

# ASCO™ Solenoid Valves

3 way, NC/NO/U, Direct Operated, 1/8" or 1/4" Tapped

## Features & Benefits

- Wide range of flow and pressure ratings
- Quick disassembly of core tube for easy maintenance of internal parts
- Standard disc seal made of FPM, EPDM, NBR suitable for a wide range of operating temperatures and compatible with many fluids
- Standard manual operator allows an easy installation (1/8" version only)
- AC/DC interchangeability of the solenoid without disassembly of the valve (1/8" version only)
- UL429 and EN 60335 certified
- NSF 169 and EC 1935 / 2004 certified see "15-DIGIT PRODUCT CODE"
- Compact and low weight valve
- The solenoid valves satisfy all relevant EU and EAC directives

## General

**Differential pressure** See «SPECIFICATIONS» [1 bar = 100 kPa]  
**Ambient temperature range** -10°C to +60°C (14°F to 140°F)  
**Maximum viscosity** 40 cSt (mm<sup>2</sup>/s)  
**Response time** 10 - 30 ms

fluids (*)	temperature range (TS) <sup>(1)</sup>	seal materials (*)
air, inert gas, water, oil hot water and steam <sup>(2)</sup>	0°C to +130°C (32°F to 266°F)	FPM (fluoroelastomer)
air, inert gas, water hot water and steam <sup>(2)</sup>	-10°C to +140°C (14°F to 284°F)	EPDM (ethylene propylene diene monomer)
air, inert gas, water, oil	-10°C to +90°C (14°F to 194°F)	NBR (nitrile)

## Materials in contact with fluid

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified

**Body** Brass or stainless steel, AISI 316  
**Shading coil** Copper  
**Core tube** Stainless steel  
**Core and plugnut** Stainless steel  
**Springs** Stainless steel  
**Seal & Disc** FPM or EPDM or NBR  
**Seat** Brass or Stainless Steel AISI 303

## Electrical characteristics

**Coil insulation class** F (H - approval pending)  
**Connector** Spade plug (cable Ø 6-8 mm or Ø 6-10 mm)  
**Connector specification** DIN 43650, 11 mm, industry standard B (type 01) or ISO 4400 / EN 175301-803, form A (type 02)  
**Electrical safety** IEC 335  
**Electrical enclosure protection** Moulded IP67 (EN 60529) with plug-connector  
**Standard voltages** DC (=) : 12 - 24V (+10% -5%)  
 AC (~) : 24V/50-60 Hz - 110V/50 Hz (120 V/60Hz)  
 230V/50-60 Hz (+10% -15%)

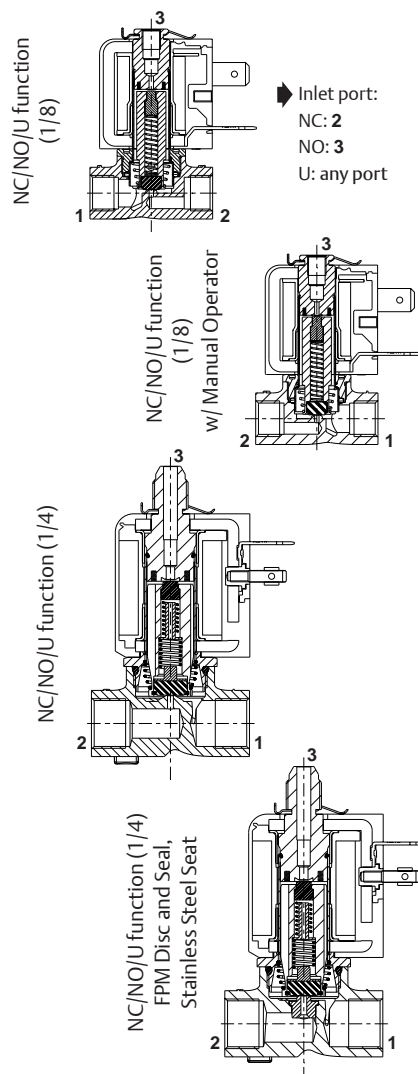
operator ambient temperature range (TS) °C (°F)	power ratings		replacement coil			Type
	holding ~ (VA)	hot/cold = (W)	~		= 24 V DC	
			120 V/60 Hz 110 V/50 Hz	230 V /50-60 Hz		
-10 to +60 (14 to 140)	4.5 -	3 -	533534-024 -	533534-003 -	533534-002 -	01
	14	9	533593-020	533593-003	533593-002	02

## Options

- NSF 169, EC 1935 / 2004 approval, EPDM/FPM disc and seal (Food Grade)

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified.

