GENERAL CATALOG 2021

NPT

ACL®

Your Gateway to Excellence

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EDITION US 01/21

Summary

1

1.1 Introduction

The solenoid valves illustrated in this catalogue have applications in most industrial sectors, compatible with a vast range of fluids.

The quality of the materials used and the precise engineering of the parts, coupled with rigorous 100% testing of all production valves guarantees their service capability.

In addition to the standard versions published in the catalog, ACL is able to offer alternative design solutions for specific applications.

1.2 Descriptive part numbering for servo-assisted versions

E	2	0	7	I	N	V	5	0	/		/	U	2	5	E

SERIES — **N**= NPT (ANSI/ASMI BI.20.1) if omitted= GAS (ISO 228) — **ORIFICE / mm** — **OPTIONS** — **COIL**

CURRENT	
E	**D**
AC/DC CURRENT	DC CURRENT ONLY

CONNECTION	
A=1/8	**G**=1-1/4
B=1/4	**H**=1-1/2
C=3/8	**I**=2
D=1/2	**M**=2-1/2
E=3/4	**R**=3
F=1	

SEAL
B=NBR
E=EPDM
F=EPDM food appr.
H=HNBR
M=EPDM WRAS
N=CHLOROPRENE
V=FPM

Example :
E207INV50///U25F

Description: solenoid valve suitable for alternating or direct current 2/2 normally open, 2 NPT connections, FPM seal, orifice 50mm (1.97in), coil width 30mm (1.18in), class H insulation, power consumption 15VA, voltage 240V 60Hz.

Descriptive part numbering for direct-acting versions

E	1	0	5	A	N	B	1	5	/		/	U	3	5	1

SERIES — **N**= NPT (ANSI/ASMI BI.20.1) if omitted= GAS (ISO 228) — **ORIFICE** IN TENTH OF MILLIMETER — **OPTIONS** — **COIL**

CURRENT	
E	**D**
AC/DC CURRENT	DC CURRENT ONLY

CONNECTION	
A=1/8	**X**=Flange
B=1/4	**K**=Spiggot
C=3/8	**N**=1/8 Male
D=1/2	**P**=Hosetail
E=3/4	**W**=Compression
L=M5	**Z**=Push-in
	Y=Push-in

SEAL	
B=NBR	**L**=Low temp. NBR
E=EPDM	**S**=SILICONE
F=EPDM food appr.	**V**=FPM
H=HNBR	**W**=PTFE
K=FFKM (Kalrez)	
N=CHLOROPRENE	

Example :
E105ANB15///U351

Description: Solenoid valve suitable for alternating or direct current , 2/2 normally closed, 1/8 NPT connections, NBR seal, orifice 1.5mm (0.06in), coil width 22mm (0.866in), class H insulation, power consumption 6.5W, voltage 24V DC

Descriptive part numbering for angle seat valves

P	1	7	0	D	N	W	1	5	/	E

FUNCTION

1 =2/2 NC
2 =2/2 NO

ACTING

P =PNEUMATIC

ACTUATOR

70 =	70mm actuator Standard
71 =	70mm actuator High pressure
72 =	70mm actuator Proportional
50 =	50mm actuator Standard
52 =	50mm actuator Proportional

CONNECTION

D= 1/2
E= 3/4
F= 1
G= 1-1/4
H= 1-1/2
I= 2

G= GAS
(ISO 228)
N= NPT
(ANSI/ASMI BI.20.1)

SEAL

W= PTFE

ORIFICE

15=0.59 in (1/2)
20=0.787 in (3/4)
25=0.984 in (1)
32=1.260 in (1-1/4)
40=1.575 in (1-1/2)
50=1.969 in (2)

OPTIONS

V =	Optical position indicator (standard)
E =	Electrical position indicator

Example :
P170DNW15/E
Angle seat valve 2/2 NC actuator Ø70,
1/2 NPT connection, PTFE seals, electrical position indicator

Descriptive part numbering for coils

U	3	5	B

UL CSA certification

SERIES	WIDTH
2	30
3	22
4	30
5	36
6	16
7	30

MATERIAL		INSUL. CLASS
0	Nylon 6 +18% FV	F
1	PBT +30% FV	F
2	Polyarylamide	H
3	Epoxy	H
5	Self-extinguishing Nylon	H

VOLTAGE			
AC		DC	
A	12V	**0**	12V
B	24V	**1**	24V
D	110120V		
F	240V		

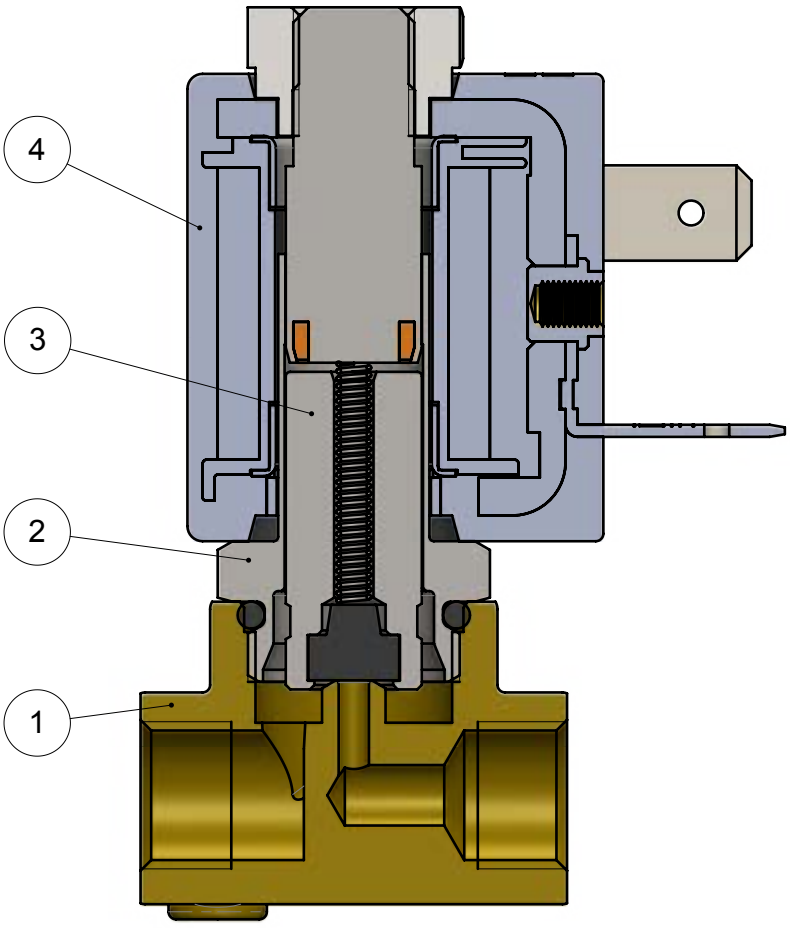
Example :
U35B
Coil width 22mm (0.866in) in self-extinguish Nylon,
Insulation class H, Voltage 24V 60Hz, Power 8VA

1.3 Construction details

Solenoid valves are equipment used to control media in pressure. Their action is to either open or close the interception of media, directly or indirectly, when the coil is energized.

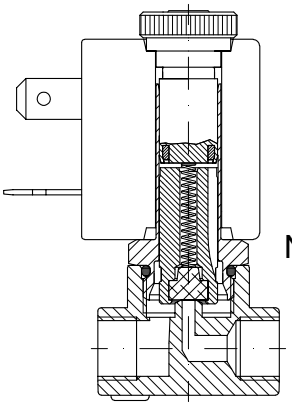
The most important components of the solenoid valve are :

1. The **valve body**, which has an inlet and an outlet connection and an orifice for media flow.
2. The **armature tube assembly**, with the core, on which the coil is attached.
3. The **plunger**, which in some cases serves like a seal, sliding in the armature tube.
4. The **coil**, which produces the magnetic field required to move the plunger.

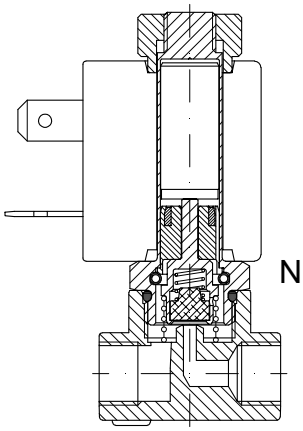


1.3.1 Methods of operation

2 way direct-acting



NORMALLY CLOSED

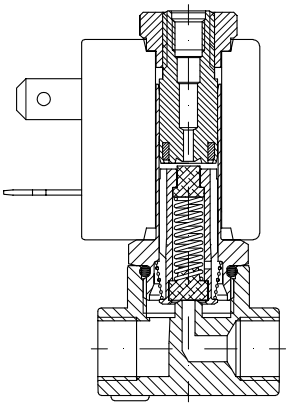


NORMALLY OPEN

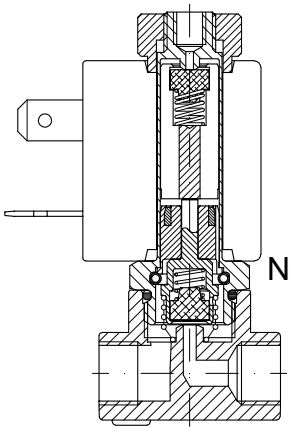
The 2 way solenoid valve has an inlet and an outlet connection within the valve body. It can be **normally closed** (2/2 NC). In this position, the media is prevented from flowing through the orifice by virtue of the plunger seal. When connected to an electrical supply, the plunger moves upward opening the orifice allowing the inlet to feed the outlet port.

In the **normally open** (2/2 NO), the orifice is open, the inlet feeds medium through the outlet. When connected to an electrical supply the orifice is then closed. The operation, in both cases depends only on the magnetic field produced by the coil.
These solenoid valves are able to work at **zero pressure differential**.

3 way direct-acting



NORMALLY CLOSED

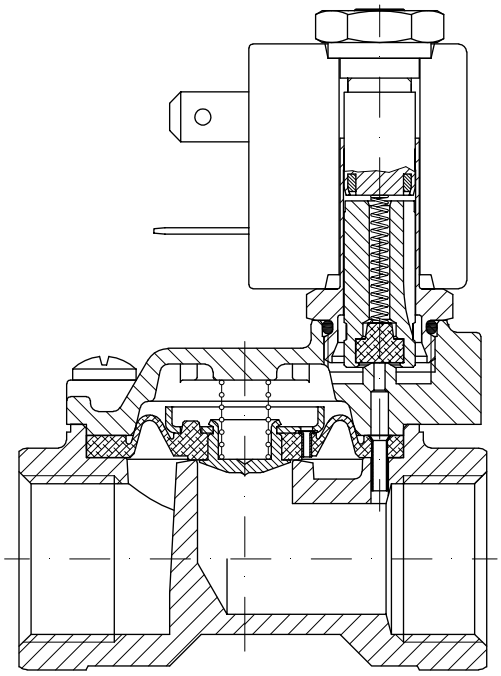


NORMALLY OPEN

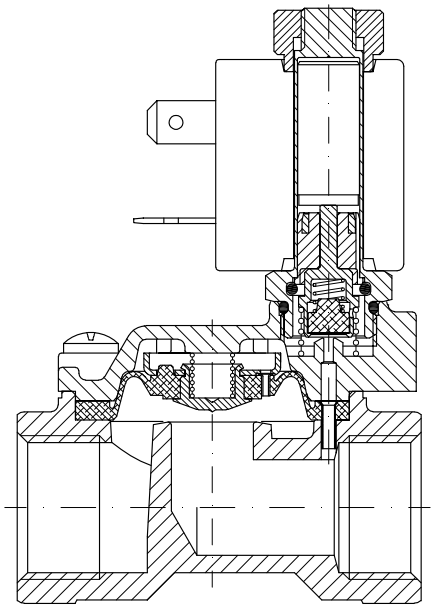
The 3 way solenoid valve has inlet and outlet connections in the body and an exhaust connection above the core.
It can be **normally closed** (3/2 NC). In this case the media is prevented from flowing through the inlet orifice by the plunger seal.
The inlet and exhaust orifices are at each end of the plunger. When connected to an electrical supply, the inlet orifice opens feeding the user port. The exhaust is closed.

It can be **normally open** (3/2 NO). In this case when the coil isn't energized the inlet orifice is open to the user port. Exhaust port is closed. When connected to an electrical supply, the inlet orifice closes, at the same time the exhaust port is opened and connected with the user port.
In both cases, the operation depends only on the magnetic field produced by the coil.
These solenoid valves are able to work at zero pressure differential.

Servo-assisted valve action

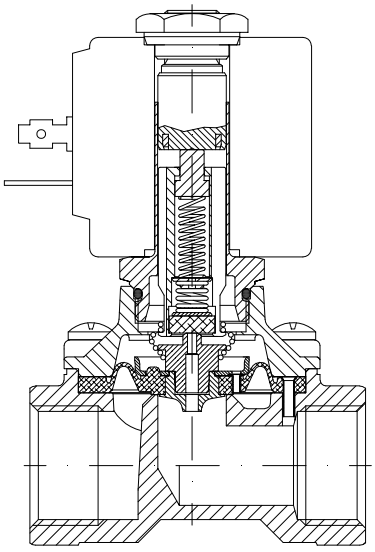


With larger orifices, static pressure increases, and it's still necessary that the magnetic field produced by the coil is able to control these forces. This is achieved by using servo-assisted action in the solenoid valve.
In this design, the media pressure helps to keep the main valve seal closed.
The **normally closed** design (2/2 NC) has an inlet and outlet connection in the valve body. When the coil is not energized, the flow is blocked by the main seal, which could be either a diaphragm or a piston design. In this mode the medium flows through a small hole in the diaphragm or piston and helps to close the valve. When the coil is energized the pilot orifice opens, allowing the medium above the main seal to exhaust and the main valve seal to open.
This type of solenoid valve needs a minimum differential pressure to work.



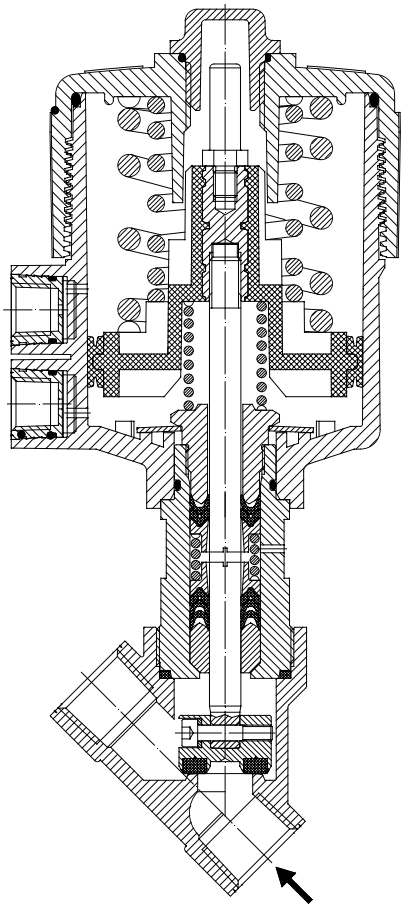
The **normally open** (2/2 NO) version has an inlet and outlet connection in the valve body. With larger orifices, static pressure increases, and it's still necessary that the magnetic field produced by the coil is able to control these forces.
This is achieved by using servo-assisted action in the solenoid valve. In this design the media pressure helps to keep the main valve seal open. When the coil isn't energized, the flow is not interrupted by the main seal, which could be either a diaphragm or a piston design. In this mode the medium flows through a small hole in the diaphragm or piston and helps the valve to open. When the coil is energized the pilot orifice closes, allowing the medium above the main seal to pressurize and the main valve seal to close. This type of solenoid valve needs a minimum differential pressure to work.

Assisted-lift diaphragm



Other servo-assisted valves are available with an **assisted lift** design pilot operated by diaphragm and **normally closed** (2/2 NC). In these models the plunger is mechanically attached to the diaphragm and controls the central pilot orifice and the stroke of the main seal.
This design allows the valve to work at zero differential pressure.

Angle seat valves



This type of valve is controlled by a pilot fluid supplied to the actuator by means of a pilot valve.

A stem connect the closure device to the control member of the actuator.
The spring acting on the control member forces the closure device down into the closed position on the valve seat.
The pilot supply overcomes the spring force to lift the control member into the open position.

These valves are mainly suitable for contaminated or extremely viscous process fluids.

1.4 Seal materials

Designation	Commercial denomination	General characteristics	Typical applications
NBR (Acrylic-nitrile butadylene)	BUNA -N PERBUNAN ELAPRIM JSR-N	A synthetic elastomer with good mechanical and thermal properties. Good resistance to oils. Poor resistance to ozone and atmospheric derivatives.	Water (max T=+158°F) Air (max T=+194°F) Mineral oils and their derivates,hydrocarbons, methane, ethane, propane, butane, kerosene oil, fuel oil.
EPDM (Ethylene-propylene-dylene)	BUNA- AP DUTRAL NORDEL	A synthetic elastomer derived from the co-polymerization of ethylene and propylene. Suitable for use with non-phosphoric based hydraulic fluids(hold). Water and steam to a max. temp. of 140°C. Not suitable for use with mineral based products. (oil, grease , fuel oils and petrol)	Hot water and steam. Detergents. Potassium and sodium solutions. Hydraulic fluids. Polarised solvents.
FPM (Fluorocarbon)	VITON TECNOFLON FLUOREL	A synthetic elastomer derived from flour-propylene. Excellent resistance to high temperatures Excellent resistance to ozone, oxygen, mineral oils, synthetic hydraulic oil, petrol, hydro-carbons and many other chemicals. Not suitable for use with superheated steam.	For general use up to +284°F
PTFE (Polytetrafluorethylene)	TEFLON	Thermoplastic material used also filled with a mineral resin. Excellent resistance to many chemicals. Optimum high temp. resistance. Poor resilience, improved by adding mineral filling.	For general use up to +320°F

1.5 Media compatibility

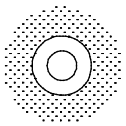
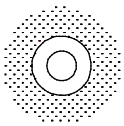
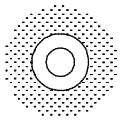
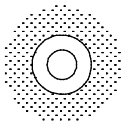
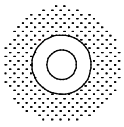
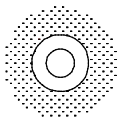
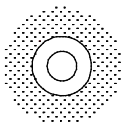
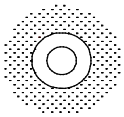
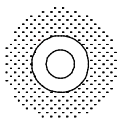
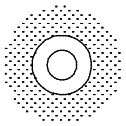
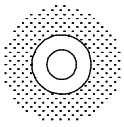
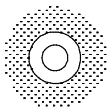
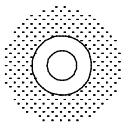
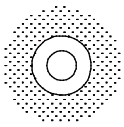
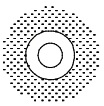
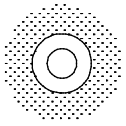
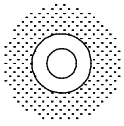
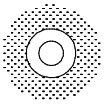
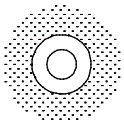
The following table reflects general characteristics with regards to the compatibility of different valve materials with media.
To determine the compatibility with corrosive fluids it is important to know all the data relative to temperature, concentration and media composition.

MEDIA	Brass	Stainless steel	NBR	EPDM	FPM	PTFE
Acetone	•	•	-	•	-	•
Acetylene	•	•	-	•	•	•
Argon hold	•	•	-	•	•	•
Benzol	•	•	-	-	-	•
Butane	•	•	-	-	•	•
Calcium monoxide	•	•	•	•	•	•
Carbon dioxide (liquid)	-	•	-	-	-	•
Carbon disulphide	•	•	-	-	-	•
Chloroform	•	•	-	-	-	•
De-ionised water	-	•	•	•	•	•
De-mineralised water	-	•	•	•	•	•
Dry carbon dioxide (gas)	•	•	•	•	•	•
Ethane	•	•	•	-	•	•
Ethanol	•	•	-	-	-	•
Ethyl acetate	•	•	-	-	-	•
Ethyl cloride	•	•	•	•	•	•
Ethylene glycol	•	•	•	•	•	•
Formaldehyde	•	•	•	•	•	•
Freon	•	•	-	-	-	•
Fuel oil	•	•	•	-	•	•
Glycerine	•	•	•	-	•	•
Hard water	•	•	•	•	•	•
Helium	•	•	•	-	•	•
Heptane	•	•	•	-	•	•
Hexane	•	•	•	-	•	•
Hot water <167°F	•	•	•	•	•	•
Hot water and steam <284°F	•	•	-	•	-	•
Hydrogen	•	•	-	-	•	•
Hydrogen dioxide	-	•	-	-	•	•
Isobutane	•	•	•	-	•	•
Isopentane	•	•	•	-	•	•
Methane	•	•	•	-	•	•
Methanol	•	•	-	•	-	•
Methyl cloride	•	•	-	-	-	•
Mineral oil	•	•	•	-	•	•
Natural gas	•	•	•	-	•	•
Neon	•	•	•	-	•	•
Nitrobenzene	•	•	-	-	-	-
Nitrogen	•	•	•	•	•	•
Oxygen	•	•	•	-	•	•
Pentane	•	•	•	•	•	•
Petrol	•	•	-	-	•	•
Propane-n	•	•	•	-	•	•
Soapy water	•	•	•	-	•	•
Toluene	•	•	-	-	•	•
Trichlorethylene dry	•	•	-	-	•	•
Vinegar	•	•	-	•	-	•
Water with glycol	•	•	-	-	•	•
Xilol	-	•	-	-	•	•

• Compatible - Not compatible

1.6.1 Protection class IP.....

Compliance with the standard DIN 40050 (EN 60529) for the electrical protection at 1000 Volt AC and 1500 Volt DC

1st number: protection against solid bodies			2nd number: protection against liquids			3rd number: mechanical protection		
IP	**Testes**	**Description**	**IP**	**Testes**	**Description**	**IP**	**Testes**	**Description**
0		No protection	**0**		No protection	**0**		No protection
1		Protection against solid bodies larger than d.50 mm (ex. involuntary contact by hand)	**1**		Protection against the vertical fall of water drops (condensation)	**1**		Impact energy 0.225 joules
2		Protection against solid bodies larger than d.12mm (ex. finger contact)	**2**		Protection against the fall of water drops up to 15° from the vertical	**2**		Impact energy 0.375 joules
3		Protection against solid bodies larger than d. 2,5mm (ends of tools, wires)	**3**		Protection against the fall of water drops and rain up to 60° from the vertical	**3**		Impact energy 0.500 joules
4		Protection against solid bodies larger than d. 1 mm (ends of tools, thin wires)	**4**		Protection against water jets from all directions	**4**		Impact energy 2.00 joules
5		Protection against dust (no harmful deposits)	**5**		Protection against forced water jets from all directions	**7**		Impact energy 6.00 joules
6		Total protection against dust	**6**		Protection against water similar to waves	**9**		Impact energy 20.00 joules
			7		Protection against water immersion			
In the case of solenoid valves, use only the first two number								

1.6.2 Insulation class according to CEI 15-26

Insulation class	Temperature °F/°C
Y	194 / 90
A	221 / 105
E	248 / 120
B	266 / 130
F	311 / 155
H	356 / 180
200	392 / 200
220	428 / 220
250	482 / 250

The indicated temperature is the effective temperature of the insulation and not the overtemperature.

1.6.3 Service

The coils are normally expected to be used in continuous service (ED100%).
Definition of "Continuous service": when the electrical connection time exceed the thermal constant of the coil by approx. .
As a general rule, the continuous service corresponds to an electrical connection time that is equal or higher than 15 minutes.
It's possible, for non-continuous service (e.g. ED50%), either to have coils at powers that are higher than the standard ones, or to use the coils with an ambient temperature higher than the ones indicated.

$$ED = \frac{\text{connection time}}{(\text{connection time} + \text{disconnection time})}$$

$$\text{EXAMPLE} = \frac{5' \text{ (connection time)}}{5'(\text{connection time}) + 5'(\text{disconnection time})} \text{x100= ED50\%}$$

1.6.4 Coils power

The power (P) indicated is referred to a temperature of 68°F.
For DC current it is as follows:

$$P(Watt) = V(Volt) \times I(Ampere) \;\; ; \;\; P = \frac{V^2\,(Volt)}{R\,(Ohm)}$$

In the case of AC current, the value is referred to the apparent power during inrush (connection moment) and during holding.

$$P(VA) = V(Volt) \times I(Ampere)$$

In the case of AC current, voltage and current are not in phase with each other. Phase angle between current and voltage is shown by the angle φ of the resistance triangle (the three sides represent: resistance, reactance and impedance of the circuit).
In the case of AC current the power showed in Watt become:

$$P(watt) = V(Volt) \times I(Ampere) \times \text{power factor } \varphi$$

power factor φ = power factor is always less than 1

The power, or electric input, in a AC current solenoid valve, is higher during inrush while it decreases when the plunger's stroke is complete.
In the DC current solenoid valve, as the power depends from the coil's Ohmic resistance, the power is the same during inrush and also when the plunger's stroke is complete too.

1.7 Units of measure

In the international system (SI) the physical and technical units are validated as follows :

Unit of length	:	Meter	(symbol m)
Unit of mass	:	Kilogram	(symbol Kg)
Unit of time	:	Second	(symbol s)
Unit of electrical current	:	Ampére	(symbol A)
Unit of temperature	:	Kelvin	(symbol K)
Unit of luminosity	:	Candle	(symbol cd)

Pressure

Old measuring units :

Kilopond per cm²	Kp/cm^2
Meter of water column	mH_20
Millimeter of mercury column	mmHg
Metric Atmosphere	at
Atmosphere	atm

They were replaced in the SI from Pascal.

One Pascal corresponds to the pressure of 1 Newton, which is acting on the area of 1 m^2.

1 Pascal=1N/1m

Unit Pa is a very low value and for standard industrial applications, the Bar (symbol bar) is used.

1 bar = 0.1 MegaPascal (symbol Mpa=1.000.000 Pa).

The conversion from the old unit of measure to the new one (SI) is the following :

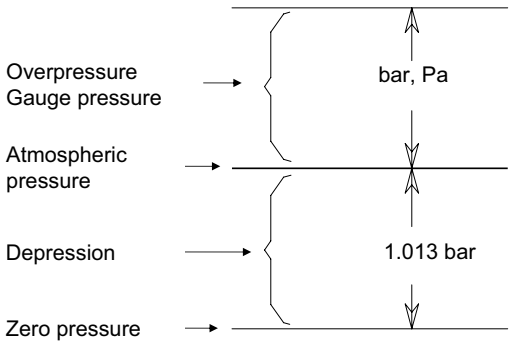
1 Kp/cm^2 = 0.981 bar

1 bar = 1.02 Kp/cm^2

The conversion in the SI unit is also possible where the metric system is not yet used.

Conversion : 1 bar = 14.50 psi

1 psi = 0.07 bar = 7.000 Pa

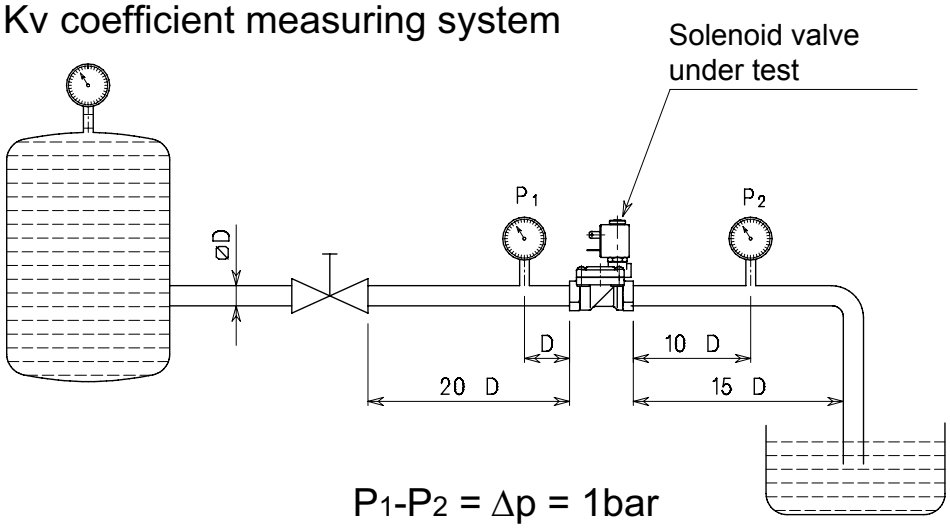


Pressure values, except specific references, are referred to the atmospheric pressure

1.8 Flow calculation

Each solenoid valve has a flow coefficient (Kv).
It's possible, with this data, to calculate the flow. Given the loss of flowing pressure (pressure drop),the media type and the working pressure it's possible to calculate the flow rate.
This flow coefficient is determined by way of experimentation according to the standard VDE 2173 and it represents the quantity of water discharged from the solenoid valve with a pressure difference of 1 bar at a temperature between 5°C and 40°C.

Kv coefficient measuring system



P_1-P_2 = Δp = 1bar

Kv	=	m^3/h	Flow coefficient
Cv	=	gpm	Flow coefficient (Cv=Kv/0.865)
Q	=	m^3/h	Flow
Q_n	=	m^3n/h	Normal flow (20°C 760mm Hg)
P_1	=	bar	Inlet pressure (Gauge pressure + 1)
P_2	=	bar	Outlet pressure (Gauge pressure + 1)
Δp	=	bar	Pressure drop (differential pressure between inlet & outlet)
ρ	=	Kg/dm^3	Relative density referred to water (Water at 4°C = 1)

ρ_n	=	Kg/dm³	Normal relative density referred to air
G	=	Kg/h	Mass
t	=	°C	Inlet media temperature
V_1	=	m³/Kg	Inlet specific volume
V_2	=	m³/Kg	Outlet specific volume referred to "P_2" pressure and "t" temperature

Liquids : $Q = Kv \sqrt{\frac{\Delta p}{\rho}}$

Gas : $\Delta p = \Delta p < P_1/2 \quad Q_n = 514 \times Kv \sqrt{\frac{\Delta p \times P_2}{\rho_n \times (273 + t)}}$

$\Delta p = \Delta p > P_1/2 \quad Q_n = 257 \times Kv \frac{P_1}{\sqrt{\rho_n (273 + t)}}$

Air : $\Delta p = \Delta p < P_1/2 \quad Q_n = 26 \times Kv \sqrt{\Delta p \times P_2}$

$\Delta p = \Delta p > P_1/2 \quad Q_n = Kv \times P_1 \times 13$

Steam : $\Delta p = \Delta p < P_1/2 \quad G = 31.6 \times Kv \sqrt{\frac{\Delta p}{V_2}}$

$\Delta p = \Delta p > P_1/2 \quad G = 31.6 \times Kv \sqrt{\frac{P_1}{v_1}}$

1.9 Technical tables

1.9.1 Pressure

bar	N/cm²	MPa	psi	bar	N/cm²	MPa	psi
0.1	1	0.01	1.45	14	140	1.4	203.00
0.2	2	0.02	2.90	15	150	1.5	217.50
0.3	3	0.03	4.35	16	160	1.6	232.00
0.4	4	0.04	5.80	17	170	1.7	246.50
0.5	5	0.05	7.25	18	180	1.8	261.00
0.6	6	0.06	8.70	19	190	1.9	275.50
0.7	7	0.07	10.15	20	200	2.0	290.00
0.8	8	0.08	11.60	21	210	2.1	304.50
0.9	9	0.09	13.05	22	220	2.2	319.00
1.0	10	0.10	14.50	23	230	2.3	333.50
1.5	15	0.15	21.75	24	240	2.4	348.00
2.0	20	0.20	29.00	25	250	2.5	362.50
2.5	25	0.25	36.25	26	260	2.6	377.00
3.0	30	0.30	43.50	27	270	2.7	391.50
3.5	35	0.35	50.75	28	280	2.8	406.00
4.0	40	0.40	58.00	29	290	2.9	420.50
4.5	45	0.45	65.25	30	300	3.0	435.00
5.0	50	0.50	72.50	35	350	3.5	507.50
5.5	55	0.55	79.75	40	400	4.0	580.00
6.0	60	0.60	87.00	45	450	4.5	652.50
6.5	65	0.65	94.25	50	500	5.0	725.00
7.0	70	0.70	101.50	55	550	5.5	797.50
7.5	75	0.75	108.75	60	600	6.0	870.00
8.0	80	0.80	116.00	65	650	6.5	942.50
8.5	85	0.85	123.25	70	700	7.0	1015.00
9	90	0.90	130.50	75	750	7.5	1087.50
9.5	95	0.95	137.75	80	800	8.0	1160.00
10	100	1.00	145.00	85	850	8.5	1232.50
11	110	1.10	159.50	90	900	9.0	1305.00
12	120	1.20	174.00	95	950	9.5	1377.50
13	130	1.30	188.50	100	1000	10.0	1450.00

1.9.2 Viscosity

Kinematic viscosity centistokes cSt (mm²/s)	°Engler °E	Saybolt Universal Ssu	Redwood seconds n°1 SRW n°1
1	1	---	---
2	1.1	32.7	31
3	1.2	36	33.5
4	1.3	39	36
5	1.4	42.5	38.5
7	1.5	49	44
10	1.8	59	52
15	2.3	77.5	68
20	2.9	98	86
25	3.4	119	105
30	4	140	120
35	4.7	164	145
40	5.3	186	165
50	6.6	232	205
60	8	278	245
70	9.2	324	286
80	10.5	370	327
90	12	415	370
100	13	465	410

