2.76	n/a		4.39	1.0 lb
1/2" NPT	NS201	0.60	2.50	2.76	4.00		n/a	1.0 lb
	NS202	0.60	2.50	2.76	n/a		4.47	1.0 lb
	NS211	0.60	2.50	2.76	3.73 (AC)	4.00 (DC)	n/a	1.0 lb
	NS212	0.60	2.50	2.76	n/a		4.47	1.0 lb
3/4" NPT	NS201	0.60	2.50	2.76	4.00		n/a	1.0 lb
	NS202	0.60	2.50	2.76	n/a		4.47	1.0 lb
	NS211	0.60	2.50	2.76	3.73 (AC)	4.00 (DC)	n/a	1.0 lb
	NS212	0.60	2.50	2.76	n/a		4.47	1.0 lb

- NS20 & NS21 series 3/8" to 3/4" valves can be mounted in any position.
- 3/8" valve appearance may vary from drawing shown above.
- Dimensions shown in inches.
- Drawing not to scale.

Drawing 2c

NS20 & NS21 Series – 1" to 2" – Stainless Steel, 1" – Nylon-6



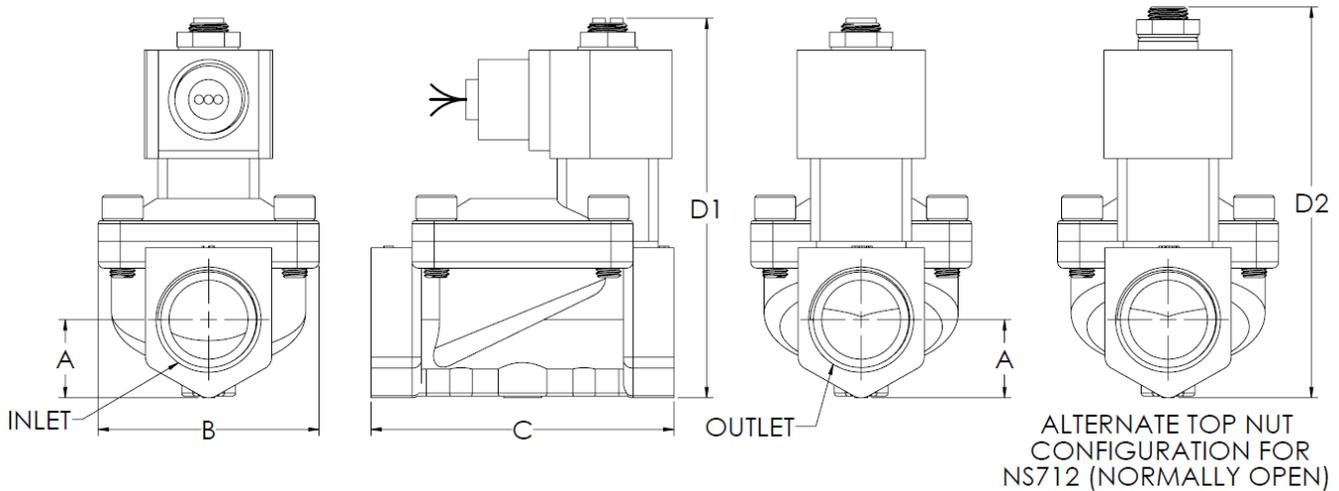
Pipe Size	Series/Mode	A	B	C	D1	D2	Weight
1" NPT	NS201	0.84	3.22	3.70	5.07	n/a	6.4 lb
	NS211	0.84	3.22	3.70	4.74	n/a	6.4 lb
	NS212	0.84	3.22	3.70	n/a	5.08	6.4 lb
1-1/4" NPT	NS201	1.08	3.70	4.35	5.76	n/a	10.5 lb
	NS211	1.10	3.70	4.35	5.43	n/a	10.5 lb
	NS212	1.10	3.70	4.35	n/a	5.71	10.5 lb
1-1/2" NPT	NS201	1.10	3.70	4.35	5.76	n/a	10.5 lb
	NS211	1.10	3.70	4.35	5.43	n/a	10.5 lb
	NS212	1.10	3.70	4.35	n/a	5.71	10.5 lb
2" NPT	NS211	1.47	3.68	5.58	6.03	n/a	13.5 lb
	NS212	1.47	3.68	5.58	n/a	6.31	13.5 lb

Pipe Size	Series/Mode	A	B	C	D1	D2	Weight
1" NPT Nylon-6 Version Only	NS201	0.90	3.34	3.58	5.09	n/a	1.7 lb
	NS211	0.90	3.34	3.58	4.81	n/a	1.7 lb
	NS212	0.90	3.34	3.58	n/a	5.05	1.7 lb

- NS20 & NS21 series 1" to 2" valves should be mounted upright and vertical.
- Nylon-6 version offered in 1" only, appearance may vary from drawing shown above.
- Dimensions shown in inches.
- Drawing not to scale.

Drawing 3

NS71 Series – 3/8" to 2" – Lead Free Brass



Pipe Size	Series/Mode	A	B	C	D1	D2	Weight
3/8" NPT	NS711	0.61	1.89	2.73	4.00	n/a	2.5 lb
	NS712	0.61	1.89	2.73	n/a	4.28	2.5 lb
1/2" NPT	NS711	0.61	1.89	2.73	4.00	n/a	2.5 lb
	NS712	0.61	1.89	2.73	n/a	4.28	2.5 lb
3/4" NPT	NS711	0.72	2.28	2.95	4.22	n/a	3.5 lb
	NS712	0.72	2.28	2.95	n/a	4.50	3.5 lb
1" NPT	NS711	1.00	2.76	3.78	4.73	n/a	6.0 lb
	NS712	1.00	2.76	3.78	n/a	5.01	6.0 lb
1-1/4" NPT	NS711	1.31	3.78	5.16	5.53	n/a	6.5 lb
	NS712	1.31	3.78	5.16	n/a	5.81	6.5 lb
1-1/2" NPT	NS711	1.31	3.78	5.16	5.53	n/a	7.0 lb
	NS712	1.31	3.78	5.16	n/a	5.81	7.0 lb
2" NPT	NS711	1.38	4.72	6.50	6.00	n/a	8.8 lb
	NS712	1.38	4.72	6.50	n/a	6.28	8.8 lb

- NS71 series valves 1" and below can be mounted in any position.
- NS71 series valves 1-1/4" and up should be mounted upright/vertical.
- Dimensions shown in inches.
- Drawing not to scale.