- <sup>(1)</sup> The minimum ambient temperature of the solenoid valve is determined by the limitations of minimum temperature indicated.  
<sup>(2)</sup> Steam only for 1/4" version with stainless steel seat or body.



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**Specifications <sup>(1)</sup>**

Specifications <sup>(1)</sup>														15-DIGIT PRODUCT CODE									
pipe size	orifice size	flow coefficient Kv		operating pressure differential bar (psi)						power coil (W)		thread type	dimensions / type <sup>(2)</sup>	brass	stainless steel	options		voltage code					
				max. (PS)												without manual operator	with manual operator	230 V/50-60 Hz	110 V/50 Hz (120 V / 60 Hz)	24 V/50-60 Hz	12 V/DC	24 V/DC	
				air (*)		water (*)		oil (*)															
				~	=	~	=	~	=														
mm (in)	m <sup>3</sup> /h (Cv)	(l/min)	min.	~	=	~	=	~	=	~	=	~	=	~	=	~	=						
<b>NC - Normally closed, FPM disc and seal</b>																							
1/8	1.2 (3/64)	0.05 (0.06)	0.83	0	15 (218)	-	15 (218)	-	15 (218)	-	3	-	G	01	G356C134S1	G356C144S1	V00	V01	FH	F0	FQ	F3	F1
					-	15 (218)	-	15 (218)	-	15 (218)	-	5	G	01	G356C149S1	G356C159S1							
					-	15 (218)	-	15 (218)	-	15 (218)	-	5	NPT	01	8356C149S1	8356C159S1							
					10 (145)	-	10 (145)	-	10 (145)	-	3	-	G	01	G356C135S1	G356C145S1							
					-	10 (145)	-	10 (145)	-	10 (145)	-	5	G	01	G356C150S1	G356C160S1							
					-	10 (145)	-	10 (145)	-	10 (145)	-	5	NPT	01	8356C150S1	8356C160S1							
	2 (5/64)	0.1 (0.12)	1.67	0	6 (87)	-	6 (87)	-	6 (87)	-	3	-	G	01	G356C136S1	G356C146S1							
					-	6 (87)	-	6 (87)	-	6 (87)	-	5	G	01	G356C151S1	G356C161S1							
					-	6 (87)	-	6 (87)	-	6 (87)	-	5	NPT	01	8356C151S1	8356C161S1							
					4 (58)	-	4 (58)	-	4 (58)	-	3	-	G	01	G356C137S1	G356C147S1							
					-	4 (58)	-	4 (58)	-	4 (58)	-	5	G	01	G356C152S1	G356C162S1							
					-	4 (58)	-	4 (58)	-	4 (58)	-	5	NPT	01	8356C152S1	8356C162S1							
1/4 <sup>(3)</sup>	1.6 (1/16)	0.08 (0.09)	1.33	0	13 (189)	-	13 (189)	-	13 (189)	-	9	9	G*	02	G356C119S1	G356C127S1							
					-	13 (189)	-	13 (189)	-	13 (189)	-	9	9	NPT	02	8356C119S1	8356C127S1						
	2.4 (3/32)	0.15 (0.17)	2.50	0	8 (116)	-	8 (116)	-	8 (116)	-	9	9	G*	02	G356C121S1	G356C129S1							
					-	8 (116)	-	8 (116)	-	8 (116)	-	9	9	NPT	02	8356C121S1	8356C129S1						
	3.2 (1/8)	0.3 (0.35)	5.00	0	3 (44)	5 (72)	3 (44)	5 (72)	3 (44)	5 (72)	9	9	G*	02	G356C123S1	G356C131S1							
					-	3 (44)	5 (72)	3 (44)	5 (72)	3 (44)	5 (72)	9	9	NPT	02	8356C123S1	8356C131S1						
	4.5 (11/64)	0.4 (0.46)	6.67	0	2.5 (36)	3 (43)	2.5 (36)	3 (43)	2.5 (36)	3 (43)	9	9	G*	02	G356C124S1	G356C132S1							
					-	2.5 (36)	3 (43)	2.5 (36)	3 (43)	2.5 (36)	3 (43)	9	9	NPT	02	8356C124S1	8356C132S1						
<b>NO - Normally open, FPM disc and seal</b>																							
1/8	1.6 (1/16)	0.07 (0.08)	1.17	0	8.5 (123)	-	8.5 (123)	-	8.5 (123)	-	3	-	G	01	G356C223S1	G356C235S1							
					-	8.5 (123)	-	8.5 (123)	-	8.5 (123)	-	5	G	01	G356C227S1	G356C239S1							
					-	8.5 (123)	-	8.5 (123)	-	8.5 (123)	-	5	NPT	01	8356C227S1	8356C239S1							
1/4 <sup>(3)</sup>	2.4 (3/32)	0.15 (0.17)	2.50	0	9 (130)	9 (130)	9 (130)	9 (130)	9 (130)	9 (130)	9	9	G	02	G356C214S1	G356C219S1							
					-	9 (130)	9 (130)	9 (130)	9 (130)	9 (130)	9 (130)	9	9	NPT	02	8356C214S1	8356C219S1						