1.9.3 Temperature

°C	K	°F	°C	K	°F	°C	K	°F	°C	K	°F
-50	223	-58.0	1	274	33.8	51	324	123.8	105	378	221.0
-49	224	-56.2	2	275	35.6	52	325	125.6	110	383	230.0
-48	225	-54.4	3	276	37.4	53	326	127.4	115	388	239.0
-47	226	-52.6	4	277	39.2	54	327	129.2	120	393	248.0
-46	227	-50.8	5	278	41.0	55	328	131.9	125	398	257.0
-45	228	-49.0	6	279	42.8	56	329	132.8	130	403	266.0
-44	229	-47.2	7	280	44.6	57	330	134.6	135	408	275.0
-43	230	-45.4	8	281	46.4	58	331	136.4	140	413	284.0
-42	231	-43.6	9	282	48.2	59	332	138.2	145	418	293.0
-41	232	-41.8	10	283	50.0	60	333	140.0	150	423	303.0
-40	233	-40.0	11	284	51.8	61	334	141.8	155	428	311.0
-39	234	-38.2	12	285	53.6	62	335	143.6	160	433	320.0
-38	235	-36.4	13	286	55.4	63	336	145.4	165	438	329.0
-37	236	-34.6	14	287	57.2	64	337	147.2	170	443	338.0
-36	237	-32.8	15	288	59.0	65	338	149.0	175	448	347.0
-35	238	-31.0	16	289	60.8	66	339	150.8	180	453	356.0
-34	239	-29.2	17	290	62.6	67	340	152.6	185	458	365.0
-33	240	-27.4	18	291	64.4	68	341	154.4	190	463	374.0
-32	241	-25.6	19	292	66.2	69	342	156.2	195	468	383.0
-31	242	-23.8	20	293	68.0	70	343	158.0	200	473	392.0
-30	243	-22.0	21	294	69.8	71	344	159.8	205	478	401.0
-29	244	-20.2	22	295	71.6	72	345	161.6	210	483	410.0
-28	245	-18.4	23	296	73.4	73	346	163.4	215	488	419.0
-27	246	-16.6	24	297	75.2	74	347	165.2	220	493	428.0
-26	247	-14.8	25	298	77.0	75	348	167.0	225	498	437.0
-25	248	-13.0	26	299	78.8	76	349	168.8	230	503	446.0
-24	249	-11.2	27	300	80.6	77	350	170.6	235	508	455.0
-23	250	-9.4	28	301	82.4	78	351	172.4	240	513	464.0
-22	251	-7.6	29	302	84.2	79	352	174.2	245	518	473.0
-21	252	-5.8	30	303	86.0	80	353	176.0	250	523	482.0
-20	253	-4.0	31	304	87.8	81	354	177.8	255	528	491.0
-19	254	-2.2	32	305	89.6	82	355	179.6	260	533	500.0
-18	255	-0.4	33	306	91.4	83	356	181.4	265	538	509.0
-17	256	1.4	34	307	93.2	84	357	183.2	270	543	518.0
-16	257	3.2	35	308	95.0	85	358	185.0	275	548	527.0
-15	258	5.0	36	309	96.8	86	359	186.8	280	553	536.0
-14	259	6.8	37	310	98.6	87	360	188.6	285	558	545.0
-13	260	8.6	38	311	100.4	88	361	190.4	290	563	554.0
-12	261	10.4	39	312	102.2	89	362	192.2	295	568	563.0
-11	262	12.2	40	313	104.0	90	363	194.0	300	573	572.0
-10	263	14.0	41	314	105.8	91	364	195.8	310	583	590.0
-9	264	15.8	42	315	107.6	92	365	197.6	320	593	608.0
-8	265	17.6	43	316	109.4	93	366	199.4	330	603	626.0
-7	266	19.4	44	317	111.2	94	367	201.2	340	613	644.0
-6	267	21.2	45	318	113.0	95	368	203.0	350	623	662.0
-5	268	23.0	46	319	114.8	96	369	204.8	360	633	680.0
-4	269	24.8	47	320	116.6	97	370	206.6	370	643	698.0
-3	270	26.6	48	321	118.4	98	371	208.4	380	653	716.0
-2	271	28.4	49	322	120.2	99	372	210.2	390	663	734.0
-1	272	30.2	50	323	122.0	100	373	212.0	400	673	752.0
0	273	32.0									

1.9.4 Steam

Relative pressure (psi)	Absolute pressure (psi)	Temperature (°F)	Steam specific volume (m^3/Kg)
---	0,73	91,18	28,192
---	7,25	178,39	3,240
0,00	14,69	212,00	1,673
1,45	16,14	216,79	1,533
2,90	17,59	221,18	1,414
5,08	19,77	227,30	1,268
7,25	21,94	232,90	1,149
10,15	24,84	239,72	1,024
14,50	29,20	248,76	0,881
21,76	36,45	261,72	0,714
29,01	43,70	272,64	0,603
36,26	50,95	282,24	0,522
43,51	58,20	290,75	0,461
50,76	65,46	298,44	0,413
58,02	72,71	305,53	0,374
65,27	79,96	311,99	0,342
72,52	87,21	318,06	0,315
87,02	101,71	329,07	0,272
101,53	116,22	338,90	0,240
116,03	130,72	347,77	0,215
130,53	145,23	355,95	0,194
145,04	159,73	363,43	0,177

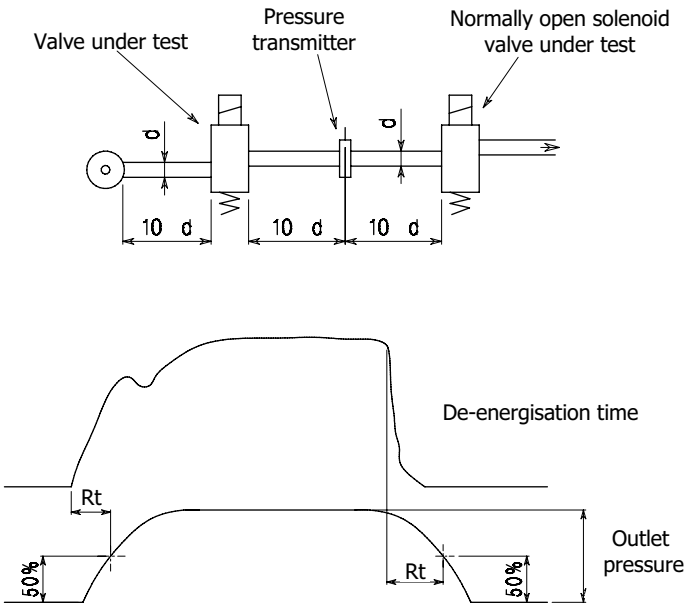
1.9.5 Specific gravity

Liquid substances				Gases and vapours at 20°C and 1atm*			
Liquid	Temp. °F	Specific gravity		Gases or vapour	Specific gravity		
		lb/in³	Kg/dm³		Relative density to air	lb/in³ x10⁻³	gr/dm³
Acetone	77	0,0284	0,787	Acetylene (ethyne)	0,90	0,0392	1,085
Acetylene, liquid	70	0,0137	0,38	Air	1,00	0,0435	1,205
Alcohol, ethyl (ethanol)	77	0,0284	0,787	Alcohol vapor	1,60	0,0697	1,929
Alcohol, methyl (methanol)	77	0,0286	0,791	Ammonia	0,59	0,0257	0,711
Alcohol, propyl	77	0,0290	0,802	Argon	1,38	0,0601	1,663
Ammonia (aqua)	77	0,0298	0,826	Benzene	2,70	0,1174	3,249
Aniline	77	0,0369	1,022	Butane	2,01	0,0873	2,417
Benzene	77	0,0316	0,876	Isobutene	1,94	0,0845	2,338
Benzil	77	0,0392	1,084	Carbon dioxide	1,52	0,0661	1,830
Bromine	77	0,1127	3,12	Carbon monoxide	0,97	0,0421	1,165
Butane, liquid	77	0,0217	0,601	Chlorine	2,49	0,1082	2,996
Caustic soda 9% - NaOH	59	0,0397	1,10	Cyclobutane	1,94	0,0844	2,335
Caustic soda 18% - NaOH	59	0,0434	1,20	Cyclopentane	2,42	0,1055	2,919
Caustic soda 27% - NaOH	59	0,0470	1,30	Cyclopropane	1,45	0,0632	1,748
Caustic soda 47% - NaOH	59	0,0542	1,50	Deuterium	0,07	0,0030	0,084
Chloroform	77	0,0531	1,469	Ethane	1,04	0,0452	1,251
Ethane	-128,2	0,0207	0,572	Ether vapor	2,59	0,1126	3,116
Ether	77	0,0259	0,716	Ethyl Chloride	2,23	0,0971	2,687
Ethylene glycol	77	0,0397	1,1	Ethylene (Ethene)	0,97	0,0422	1,167
Formaldehyde	113	0,0294	0,815	Fluorine	1,31	0,0570	1,579
Freon R-11	77	0,0535	1,48	Helium	0,14	0,0060	0,166
Freon R-12	77	0,0475	1,315	Heptanes	3,46	0,1506	4,168
Freon R-22	77	0,0432	1,197	Hexane	2,97	0,1294	3,582
Fuel oil	60	0,0323	0,893	Hydrogen	0,07	0,0030	0,084
Gasoline, Vehicle	60	0,0267	0,739	Hydrogen chloride	1,27	0,0552	1,528
Hydrochloric acid 10%	59	0,0379	1,05	Hydrogen sulfide	1,18	0,0512	1,417
Hydrochloric acid 20%	59	0,0397	1,10	Hydrofluoric acid	2,37	0,1032	2,856
Hydrochloric acid 30%	59	0,0415	1,15	Hydrochloric acid	1,26	0,0549	1,520
Hydrochloric acid 40%	59	0,0434	1,20	Illuminating gas	0,40	0,0174	0,482
Kerosene	60	0,0296	0,82	Isobutane	2,01	0,0875	2,422
Mercury	77	0,4925	13,633	Isopentane	2,48	0,1079	2,988
Milk	59	0,0374	1,035	Mercury vapor	6,94	0,3021	8,363
Naphtha	59	0,0241	0,667	Methane	0,55	0,0241	0,667
Nitric acid 17%	59	0,0397	1,10	Natural Gas (typical)	0,7 - 0,5	0,025-0,018	0,844-0,723
Nitric acid 25%	59	0,0415	1,15	Neon	0,70	0,0303	0,840
Nitric acid 47%	59	0,0470	1,30	Nitrogen	0,97	0,0421	1,165
Nitric acid 94%	59	0,0542	1,50	Nitrous oxide	1,53	0,0666	1,844
Octane	77	0,0253	0,701	Octane	3,94	0,1717	4,753
Olive Oil	59	0,0254	0,703	Oxygen	1,10	0,0481	1,331
Oxygen	-297,4	0,0412	1,14	Ozone	1,66	0,0723	2,000
Potassium Hydroxide 21%	59	0,0434	1,2	Pentane	2,49	0,1083	2,997
Potassium Hydroxide 49%	59	0,0542	1,5	Propane	1,52	0,0663	1,834
Propane	77	0,0179	0,495	Propene (Propylene)	1,45	0,0632	1,750
Sulphuric acid 27%	59	0,0434	1,20	R-12	4,17	0,1817	5,030
Sulphuric acid 50%	59	0,0506	1,40	R-134A	3,52	0,1533	4,244
Sulphuric acid 87%	59	0,0650	1,80	Sulfur Dioxide	2,26	0,0986	2,728
Sulphuric acid, pure	59	0,0683	1,89	Water vapor	0,62	0,0271	0,749
Turpentine	77	0,0315	0,871	Xenon	4,53	0,1972	5,459
Water, pure	39,2	0,0361	1				
Water, sea	77	0,0370	1,025				

*) NTP - Normal Temperature and Pressure - is defined as air at 20°C and 1 atm (68°F and 14,69psi)
Specific gravity is the ratio between the density (mass per unit volume) of the actual gas and the density of air, specific gravity has no dimension. The density of air at NTP is 1,205 kg/m³ (0, 000043533lb/in³).

1.10 Response time

The Response time (Rt) of a solenoid valve is the period passing between the energisation (or de-energisation) of the coil and the moment when the outlet pressure reaches the 50% of its peak.
Example of a circuit test:



The response time depends from the type of valve, the nature of the medium, the pressure and the current (AC or DC), if these value are measured at the moment of electrical connection or disconnection.

Series	Tr (ms) Air P=6bar (87psi)		Notes
	Opening	Closing	
2 and 3 ways direct acting NC	8	25	with liquids +50% ÷ +150% depending on the viscosity
2 and 3 ways direct acting NO	25	8	
Servoassisted NC 3/8 - 1/2 3/4 - 1	 30 50	 50 70	
Servoassisted NO 3/8 - 1/2 3/4 - 1	 50 70	 30 50	
Servoassisted 1-1/4 - 1-1/2 - 2 2-1/2 - 3	Adjustable time		

1.11 P.E.D. Directive (2014/68/UE)

P.E.D. DECLARATION

ACL S.r.l.
Via Giovanni Falcone, 6
20873 Cavenago di Brianza (MB)

Declares that the solenoid valves listed in the present catalogue accordingly to the following EU Directive:

2014/68/UE (Pressure Equipment Directive)

are not submitted to be PED certified as mentioned in the article 4 paragraph 1a, 1b & 1 ci.

1.12 Operating instruction and installation

1. PRECAUTIONS DURING THE HYDRAULIC CONNECTION

Check that the valve series meets the application. Don't exceed the specifications shown on the valve label.
Check that the fluid is in the same direction as the arrow stamped on the valve body and that the pipes are compatible with the flow rate of the valve.
Check that the pipes are clean and, if possible, fit a filter before the valve.
When connecting the valve , make sure that no foreign matter and sealing materials such as tape and jointing paste get inside the valve, as this could obstruct the internal pilot holes. (pilot operated valves)
When making connections using a wrench, apply force only the body of the valve. Avoid the coil area.
The solenoid valve can work in any position but to avoid the eventual precipitation of impurities inside the guide tube it's recommended that the coil is positioned above a horizontal pipe run.
When connecting with flexible tubes, it's recommended to use the provided fixing holes.
(direct acting types with 1/8" - 1/4" - 3/8" - 1/2" threads)

2. PRECAUTIONS DURING THE ELECTRICAL CONNECTION

Check if the electrical data on the coil are compatible with the electrical supply.
The direct current valves don't require a fixed polarity with the exception of bi-stable valves.
To help heat dissipation of the coil, put the valve in a ventilated environment away from any other heat source.
It's possible that the coil working temperature, in conjunction with ambient and fluid temperatures, could cause scorching.
It's recommended an appropriate protection of the coil from water and humidity.
The coil fixing nut should not be over tightened. Don't exceed a torque tighter than 1.5Nm

3. MAINTENANCE

Coils can be changed without removing the valve from the system.
Spare parts are available for all valve components that are subject to wear.
When replacing the guide tube do not exceed the following tightening torque :

11mm wrench=1,5Nm
16mm wrench=10Nm
22mm wrench=35Nm

Before removing the valve, check that the power supply has been switched off and that no pressure is present in the pipeline.
If the valve needs cleaning, pay special attention to the seat area to avoid any damage.
The plunger must move freely inside the guide tube. If this isn't achievable due to incrustations, scale deposits or worn surfaces, then replacement parts must be fitted.
Seals must be replaced if swollen or damaged with incisions etc.
The diaphragm pilot holes must not be blocked to guarantee the correct operation of servo-assisted valves. Check that both holes are clear. Check also that the diaphragm is not hardened, swollen or cut in the seat/seal area. Replace if necessary

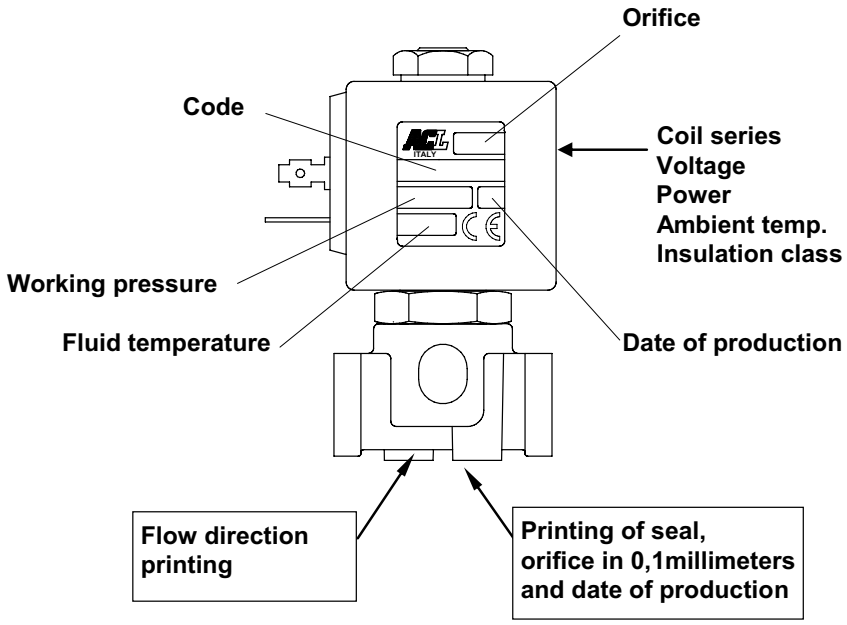
4. GENERAL PRECAUTIONS

When the solenoid valve is used on machines or equipment with high mechanical stress (for example, vibrating stress), contact the manufacturer or verify its life and functionality with appropriate tests.

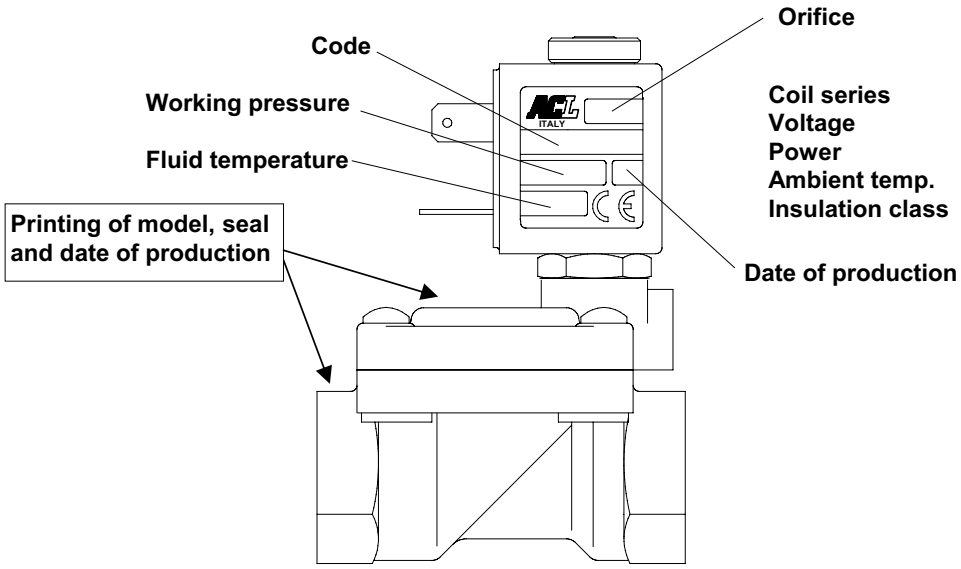
1.13 Model identification

Solenoid valves are identified as follow:

1.13.1 DIRECT ACTING



1.13.2 SERVO-ASSISTED

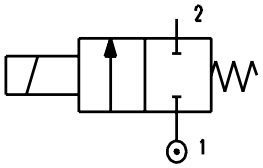


DESCRIPTION
Solenoid valve 2 way normally closed
direct acting poppet type

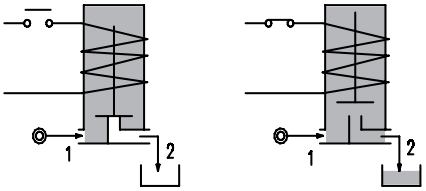
CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube
Electroless nickel plating
Series 7 explosion proof coil according to
Ⓔx ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6
Manual override
Version for use with industrial oxygen



ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E105AN...12///...	1/8	**0.047**	*1.2*	**0.046**	**0**	**362**	*25*	**362**	*25*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E105AN...15///...		**0.059**	*1.5*	**0.069**	**0**	**261**	*18*	**232**	*16*							
E105AN...20///...		**0.079**	*2*	**0.104**	**0**	**174**	*12*	**145**	*10*							
E105AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**108**	*7.5*	**65**	*4.5*							
E105AN...31///...		**0.118**	*3*	**0.220**	**0**	**65**	*4.5*	**29**	*2*						**EPDM=E**	**+14 +284**
E105AN...40///...		**0.157**	*4*	**0.405**	**0**	**36**	*2.5*	**17**	*1.2*							
E105AN...20///...	1/8	**0.079**	*2*	**0.104**	**0**	**362**	*25*	**217**	*15*	**15**	**11**	**8**	**4**	**30**	**FPM=V**	**+14 +284**
E105AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**232**	*16*	**116**	*8*							
E105AN...31///...		**0.118**	*3*	**0.220**	**0**	**116**	*8*	**79**	*4*							
E105AN...40///...		**0.157**	*4*	**0.405**	**0**	**72.5**	*5*	**36**	*2.5*							

① Seal — Ordination example: E105ANB20///U351 NBR seal, connection 1/8 NPT
② Coil — Coil 24V DC certified c UL us and marked CE
③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
The maximum allowable pressure PS for steam is 36 psi.

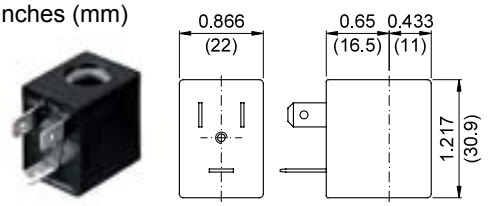
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

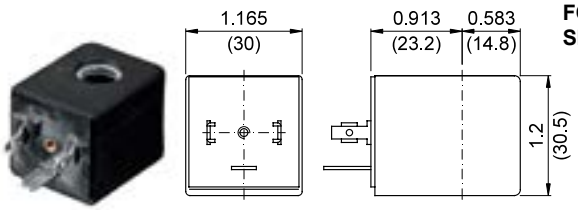
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

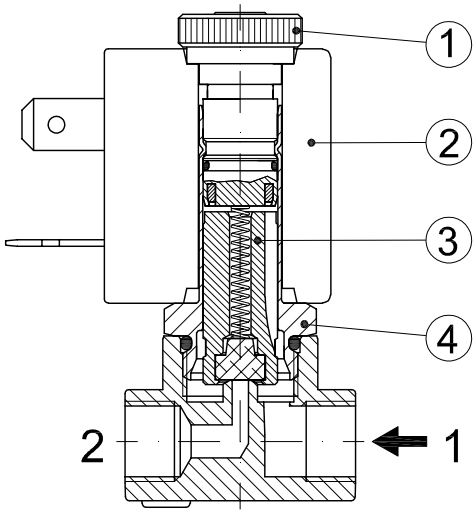


Series 3 Weight 0.11lb (0.05Kg)

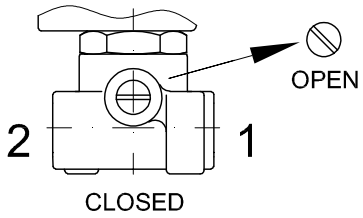


Series 4 Weight 0.22lb (0.1Kg)

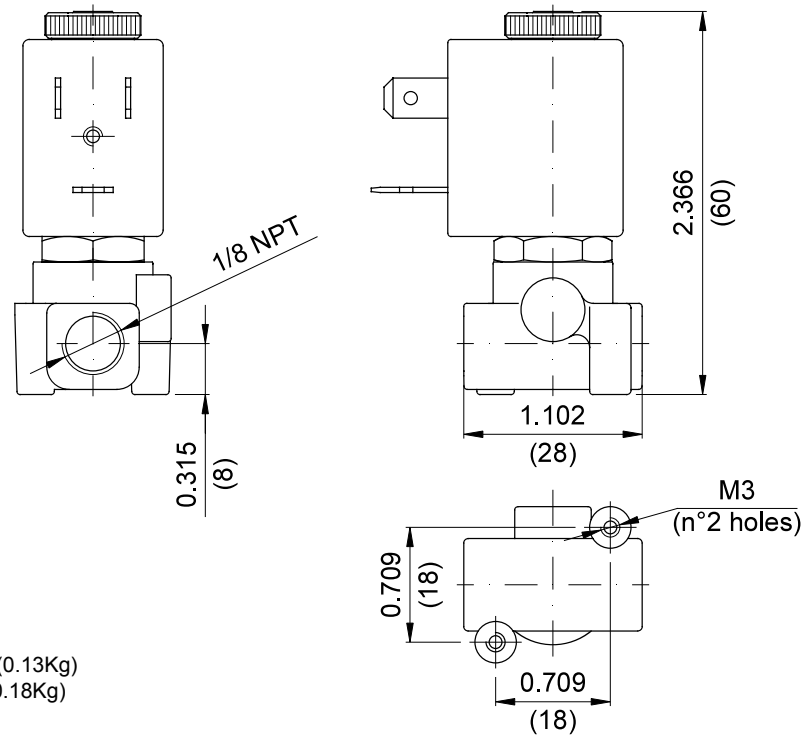
SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly



MANUAL OVERRIDE



OVERALL DIMENSIONS
inches (mm)



Weight with coil series 3=0.29lb (0.13Kg)
Weight with coil series 4=0.4lb (0.18Kg)

DESCRIPTION

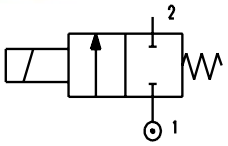
Solenoid valve 2 way normally closed
direct acting poppet type

CONSTRUCTION

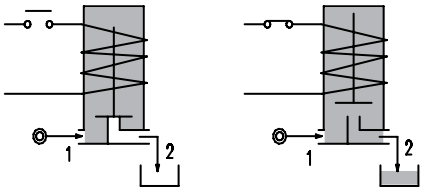
Body	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM - PTFE

FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Manual override
Electroless nickel plating
Stainless steel seat insert (up to Ø0.177in)
Version for use with industrial oxygen



ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size	Orifice Size		Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC		Max DC		Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width	Seal ①	Temp. range
	NPT	(in)	(mm)	(gpm)		(psi)	(bar)	(psi)	(bar)					(mm)		(°F)
E106BN...15///...		**0.059**	*1.5*	**0.081**	**0**	**435**	*30*	**377**	*26*							
E106BN...20///...		**0.079**	*2*	**0.116**	**0**	**319**	*22*	**290**	*20*							
E106BN...25///...		**0.098**	*2.5*	**0.173**	**0**	**232**	*16*	**203**	*14*						**NBR=B**	**+14 +194**
E106BN...35///...	**1/4**	**0.138**	*3.5*	**0.370**	**0**	**145**	*10*	**108**	*7.5*	**20**	**15**	**10**	**2**	**30**		
E106BN...45///...		**0.177**	*4.5*	**0.474**	**0**	**79**	*5.5*	**43.5**	*3*							
E106BN...52///...		**0.205**	*5.2*	**0.543**	**0**	**50**	*3.5*	**29**	*2*							
E106BN...64///...		**0.252**	*6.4*	**0.740**	**0**	**29**	*2*	**14.5**	*1*							
E106BN...15///...		**0.059**	*1.5*	**0.081**	**0**	**507**	*35*	**435**	*30*						**EPDM=E**	**+14 +284**
E106BN...20///...		**0.079**	*2*	**0.116**	**0**	**435**	*30*	**362**	*25*							
E106BN...25///...		**0.098**	*2.5*	**0.173**	**0**	**362**	*25*	**290**	*20*							
E106BN...35///...	**1/4**	**0.138**	*3.5*	**0.370**	**0**	**261**	*18*	**217**	*15*	**25**	**20**	**14**	**5**	**36**		
E106BN...45///...		**0.177**	*4.5*	**0.474**	**0**	**152**	*10.5*	**79**	*5.5*							
E106BN...52///...		**0.205**	*5.2*	**0.543**	**0**	**108**	*7.5*	**58**	*4*						**FPM=V**	**+14 +284**
E106BN...64///...		**0.252**	*6.4*	**0.740**	**0**	**58**	*4*	**29**	*2*							
E106BN...15///...		**0.059**	*1.5*	**0.081**	**0**	**1160**	*80*	**1160**	*80*							
E106BN...20///...		**0.079**	*2*	**0.116**	**0**	**725**	*50*	**580**	*40*							
E106BN...25///...		**0.098**	*2.5*	**0.173**	**0**	**507**	*35*	**478**	*33*							
E106BN...35///...	**1/4**	**0.138**	*3.5*	**0.370**	**0**	**290**	*20*	**275**	*19*	**40**	**30**	**27**	**5**	**36**	**PTFE=W** ③	**+14 +356**
E106BN...45///...		**0.177**	*4.5*	**0.474**	**0**	**203**	*14*	**188**	*13*							
E106BN...52///...		**0.205**	*5.2*	**0.543**	**0**	**145**	*10*	**130**	*9*							
E106BN...64///...		**0.252**	*6.4*	**0.740**	**0**	**72.5**	*5*	**65**	*4.5*							

① Seal — Ordination example: E106BNB20///U25F NBR seal, connection 1/4 NPT

② Coil — Coil 240V 60Hz certified cULus and marked CE

③ For PTFE seals the maximum allowable leakage is 0,0008gpm

④ Safe Working Pressure:1450 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 87 psi with PTFE seals and 36 psi with EPDM seals.

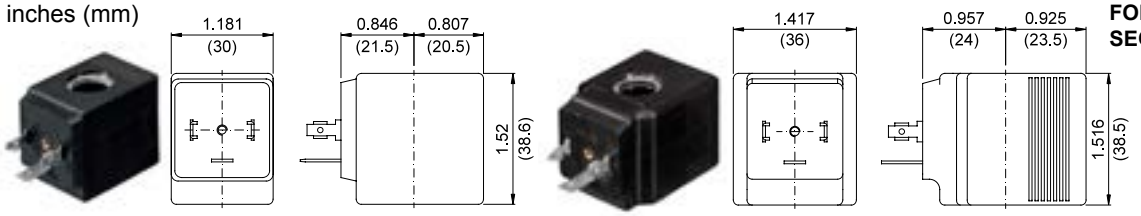
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

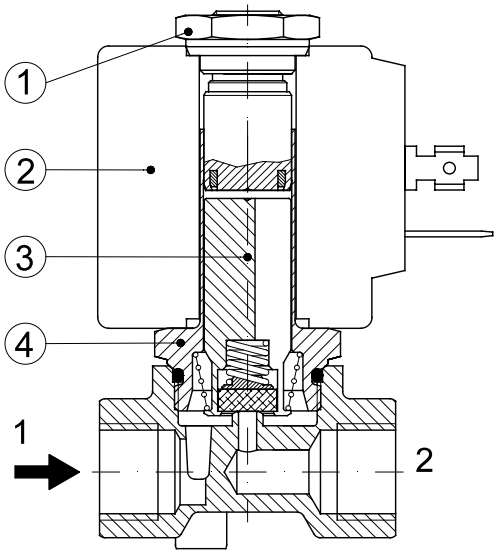
OVERALL DIMENSIONS
inches (mm)

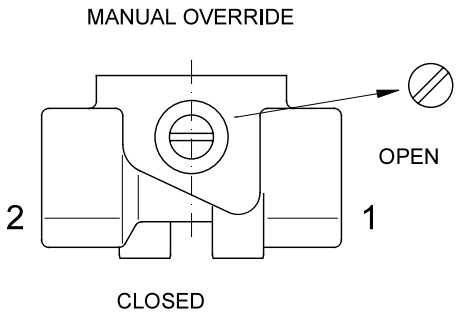


Series 2 Weight 0.26lb (0.12Kg)

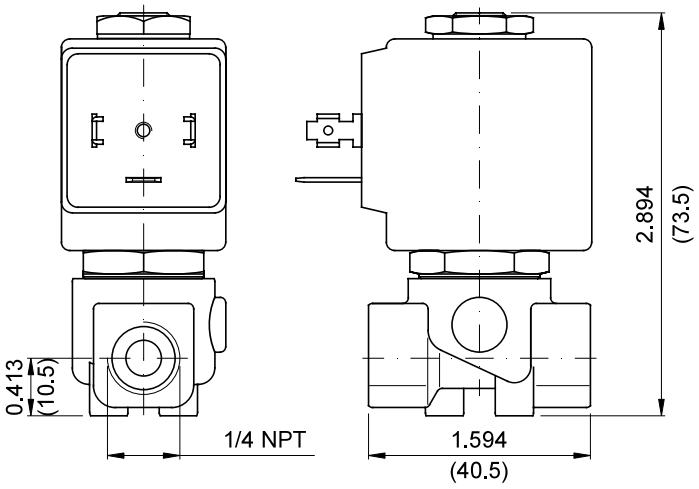
Series 5 Weight 0.44lb (0.20Kg)

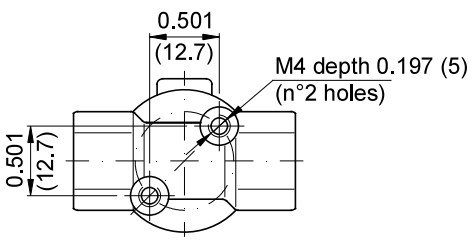
SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly





OVERALL DIMENSIONS
inches (mm)





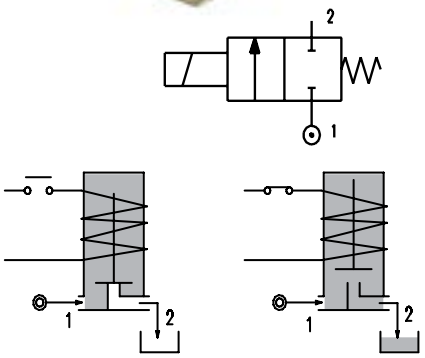
Weight with coil series 2=0.66lb (0.30Kg)
Weight with coil series 5=0.84lb (0.38Kg)

DESCRIPTION
Solenoid valve 2 way normally closed
direct acting poppet type

CONSTRUCTION

Body	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM - PTFE

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Electroless nickel plating
Stainless steel seat insert (up to Ø0.177in)
Version for use with industrial oxygen

ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ⑤ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ②	Temp. range (°F)
E106...N...30///...		**0.118**	*3*	**0.289**	**0**	**188**	*13*	**145**	*10*							
E106...N...35///...	**3/8**	**0.138**	*3.5*	**0.370**	**0**	**145**	*10*	**108**	*7.5*							
E106...N...40///...		**0.157**	*4*	**0.416**	**0**	**108**	*7.5*	**72.5**	*5*	**20**	**15**	**10**	**2**	**30**	**NBR=B**	**+14 +194**
E106...N...45///...	**1/2**	**0.177**	*4.5*	**0.474**	**0**	**79**	*5.5*	**43.5**	*3*							
E106...N...52///...		**0.205**	*5.2*	**0.543**	**0**	**50**	*3.5*	**29**	*2*							
E106...N...64///...		**0.252**	*6.4*	**0.740**	**0**	**29**	*2*	**14.5**	*1*							
E106...N...30///...		**0.118**	*3*	**0.289**	**0**	**319**	*22*	**261**	*18*						**EPDM=E**	**+14 +284**
E106...N...35///...	**3/8**	**0.138**	*3.5*	**0.370**	**0**	**261**	*18*	**217**	*15*							
E106...N...40///...		**0.157**	*4*	**0.416**	**0**	**188**	*13*	**145**	*10*							
E106...N...45///...	**1/2**	**0.177**	*4.5*	**0.474**	**0**	**152**	*10.5*	**79**	*5.5*	**27**	**20**	**14**	**5**	**36**		
E106...N...52///...		**0.205**	*5.2*	**0.543**	**0**	**108**	*7.5*	**58**	*4*						**FPM=V**	**+14 +284**
E106...N...64///...		**0.252**	*6.4*	**0.740**	**0**	**58**	*4*	**29**	*2*							
E106...N...30///...		**0.118**	*3*	**0.289**	**0**	**362**	*25*	**348**	*24*							
E106...N...35///...	**3/8**	**0.138**	*3.5*	**0.370**	**0**	**290**	*20*	**275**	*19*							
E106...N...40///...		**0.157**	*4*	**0.416**	**0**	**232**	*16*	**217**	*15*						**PTFE=W** ④	**+14 +356**
E106...N...45///...	**1/2**	**0.177**	*4.5*	**0.474**	**0**	**203**	*14*	**188**	*13*	**40**	**30**	**27**	**5**	**36**		
E106...N...52///...		**0.205**	*5.2*	**0.543**	**0**	**145**	*10*	**130**	*9*							
E106...N...64///...		**0.252**	*6.4*	**0.740**	**0**	**72.5**	*5*	**65**	*4.5*							

① Port size: C=3/8 D=1/2
② Seal — Ordination example: E106CNB20///U25B NBR seal, connection 3/8 NPT
③ Coil — Coil 24V 60Hz certified c UL us and marked CE
④ For PTFE seals the maximum allowable leakage is 0,0008gpm
⑤ Safe Working Pressure:1450 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 87 psi with PTFE seals and 36 psi with EPDM seals.

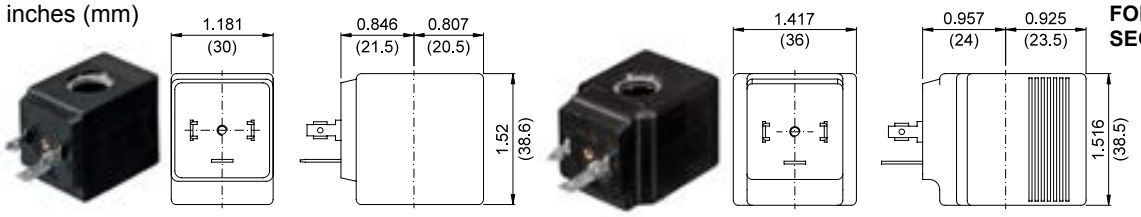
COILS Code ③	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

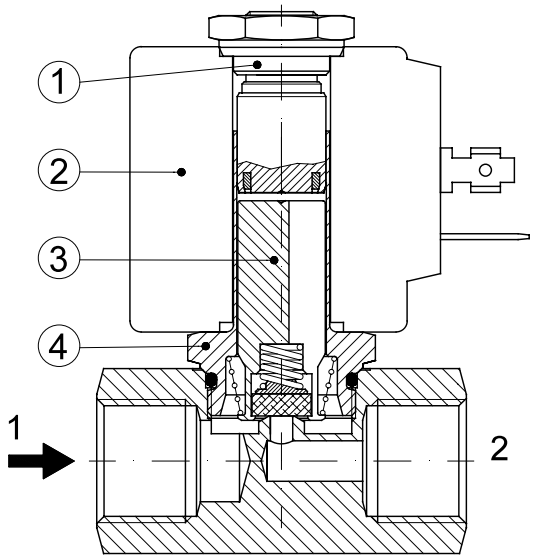
OVERALL DIMENSIONS
inches (mm)



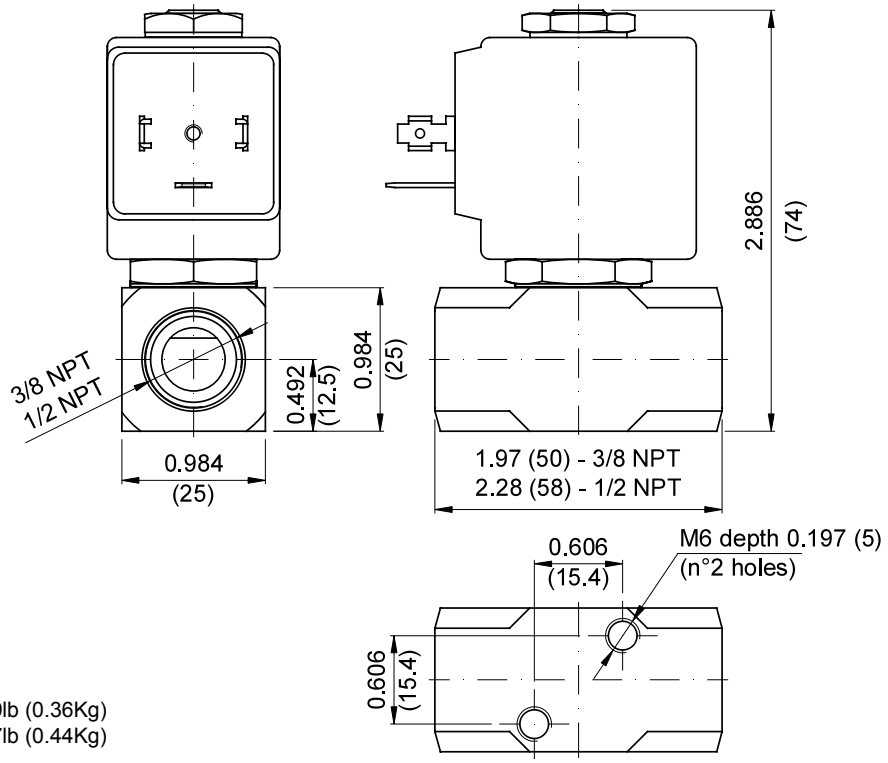
Series 2 Weight 0.26lb (0.12Kg)

Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



Weight with coil series 2=0.79lb (0.36Kg)
Weight with coil series 5=0.97lb (0.44Kg)

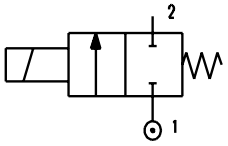
DESCRIPTION

Solenoid valve 2 way normally closed
direct acting poppet type.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

2

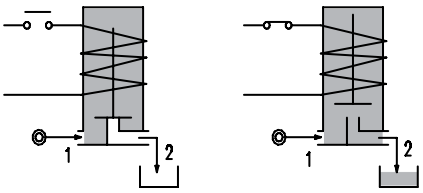
VALVE CONSTRUCTION

Body	Brass
Seal material	FPM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (painted with epoxy powder)
Electrical connection	1/2” NPT (M20x1 on request)



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above

OPTIONS: Manual override
Electroless nickel plating
Stainless steel seat (up to Ø0.177in)

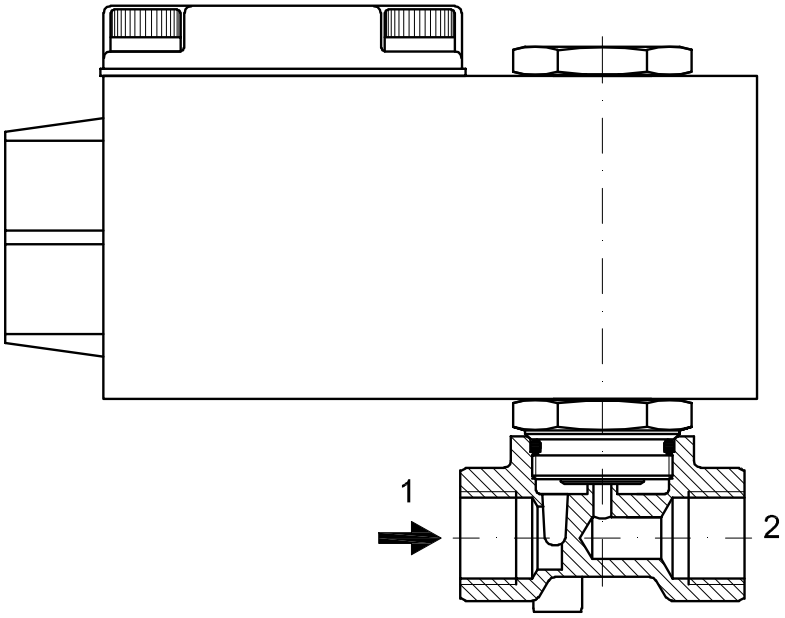
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

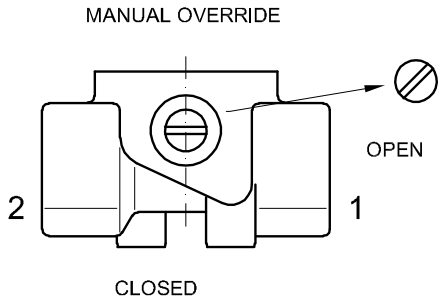
CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal ②	Temp. range (°F)
A106BN...15///...		**0.059**	*1.5*	**0.081**	**0**	**435**	*30*	**377**	*26*					
A106BN...20///...		**0.079**	*2*	**0.116**	**0**	**319**	*22*	**290**	*20*					
A106BN...25///...		**0.098**	*2.5*	**0.173**	**0**	**232**	*16*	**203**	*14*					
A106BN...35///...	**1/4**	**0.138**	*3.5*	**0.370**	**0**	**145**	*10*	**116**	*8*	**12**	**8**	**A6**	**FPM=V**	**+14 +176**
A106BN...45///...		**0.177**	*4.5*	**0.474**	**0**	**94**	*6.5*	**50**	*3.5*					
A106BN...52///...		**0.205**	*5.2*	**0.543**	**0**	**58**	*4*	**26**	*1.8*					
A106BN...64///...		**0.252**	*6.4*	**0.740**	**0**	**43.5**	*3*	**14.5**	*1*					

① Seal — Ordination example: A106BNV20///U25B FPM seal, connection 1/4 NPT
② Coil — Coil 24V 60Hz
③ Safe Working Pressure:1160 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

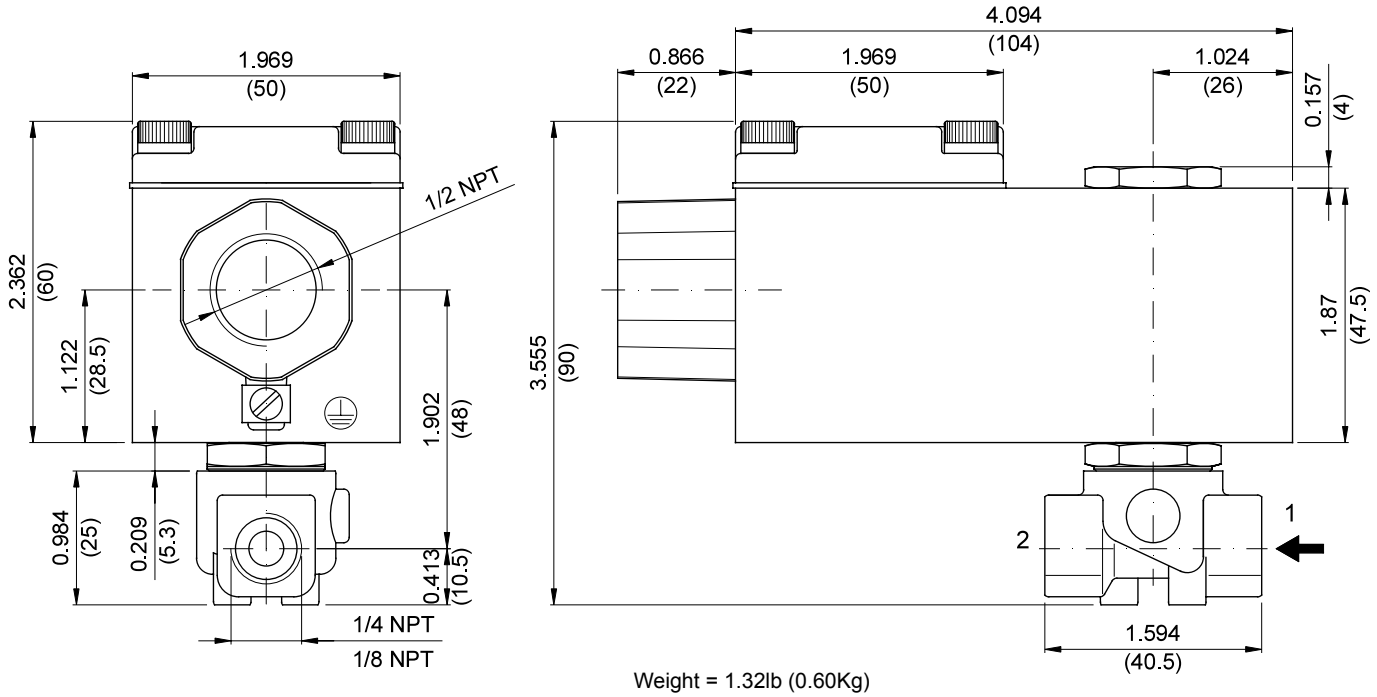
COILS Code ②	Alternating Current				Direct Current			Electrical connection
	24V	48V	110V	220V 230V	12V	24V	48V	
Series **6**	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2 NPT**

DESCRIPTION
Voltage tolerance ±10%
Protection class IP66
Continuous service ED100%





OVERALL DIMENSIONS
inches (mm)



Weight = 1.32lb (0.60Kg)

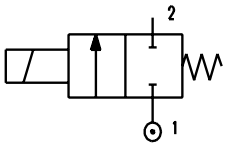
DESCRIPTION

Solenoid valve 2 way normally closed
direct acting poppet type.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

2

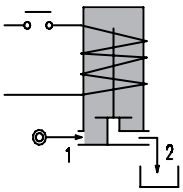
VALVE CONSTRUCTION

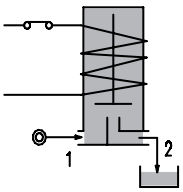
Body	Brass
Seal material	FPM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (painted with epoxy powder)
Electrical connection	1/2" NPT (M20x1 on request)





FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above

OPTIONS: Electroless nickel plating
Stainless steel seat (up to Ø0.177in)

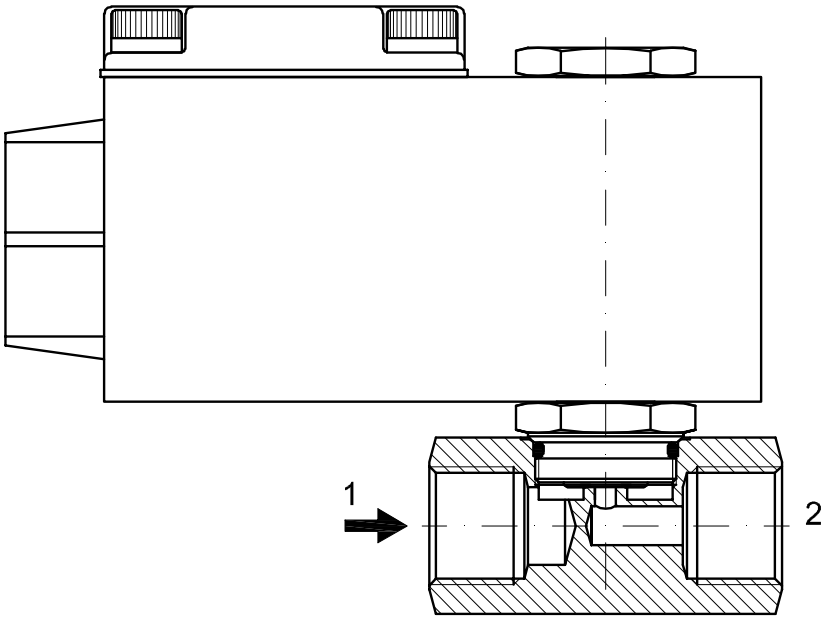
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal ②	Temp. range (°F)
A106...N...30///...		**0.118**	*3*	**0.289**	**0**	**217**	*15*	**145**	*10*					
A106...N...35///...		**0.138**	*3.5*	**0.370**	**0**	**145**	*10*	**116**	*8*				**NBR=B**	**+14 +194**
A106...N...40///...	**3/8**	**0.157**	*4*	**0.416**	**0**	**116**	*8*	**72.5**	*5*	**12**	**8**	**A6**	**FPM=V**	**+14 +284**
A106...N...45///...	**1/2**	**0.177**	*4.5*	**0.474**	**0**	**94**	*6.5*	**50**	*3.5*				**EPDM=E**	**+14 +284**
A106...N...52///...		**0.205**	*5.2*	**0.543**	**0**	**58**	*4*	**26**	*1.8*					
A106...N...64///...		**0.252**	*6.4*	**0.740**	**0**	**43.5**	*3*	**14.5**	*1*					

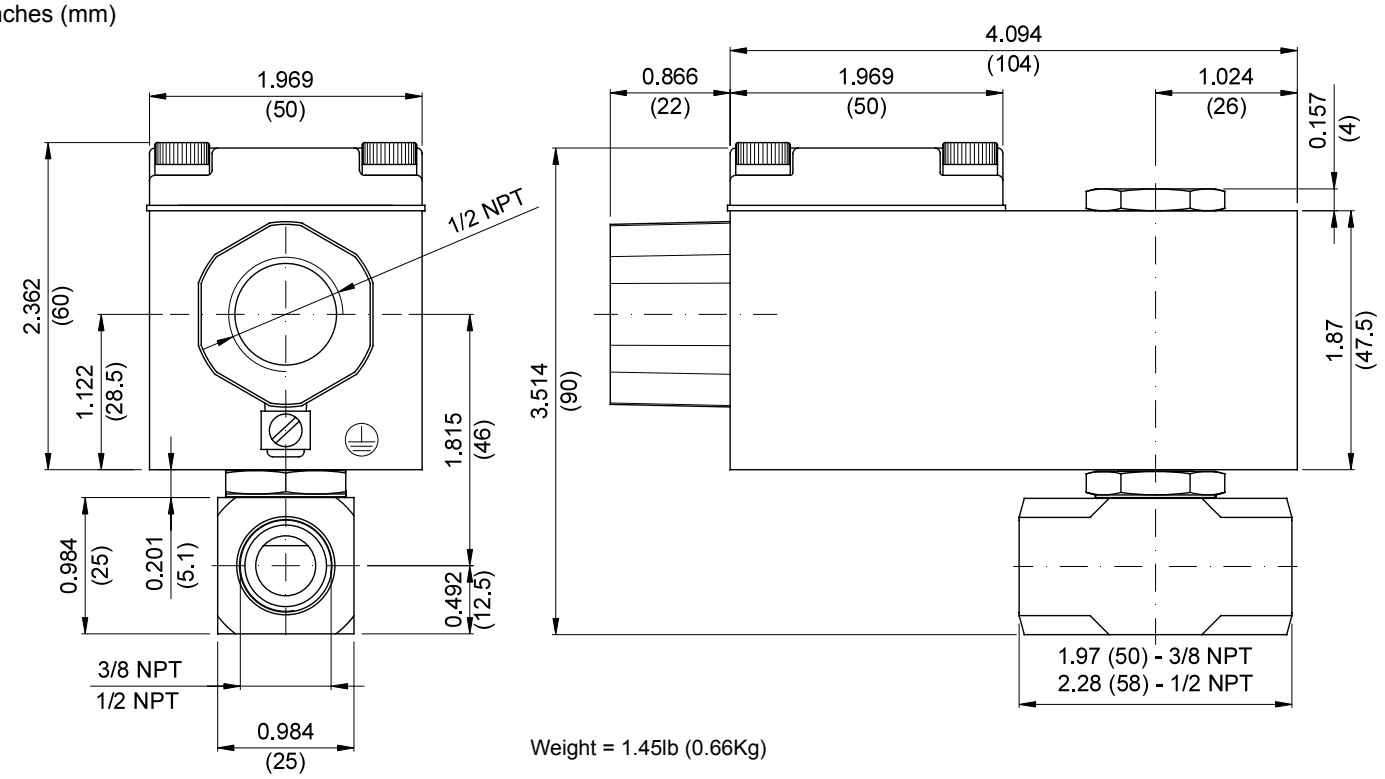
① Port size: C=3/8 D=1/2
② Seal Ordination example: A106CNV30///A61 FPM seal, connection 3/8 NPT
③ Coil Coil 24V DC
④ Safe Working Pressure:1160 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

COILS Code ③	Alternating Current				Direct Current			Electrical connection
	24V	48V	110V	220V 230V	12V	24V	48V	
Series **6**	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2 NPT**

DESCRIPTION
Voltage tolerance ±10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSIONS
inches (mm)



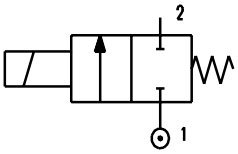
Weight = 1.45lb (0.66Kg)

DESCRIPTION
Solenoid valve 2 way normally closed
direct acting poppet type

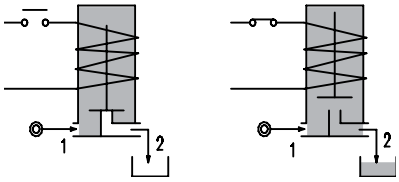
CONSTRUCTION

Body	AISI 303
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM - PTFE

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Silver shading ring
Version for use with industrial oxygen



ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ⑤ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ②	Temp. range (°F)
E110...N...20///...	1/4 3/8 1/2	0.079	2	0.116	0	319	22	290	20	20	15	10	2	30	NBR=B	+14 +194
E110...N...25///...		0.098	2.5	0.173	0	232	16	203	14							
E110...N...35///...		0.138	3.5	0.370	0	145	10	108	7.5							
E110...N...45///...		0.177	4.5	0.474	0	79	5.5	43.5	3							
E110...N...52///...		0.205	5.2	0.543	0	50	3.5	29	2							
E110...N...64///...		0.252	6.4	0.740	0	29	2	14.5	1							
E110...N...20///...	1/4 3/8 1/2	0.079	2	0.116	0	435	30	362	25	27	20	14	5	36	EPDM=E	+14 +284
E110...N...25///...		0.098	2.5	0.173	0	362	25	290	20							
E110...N...35///...		0.138	3.5	0.370	0	261	18	217	15							
E110...N...45///...		0.177	4.5	0.474	0	152	10.5	79	5.5							
E110...N...52///...		0.205	5.2	0.543	0	108	7.5	58	4						FPM=V	+14 +284
E110...N...64///...		0.252	6.4	0.740	0	58	4	29	2							
E110...N...20///...	1/4 3/8 1/2	0.079	2	0.116	0	725	50	580	40	40	30	27	5	36	PTFE=W ④	+14 +356
E110...N...25///...		0.098	2.5	0.173	0	507	35	478	33							
E110...N...35///...		0.138	3.5	0.370	0	290	20	275	19							
E110...N...45///...		0.177	4.5	0.474	0	203	14	188	13							
E110...N...52///...		0.205	5.2	0.543	0	145	10	130	9							
E110...N...64///...		0.252	6.4	0.740	0	72.5	5	65	4.5							

① Port size: B=1/4 C=3/8 D=1/2

② Seal — Ordination example: E110BNV20///U25B FPM seal, connection 1/4 NPT

③ Coil — Coil 24V 60Hz certified cULus and marked CE

④ For PTFE seals the maximum allowable leakage is 0,0008gpm

⑤ Safe Working Pressure:1450 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 87 psi with PTFE seals and 36 psi with EPDM seals.

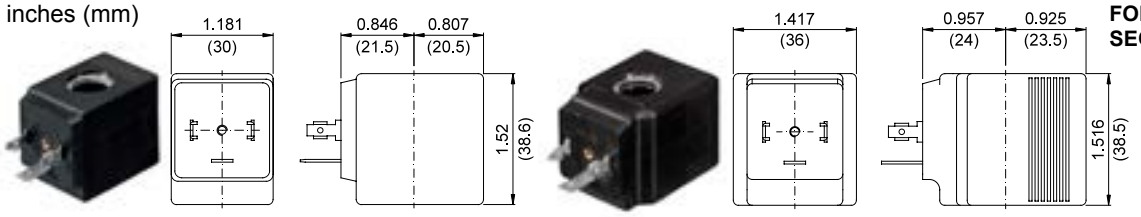
COILS Code ③	Alternating Current 24V		Alternating Current 120V		Alternating Current 240V		Direct Current 12V		Direct Current 24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

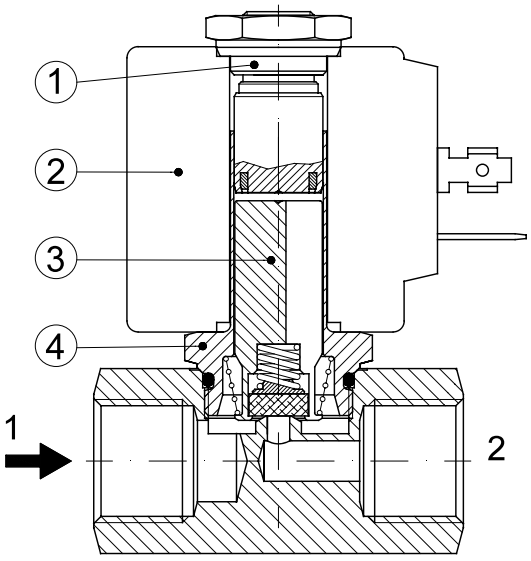
OVERALL DIMENSIONS
inches (mm)



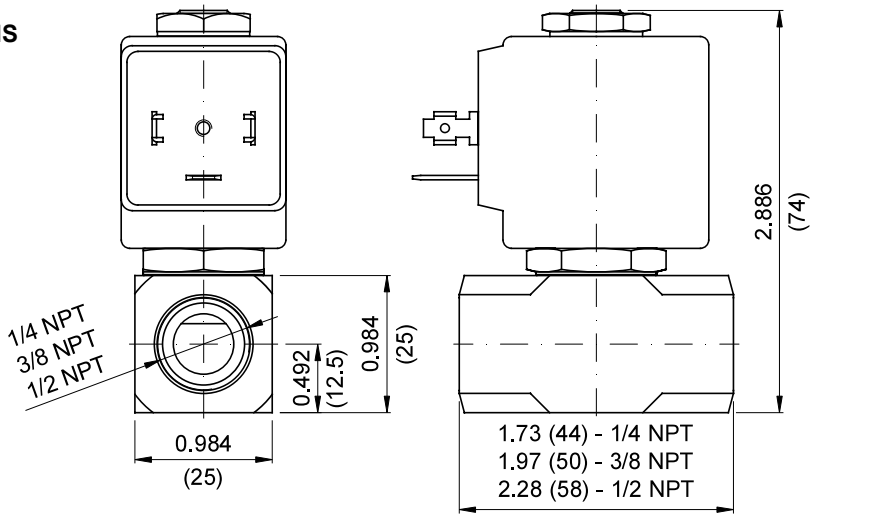
Series 2 Weight 0.26lb (0.12Kg)

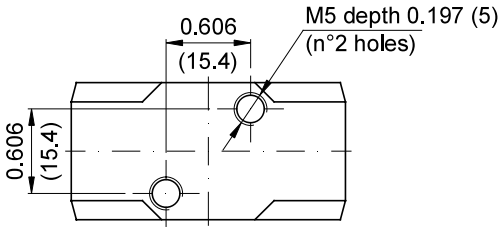
Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)





Weight with coil series 2=0.79lb (0.36Kg)
Weight with coil series 5=0.97lb (0.44Kg)

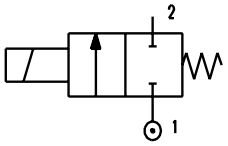
DESCRIPTION

Solenoid valve 2 way normally closed
direct acting poppet type.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

2

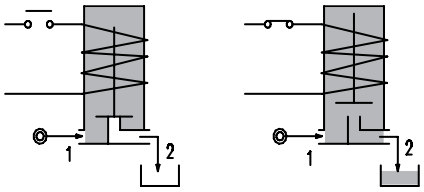
VALVE CONSTRUCTION

Body	AISI 303
Seal material	FPM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy
Electrical connection	1/2 NPT



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above

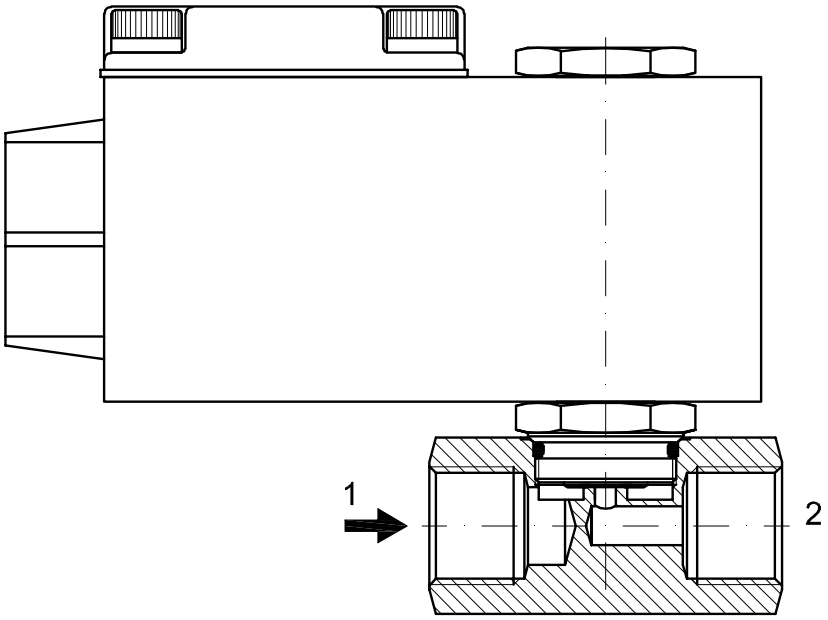
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal ②	Temp. range (°F)
A110...N...20///...		**0.079**	*2*	**0.116**	**0**	**319**	*22*	**290**	*20*					
A110...N...25///...	**1/4**	**0.098**	*2.5*	**0.173**	**0**	**232**	*16*	**203**	*14*					
A110...N...35///...	**3/8**	**0.138**	*3.5*	**0.370**	**0**	**145**	*10*	**116**	*8*	**12**	**8**	**A6**	**FPM=V**	**+14 +194**
A110...N...45///...		**0.177**	*4.5*	**0.474**	**0**	**94**	*6.5*	**50**	*3.5*					
A110...N...52///...	**1/2**	**0.205**	*5.2*	**0.543**	**0**	**58**	*4*	**26**	*1.8*					
A110...N...64///...		**0.252**	*6.4*	**0.740**	**0**	**43.5**	*3*	**14.5**	*1*					

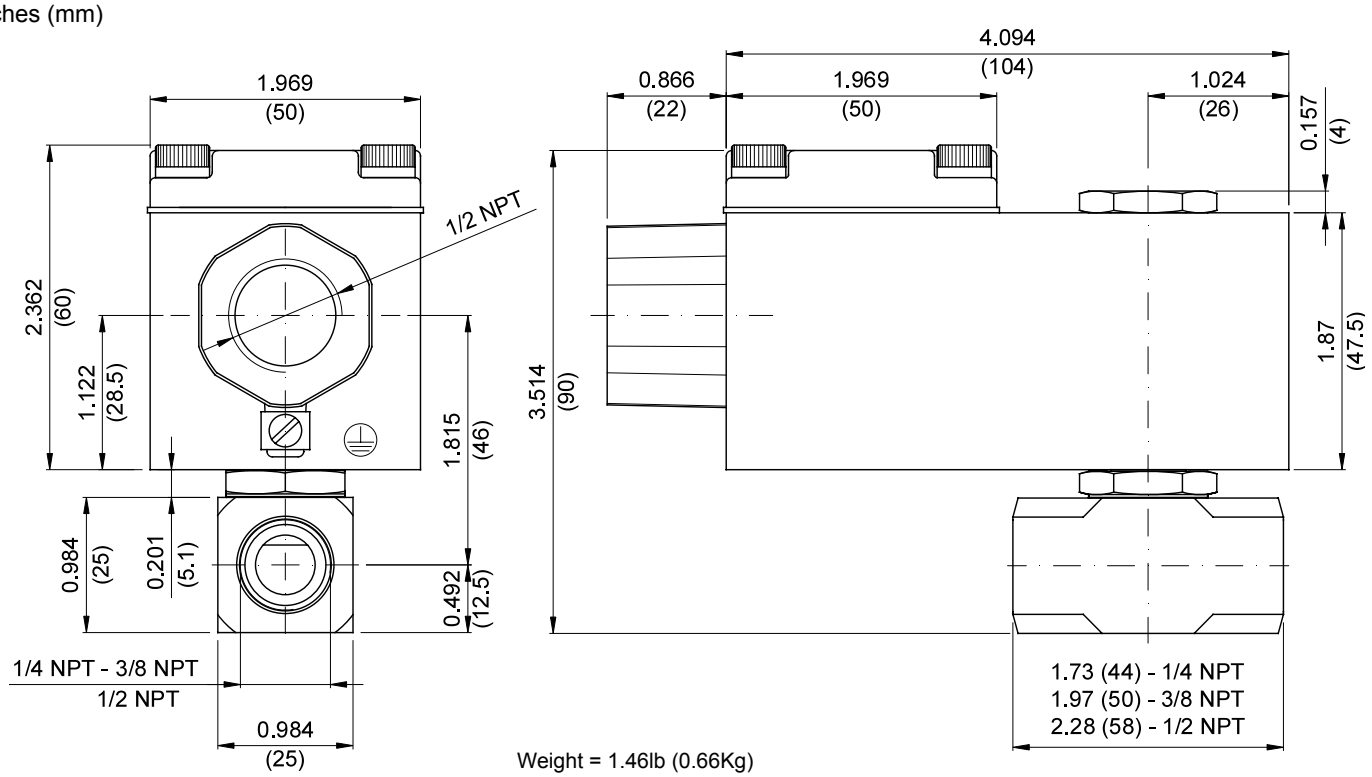
① Port size: B=1/4 C=3/8 D=1/2
② Seal
③ Coil
④ Safe Working Pressure:1160 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