<sup>(1)</sup> All performances are referred to Ambient Temperature = +60°C.  
<sup>(2)</sup> For dimensions, see drawing(s) for each construction type on the following page(s).  
<sup>(3)</sup> Steam: . EPDM Sealing PS max. 4 bar (max. temperature of fluid 140°C)  
. FPM Sealing PS max. 2.8 bar (max. temperature of fluid 130°C)  
(\*) Ensure that the compatibility of the fluids in contact with the materials is verified.

## Specifications <sup>(1)</sup>

														15-DIGIT PRODUCT CODE									
pipe size	orifice size	flow coefficient Kv		operating pressure differential bar (psi)						power coil (W)		thread type	dimensions / type <sup>(2)</sup>	brass	stainless steel	options		voltage code					
				max. (PS)												without manual operator	with manual operator	230 V/50-60 Hz	110 V/50 Hz (120 V / 60 Hz)	24 V/50-60 Hz	12 V/DC	24 V/DC	
				air (*)		water (*)		oil (*)															
mm (in)	m <sup>3</sup> /h (Cv)	(l/min)	min.	~	=	~	=	~	=	~	=												
<b>U - Universal, FPM disc and seal</b>																							
1/8	1.2 (3/64)	0.05 (0.06)	0.83	0	7 (102)	-	7 (102)	-	7 (102)	-	3	-	G	01	G356C312S1	G356C316S1	V00	V01	FH	F0	FQ	F3	F1
					-	7 (102)	-	7 (102)	-	7 (102)	-	5	G	01	G356C320S1	G356C324S1							
					-	7 (102)	-	7 (102)	-	7 (102)	-	5	NPT	01	8356C320S1	8356C324S1							
					-	7 (102)	-	7 (102)	-	7 (102)	-	5	NPT	01	8356C320S1	8356C324S1							
	1.6 (1/16)	0.08 (0.09)	1.33	0	4.5 (65)	-	4.5 (65)	-	4.5 (65)	-	3	-	G	01	G356C313S1	G356C317S1							
					-	4.5 (65)	-	4.5 (65)	-	4.5 (65)	-	5	G	01	G356C321S1	G356C325S1							
					-	4.5 (65)	-	4.5 (65)	-	4.5 (65)	-	5	NPT	01	8356C321S1	8356C325S1							
					-	4.5 (65)	-	4.5 (65)	-	4.5 (65)	-	5	NPT	01	8356C321S1	8356C325S1							
	2 (5/64)	0.1 (0.12)	0.83	0	3 (44)	-	3 (44)	-	3 (44)	-	3	-	G	01	G356C314S1	G356C318S1							
					-	3 (44)	-	3 (44)	-	3 (44)	-	5	G	01	G356C322S1	G356C326S1							
					-	3 (44)	-	3 (44)	-	3 (44)	-	5	NPT	01	8356C314S1	8356C318S1							
					-	3 (44)	-	3 (44)	-	3 (44)	-	5	NPT	01	8356C322S1	8356C326S1							
2.4 (3/32)	0.13 (0.15)	2.17	0	2 (29)	-	2 (29)	-	2 (29)	-	3	-	G	01	G356C315S1	G356C319S1								
				-	2 (29)	-	2 (29)	-	2 (29)	-	5	G	01	G356C323S1	G356C327S1								
				-	2 (29)	-	2 (29)	-	2 (29)	-	5	NPT	01	8356C315S1	8356C319S1								
				-	2 (29)	-	2 (29)	-	2 (29)	-	5	NPT	01	8356C323S1	8356C327S1								
1/4 <sup>(3)</sup>	2.4 (3/32)	0.15 (0.17)	2.50	0	5 (72.5)	5 (73)	5 (72.5)	5 (73)	5 (72.5)	5 (73)	9	9	G	02	G356C303S1	G356C309S1							
					-	5 (73)	-	5 (73)	-	5 (73)	-	9	NPT	02	8356C303S1	8356C309S1							

<sup>(1)</sup> All performances are referred to Ambient Temperature = +60°C.

<sup>(2)</sup> For dimensions, see drawing(s) for each construction type on the following page(s).

<sup>(3)</sup> Steam: . EPDM Sealing PS max. 4 bar (max. temperature of fluid 140°C)

. FPM Sealing PS max. 2.8 bar (max. temperature of fluid 130°C)

**(\*) Ensure that the compatibility of the fluids in contact with the materials is verified.**

**Product selection guide**

Configurator - CAD Files

**PRODUCT CODE**  
**G 356 C 134 S1 V00 F1**

**Connection Type**  
G = ISO 228/1 (1/8" or 1/4")  
8 = NPT (SAE 71051)

**Product series**  
356

**Revision letter**  
C = Initial release

**Valves version**

**Electrical interface**  
S1 = With spade plug connector  
S0 = Without spade plug connector  
L0 = Leaded coil (1/8" - 1/4", 500 mm cable length)

**Voltage**

- F1 = 24 V DC Class F
- F3 = 12 V DC Class F
- FQ = 24 V / 50-60 Hz Class F
- F0 = 110 V / 50 Hz (120 V / 60 Hz) Class F
- FH = 230 V / 50-60 Hz Class F
- ET = 220-230 V / 50 Hz 208-240 V / 60 Hz Class F <sup>(1)</sup>
- H1 = 24 V DC Class H
- HH = 230 V / 50-60 Hz Class H

**Options**

**Without manual operator**

- E00 = EPDM Disc and Seal
- V00 = FPM Disc and Seal
- N00 = NBR Disc and Seal
- 9CK = EPDM Disc and Seal (Food Grade) + NSF + EC 1935 / 2004
- 9CM = FPM Disc and Seal (Food Grade) + NSF + EC 1935 / 2004
- 9DF = EPDM Disc and Seal (Food Grade) + Stainless Steel Seat + NSF + EC 1935 / 2004 <sup>(2)</sup>
- 9DH = FPM Disc and Seal (Food Grade) + Stainless Steel Seat + NFS + EC 1935 / 2004 <sup>(2)</sup>
- 9DP = EPDM Disc and Seal + Stainless Steel Seat <sup>(2)</sup>
- 9DQ = FPM Disc and Seal + Stainless Steel Seat <sup>(2)</sup>

**With manual operator <sup>(3)</sup>**

- (With maintained manual operator)
- E01 = EPDM Disc and Seal, w/ Manual Operator
- V01 = FPM Disc and Seal, w/ Manual Operator
- N01 = NBR Disc and Seal, w/ Manual Operator
- 9CE = EPDM Disc and Seal (Food Grade), w/ Manual Operator + NSF + EC 1935 / 2004
- 9CW = FPM Disc and Seal (Food Grade), w/ Manual Operator + NSF + EC 1935 / 2004

<sup>(1)</sup> To obtain the correct pressure rating and power absorption check the landing pages of the online configurator. Operating Voltage Range (+10% -10%).