COILS Code ②	Alternating Current				Direct Current			Electrical connection
	24V	48V	110V	220V 230V	12V	24V	48V	
Series **6**	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2" NPT**

DESCRIPTION
Voltage tolerance ±10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSIONS
inches (mm)



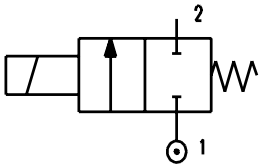
Weight = 1.46lb (0.66Kg)

DESCRIPTION
Solenoid valve 2 way normally closed
direct acting poppet type

CONSTRUCTION

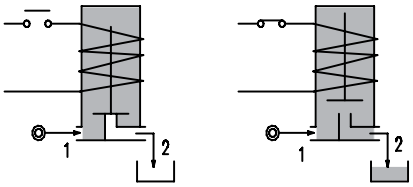
Body	AISI 303
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Silver shading ring
Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6
Version for use with industrial oxygen

ON REQUEST: Versions for use with fluid temperature at -40°C



CODE ① ②	Port Size	Orifice Size		Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③					Nominal power			Coil		Seal	Temp. range
					Min	Max				AC (VA)		DC	Series	Width		
						AC		DC								
	NPT	(in)	(mm)	(gpm)		(psi)	(bar)	(psi)	(bar)	Inrush	Holding	(W)		(mm)	①	(°F)
E111AN...12///...	1/8	**0.047**	*1.2*	**0.046**	**0**	**362**	*25*	**362**	*25*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E111AN...15///...		**0.059**	*1.5*	**0.069**	**0**	**261**	*18*	**232**	*16*							
E111AN...20///...		**0.079**	*2*	**0.104**	**0**	**174**	*12*	**145**	*10*							
E111AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**108**	*7.5*	**65**	*4.5*						**EPDM=E**	**+14 +284**
E111AN...31///...		**0.118**	*3*	**0.220**	**0**	**65**	*4.5*	**29**	*2*							
E111AN...20///...	1/8	**0.079**	*2*	**0.104**	**0**	**362**	*25*	**217**	*15*	**15**	**11**	**8**	**4**	**30**	**FPM=V**	**+14 +284**
E111AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**232**	*16*	**116**	*8*							
E111AN...31///...		**0.118**	*3*	**0.220**	**0**	**116**	*8*	**79**	*4*							

① Seal — Ordination example: E111ANB20///U351 NBR seal, connection 1/8 NPT
② Coil — Coil 24V DC certified cULus and marked CE
③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

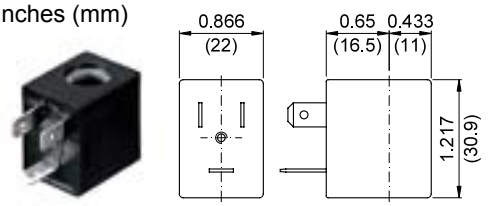
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

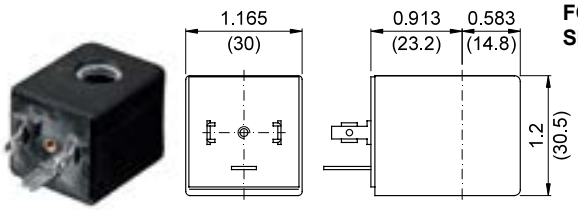
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

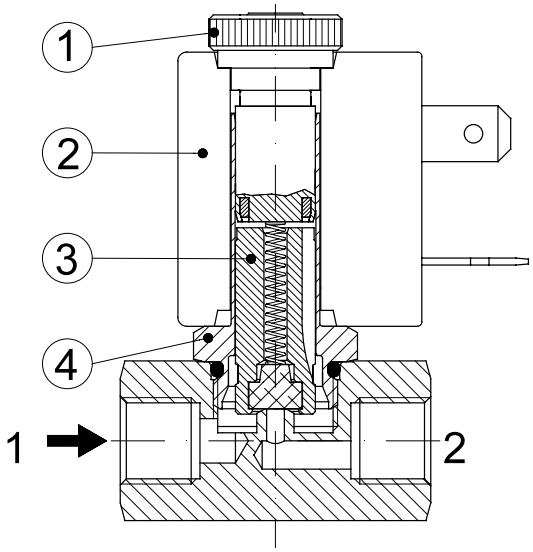


Series 3 Weight 0.11lb (0.05Kg)

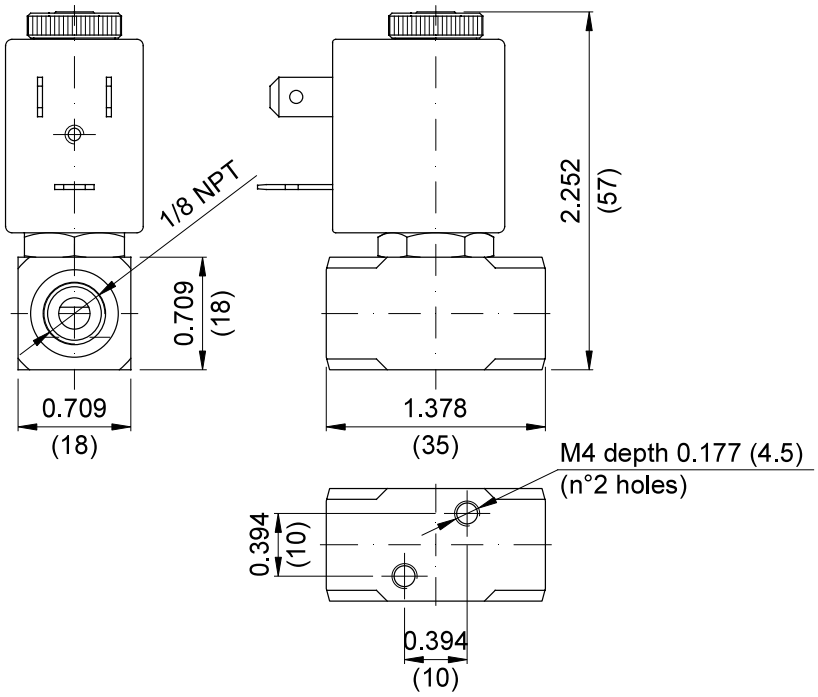


Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil attachment nut
2. Coil
3. Plunger assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



Weight with coil series 3=0.33lb (0.15Kg)
Weight with coil series 4=0.44lb (0.20Kg)

DESCRIPTION

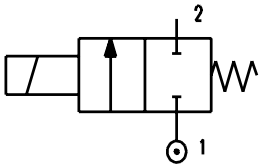
Solenoid valve 2 way normally closed direct acting poppet type
Flange fixing

CONSTRUCTION

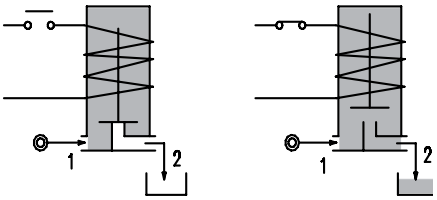
Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube
Electroless nickel plating
Series 7 explosion proof coil according to
Ⓔx ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6
Version for use with industrial oxygen



ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Square Flange □1in (□25mm)	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E112X...12///...	□1in (□25mm)	**0.047**	*1.2*	**0.046**	**0**	**362**	*25*	**362**	*25*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E112X...15///...		**0.059**	*1.5*	**0.069**	**0**	**261**	*18*	**232**	*16*							
E112X...20///...		**0.079**	*2*	**0.104**	**0**	**174**	*12*	**145**	*10*						**EPDM=E**	**+14 +284**
E112X...25///...		**0.098**	*2.5*	**0.162**	**0**	**108**	*7.5*	**65**	*4.5*							
E112X...20///...	□1in (□25mm)	**0.079**	*2*	**0.104**	**0**	**362**	*25*	**217**	*15*	**15**	**11**	**8**	**4**	**30**	**FPM=V**	**+14 +284**
E112X...25///...		**0.098**	*2.5*	**0.162**	**0**	**232**	*16*	**116**	*8*							

① Seal — Ordination example: E112XB20///U350 NBR seal
② Coil — Coil 12V DC certified $_{c}$ᵁᴸ$_{us}$ and marked CE
③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

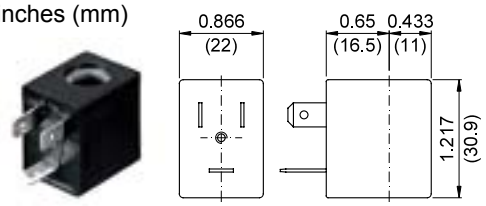
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

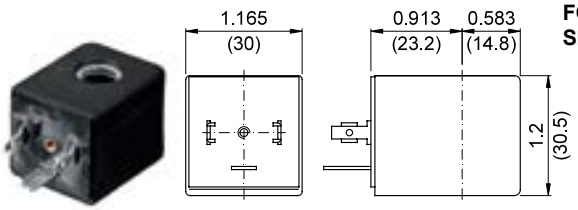
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

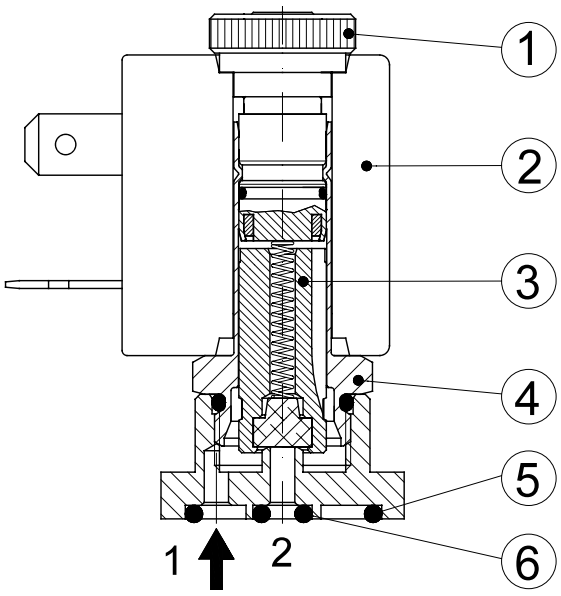


Series 3 Weight 0.11lb (0.05Kg)

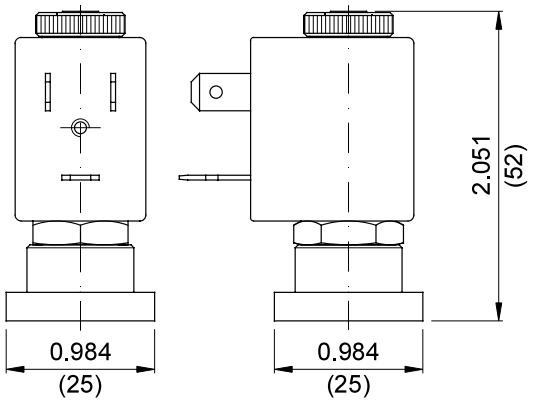


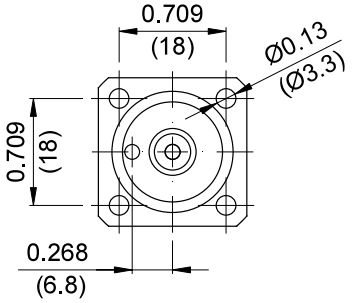
Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly assembly
4. Armature tube assembly
5. OR 2068
6. OR 2010



OVERALL DIMENSIONS
inches (mm)





Weight with coil series 3=0.26lb (0.12Kg)
Weight with coil series 4=0.37lb (0.17Kg)

DESCRIPTION

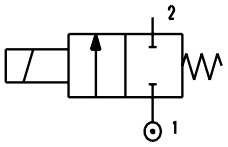
Solenoid valve 2 way normally closed direct acting poppet type
Flange fixing

CONSTRUCTION

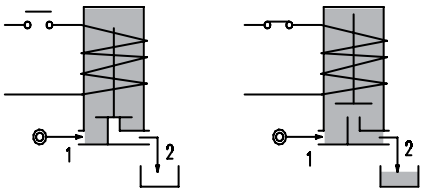
Body	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM - PTFE

FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Manual override
Electroless nickel plating
Stainless steel seat insert (up to Ø0.177in)
Version for use with industrial oxygen



ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Square Flange □1.26in (□32mm)	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E114X...15///...		**0.059**	*1.5*	**0.081**	**0**	**435**	*30*	**377**	*26*							
E114X...20///...		**0.079**	*2*	**0.116**	**0**	**319**	*22*	**290**	*20*							
E114X...25///...	□1.26in (□32mm)	**0.098**	*2.5*	**0.173**	**0**	**232**	*16*	**203**	*14*	**20**	**15**	**10**	**2**	**30**	**NBR=B**	**+14 +194**
E114X...35///...		**0.138**	*3.5*	**0.370**	**0**	**145**	*10*	**108**	*7.5*							
E114X...45///...		**0.177**	*4.5*	**0.474**	**0**	**79**	*5.5*	**43.5**	*3*							
E114X...52///...		**0.205**	*5.2*	**0.543**	**0**	**50**	*3.5*	**29**	*2*						**EPDM=E**	**+14 +284**
E114X...25///...		**0.098**	*2.5*	**0.173**	**0**	**362**	*25*	**290**	*20*							
E114X...35///...	□1.26in (□32mm)	**0.138**	*3.5*	**0.370**	**0**	**261**	*18*	**217**	*15*	**27**	**20**	**14**	**5**	**36**		
E114X...45///...		**0.177**	*4.5*	**0.474**	**0**	**152**	*10.5*	**79**	*5.5*						**FPM=V**	**+14 +284**
E114X...52///...		**0.205**	*5.2*	**0.543**	**0**	**108**	*7.5*	**58**	*4*							
E114X...25///...		**0.098**	*2.5*	**0.173**	**0**	**507**	*35*	**478**	*33*							
E114X...35///...	□1.26in (□32mm)	**0.138**	*3.5*	**0.370**	**0**	**290**	*20*	**275**	*19*	**40**	**30**	**27**	**5**	**36**		
E114X...45///...		**0.177**	*4.5*	**0.474**	**0**	**203**	*14*	**188**	*13*						**PTFE=W** ③	**+14 +356**
E114X...52///...		**0.205**	*5.2*	**0.543**	**0**	**145**	*10*	**130**	*9*							

① Seal — Ordination example: E114XB25///U25F NBR seal
② Coil — Coil 240V 60Hz certified c UL us and marked CE
③ For PTFE seals the maximum allowable leakage is 0,0008gpm
④ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 87 psi with PTFE seals and 36 psi with EPDM seals.

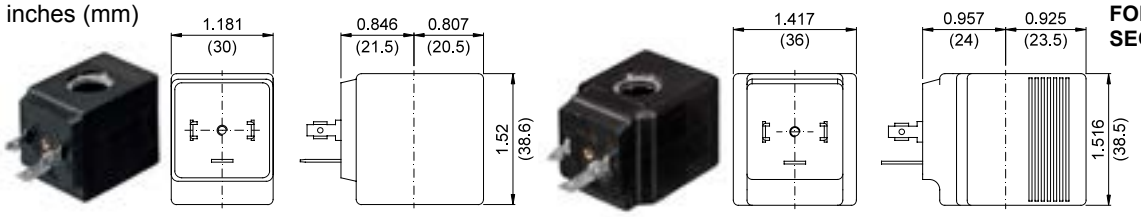
COILS Code ②	Alternating Current 24V		Alternating Current 120V		Alternating Current 240V		Direct Current 12V		Direct Current 24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

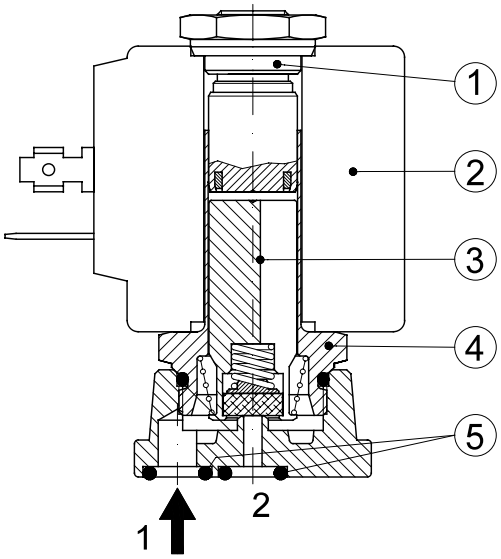
OVERALL DIMENSIONS
inches (mm)

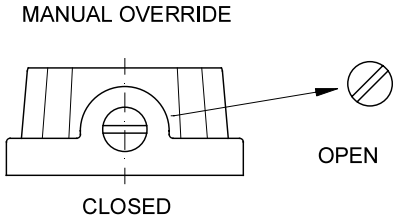


Series 2 Weight 0.26lb (0.12Kg)

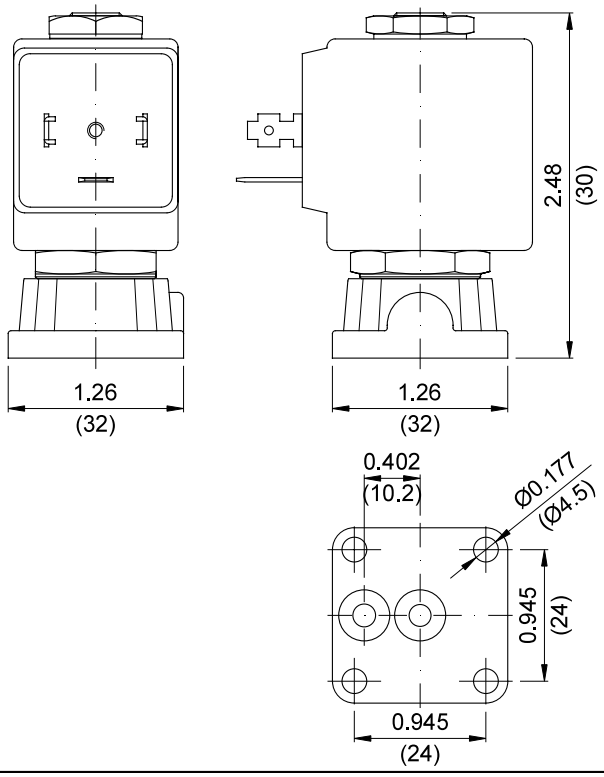
Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly
5. OR 2025





OVERALL DIMENSIONS
inches (mm)



Weight with coil series 2=0.53lb (0.24Kg)
Weight with coil series 5=0.7lb (0.32Kg)

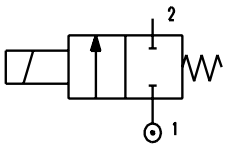
DESCRIPTION

Solenoid valve 2 way normally closed direct acting poppet type
Flange fixing
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

2

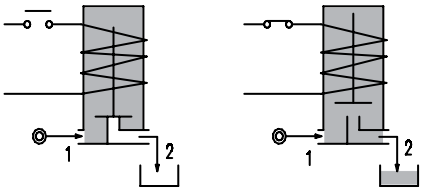
VALVE CONSTRUCTION

Body	Brass
Seal material	FPM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (painted with epoxy powder)
Electrical connection	1/2” NPT (M20x1 on request)



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above

OPTIONS: Manual override
Electroless nickel plating
Stainless steel seat insert

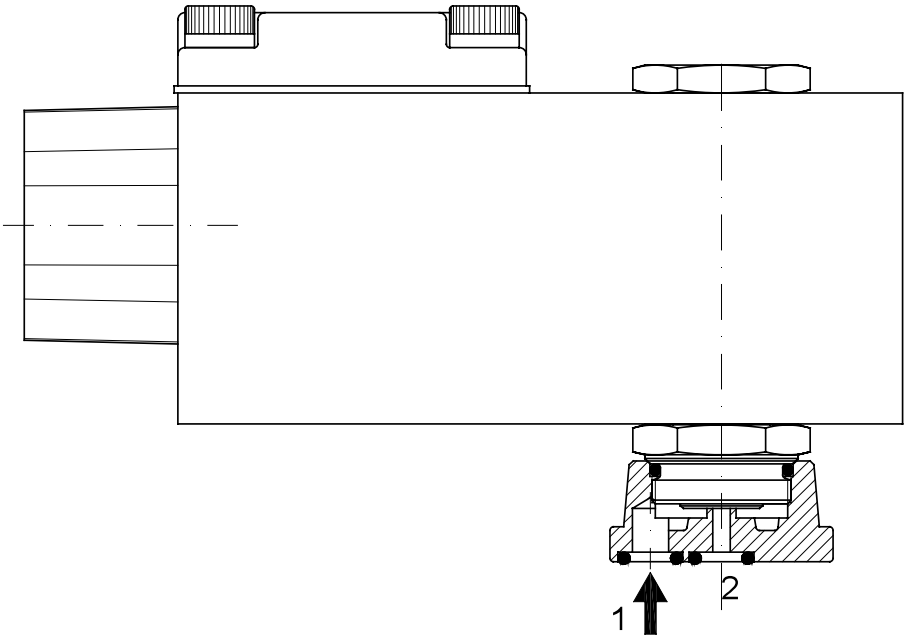
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

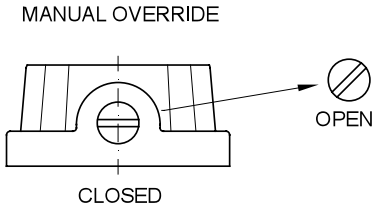
CODE ① ②	Square Flange □1.26in (□32mm)	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal ①	Temp. range (°F)
A114X...15///...		**0.059**	*1.5*	**0.081**	**0**	**435**	*30*	**377**	*26*					
A114X...20///...		**0.079**	*2*	**0.116**	**0**	**319**	*22*	**290**	*20*					
A114X...25///...		**0.098**	*2.5*	**0.173**	**0**	**232**	*16*	**203**	*14*					
A114X...30///...	□1.26in (□32mm)	**0.118**	*3*	**0.289**	**0**	**217**	*15*	**145**	*10*	**12**	**8**	**A6**	**FPM=V**	**+14 +176**
A114X...35///...		**0.138**	*3.5*	**0.370**	**0**	**145**	*10*	**116**	*8*					
A114X...40///...		**0.157**	*4*	**0.416**	**0**	**116**	*8*	**72.5**	*5*					
A114X...45///...		**0.177**	*4.5*	**0.474**	**0**	**94**	*6.5*	**50**	*3.5*					

① Seal
② Coil
③ Safe Working Pressure:1160 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

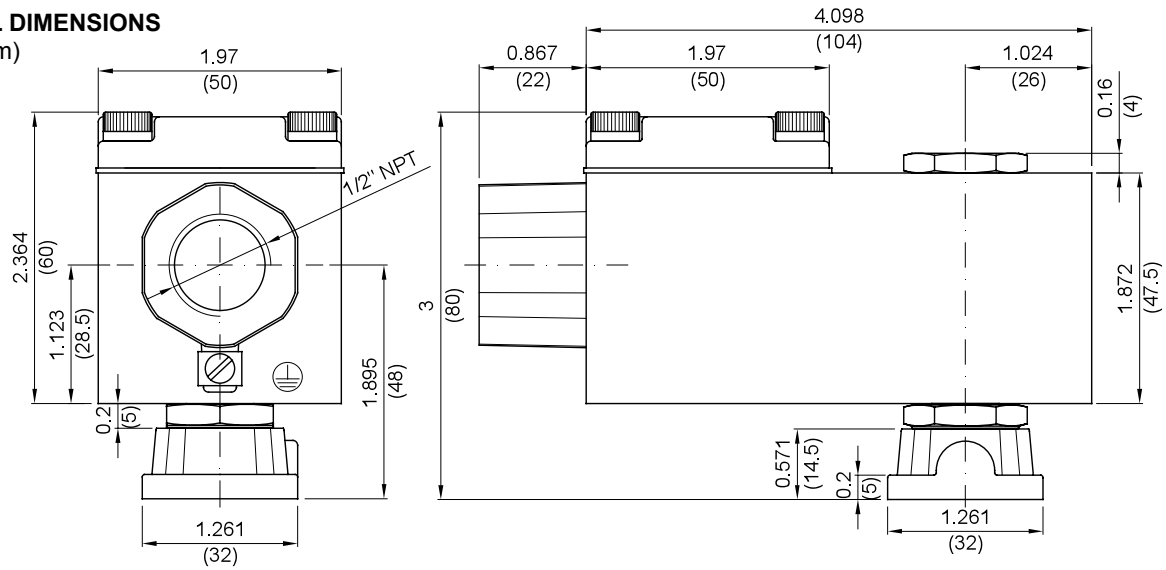
COILS Code ②	Alternating Current				Direct Current			Electrical connection
	24V	48V	110V	220V 230V	12V	24V	48V	
Series **6**	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2 NPT**

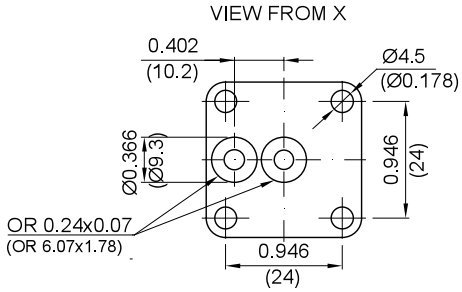
DESCRIPTION
Voltage tolerance ±10%
Protection class IP66
Continuous service ED100%





OVERALL DIMENSIONS
inches (mm)



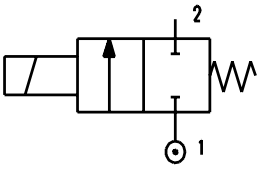


DESCRIPTION
Solenoid valve 2 way normally closed
direct acting poppet type

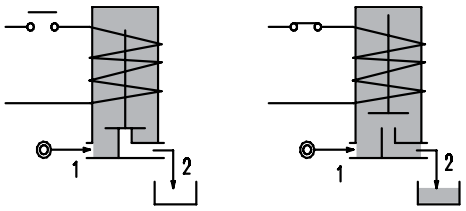
CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature +14°F +131°F (class F coil)
Universal mounting position



OPTIONS: Electroless nickel plating
Version for use with industrial oxygen



CODE ① ②	Port Size	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
D121L...10///...	**M5**	**0.039**	*1*	**0.035**	**0**	-	-	**145**	*10*	-	-	**2**	**6**	**16**	**NBR=B**	**+14 +194**
D121L...12///...		**0.047**	*1.2*	**0.043**	**0**	-	-	**101**	*7*	-	-	**2**				
D121L...16///...		**0.063**	*1.6*	**0.064**	**0**	-	-	**43**	*3*	-	-	**2**				
D121L...20///...		**0.079**	*2*	**0.095**	**0**	-	-	**20**	*1.4*	-	-	**2**			**EPDM=E**	**+14 +284**
D121L...12///...	**M5**	**0.047**	*1.2*	**0.043**	**0**	-	-	**174**	*12*	-	-	**4**				
D121L...16///...		**0.063**	*1.6*	**0.064**	**0**	-	-	**116**	*8*	-	-	**4**			**FPM=V**	**+14 +284**
D121L...20///...		**0.079**	*2*	**0.095**	**0**	-	-	**58**	*4*	-	-	**4**				

① Seal
② Coil

Ordination example: D121LB16///60114 NBR seal
Coil 24V DC 4W marked CE

③ Safe Working Pressure:435 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

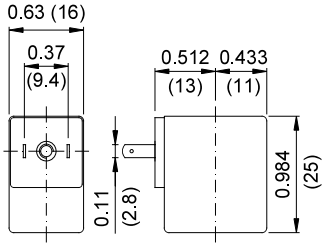
COILS Code ②	Direct Current 12V 2W	Direct Current 12V 4W	Direct Current 24V 2W	Direct Current 24V 4W	Electrical connection	Connectors
Series **2** Width 16mm	**60012**	**60014**	**60112**	**60114**	**AMP 2.8x0.5**	**PG7 code 10348040**

DESCRIPTION
Class F insulation
Voltage tolerance ± 5%
Protection class
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

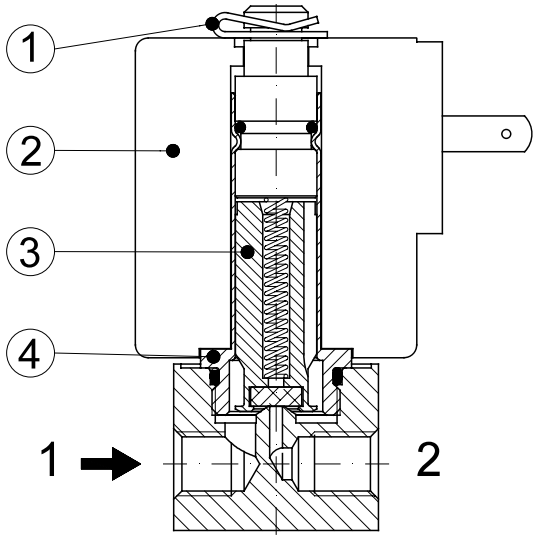
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

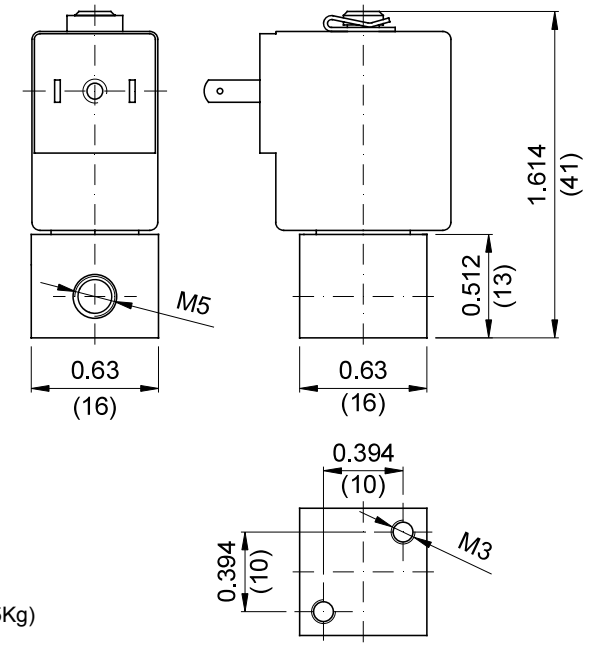


Series 6 Weight 0.044lb (0.02Kg)

SPARE PARTS LIST
1. Clip
2. Coil
3. Plunger assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



Weight = 0.11lb (0.05Kg)

DESCRIPTION

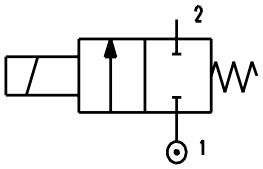
Solenoid valve in line normally closed
direct acting poppet type.

CONSTRUCTION

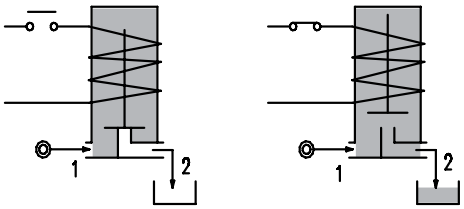
Body/Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES

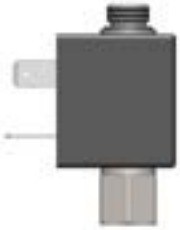
Maximum fluid viscosity 25cSt (mm2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Mounting bracket
Version for use with industrial oxygen
Special coil powers
c UL us certified coils



CONFIGURATIONS

G1/8"MALE - Push-on for pipes Ø6x4mm (Ø1/4) NW	G1/8"MALE - G1/8"FEMALE NA	G1/8"FEMALE - Push-on for pipes Ø6x4mm (Ø1/4) AW	G1/8"FEMALE - G1/8"FEMALE AA
			

CODE ①② ③	Orifice size (in)	Orifice size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Electrical data Voltage (V)	Electrical data Power	Coil Series	Coil Width (mm)	Seal ②	Temperature range (°F)
D130.....10/...	**0.04**	*1*	**0.035**	**0**	**-**	-	**120**	*8.5*	**12-24V DC**	**2 W**	**3**	**22**	**NBR=B**	**+14 +194**
D130.....12/...	**0.05**	*1.2*	**0.046**	**0**	**-**	-	**87**	*6*						
D130.....15/...	**0.06**	*1.5*	**0.07**	**0**	**-**	-	**58**	*4*						
E130.....10/...	**0.04**	*1*	**0.035**	**0**	**725**	*50*	**-**	-	**230V 50/60Hz**	**3.5 VA**			**FPM=V**	**+14 +284**
E130.....12/...	**0.05**	*1.2*	**0.046**	**0**	**580**	*40*	**-**	-						
E130.....15/...	**0.06**	*1.5*	**0.07**	**0**	**360**	*25*	**-**	-						
E130.....10/...	**0.04**	*1*	**0.035**	**0**	**725**	*50*	**725**	*50*	**All standard voltages**	**6.5W or 8VA**			**EPDM=E**	**+14 +284**
E130.....12/...	**0.05**	*1.2*	**0.046**	**0**	**725**	*50*	**725**	*50*						
E130.....15/...	**0.06**	*1.5*	**0.07**	**0**	**725**	*50*	**725**	*50*						

① Configurations
② Seal
③ Coil

Example: E130NWB10///U351 - G1/8" male - Push-on connections
NBR seals - 24V DC 6.5W UL

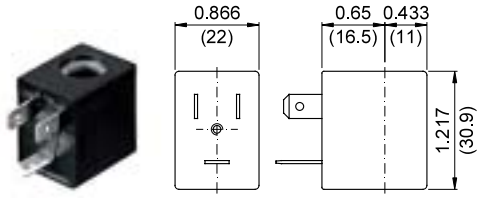
COILS Code ③	Alternating Current (V)							Direct Current (V)			Electrical connection	Connectors
	12	24	48	110	220 230	240	380	12	24	48		
Series **3** Width **22** **6.5W** or **8VA**	**30A**	**30B** / **U35B**	**30C**	**30D** / **U35D**	**30E**	**30F** / **U35F**	**30G**	**300** / **U350**	**301** / **U351**	**302**	**DIN 46244**	**PG9 CODE 10348000**

COILS Code ③	Alternating Current (V)	Direct Current (V)		Electrical connection	Connectors
	220-230	12	24		
Series **3** Width **22** **2W** or **3.5VA**	**30E1P**	**300120**	**301120**	**DIN 46244**	**PG9 CODE 10348000**

DESCRIPTION
Class F insulation
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class
IP65 with connector fitted
IP00 without connector
Continuous service ED100%

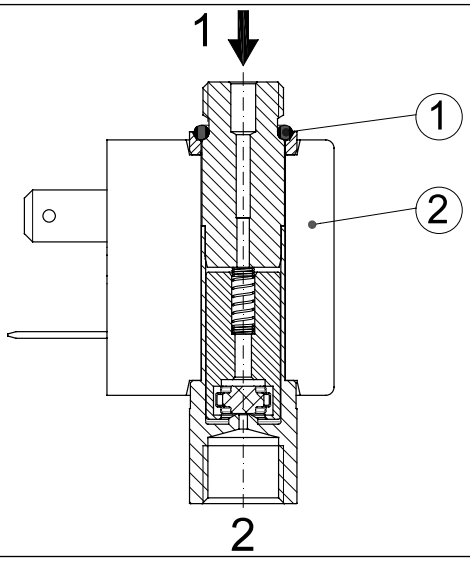
OPTIONS
Class H insulation
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6



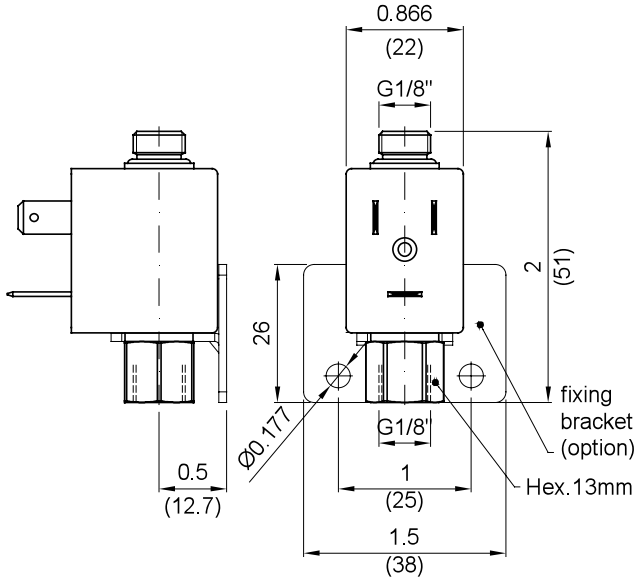
Series 3 Weight 0.11lb (0.05Kg)

SPARE PARTS LIST
1. OR
2. Coil

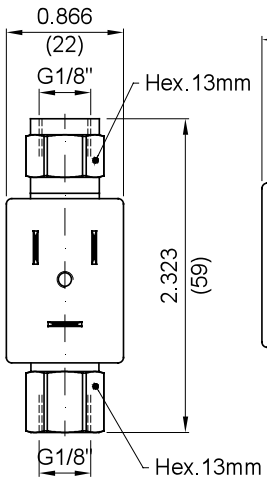


OVERALL DIMENSIONS
inches (mm)

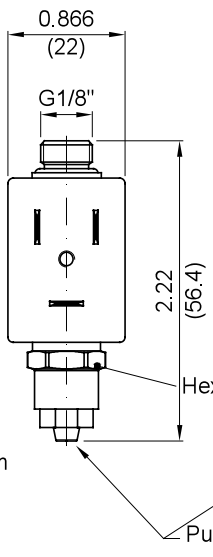
CONNECTION NA



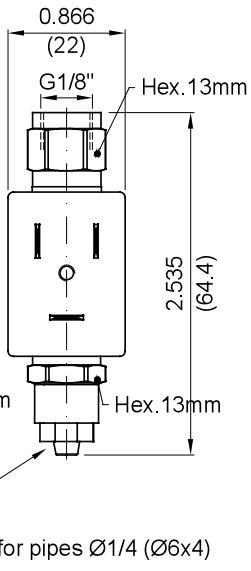
CONNECTION AA



CONNECTION NW



CONNECTION AW

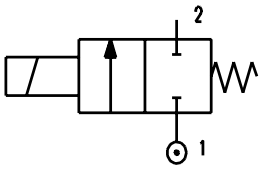


DESCRIPTION

Solenoid valve 2 way normally closed
direct acting poppet type, suitable for
food applications and all compatible fluids.

CONSTRUCTION

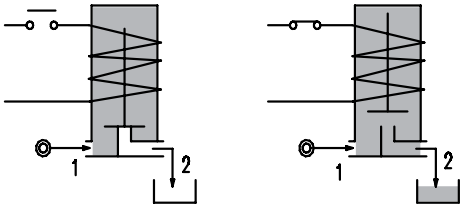
Body	Thermoplastic polymer
	ACS, KTW, W270, WRAS, NSF, FDA certified
Armature tube	Brass chemically nickel plated
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

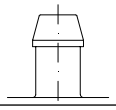
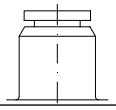


FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position

OPTIONS: Stainless steel armature tube



PORT TYPES *	
P	**Z**
	
HOSETAIL for flexible pipes	**PUSH IN** for semiflexible pipes Øext 5/32"

CODE ① ②	Port type *	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range ④ (°F)
E135 * ...20///...	**Z**	**0.079**	*2*	**0.104**	**0**	**174**	*12*	**145**	*10*							
E135 * ...30///...	**P**	**0.118**	*3*	**0.220**	**0**	**65**	*4.5*	**29**	*2*	**12**	**8**	**6.5**	**3**	**2**	**NBR=B** **EPDM=E** **FPM=V**	**+14 +194** **+14 +284** **+14 +284**
E135 * ...40///...	**P**	**0.157**	*4*	**0.405**	**0**	**36**	*2.5*	**17**	*1.2*							

① Seal — Ordination example: E135PB20///U351 NBR seal, hosetail connection

② Coil — Coil 24V DC certified c UL us and marked CE

③ Safe Working Pressure:435 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
The maximum allowable pressure PS for steam is 36 psi.

④ The temperature range is related to the material of the seals (NBR, EPDM, FPM), and the valves' body.
Please contact us concerning the temperature range referred to the different types of connection.

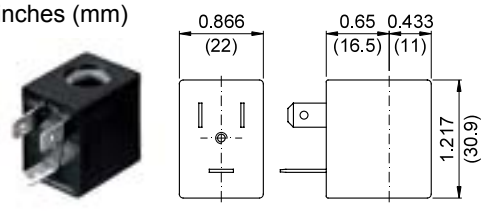
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

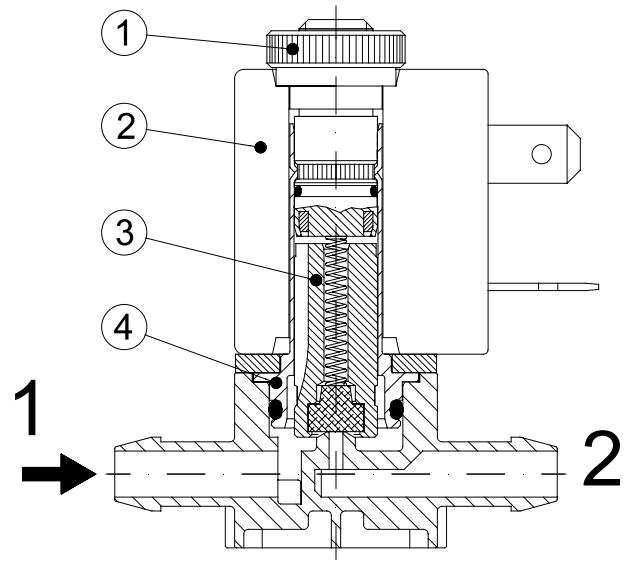
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)



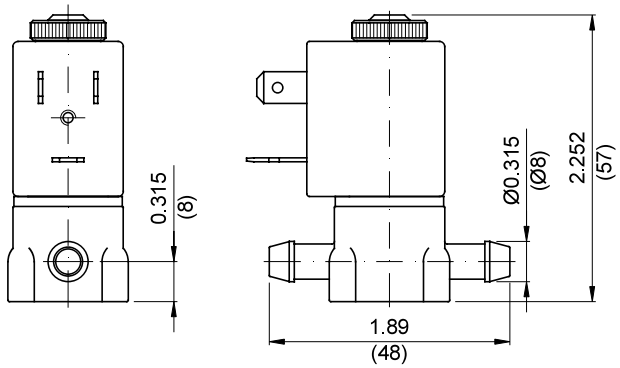
Series 3 Weight 0.11lb (0.05Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly

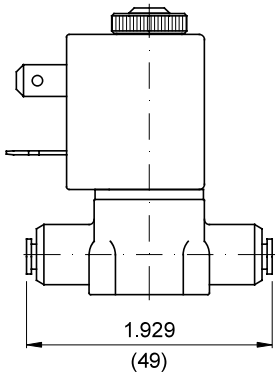


OVERALL DIMENSIONS
inches (mm)

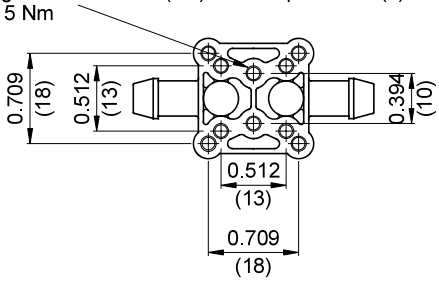
P connection



Z connection



Holes for self-threading screws Ø0.118 (Ø3) max depth 0.315 (8)
Max tightening torque 5 Nm



Weight with coil series 3=0.22lb (0.10Kg)
Weight with coil series 4=0.33lb (0.15Kg)

DESCRIPTION

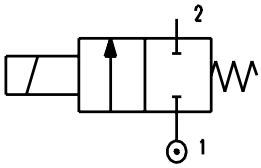
Solenoid valve 2 way normally closed
direct acting with dry armature.
No metal parts in contact with the media.

CONSTRUCTION

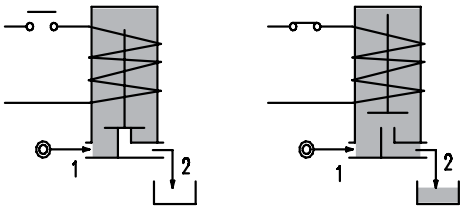
Body	Acetal copolymer
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	SILICONE

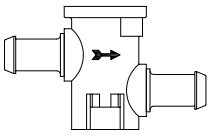
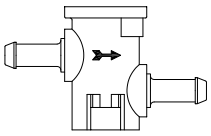
FEATURES

Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



OPTIONS: Nickel plated armature tube
For connection accessories see section 7



PORT TYPES	
E151PPS60	**E151PPS40**
	
Hosetail DN6 (0.236)	**Hosetail DN4 (0.157)**

OTHER CONFIGURATION AVAILABLE ON REQUEST

CODE ②	Port type *	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal	Temp. range (°F)
E151PPS40///...	HOSETAIL DN4	**0.157**	*4*	**0.393**	**0**	**8.7**	*0.6*	**4.4**	*0.3*	**12**	**8**	**6.5**	**3**	**22**	SILICONE=S	**<+200**
E151PPS60///...	HOSETAIL DN6	**0.236**	*6*	**0.728**	**0**	**8.7**	*0.6*	**4.4**	*0.3*							

② Coil Ordination example: E151PPS60///U351 hosetail DN6 connections
Coil 24V DC certifie c UL us and marked CE

③ Safe Working Pressure:29 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

FOR HIGHER DIFFERENTIAL PRESSURE CONTACT THE MANUFACTURER

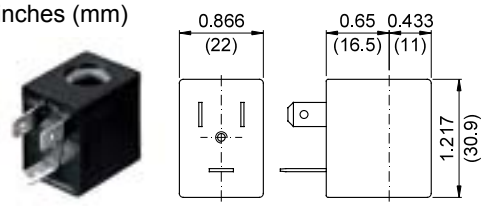
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **3** Width 22mm	**U35B**	**30B**	**U35D**	**30D**	**U35F**	**30F**	**U350**	**300**	**U351**	**301**	**DIN 46244**	**PG9 code 10348000**

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

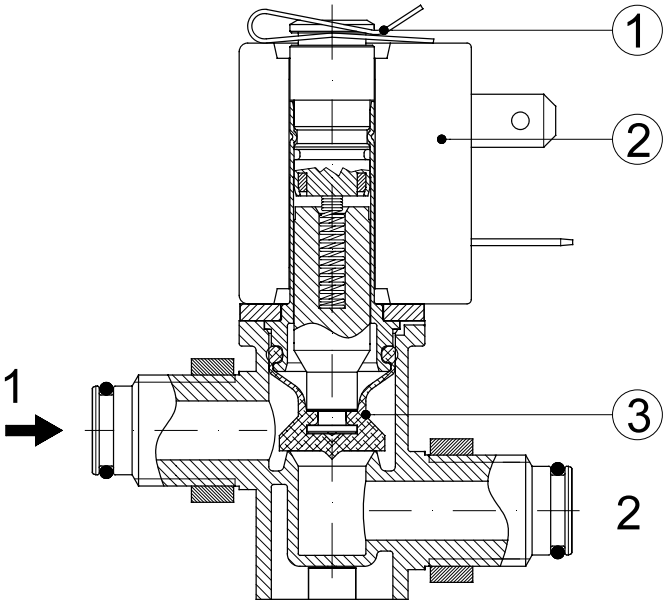
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

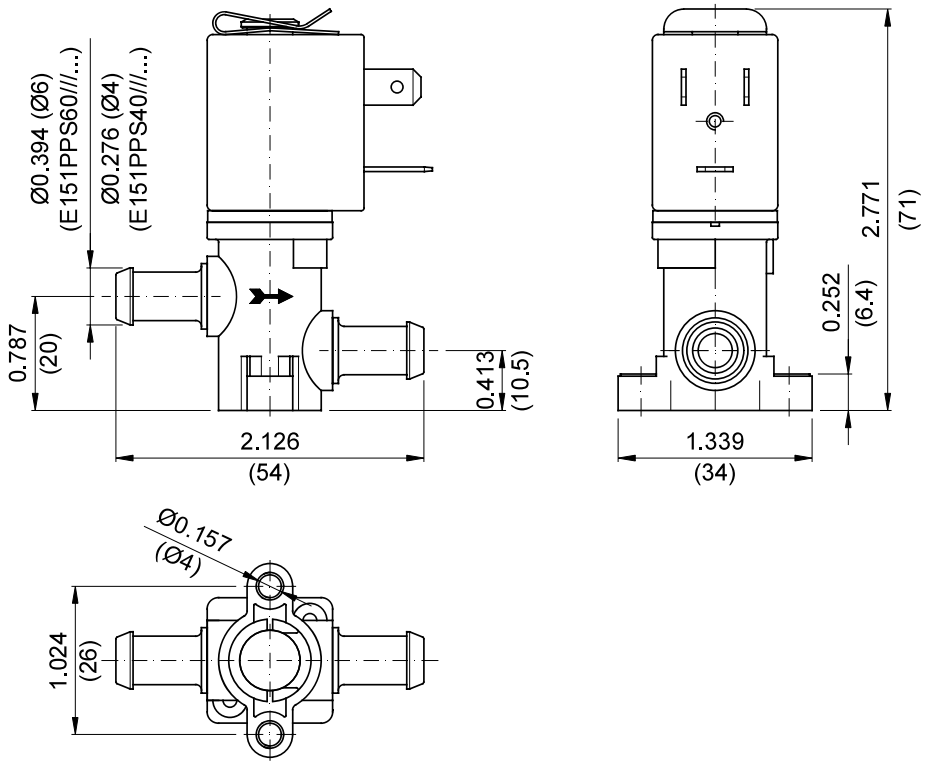


Series 3 Weight 0.11lb (0.05Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



DESCRIPTION

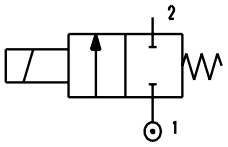
Solenoid valve 2 way normally closed
direct acting with dry armature.
No metal parts in contact with the media.

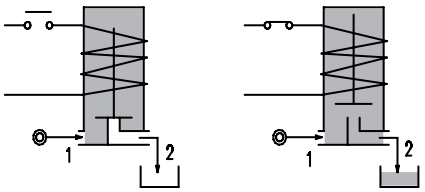
CONSTRUCTION

Body	Acetal copolymer
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	SILICONE

FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Mounting position with vertical coil above





CODE ②	Port type *	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal	Temp. range (°F)
E161PS8///...	HOSETAIL DN8	**0.315**	*8*	**1.27**	**0**	**2.17**	*0.15*	**2.17**	*0.15*	**20**	**15**	**10**	**2**	**30**	SILICONE=S	**<+200**

For use with VACUUM - feeds from 2 to 1

CODE ②	Port type *	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal	Temp. range (°F)
E161PS8/V/...	HOSETAIL DN8	**0.315**	*8*	**1.27**	**0**	**-13**	*-0.9*	**-10**	*-0.7*	**20**	**15**	**10**	**2**	**30**	SILICONE=S	**<+200**

② Coil Ordination example: E161PS8///U251
Coil 24V DC certified c UL us and marked CE

③ Safe Working Pressure:29 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

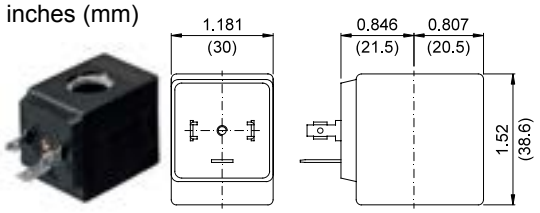
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	**U25B**	**201**	**U25D**	**20D**	**U25F**	**20F**	**U250**	**200**	**U251**	**201**	**DIN 43650A**	**PG9 code 10349000**

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

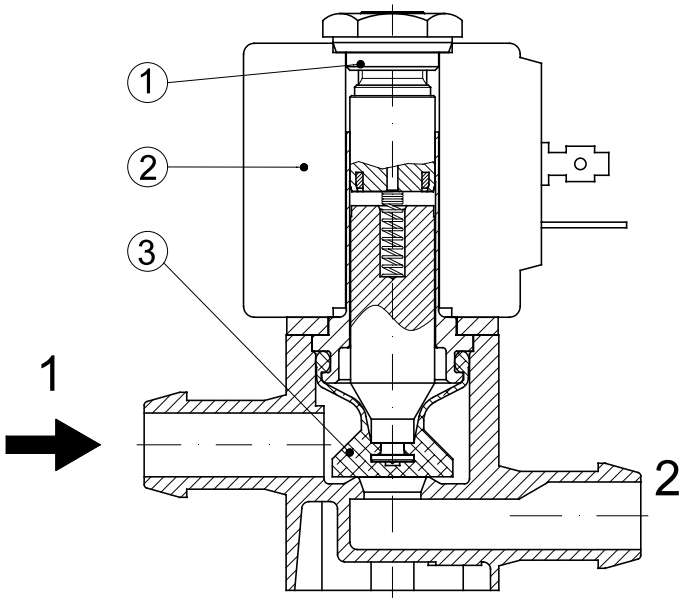
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

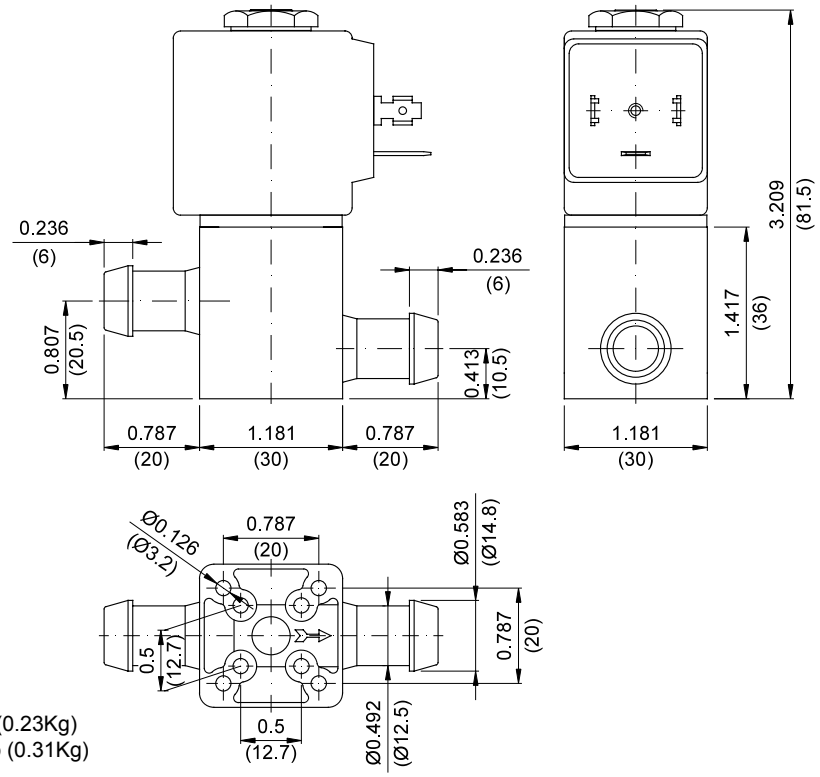


Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Diaphragm



OVERALL DIMENSIONS
inches (mm)



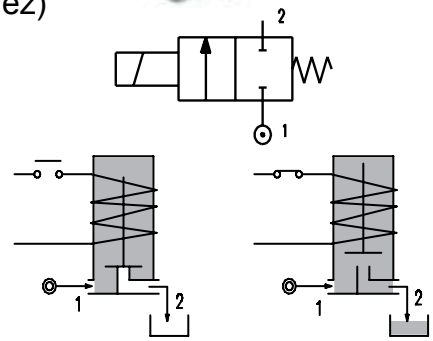
Weight with coil series 2=0.5lb (0.23Kg)
Weight with coil series 5=0.68lb (0.31Kg)

DESCRIPTION

Solenoid valve 2 way normally closed in stainless steel AISI 316 direct acting poppet type

CONSTRUCTION

Body	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Shading ring	Silver
Springs	AISI 316
Seal material	NBR - FPM - EPDM - PTFE - FFKM (Kalrez)



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position

OPTIONS: Versions for use with industrial oxygen

ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ⑤ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ②	Temp. range (°F)
E170...N...10///...		0.039	*1*	0.046	0	1160	*80*	1160	*80*							
E170...N...12///...		0.047	*1.2*	0.058	0	870	*60*	870	*60*							
E170...N...15///...		0.059	*1.5*	0.081	0	435	*30*	377	*26*							
E170...N...20///...	1/4	0.079	*2*	0.116	0	319	*22*	290	*20*							
E170...N...25///...	3/8	0.098	*2.5*	0.173	0	232	*16*	203	*14*	20	15	10	2	30	NBR=B	+14 +194
E170...N...30///...	1/2	0.118	*3*	0.289	0	217	*15*	145	*10*							
E170...N...35///...		0.138	*3.5*	0.370	0	145	*10*	116	*8*							
E170...N...40///...		0.157	*4*	0.416	0	116	*8*	72	*5*							
E170...N...45///...		0.177	*4.5*	0.474	0	94	*6.5*	50	*3.5*						EPDM=E	+14 +284
E170...N...10///...		0.059	*1*	0.046	0	1450	*100*	1450	*100*							
E170...N...12///...		0.047	*1.2*	0.058	0	1160	*80*	1160	*80*							
E170...N...15///...		0.059	*1.5*	0.081	0	507	*35*	435	*30*							
E170...N...20///...	1/4	0.079	*2*	0.116	0	435	*30*	362	*25*						FPM=V	+14 +284
E170...N...25///...	3/8	0.098	*2.5*	0.173	0	362	*25*	290	*20*	27	20	14	5	36		
E170...N...30///...	1/2	0.118	*3*	0.289	0	319	*22*	261	*18*							
E170...N...35///...		0.138	*3.5*	0.370	0	261	*18*	217	*15*							
E170...N...40///...		0.157	*4*	0.416	0	188	*13*	145	*10*						PTFE=W ④	+14 +356
E170...N...45///...		0.177	*4.5*	0.474	0	152	*10.5*	79	*5.5*							
E170...N...10///...		0.059	*1*	0.046	0	1450	*100*	1450	*100*							
E170...N...12///...		0.047	*1.2*	0.058	0	1450	*100*	1450	*100*							
E170...N...15///...		0.059	*1.5*	0.081	0	1160	*80*	1160	*80*						FFKM=K	+14 +356
E170...N...20///...	1/4	0.079	*2*	0.116	0	725	*50*	580	*40*							
E170...N...25///...	3/8	0.098	*2.5*	0.173	0	507	*35*	478	*33*	40	30	27	5	36		
E170...N...30///...	1/2	0.118	*3*	0.289	0	362	*25*	348	*24*							
E170...N...35///...		0.138	*3.5*	0.370	0	290	*20*	275	*19*							
E170...N...40///...		0.157	*4*	0.416	0	232	*16*	217	*15*							
E170...N...45///...		0.177	*4.5*	0.474	0	203	*14*	188	*13*							

① Port size: B=1/4 C=3/8 D=1/2

② Seal — Ordination example: E170BNE35///U25B EPDM seal, connection 1/4 NPT

③ Coil — Coil 24V 60Hz certified cULus and marked CE

④ For PTFE seals the maximum allowable leakage is 0,0008gpm

⑤ Safe Working Pressure:1450 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 87 psi with PTFE seals and 36 psi with EPDM seals.

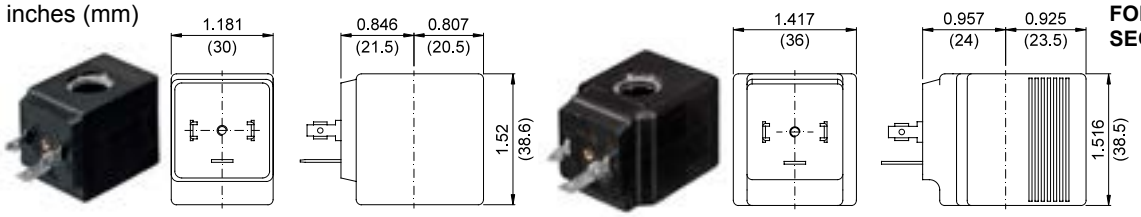
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

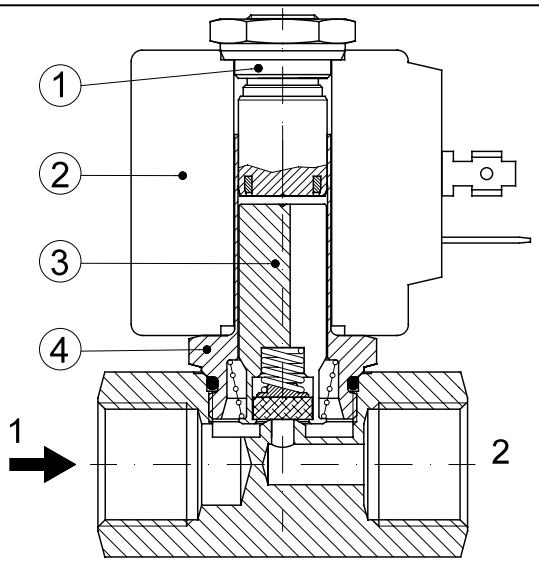
OVERALL DIMENSIONS
inches (mm)



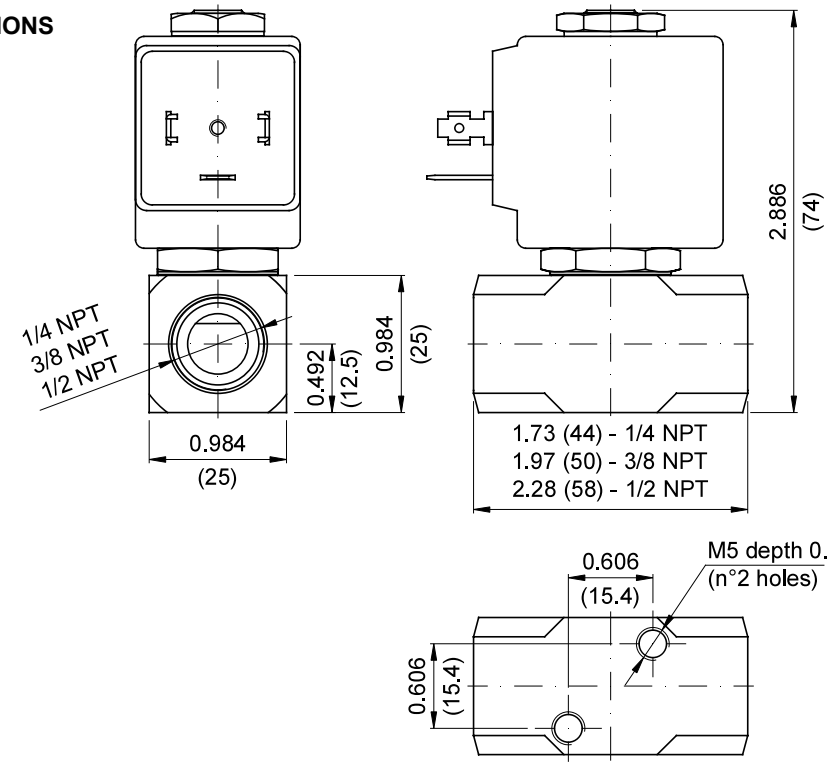
Series 2 Weight 0.26lb (0.12Kg)

Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



Weight with coil series 2=0.36Kg
Weight with coil series 5=0.44Kg

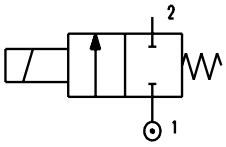
DESCRIPTION

Solenoid valve 2 way normally closed in stainless steel AISI 316 direct acting poppet type.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

2

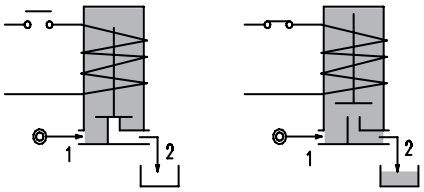
VALVE CONSTRUCTION

Body	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Shading ring	Silver
Springs	AISI 316
Seal	FPM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (painted with epoxy powder)
Electrical connection	1/2” NPT (M20x1 on request)



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above

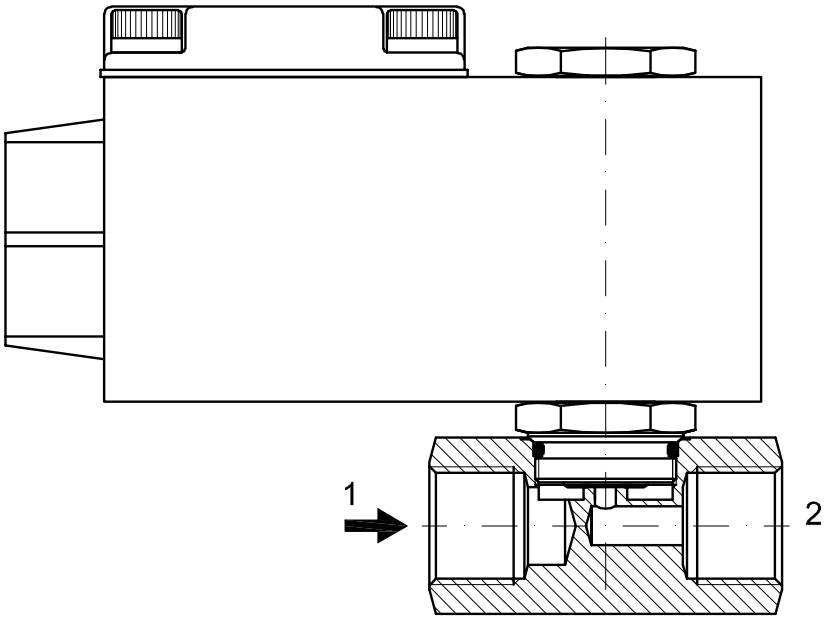
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal	Temp. range (°F)
A170...NV10///...	1/4 3/8 1/2	**0.039**	*1*	**0.046**	**0**	**1160**	*80*	**1160**	*80*	**12**	**8**	**A6**	**FPM=V**	**+14 +176**
A170...NV15///...		**0.059**	*1.5*	**0.081**	**0**	**435**	*30*	**377**	*26*					
A170...NV20///...		**0.079**	*2*	**0.116**	**0**	**319**	*22*	**290**	*20*					
A170...NV25///...		**0.098**	*2.5*	**0.173**	**0**	**232**	*16*	**203**	*14*					
A170...NV30///...		**0.118**	*3*	**0.289**	**0**	**217**	*15*	**145**	*10*					
A170...NV35///...		**0.138**	*3.5*	**0.370**	**0**	**145**	*10*	**116**	*8*					
A170...NV40///...		**0.157**	*4*	**0.416**	**0**	**116**	*8*	**72.5**	*5*					
A170...NV45///...		**0.177**	*4.5*	**0.474**	**0**	**94**	*6.5*	**50**	*3.5*					