<sup>(2)</sup> Only for 1/4" Version.

<sup>(3)</sup> Not available for 1/4" Version.

Repair Kits and Service Parts - Spare Parts Kits

		Spare parts kits no. (*)							
		EPDM Disc and Seal	FPM Disc and Seal	NBR Disc and Seal	-	-	-	-	-
<b>NC - Normally closed - 1/4" - AC (~) / DC (=)</b>									
356C119/121/123/124/ 127/129/131/132	M200708	E00	V00	N00	-	-	-	-	-
<b>NO - Normally open - 1/4" - AC (~) / DC (=)</b>									
356C214/219	M200710	E00	V00	N00	-	-	-	-	-
<b>U - Universal - 1/4" - AC (~) / DC (=)</b>									
356C301/303/305/ 307/309/311	M200712	E00	V00	N00	-	-	-	-	-
		EPDM Disc and Seal (Food Grade) + NSF + EC 1935 / 2004 + Stainless Steel Seat	FPM Disc and Seal (Food Grade) + NSF + EC 1935 / 2004 + Stainless Steel Seat	EPDM Disc and Seal (Food Grade) + NSF + EC 1935 / 2004	FPM Disc and Seal (Food Grade) + NSF + EC 1935 / 2004	EPDM Disc and Seal + Stainless Steel Seat	FPM Disc and Seal + Stainless Steel Seat		
<b>NC - Normally closed - 1/4" - AC (~) / DC (=)</b>									
356C119/121/123/124/ 127/129/131/132	M200708	9DF	9DH	9CK	9CM	9DP	9DQ		
<b>NO - Normally open - 1/4" - AC (~) / DC (=)</b>									
356C214/219	M200710	9DF	9DH	9CK	9CM	9DP	9DQ		
<b>U - Universal - 1/4" - AC (~) / DC (=)</b>									
356C301/303/305/ 307/309/311	M200712	9DF	9DH	9CK	9CM	9DP	9DQ		

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**Installation**

- The solenoid valves can be mounted in any position without affecting operation
- Solenoid valves have 2 mounting holes in body
- Thread connection “G” applicable for 1/8, have standard thread according to ISO 228/1
- Thread connection “8” have standard thread = NPT (SAE 71051)
- Installation/maintenance instructions are included with each valve