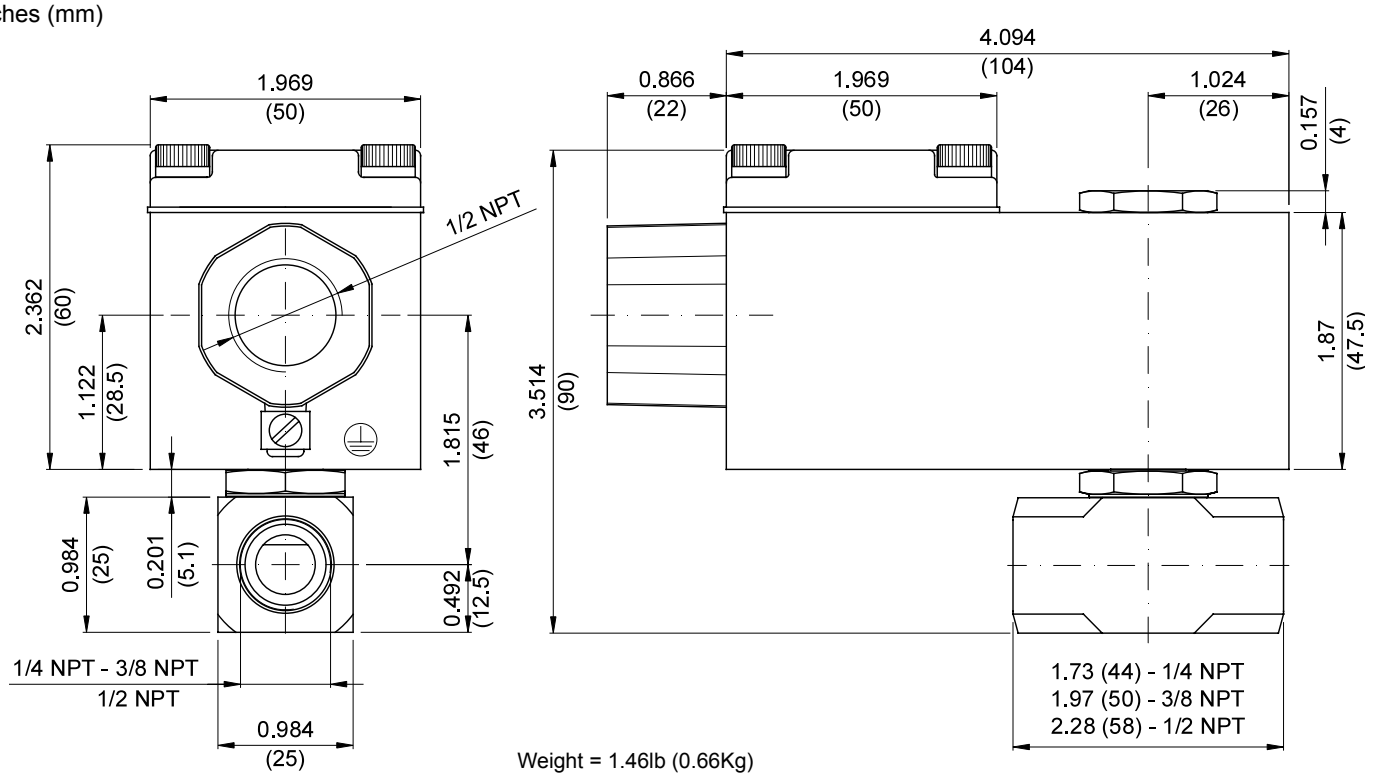
① Port size: B=1/4 C=3/8 D=1/2
② Coil
③ Safe Working Pressure:1160 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

COILS	Alternating Current (V)				Direct Current (V)			Electrical connection
	24	48	110	220 230	12	24	48	
Series **A6** Code ②	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2" NPT**

DESCRIPTION
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSIONS
inches (mm)



Weight = 1.46lb (0.66Kg)

DESCRIPTION

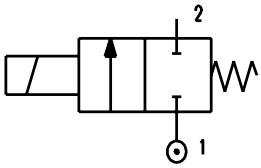
Solenoid valve 2 way normally closed in stainless steel AISI 316 direct acting poppet type

CONSTRUCTION

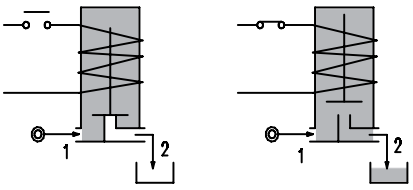
Body	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Shading ring	Silver
Springs	AISI 316
Seal material	NBR - FPM - EPDM

FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6
Versions for use with industrial oxygen



ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size	Orifice Size		Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) Min	Max AC		Max DC		Nominal power AC (VA) Inrush	AC (VA) Holding	DC (W)	Coil Series	Coil Width	Seal ①	Temp. range
	NPT	(in)	(mm)	(gpm)		(psi)	(bar)	(psi)	(bar)					(mm)		(°F)
E171AN...12///...		**0.047**	*1.2*	**0.046**	**0**	**362**	*25*	**362**	*25*							
E171AN...15///...		**0.059**	*1.5*	**0.069**	**0**	**261**	*18*	**232**	*16*						**NBR=B**	**+14 +194**
E171AN...20///...	**1/8**	**0.079**	*2*	**0.104**	**0**	**174**	*12*	**145**	*10*	**12**	**8**	**6.5**	**3**	**22**		
E171AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**108**	*7.5*	**65**	*4.5*						**EPDM=E**	**+14 +284**
E171AN...31///...		**0.118**	*3.1*	**0.220**	**0**	**65**	*4.5*	**29**	*2*							
E171AN...20///...		**0.079**	*2*	**0.104**	**0**	**362**	*25*	**217**	*15*							
E171AN...25///...	**1/8**	**0.098**	*2.5*	**0.162**	**0**	**232**	*16*	**116**	*8*	**15**	**11**	**8**	**4**	**30**	**FPM=V**	**+14 +284**
E171AN...31///...		**0.118**	*3.1*	**0.220**	**0**	**116**	*8*	**79**	*4*							

① Seal — Ordination example: E171ANB20///U351 NBR seal, connection 1/8 NPT
② Coil — Coil 24V DC certified cULus and marked CE
③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

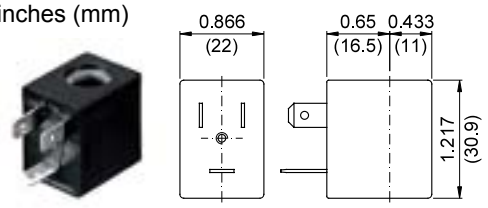
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

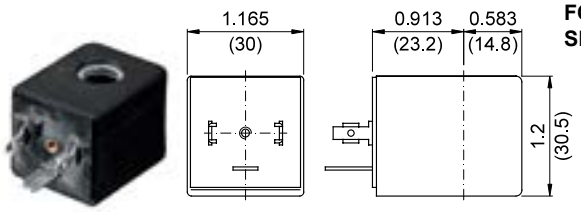
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

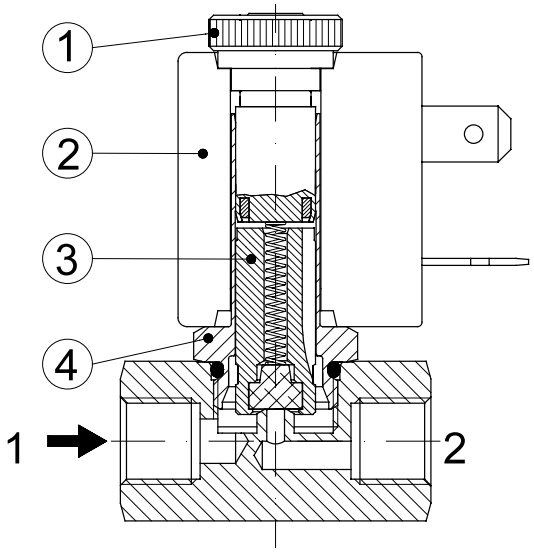


Series 3 Weight 0.11lb (0.05Kg)

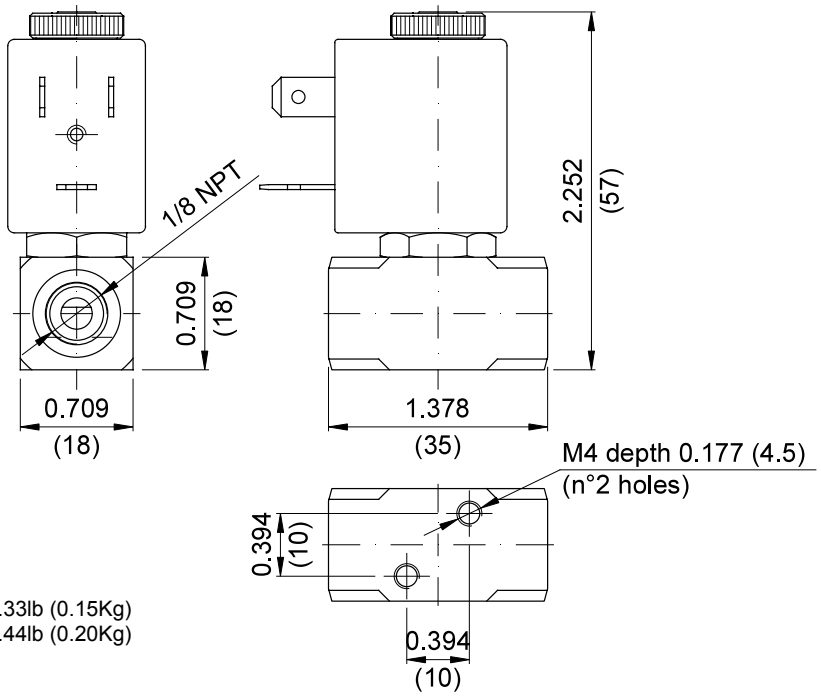


Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



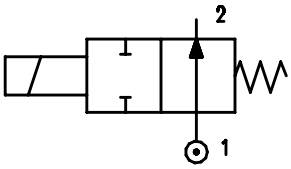
Weight with coil series 3=0.33lb (0.15Kg)
Weight with coil series 4=0.44lb (0.20Kg)

DESCRIPTION
Solenoid valve 2 way normally open
direct acting poppet type

CONSTRUCTION

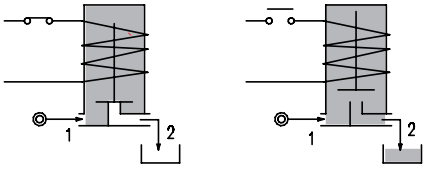
Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube
Electroless nickel plating
Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6

ON REQUEST: Versions for use with fluid temperature at -40°C
Manual override



CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC ④ (psi)	Max DC ④ (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E205AN...12///...		**0.047**	*1.2*	**0.046**	**0**	**246**	*17*	**246**	*17*							
E205AN...15///...		**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*							
E205AN...20///...	**1/8**	**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E205AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*							
E205AN...31///...		**0.118**	*3*	**0.220**	**0**	**29**	*2*	**29**	*2*						**EPDM=E**	**+14 +284**
E205AN...12///...		**0.047**	*1.2*	**0.046**	**0**	**246**	*17*	**246**	*17*							
E205AN...15///...		**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*						**FPM=V**	**+14 +284**
E205AN...20///...	**1/8**	**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*	**15**	**11**	**8**	**4**	**30**		
E205AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*							
E205AN...31///...		**0.118**	*3*	**0.220**	**0**	**29**	*2*	**29**	*2*							

① Seal — Ordination example: E205ANB20///U35B NBR seal, connection 1/8 NPT
② Coil — Coil 24V 60Hz certified c UL us and marked CE
③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.
④ Direct current (DC) series 3 coil available only without UL certification

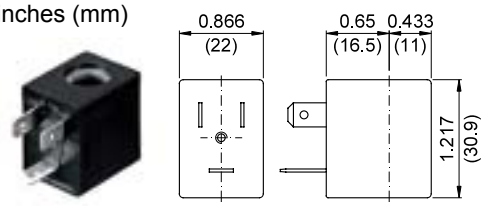
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

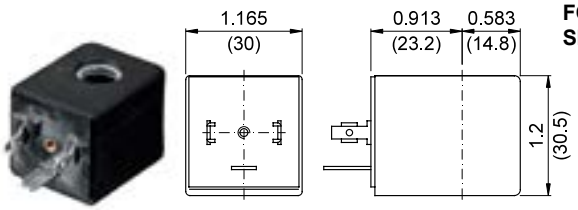
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

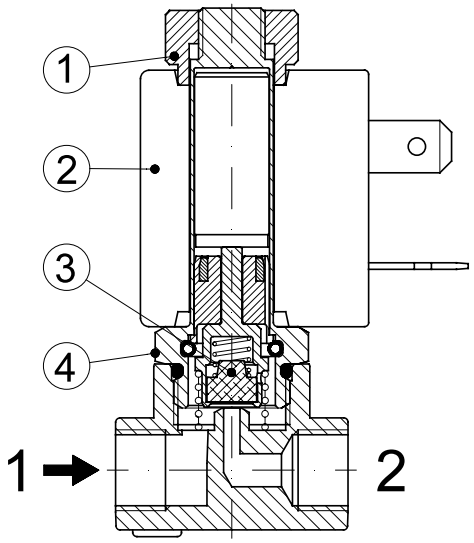


Series 3 Weight 0.11lb (0.05Kg)

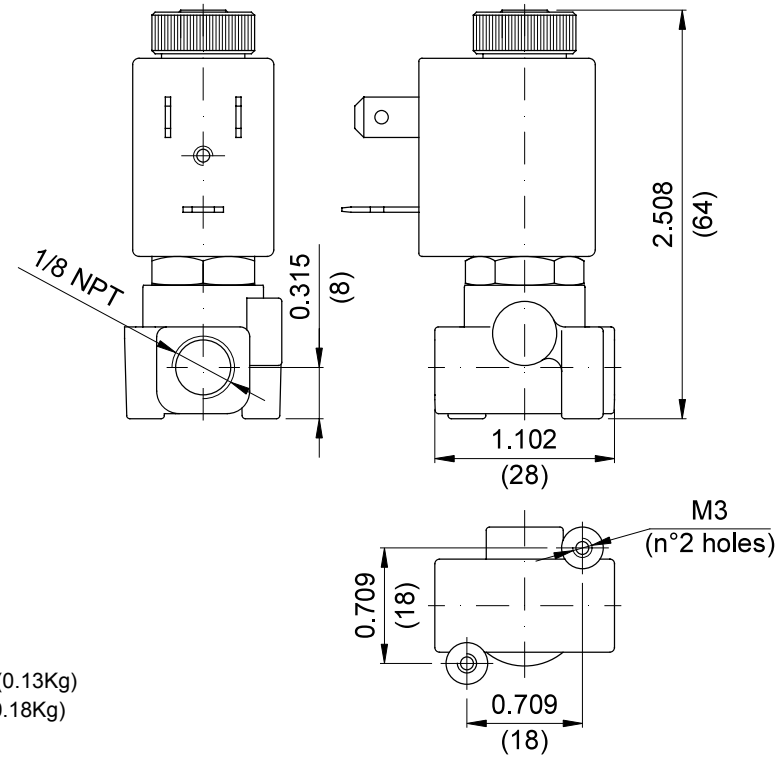


Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



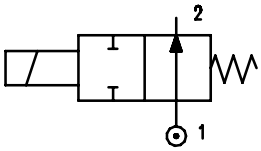
Weight with coil series 3=0.29lb (0.13Kg)
Weight with coil series 4=0.4lb (0.18Kg)

DESCRIPTION
Solenoid valve 2 way normally open
direct acting poppet type

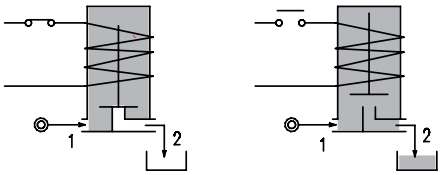
CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube
Stainless steel seat insert (up to Ø0.177in)
Electroless nickel plating



ON REQUEST: Versions for use with fluid temperature at -40°C
Manual override

CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E206BN...15///...		**0.059**	*1.5*	**0.081**	**0**	**333**	*23*	-	-							
E206BN...20///...		**0.079**	*2*	**0.116**	**0**	**246**	*17*	-	-							
E206BN...25///...	**1/4**	**0.098**	*2.5*	**0.173**	**0**	**174**	*12*	-	-	**20**	**15**	**-**	**2**	**30**	**NBR=B**	**+14 +194**
E206BN...35///...		**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	-	-							
E206BN...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	-	-							
D206BN...15/3/...		**0.059**	*1.5*	**0.081**	**0**	-	-	**261**	*18*							
D206BN...20/3/...		**0.079**	*2*	**0.116**	**0**	-	-	**159**	*11*							
D206BN...25/3/...	**1/4**	**0.098**	*2.5*	**0.173**	**0**	-	-	**101**	*7*	**-**	**-**	**10**	**2**	**30**	**EPDM=E**	**+14 +284**
D206BN...35/3/...		**0.138**	*3.5*	**0.370**	**0**	-	-	**58**	*4*							
D206BN...45/3/...		**0.177**	*4.5*	**0.474**	**0**	-	-	**43**	*3*							
E206BN...15///...		**0.059**	*1.5*	**0.081**	**0**	**333**	*23*	**333**	*23*							
E206BN...20///...		**0.079**	*2*	**0.116**	**0**	**246**	*17*	**246**	*17*							
E206BN...25///...	**1/4**	**0.098**	*2.5*	**0.173**	**0**	**174**	*12*	**174**	*12*	**27**	**20**	**14**	**5**	**36**	**FPM=V**	**+14 +284**
E206BN...35///...		**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	**101**	*7*							
E206BN...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	**65**	*4.5*							

① Seal — Ordination example: E206BNB35///U25F NBR seal, connection 1/4 NPT
② Coil — Coil 240V 60Hz certified c UL us and marked CE
③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
The maximum allowable pressure PS for steam is 36 psi.

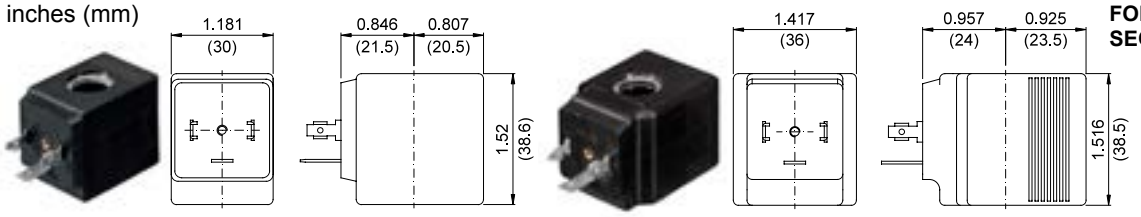
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

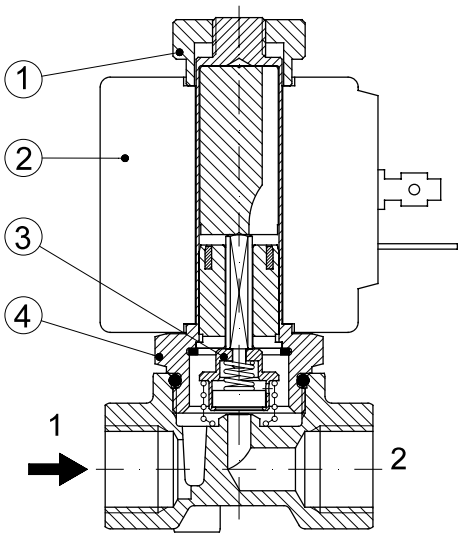
OVERALL DIMENSIONS
inches (mm)



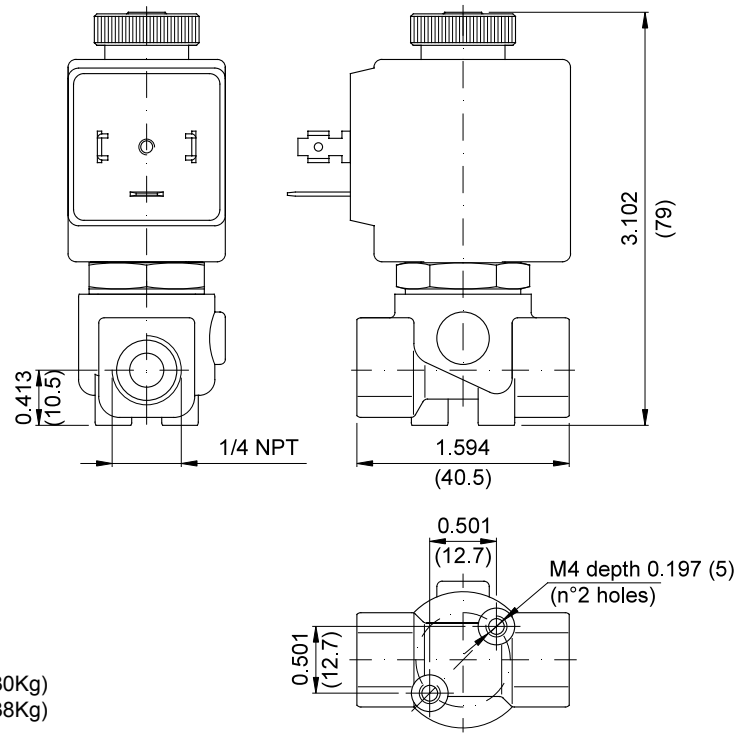
Series 2 Weight 0.26lb (0.12Kg)

Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



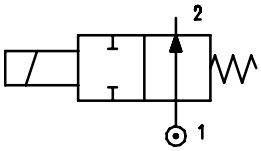
Weight with coil series 2=0.66lb (0.30Kg)
Weight with coil series 5=0.84lb (0.38Kg)

DESCRIPTION
Solenoid valve 2 way normally open
direct acting poppet type

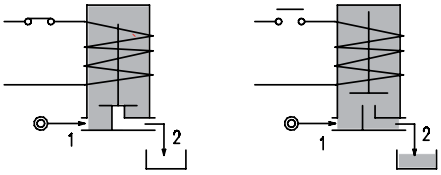
CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube
Stainless steel seat insert (up to Ø0.177in)
Electroless nickel plating



ON REQUEST: Versions for use with fluid temperature at -40°C
Manual override

CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ②	Temp. range (°F)
E206...N...30///...	3/8 1/2	0.118	*3*	0.116	0	130	*9*	-	-	20	15	-	2	30	NBR=B	+14 +194
E206...N...35///...		0.138	*3.5*	0.173	0	101	*7*	-	-							
E206...N...40///...		0.157	*4*	0.370	0	79	*5.5*	-	-							
E206...N...45///...		0.177	*4.5*	0.474	0	65	*4.5*	-	-							
D206...N...30/3/...	3/8 1/2	0.118	*3*	0.116	0	-	-	94	*6.5*	-	-	10	2	30	EPDM=E	+14 +284
D206...N...35/3/...		0.138	*3.5*	0.173	0	-	-	58	*4*							
D206...N...40/3/...		0.157	*4*	0.370	0	-	-	50	*3.5*							
D206...N...45/3/...		0.177	*4.5*	0.474	0	-	-	43	*3*							
E206...N...30///...	3/8 1/2	0.118	*3*	0.116	0	130	*9*	130	*9*	27	20	14	5	36	FPM=V	+14 +284
E206...N...35///...		0.138	*3.5*	0.173	0	101	*7*	101	*7*							
E206...N...40///...		0.157	*4*	0.370	0	79	*5.5*	79	*5.5*							
E206...N...45///...		0.177	*4.5*	0.474	0	65	*4.5*	65	*4.5*							

① Port size: C=3/8 D=1/2
② Seal Ordination example: E206CNB30///U25B NBR seal, connection 3/8 NPT
③ Coil Coil 24V 60Hz certified cULus and marked CE
④ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

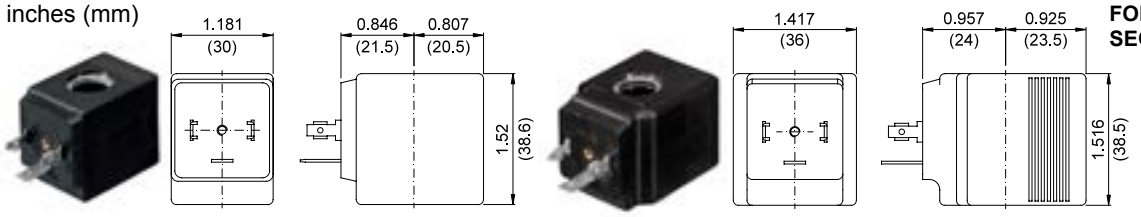
COILS Code ②	Alternating Current 24V		Alternating Current 120V		Alternating Current 240V		Direct Current 12V		Direct Current 24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

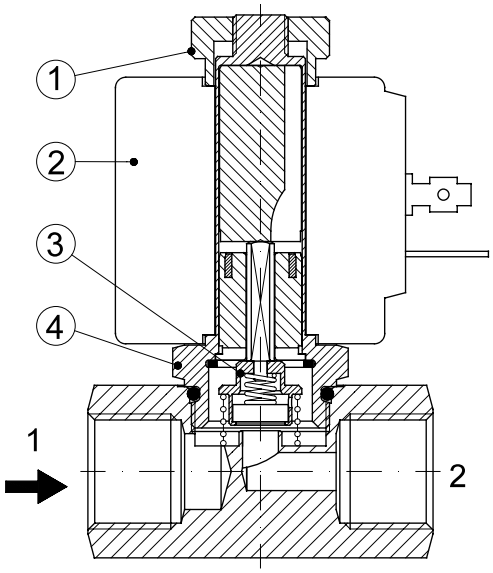
OVERALL DIMENSIONS
inches (mm)



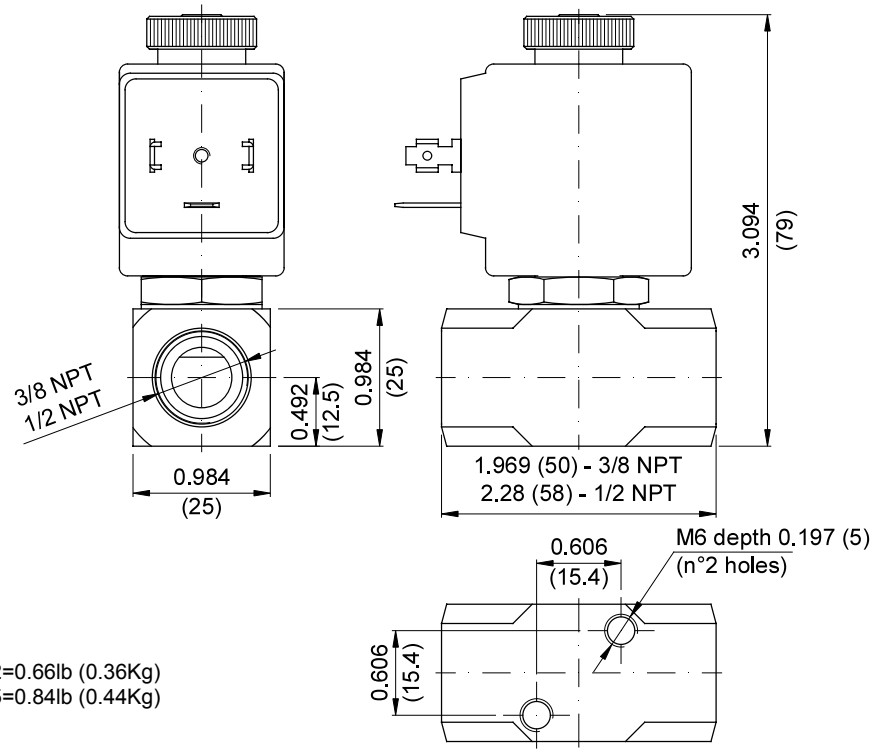
Series 2 Weight 0.26lb (0.12Kg)

Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



Weight with coil series 2=0.66lb (0.36Kg)
Weight with coil series 5=0.84lb (0.44Kg)

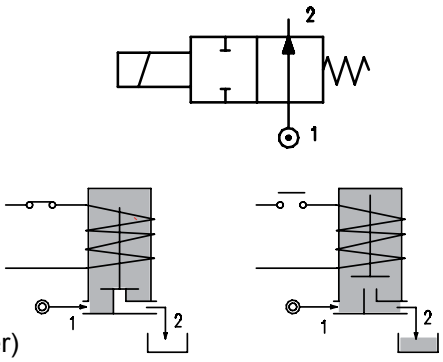
DESCRIPTION

Solenoid valve 2 way normally open
direct acting poppet type.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

2

VALVE CONSTRUCTION

Body	Brass
Seal assembly	Brass
Core and plunger	AISI 430FR
Springs	AISI 302
Armature tube	AISI 316
Seal material	NBR - FPM - EPDM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (painted with epoxy powder)
Electrical connection	1/2” NPT (M20x1.5 on request)

FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above

OPTIONS: Stainless steel coil housing (see coil X6 section 6)
Electroless nickel plating
Stainless steel seat insert (up to Ø0.177)

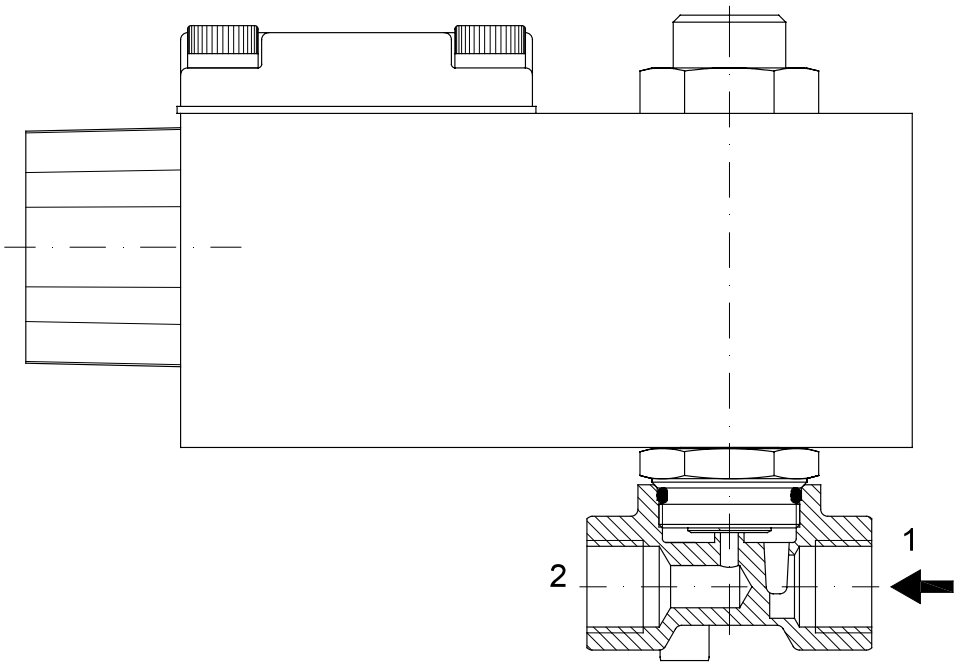
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

CODE ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal ②	Temp. range (°F)
A206BN...15///...		**0.06**	*1.5*	**0.08**	**0**	**333**	*23*	**333**	*23*					
A206BN...20///...		**0.08**	*2*	**0.116**	**0**	**245**	*17*	**245**	*17*					
A206BN...25///...		**0.1**	*2.5*	**0.173**	**0**	**174**	*12*	**174**	*12*				**NBR=B**	
A206BN...30///...	**1/4**	**0.118**	*3*	**0.289**	**0**	**130**	*9*	**130**	*9*	**12**	**8**	**A6**	**FPM=V**	**+14 +176**
A206BN...35///...		**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	**101**	*7*					
A206BN...40///...		**0.157**	*4*	**0.416**	**0**	**80**	*5.5*	**80**	*5.5*				**EPDM=E**	
A206BN...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	**65**	*4.5*					
A206BN...52///...		**0.205**	*5.2*	**0.543**	**0**	**43.5**	*3*	**43.5**	*3*					

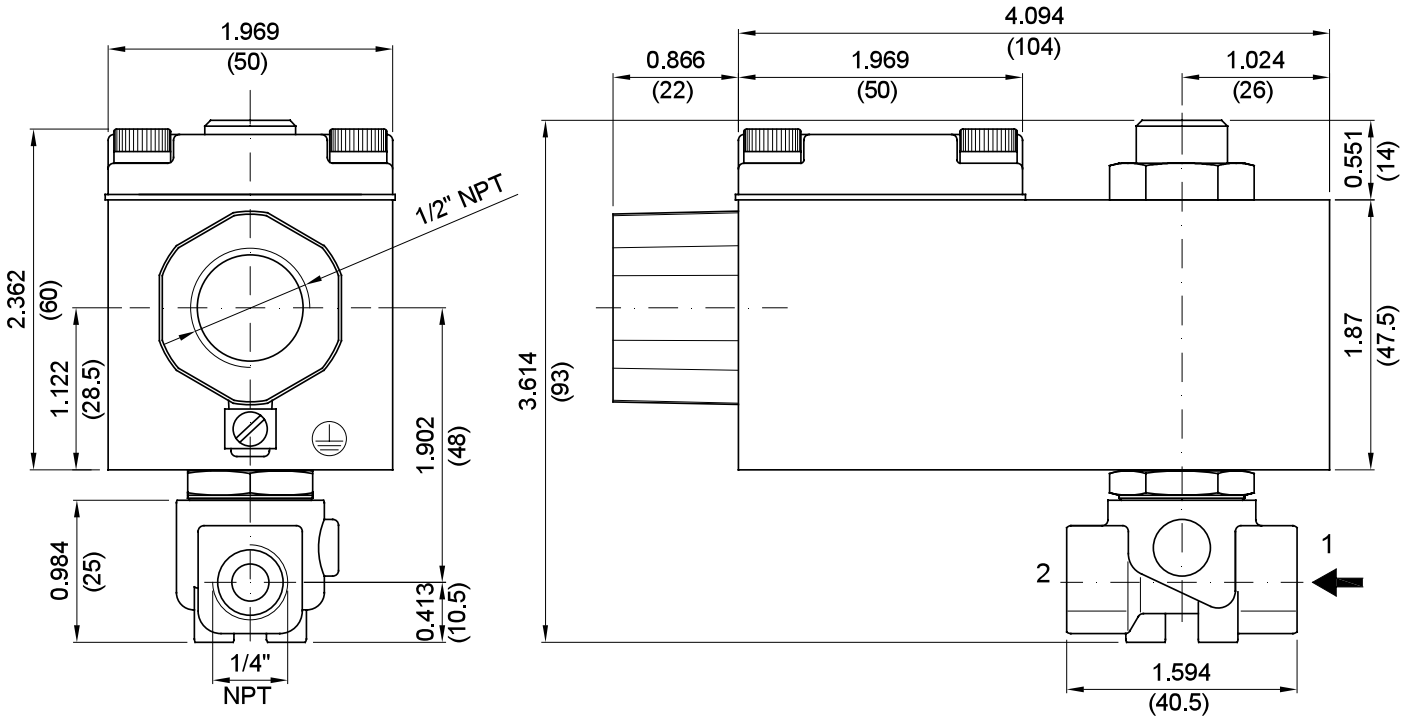
② Seal
③ Coil
④ Safe Working Pressure:1450 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
Example: A206BNV25///A61 - connections 1/4 NPT, FPM seal, orifice Ø2.5mm, 24V DC, alloy housing

COILS ③	Alternating Current 50/60Hz (V)				Direct Current (V)			Electrical connection
	24	48	110	220 230	12	24	48	
Series **A6**	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2" NPT**

DESCRIPTION
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSIONS
inches (mm)



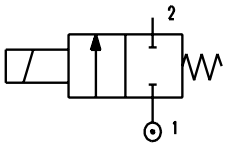
DESCRIPTION

Solenoid valve 2 way normally open
direct acting poppet type.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request))

2

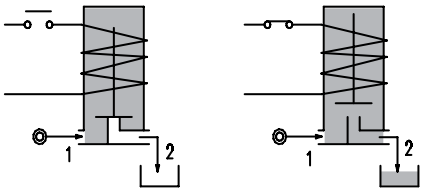
VALVE CONSTRUCTION

Body	Brass
Seal assembly	Brass
Core and plunger	AISI 430FR
Springs	AISI 302
Armature tube	AISI 316
Seal material	NBR - FPM - EPDM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (painted with epoxy powder)
Electrical connection	1/2” NPT (M20x1.5 on request)



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above

OPTIONS: Stainless steel coil housing (see coil X6 section 6)
Electroless nickel plating
Stainless steel seat insert (up to Ø4.5)

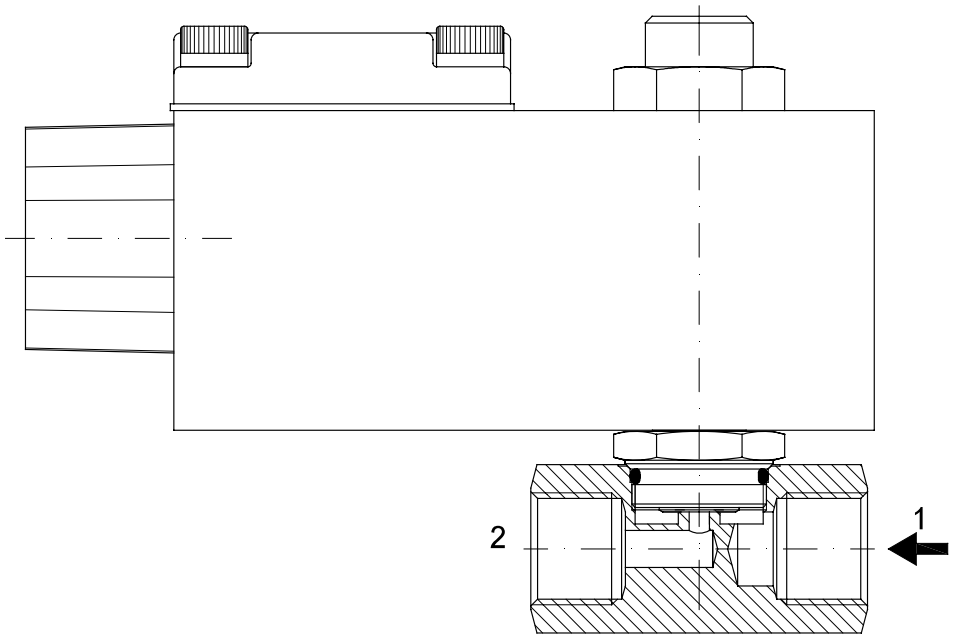
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal ②	Temp. range (°F)
A206...N...15///...		**0.06**	*1.5*	**0.08**	**0**	**333**	*23*	**333**	*23*					
A206...N...20///...		**0.08**	*2*	**0.116**	**0**	**245**	*17*	**245**	*17*					
A206...N...25///...	**3/8**	**0.1**	*2.5*	**0.173**	**0**	**174**	*12*	**174**	*12*				**NBR=B**	
A206...N...30///...		**0.118**	*3*	**0.289**	**0**	**130**	*9*	**130**	*9*					
A206...N...35///...		**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	**101**	*7*	**12**	**8**	**A6**	**FPM=V**	**+14 +176**
A206...N...40///...	**1/2**	**0.157**	*4*	**0.416**	**0**	**80**	*5.5*	**80**	*5.5*				**EPDM=E**	
A206...N...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	**65**	*4.5*					
A206...N...52///...		**0.205**	*5.2*	**0.543**	**0**	**43.5**	*3*	**43.5**	*3*					

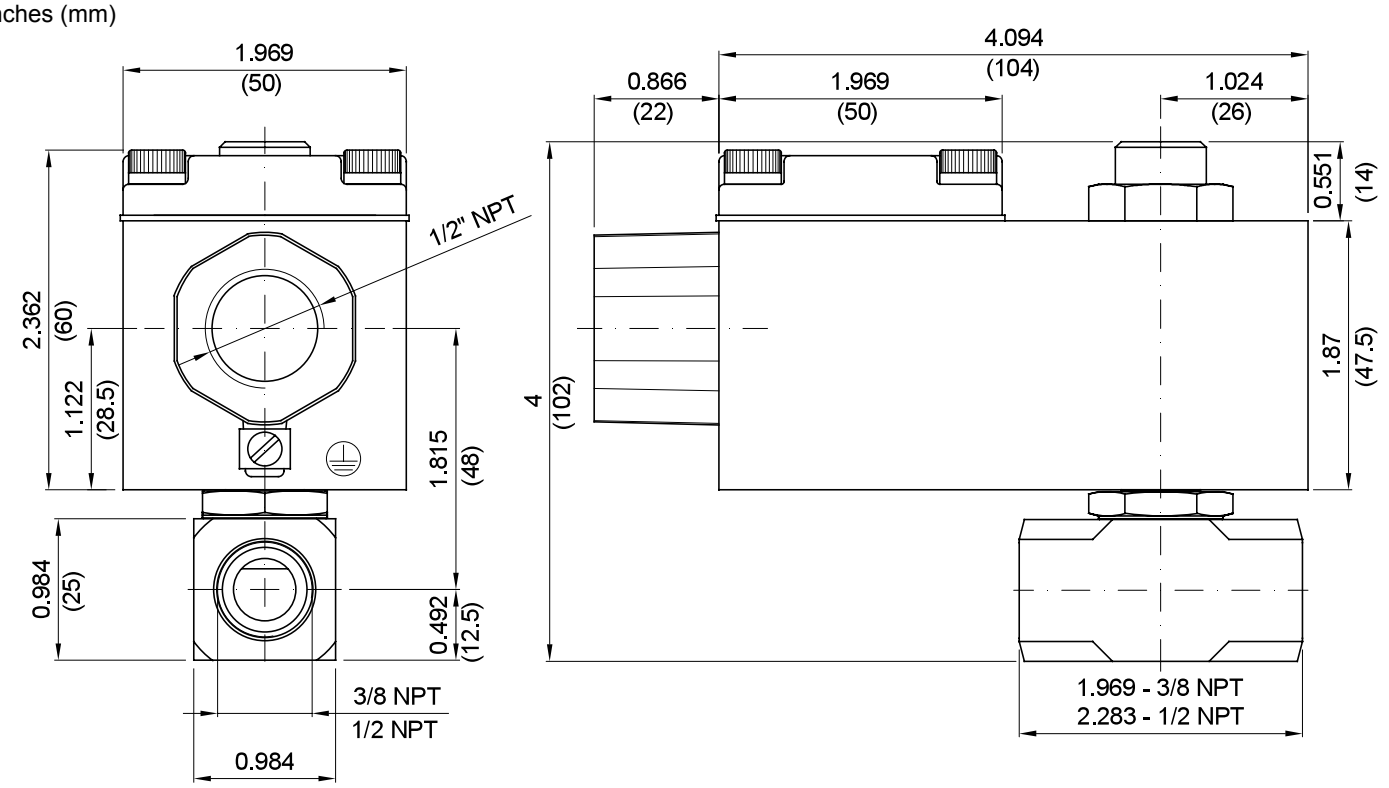
① Connection: C=3/8 NPT , D=1/2 NPT
② Seal
③ Coil
④ Safe Working Pressure:1450 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
Example: A206DNV35///A60 - connections 1/2 NPT, FPM seal, orifice Ø3.5mm, 12V DC, alloy housing

COILS ③	Alternating Current 50/60Hz (V)				Direct Current (V)			Electrical connection
	24	48	110	220 230	12	24	48	
Series **A6**	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2" NPT**

DESCRIPTION
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSION
inches (mm)

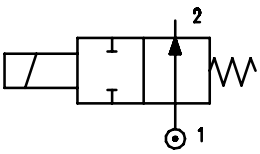


DESCRIPTION
Solenoid valve 2 way normally open
direct acting poppet type

CONSTRUCTION

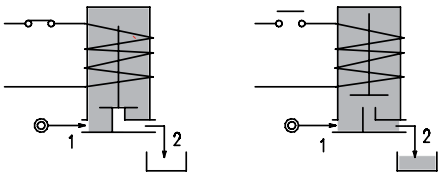
Body	AISI 303
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Silver shading ring
Version for use with industrial oxygen

ON REQUEST: Versions for use with fluid temperature at -40°C
Manual override



CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ②	Temp. range (°F)
E210...N...20///...	1/4 3/8 1/2	**0.079**	*2*	**0.116**	**0**	**246**	*17*	-	-	**20**	**15**	**-**	**2**	**30**	**NBR=B**	**+14 +194**
E210...N...25///...		**0.098**	*2.5*	**0.173**	**0**	**174**	*12*	-	-							
E210...N...35///...		**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	-	-							
E210...N...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	-	-							
D210...N...20/3/...	1/4 3/8 1/2	**0.079**	*2*	**0.116**	**0**	-	-	**246**	*17*	**-**	**-**	**10**	**2**	**30**	**EPDM=E**	**+14 +284**
D210...N...25/3/...		**0.098**	*2.5*	**0.173**	**0**	-	-	**174**	*12*							
D210...N...35/3/...		**0.138**	*3.5*	**0.370**	**0**	-	-	**58**	*4*							
D210...N...45/3/...		**0.177**	*4.5*	**0.474**	**0**	-	-	**43.5**	*3*							
E210...N...20///...	1/4 3/8 1/2	**0.079**	*2*	**0.116**	**0**	**246**	*17*	**246**	*17*	**27**	**20**	**14**	**5**	**36**	**FPM=V**	**+14 +284**
E210...N...25///...		**0.098**	*2.5*	**0.173**	**0**	**174**	*12*	**174**	*12*							
E210...N...35///...		**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	**101**	*7*							
E210...N...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	**65**	*4.5*							

① Port size: B= 1/4 C=3/8 D=1/2

② Seal — Ordination example: E210DNB35///U25B NBR seal, connection 1/2 NPT

③ Coil — Coil 24V 60Hz certified c UL us and marked CE

④ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

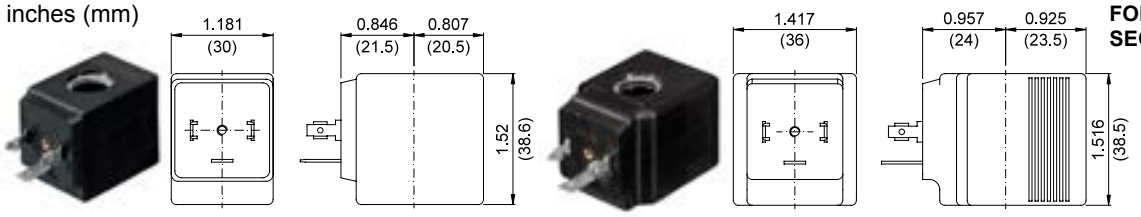
COILS Code ③	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

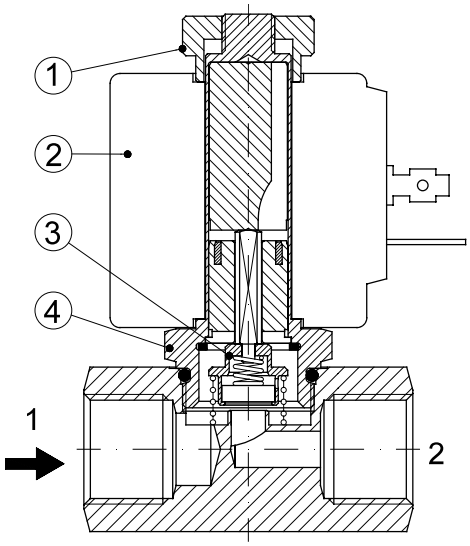
OVERALL DIMENSIONS
inches (mm)



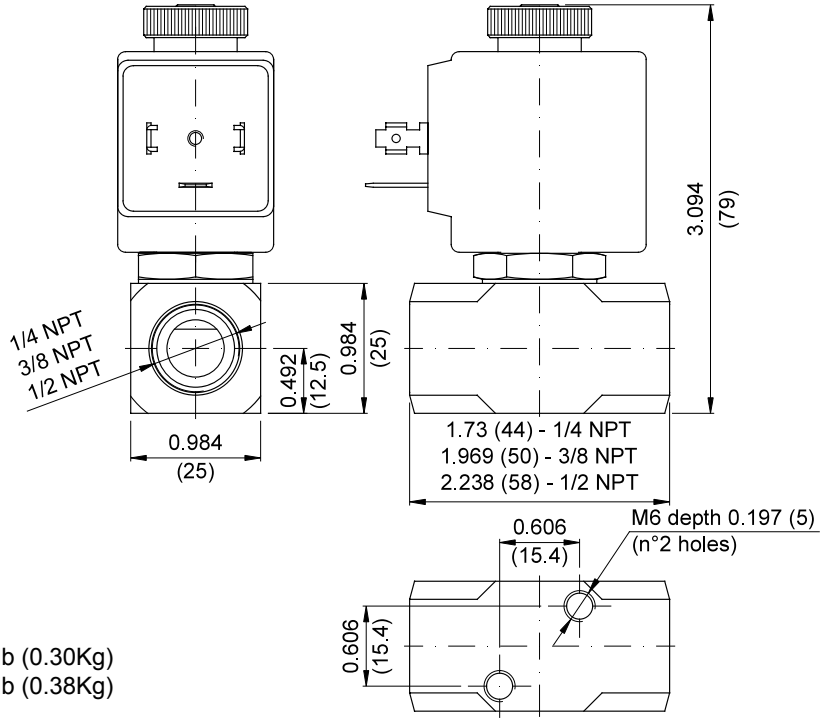
Series 2 Weight 0.26lb (0.12Kg)

Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



Weight with coil series 2=0.66lb (0.30Kg)
Weight with coil series 5=0.84lb (0.38Kg)

DESCRIPTION

Solenoid valve 2 way normally open direct acting poppet type in stainless steel AISI 303.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

Alloy housing (coil A6)

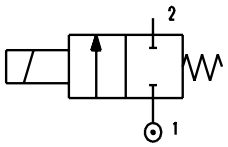
S.Steel housing (coil X6)

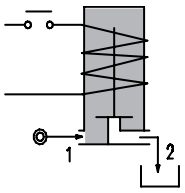
VALVE CONSTRUCTION

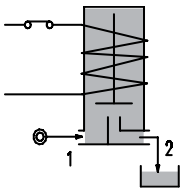
Body	AISI 303
Seal assembly	AISI 303
Core and plunger	AISI 430FR
Springs	AISI 302
Armature tube	AISI 316
Seal material	NBR - FPM - EPDM

EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (coil A6)
	Stainless steel AISI 316 (coil X6)
Electrical connection	1/2” NPT (M20x1.5 on request)







FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above

NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

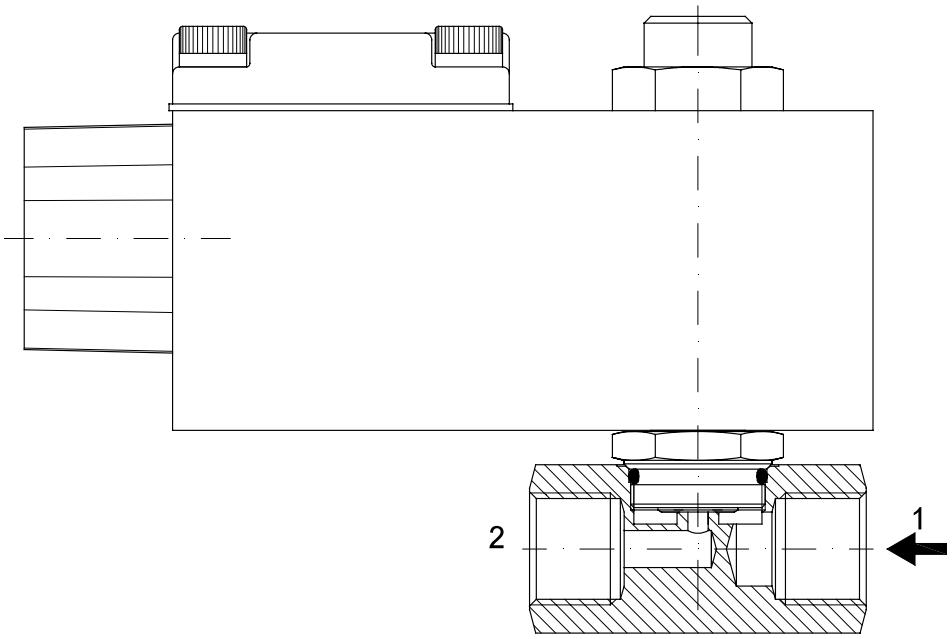
CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal ②	Temp. range (°F)
A210...N...15///...		**0.06**	*1.5*	**0.08**	**0**	**333**	*23*	**333**	*23*					
A210...N...20///...		**0.08**	*2*	**0.116**	**0**	**245**	*17*	**245**	*17*					
A210...N...25///...	**1/4**	**0.1**	*2.5*	**0.173**	**0**	**174**	*12*	**174**	*12*			**A6**	**NBR=B**	
A210...N...30///...		**0.118**	*3*	**0.289**	**0**	**130**	*9*	**130**	*9*					
A210...N...35///...	**3/8**	**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	**101**	*7*	**12**	**8**	**or**	**FPM=V**	**+14 +176**
A210...N...40///...	**1/2**	**0.157**	*4*	**0.416**	**0**	**80**	*5.5*	**80**	*5.5*			**X6**	**EPDM=E**	
A210...N...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	**65**	*4.5*					
A210...N...52///...		**0.205**	*5.2*	**0.543**	**0**	**43.5**	*3*	**43.5**	*3*					

① Connection: B=1/4 NPT, C=3/8 NPT, D=1/2 NPT
② Seal
③ Coil
④ Safe Working Pressure:1450 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

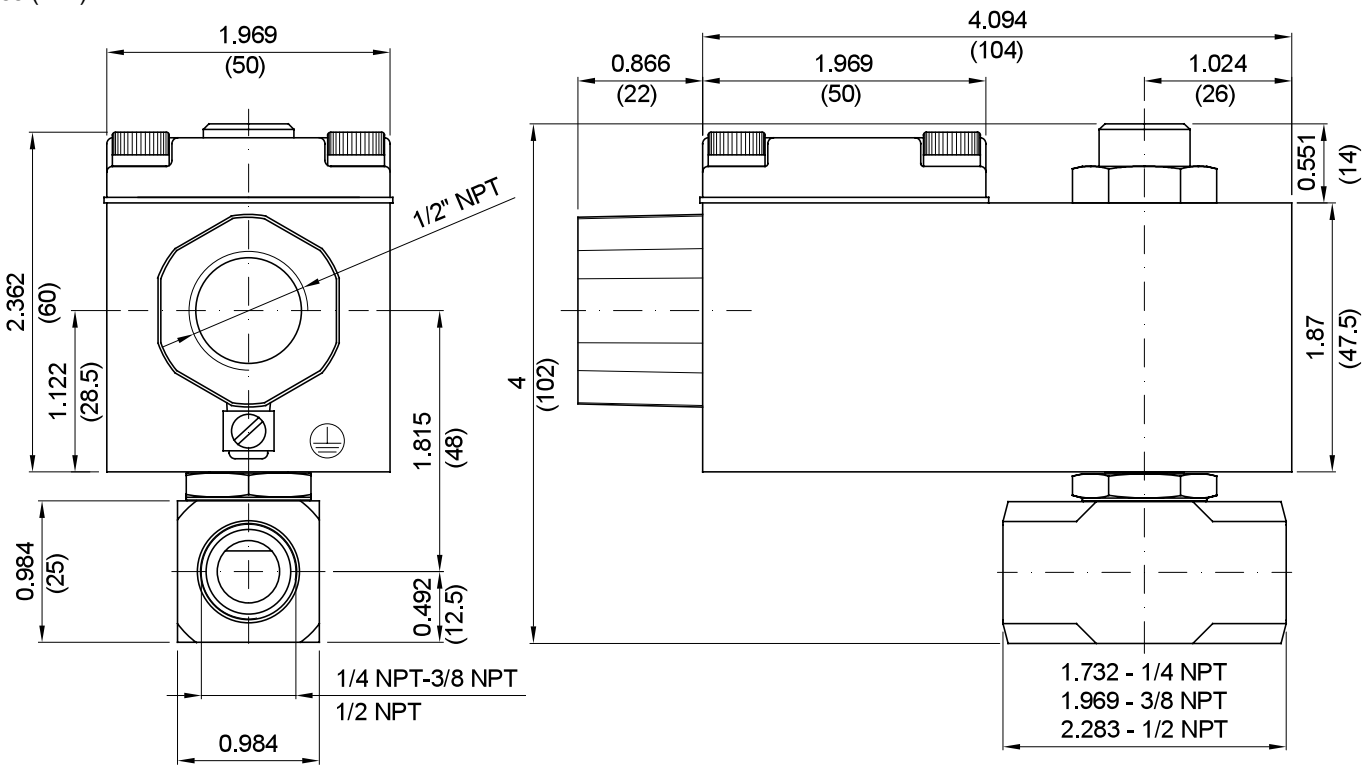
Example: A210BNV15///A6B - connections 1/4 NPT, FPM seal, 24V AC, alloy housing
A210CNV15///X6B - connections 3/8 NPT, FPM seal, 24V AC, stainless steel housing

COILS ③	Alternating Current 50/60Hz (V)				Direct Current (V)			Electrical connection
	24	48	110	220 230	12	24	48	
Series **A6** alloy housing	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2" NPT**
Series **X6** s.steel housing	**X6B**	**X6C**	**X6D**	**X6E**	**X60**	**X61**	**X62**	

DESCRIPTION
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSION
inches (mm)

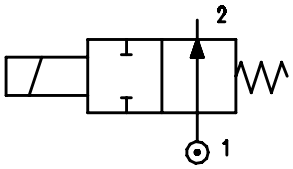


DESCRIPTION
Solenoid valve 2 way normally open
direct acting poppet type

CONSTRUCTION

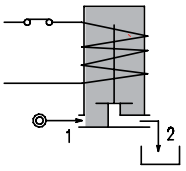
Body	AISI 303
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

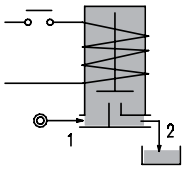
FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Series 7 explosion proof coil according to
ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6
Version for use with industrial oxygen

ON REQUEST: Versions for use with fluid temperature at -40°C
Manual override





CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC ④ (psi)	Max DC ④ (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E211AN...12///...		**0.047**	*1.2*	**0.046**	**0**	**246**	*17*	**246**	*17*							
E211AN...15///...		**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*							
E211AN...20///...	**1/8**	**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E211AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*							
E211AN...31///...		**0.118**	*3*	**0.220**	**0**	**29**	*2*	**29**	*2*						**EPDM=E**	**+14 +284**
E211AN...12///...		**0.047**	*1.2*	**0.046**	**0**	**246**	*17*	**246**	*17*							
E211AN...15///...		**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*							
E211AN...20///...	**1/8**	**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*	**15**	**11**	**8**	**4**	**30**	**FPM=V**	**+14 +284**
E211AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*							
E211AN...31///...		**0.118**	*3*	**0.220**	**0**	**29**	*2*	**29**	*2*							

① Seal — Ordination example: E211ANB15///U35B NBR seal, connection 1/8 NPT
② Coil — Coil 24V 60Hz certified c UL us and marked CE
③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.
④ Direct current (DC) series 3 coil available only without UL certification

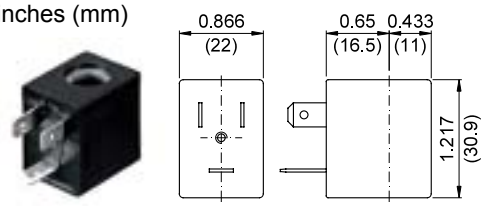
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

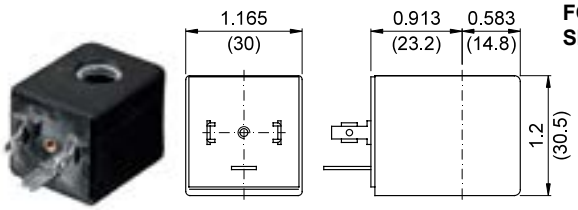
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

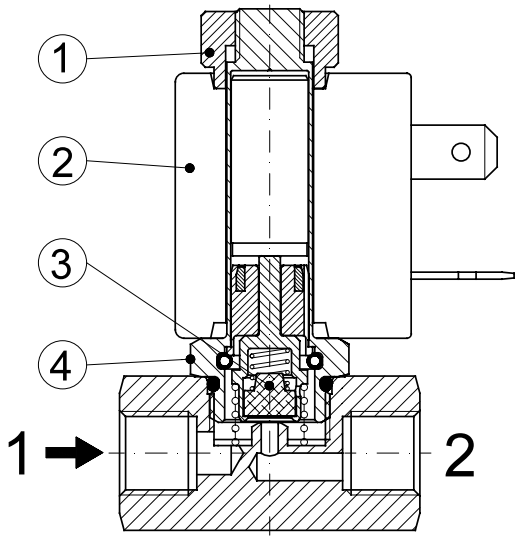


Series 3 Weight 0.11lb (0.05Kg)

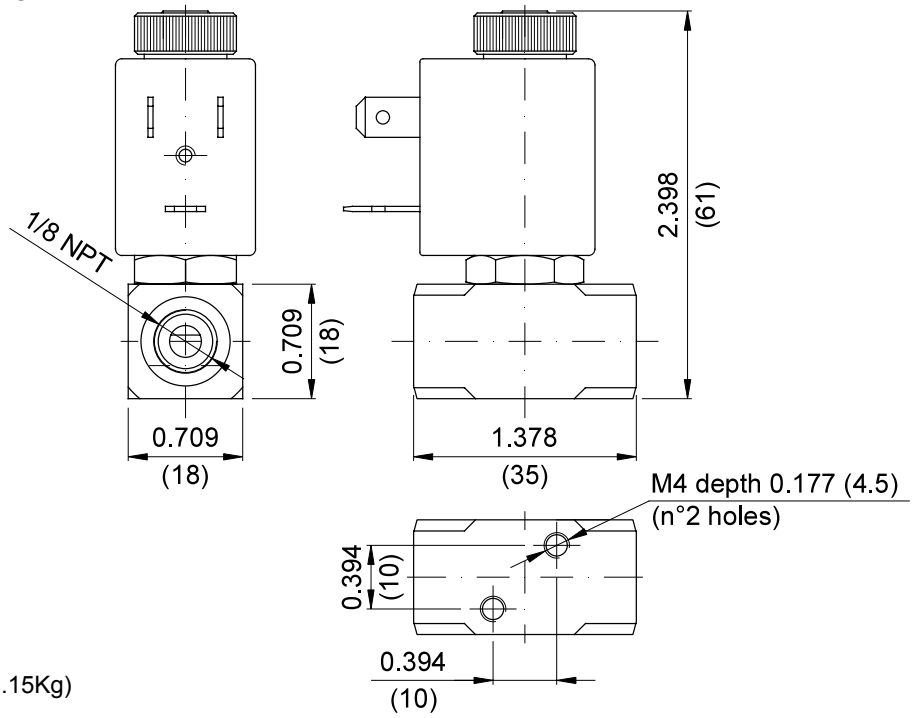


Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



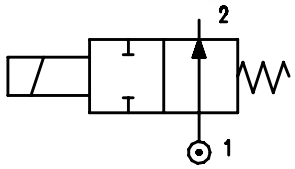
Weight = 0.33lb (0.15Kg)

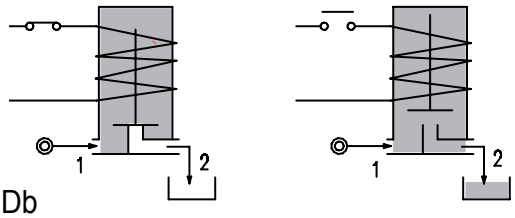
DESCRIPTION
Solenoid valve 2 way normally open
direct acting poppet type

CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position





OPTIONS: Stainless steel armature tube
Electroless nickel plating
Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6

ON REQUEST: Versions for use with fluid temperature at -40°C
Manual override

CODE ① ②	Square Flange □1in (□25mm)	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC ④ (psi)	Max DC ④ (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E212X...12///...	□1in (□25mm)	**0.047**	*1.2*	**0.046**	**0**	**246**	*17*	**246**	*17*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E212X...15///...		**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*							
E212X...20///...		**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*							
E212X...25///...		**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*						**EPDM=E**	**+14 +284**
E212X...12///...	□1in (□25mm)	**0.047**	*1.2*	**0.046**	**0**	**246**	*17*	**246**	*17*	**15**	**11**	**8**	**4**	**30**		
E212X...15///...		**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*						**FPM=V**	**+14 +284**
E212X...20///...		**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*							
E212X...25///...		**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*							

① Seal — Ordination example: E212XB20///U35B NBR seal
② Coil — Coil 24V 60Hz certified c UL us and marked CE
③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.
④ Direct current (DC) series 3 coil available only without UL certification

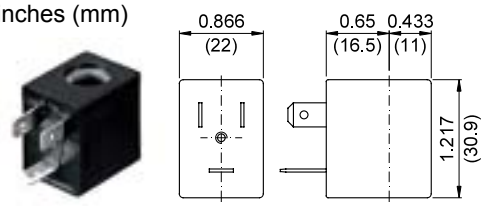
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

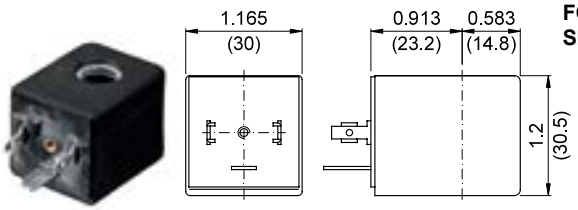
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

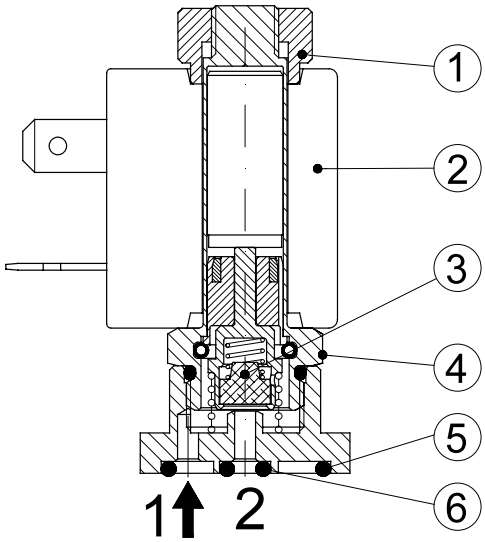


Series 3 Weight 0.11lb (0.05Kg)

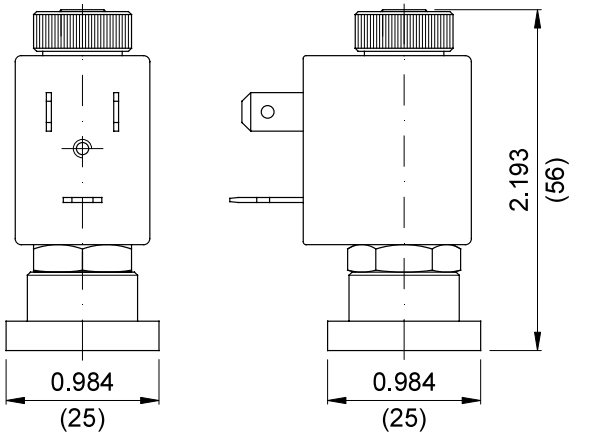


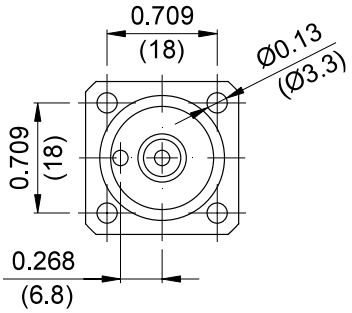
Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly
5. OR 2068
6. OR 2010



OVERALL DIMENSIONS
inches (mm)





Weight = 0.33lb (0.15Kg)

DESCRIPTION

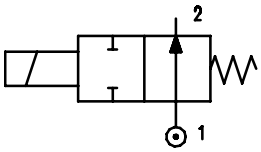
Solenoid valve 2 way normally open
direct acting poppet type

CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

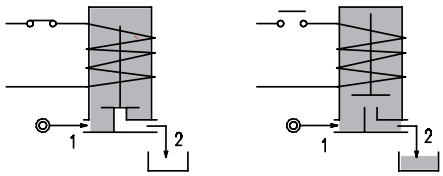
FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube
Electroless nickel plating

ON REQUEST: Versions for use with fluid temperature at -40°C
Manual override



CODE ① ②	Square Flange □1.26in (□32mm)	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E214X...15///...		**0.059**	*1.5*	**0.081**	**0**	**333**	*23*	-	-							
E214X...20///...		**0.079**	*2*	**0.116**	**0**	**246**	*17*	-	-							
E214X...25///...	□1.26in (□32mm)	**0.098**	*2.5*	**0.173**	**0**	**174**	*12*	-	-	**20**	**15**	**-**	**2**	**30**	**NBR=B**	**+14 +194**
E214X...35///...		**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	-	-							
E214X...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	-	-							
D214X...15/5/...		**0.059**	*1.5*	**0.081**	**0**	-	-	**261**	*18*							
D214X...20/5/...		**0.079**	*2*	**0.116**	**0**	-	-	**159**	*11*							
D214X...25/5/...	□1.26in (□32mm)	**0.098**	*2.5*	**0.173**	**0**	-	-	**101**	*7*	**-**	**-**	**10**	**2**	**30**	**EPDM=E**	**+14 +284**
D214X...35/5/...		**0.138**	*3.5*	**0.370**	**0**	-	-	**58**	*4*							
D214X...45/5/...		**0.177**	*4.5*	**0.474**	**0**	-	-	**43**	*3*							
E214X...15///...		**0.059**	*1.5*	**0.081**	**0**	**333**	*23*	**333**	*23*							
E214X...20///...		**0.079**	*2*	**0.116**	**0**	**246**	*17*	**246**	*17*							
E214X...25///...	□1.26in (□32mm)	**0.098**	*2.5*	**0.173**	**0**	**174**	*12*	**174**	*12*	**27**	**20**	**14**	**5**	**36**	**FPM=V**	**+14 +284**
E214X...35///...		**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	**101**	*7*							
E214X...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	**65**	*4.5*							

① Seal — Ordination example: E214XB25///U25F NBR seal

② Coil — Coil 240V 60Hz certified c UL us and marked CE

③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
The maximum allowable pressure PS for steam is 36 psi.