**Dimensions mm (inches), Weight kg (Lbs)**

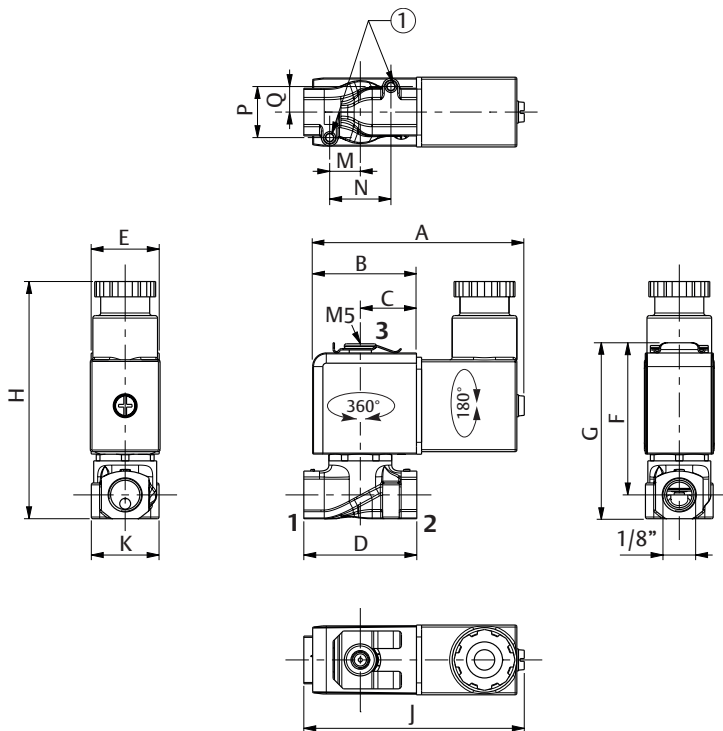
Configurator - CAD Files



**TYPE 01**

Electrical interface “S1”  
Coil size 20 mm - Thermoplastic moulded  
IEC 335 / DIN 43650  
IP67

NC (1/8”) - Without manual operator (V0)



➤ Inlet port:  
NC: 2  
NO: 3  
U: any port

① 2 mounting holes:  
M3 dia., through holes (0.12 inch dia.)

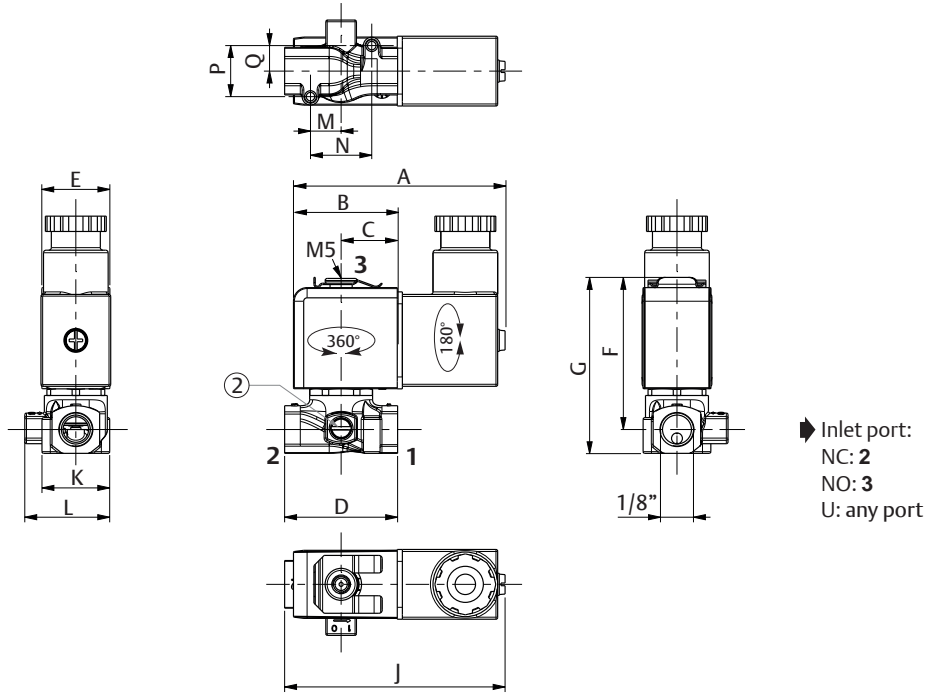
size 20		A	B	C	D	E	F	G	H	J	K	M	N	P	Q	weight <sup>(1)</sup>	
G356C134..G356C162	mm	61.9	30.5	16.5	33.2	20	44.7	51.7	69.7	64.8	19.9	9	18	15	7.5	0.155	kg
G356C223..G356C239																	
G356C312..G356C323																	
8356C134..8356C162	(in)	2.44	1.20	0.65	1.31	0.79	1.76	2.03	2.74	2.55	0.78	0.35	0.71	0.59	0.30	0.34	(Lbs)
8356C223..8356C239																	
8356C312..8356C323																	

<sup>(1)</sup> Incl. coil(s) and connector(s).

## Dimensions mm (inches), Weight kg (Lbs)

Configurator - CAD Files

NC (1/8") - With manual operator (V1)



- ① 2 mounting holes:  
M3 dia., through holes (0.12 inch dia.)
- ② Manual operator location

size 20		A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	weight <sup>(1)</sup>		
G356C134..G356C162	mm	61.9	30.5	16.5	33.2	20	44.7	51.7	69.7	64.8	19.9	24.95	9	18	15	7.5	0.155	kg	
G356C223..G356C239																			
G356C312..G356C323																			
8356C134..8356C162	(in)	2.44	1.20	0.65	1.31	0.79	1.76	2.03	2.74	2.55	0.78	0.98	0.35	0.71	0.59	0.30	0.34	(Lbs)	
8356C223..8356C239																			
8356C312..8356C323																			

<sup>(1)</sup> Incl. coil(s) and connector(s).

**Dimensions mm (inches), Weight kg (Lbs)**

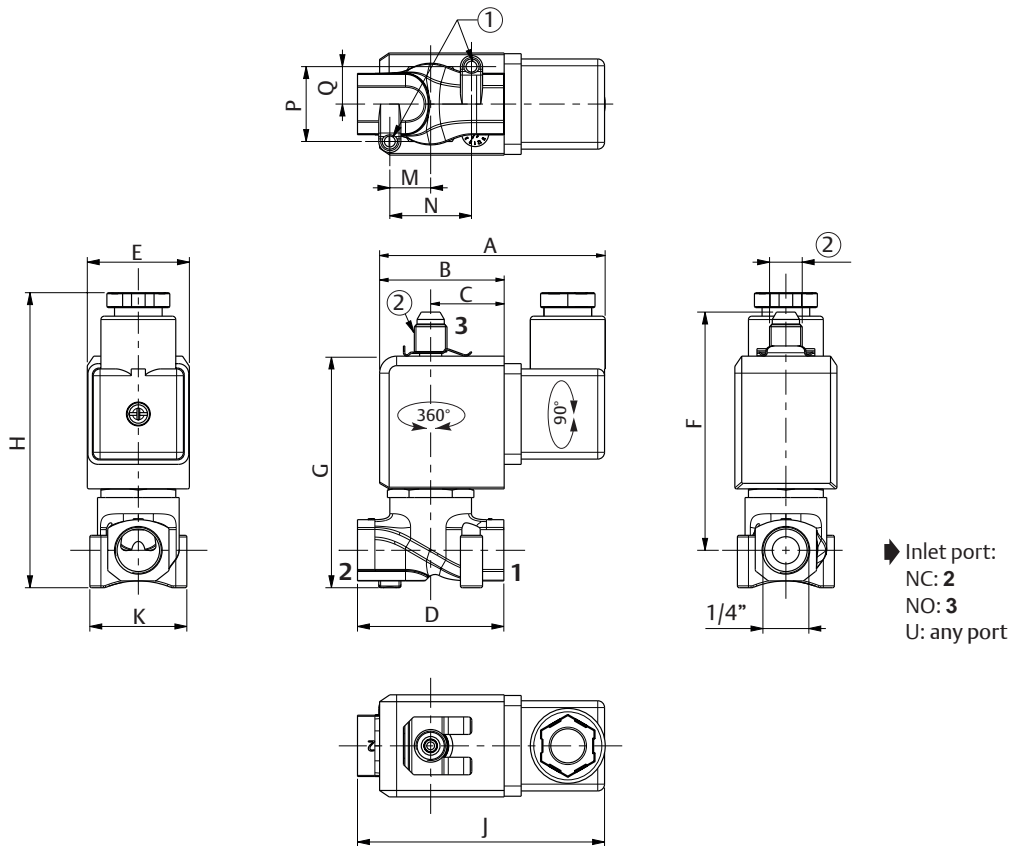
Configurator - CAD Files



**TYPE 02**

Electrical interface "S1"  
Coil size 30 mm - Thermoplastic moulded  
IEC 335 / ISO 4400  
IP67

NC (1/4") - Without manual operator (V0)



- ① 2 mounting holes:  
M4 dia., through holes (0.16 inch dia.)
- ② 1/8" threaded

size 30		A	B	C	D	E	F	G	H	J	K	M	N	P	Q	weight <sup>(1)</sup>	
G356C119..G356C132 G356C214 / G356C219 G356C303 / G356C309	mm	66.3	36.6	21.6	43	30	70	81	86.7	72.6	28.5	12	24	22	11	0.3	kg
8356C119..8356C132 8356C214 / 8356C219 8356C303 / 8356C309	(in)	2.61	1.44	0.85	1.69	1.18	2.75	3.18	3.41	2.86	1.12	0.47	0.94	0.87	0.43	0.66	(Lbs)

<sup>(1)</sup> Incl. coil(s) and connector(s).

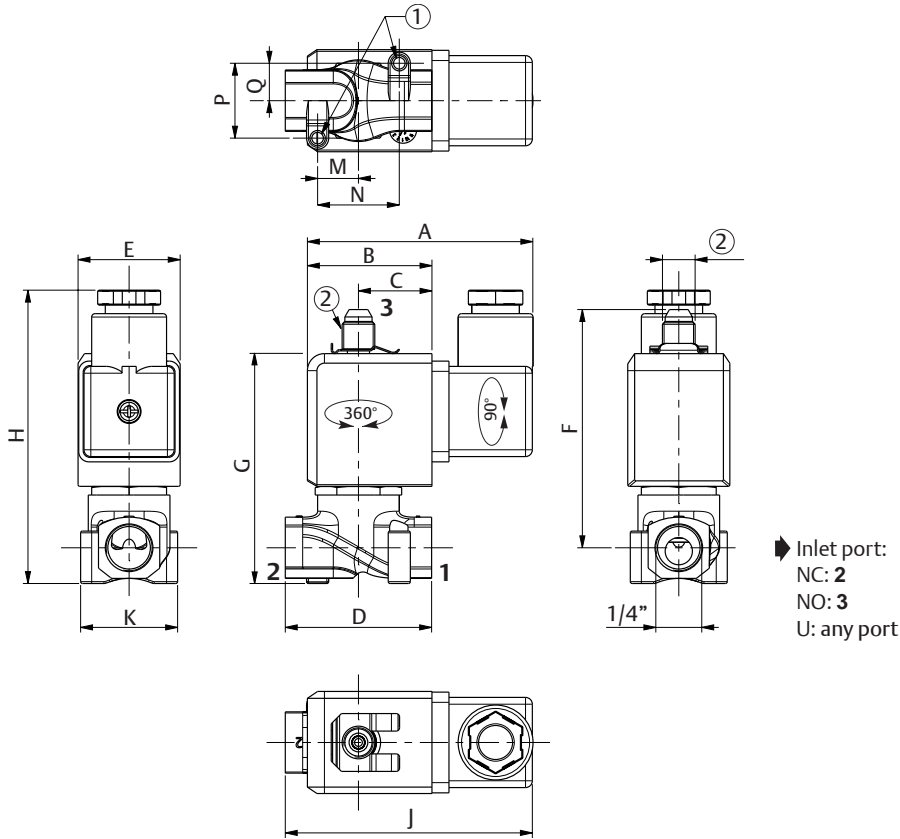
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## Dimensions mm (inches), Weight kg (Lbs)

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NC (1/4") - Without manual operator (V0) - Stainless Steel Seat (9DF/9DG/9DH/9DJ/9DP/9DQ)



- ① 2 mounting holes:  
M4 dia., through holes (0.16 inch dia.)
- ② 1/8" threaded

size 30		A	B	C	D	E	F	G	H	J	K	M	N	P	Q	weight <sup>(1)</sup>	
G356C119..G356C132	mm	66.3	36.6	21.6	43	30	70	81	86.7	72.6	28.5	12	24	22	11	0.3	kg
G356C214 / G356C219																	
G356C301..G356C311																	
8356C119..8356C132	(in)	2.61	1.44	0.85	1.69	1.18	2.75	3.18	3.41	2.86	1.12	0.47	0.94	0.87	0.43	0.66	(Lbs)
8356C214 / 8356C219																	
8356C303 / 8356C309																	

<sup>(1)</sup> Incl. coil(s) and connector(s).