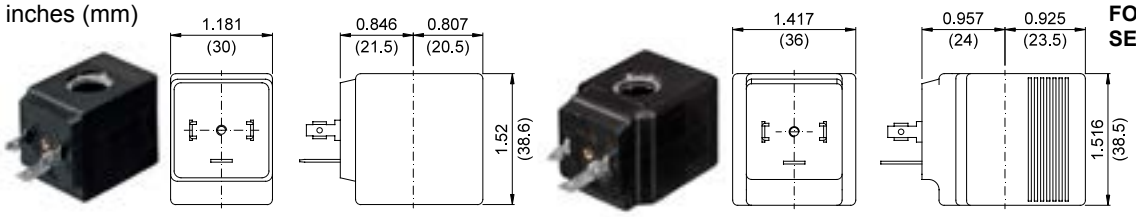
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

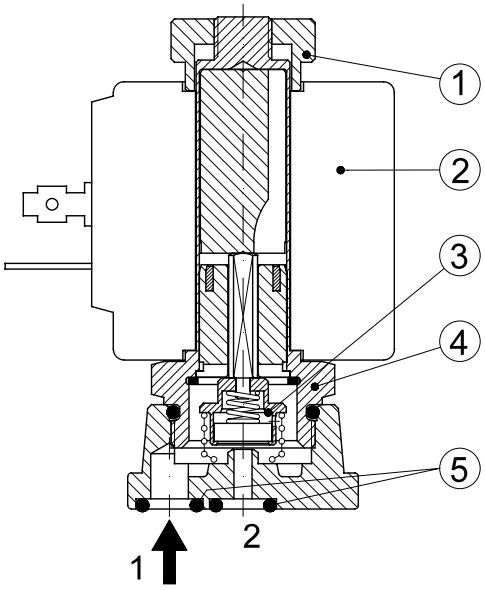
OVERALL DIMENSIONS
inches (mm)



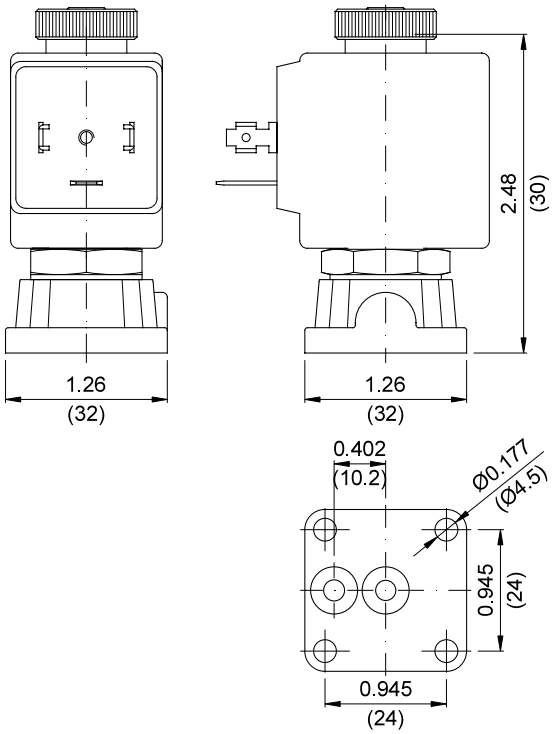
Series 2 Weight 0.26lb (0.12Kg)

Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly
5. OR 2025



OVERALL DIMENSIONS
inches (mm)



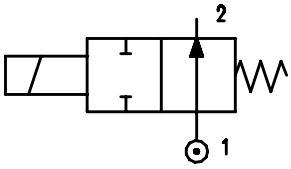
Weight with coil series 2=0.55lb (0.25Kg)
Weight with coil series 5=0.73lb (0.33Kg)

DESCRIPTION
Solenoid valve in line normally open
direct acting poppet type.

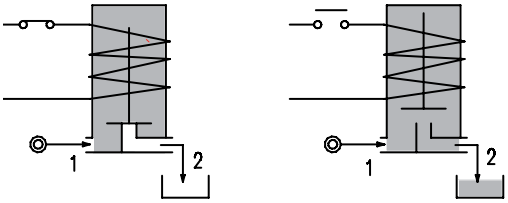
CONSTRUCTION

Body/Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

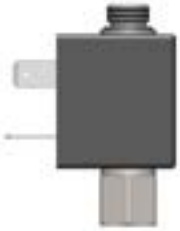
FEATURES
Maximum fluid viscosity 25cSt (mm2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Mounting bracket
Version for use with industrial oxygen
c UL us certified coils



CONFIGURATIONS

G1/8”MALE - Push-on for pipes Ø6x4mm (Ø1/4) NW	G1/8”MALE - G1/8”FEMALE NA	G1/8”FEMALE - Push-on for pipes Ø6x4mm (Ø1/4) AW	G1/8”FEMALE - G1/8”FEMALE AA
			

CODE ①② ③	Orifice size (in)	Orifice size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Electrical data Voltage (V)	Electrical data Power	Coil Series	Coil Width (mm)	Seal ②	Temperature range (°F)
E230.....15///...	**0.06**	*1.5*	**0.057**	**0**	**145**	*10*	**145**	*10*	**All standard voltages**	**6.5W or 8VA**	**3**	**22**	**NBR=B** **FPM=V** **EPDM=E**	**+14 +194** **+14 +284** **+14 +284**

① Configuration
② Seal
③ Coil

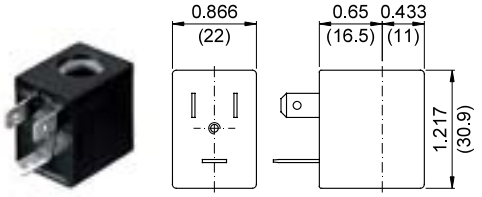
Example: E230NAB15///U350 - G1/8”male - G1/8” female connections
NBR seal - 12V DC 6.5W UL

COILS	Alternating Current (Volt)							Direct Current (Volt)			Electrical connection	Connectors
	12	24	48	110	220 230	240	380	12	24	48		
Series **3** Width **22** **6.5W** or **8VA** **CODE** ③	**30A**	**30B** / **U35B**	**30C**	**30D** / **U35D**	**30E**	**30F** / **U35F**	**30G**	**300** / **U350**	**301** / **U351**	**302**	**DIN 46244**	**PG9 CODE 10348000**

DESCRIPTION
Class F insulation
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class
IP65 with connector fitted
IP00 without connector
Continuous service ED100%

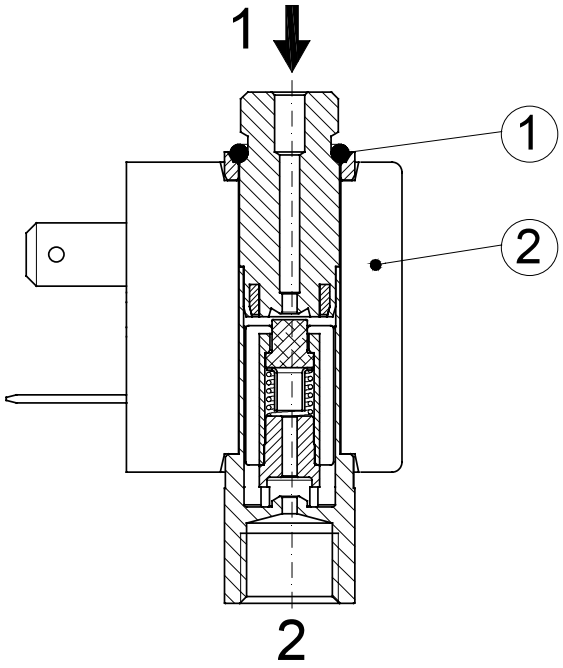
OPTIONS
Class H insulation
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

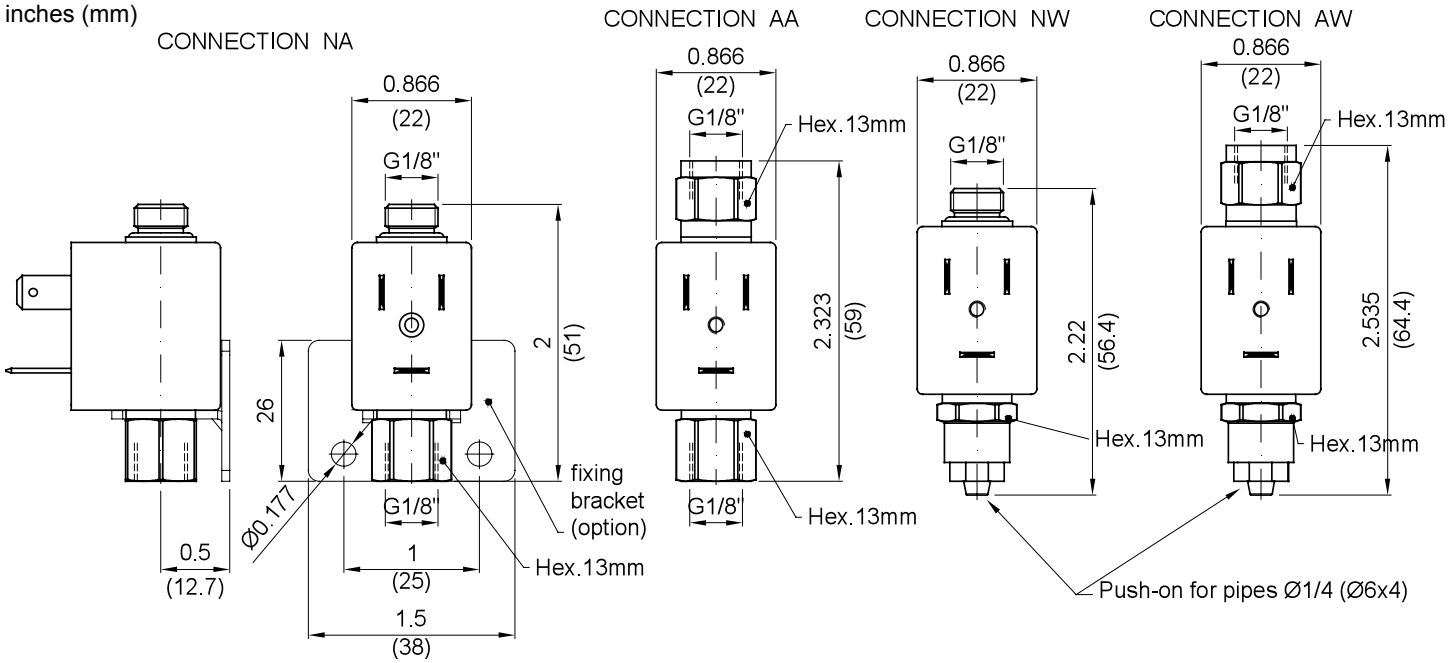


Series 3 Weight 0.11lb (0.05Kg)

SPARE PARTS LIST
1. OR
2. Coil



OVERALL DIMENSIONS
inches (mm)



DESCRIPTION

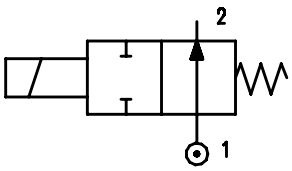
Solenoid valve 2 way normally open
direct acting poppet type, suitable for
food applications and all compatible fluids.

CONSTRUCTION

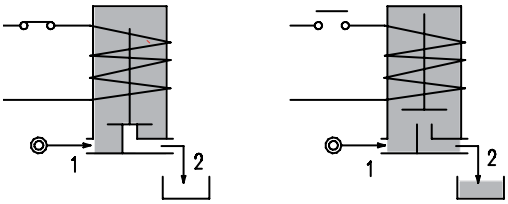
Body	Thermoplastic polymer ACS, KTW, W270, WRAS, NSF, FDA certified
Armature tube	Brass chemically nickel plated
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

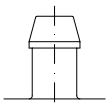
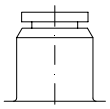
FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube



CONNECTIONS	
P	**Z**
	
HOSETAIL for flexible pipes	**PUSH IN** for semiflexible pipes Øext 5/32"

CODE ① ②	Port type *	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC ⑤ (psi)	Max DC ⑤ (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range ④ (°F)
E235 * ...15///...	**Z**	**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*							
E235 * ...20///...	**Z**	**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E235 * ...25///...	**P - Z**	**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*							
E235 * ...15///...	**Z**	**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*						**EPDM=E**	**+14 +284**
E235 * ...20///...	**Z**	**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*	**15**	**11**	**8**	**4**	**30**		
E235 * ...25///...	**P - Z**	**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*						**FPM=V**	**+14 +284**

① Seal — Ordination example: E235PA20///U351 NBR seal, hosetail connection
② Coil — Coil 24V DC certified c UL us and marked CE

③ Safe Working Pressure:290 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
The maximum allowable pressure PS for steam is 36 psi.

④ The temperature range is related to the material of the seals (NBR, EPDM, FPM), and the valves' body.
Please contact us concerning the temperature range referred to the different types of connection.

⑤ Direct current (DC) series 3 coil available only without UL certification

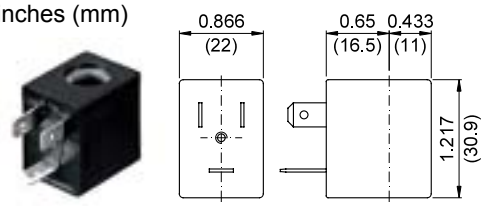
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

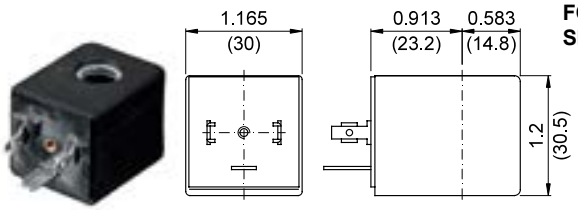
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

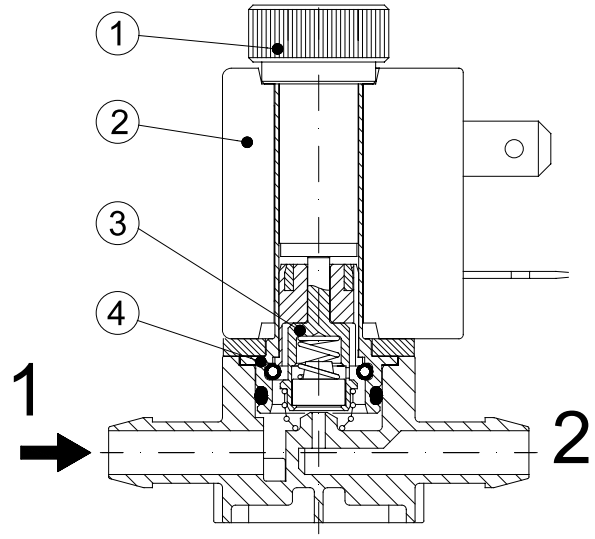


Series 3 Weight 0.11lb (0.05Kg)



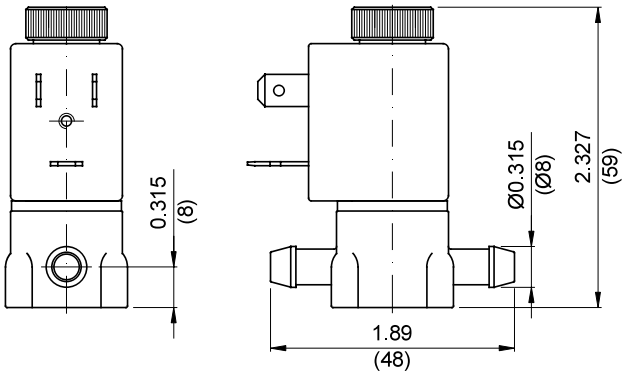
Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly

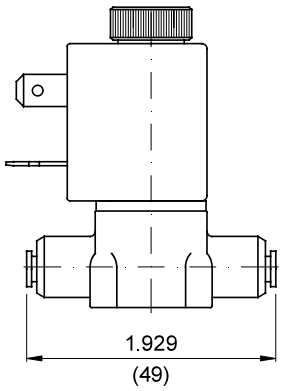


OVERALL DIMENSIONS
inches (mm)

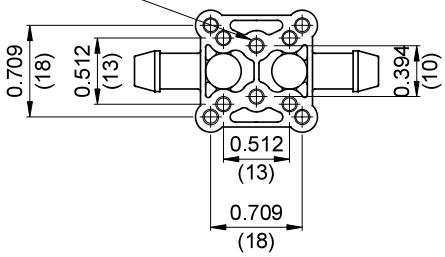
P connection



Z connection



Holes for self-threading screws Ø0.118 max depth 0.315
Max tightening torque 5 Nm



Weight with coil series 3=0.22lb (0.10Kg)

DESCRIPTION

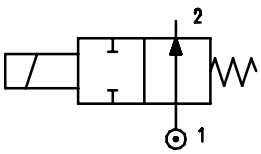
Solenoid valve 2 way normally open in stainless steel AISI 316 direct acting poppet type

CONSTRUCTION

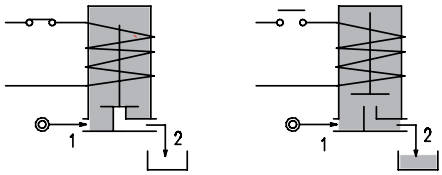
Body	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Shading ring	Silver
Springs	AISI 316
Seal material	NBR - FPM - EPDM - PTFE - FFKM (Kalrez)

FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Versions for use with industrial oxygen
c UL us certified coils



ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ②	Temp. range (°F)
E270...N...15///...		**0.059**	*1.5*	**0.081**	**0**	**333**	*23*									
E270...N...20///...		**0.079**	*2*	**0.116**	**0**	**246**	*17*	-	-							
E270...N...25///...	**1/4**	**0.098**	*2.5*	**0.173**	**0**	**174**	*12*	-	-							
E270...N...30///...	**3/8**	**0.118**	*3*	**0.289**	**0**	**130**	*9*	-	-	**20**	**15**	**-**	**2**	**30**		
E270...N...35///...	**1/2**	**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	-	-							
E270...N...40///...		**0.157**	*4*	**0.416**	**0**	**79**	*5.5*	-	-						**NBR=B**	**+14 +194**
E270...N...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	-	-							
D270...N...15///...		**0.059**	*1.5*	**0.081**	**0**	-	-	**261**	*18*							
D270...N...20///...		**0.079**	*2*	**0.116**	**0**	-	-	**159**	*11*						**EPDM=E**	**+14 +284**
D270...N...25///...	**1/4**	**0.098**	*2.5*	**0.173**	**0**	-	-	**101**	*7*							
D270...N...30///...	**3/8**	**0.118**	*3*	**0.289**	**0**	-	-	**94**	*6.5*	**-**	**-**	**10**	**2**	**30**		
D270...N...35///...	**1/2**	**0.138**	*3.5*	**0.370**	**0**	-	-	**58**	*4*							
D270...N...40///...		**0.157**	*4*	**0.416**	**0**	-	-	**50**	*3.5*						**FPM=V**	**+14 +284**
D270...N...45///...		**0.177**	*4.5*	**0.474**	**0**	-	-	**43.5**	*3*							
E270...N...15///...		**0.059**	*1.5*	**0.081**	**0**	**333**	*23*	**333**	*23*							
E270...N...20///...		**0.079**	*2*	**0.116**	**0**	**246**	*17*	**246**	*17*						**FFKM=K**	**+14 +356**
E270...N...25///...	**1/4**	**0.098**	*2.5*	**0.173**	**0**	**174**	*12*	**174**	*12*							
E270...N...30///...	**3/8**	**0.118**	*3*	**0.289**	**0**	**130**	*9*	**130**	*9*	**27**	**20**	**14**	**5**	**36**		
E270...N...35///...	**1/2**	**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	**101**	*7*							
E270...N...40///...		**0.157**	*4*	**0.416**	**0**	**79**	*5.5*	**79**	*5.5*							
E270...N...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	**65**	*4.5*							

① Connection: B=1/4" , C=3/8" , D=1/2"

② Seal — Ordination example: D270BNE35///U251 EPDM seal, connection 1/4 NPT

③ Coil — Coil 24V DC certified c UL us and marked CE

④ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 87 psi with PTFE seals and 36 psi with EPDM seals.

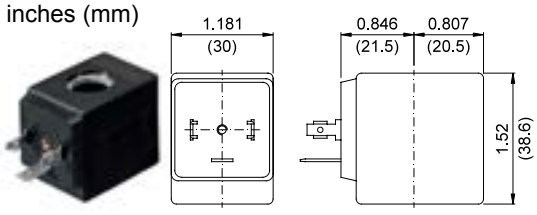
COILS Code ③	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	521	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

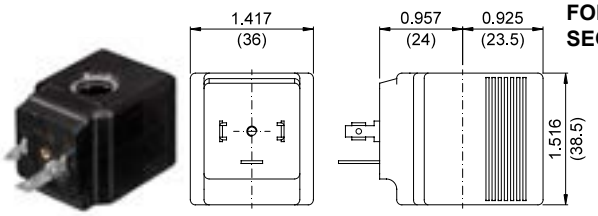
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

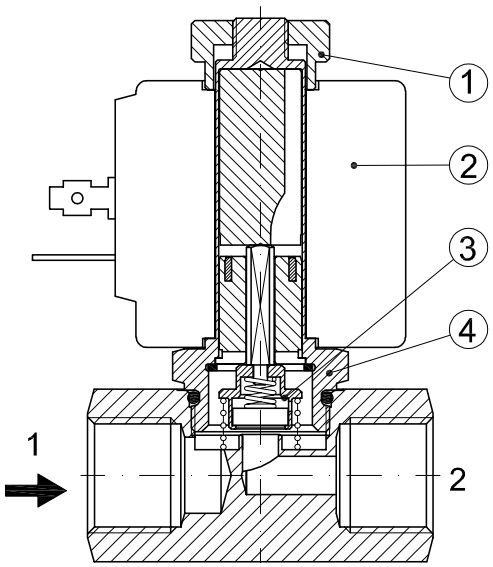


Series 2 Weight 0.26lb (0.12Kg)

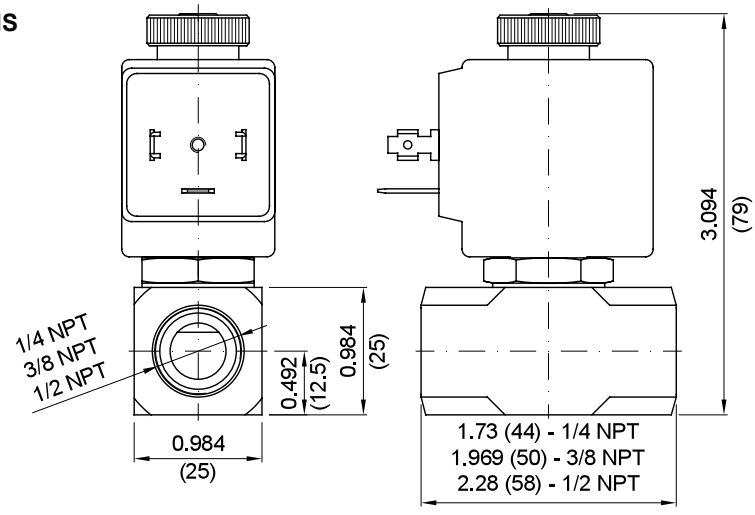


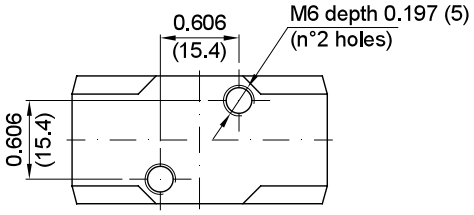
Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)





Weight with coil series 2=0.30Kg
Weight with coil series 5=0.38Kg

DESCRIPTION

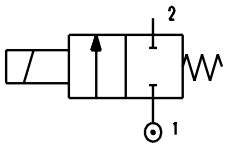
Solenoid valve 2 way normally open direct acting poppet type in stainless steel AISI 316.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb IP66**
Ex tb IIIC T85°C or **T100°C** or **T135°C Db IP66**
CESI 03 ATEX 344/02
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

Alloy housing (coil A6)

S.Steel housing (coil X6)

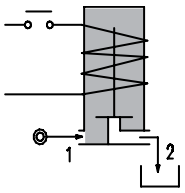
VALVE CONSTRUCTION

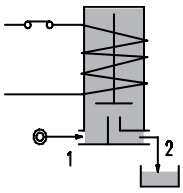
Body	AISI 316
Seal assembly	AISI 316
Core and plunger	AISI 430FR
Springs	AISI 316
Armature tube	AISI 316
Seal material	NBR - FPM - EPDM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (coil A6)
	Stainless steel AISI 316 (coil X6)
Electrical connection	1/2" NPT (M20x1.5 on request)





FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above

NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

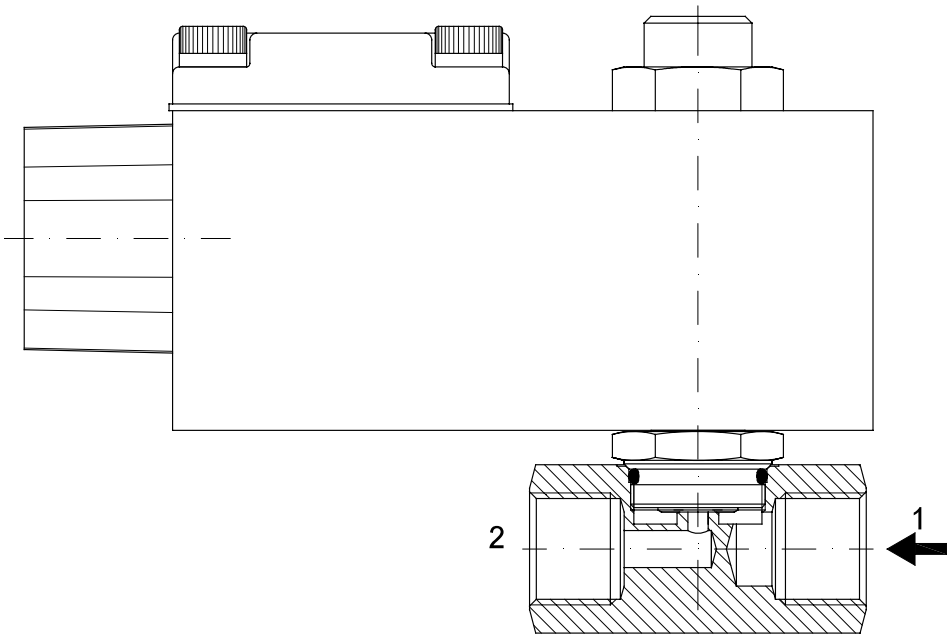
CODE ① ② ③	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal ②	Temp. range (°F)
A270...N...15///...		**0.06**	*1.5*	**0.08**	**0**	**333**	*23*	**333**	*23*					
A270...N...20///...		**0.08**	*2*	**0.116**	**0**	**245**	*17*	**245**	*17*					
A270...N...25///...	**1/4**	**0.1**	*2.5*	**0.173**	**0**	**174**	*12*	**174**	*12*			**A6**	**NBR=B**	
A270...N...30///...	**3/8**	**0.118**	*3*	**0.289**	**0**	**130**	*9*	**130**	*9*	**12**	**8**	**or**	**FPM=V**	**+14 +176**
A270...N...35///...	**1/2**	**0.138**	*3.5*	**0.370**	**0**	**101**	*7*	**101**	*7*			**X6**	**EPDM=E**	
A270...N...40///...		**0.157**	*4*	**0.416**	**0**	**80**	*5.5*	**80**	*5.5*					
A270...N...45///...		**0.177**	*4.5*	**0.474**	**0**	**65**	*4.5*	**65**	*4.5*					

① Connection: B=1/4 NPT, C=3/8 NPT, D=1/2 NPT
② Seal
③ Coil
④ Safe Working Pressure:1450 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

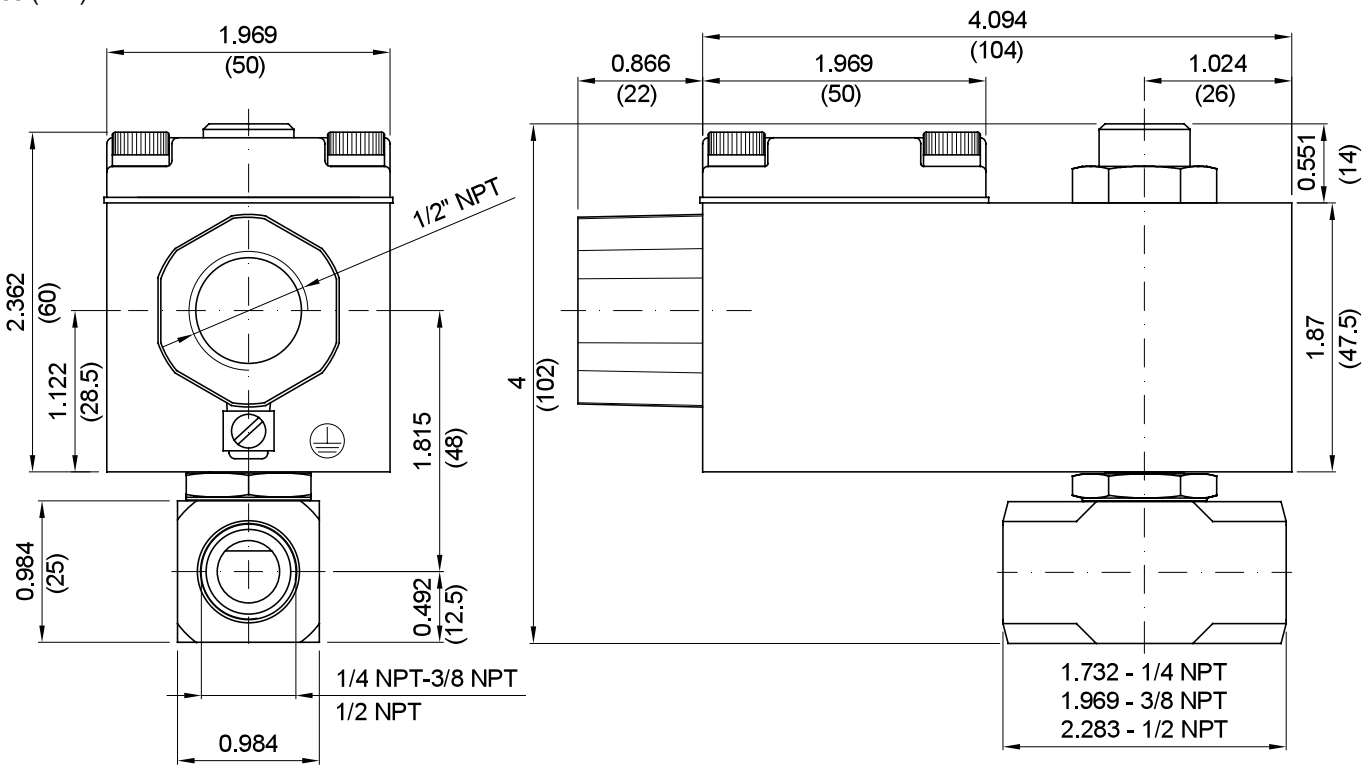
Example: A270BNV15///A6B - connections 1/4 NPT, FPM seal, 24V AC, alloy housing
A270DNV15///X6B - connections 1/2 NPT, FPM seal, 24V AC, stainless steel housing

COILS ③	Alternating Current 50/60Hz (V)				Direct Current (V)			Electrical connection
	24	48	110	220 230	12	24	48	
Series **A6** alloy housing	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2" NPT**
Series **X6** s.steel housing	**X6B**	**X6C**	**X6D**	**X6E**	**X60**	**X61**	**X62**	

DESCRIPTION
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSION
inches (mm)



DESCRIPTION

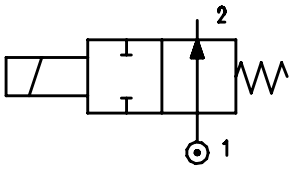
Solenoid valve 2 way normally open in stainless steel AISI 316 direct acting poppet type

CONSTRUCTION

Body	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Shading ring	Silver
Springs	AISI 316
Seal material	NBR - FPM - EPDM

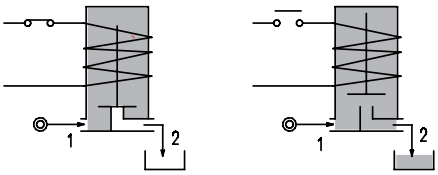
FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Versions for use with industrial oxygen
Series 7 explosion proof coil according to ATEX - EExmII
c UL us certified coils

ON REQUEST: Versions for use with fluid temperature at -40°C



CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) Min	Max AC (psi)	Max AC (bar)	Max DC ④ (psi)	Max DC ④ (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E271AN...12///...		**0.047**	*1.2*	**0.046**	**0**	**246**	*17*	**246**	*17*							
E271AN...15///...		**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*							
E271AN...20///...	**1/8**	**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*	**12**	**8**	**6.5**	**3**	**22**		
E271AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*						**NBR=B**	**+14 +194**
E271AN...31///...		**0.118**	*3*	**0.220**	**0**	**29**	*2*	**29**	*2*							
E271AN...12///...		**0.047**	*1.2*	**0.046**	**0**	**246**	*17*	**246**	*17*						**EPDM=E**	**+14 +284**
E271AN...15///...		**0.059**	*1.5*	**0.069**	**0**	**188**	*13*	**188**	*13*							
E271AN...20///...	**1/8**	**0.079**	*2*	**0.104**	**0**	**101**	*7*	**101**	*7*	**15**	**11**	**8**	**4**	**30**	**FPM=V**	**+14 +284**
E271AN...25///...		**0.098**	*2.5*	**0.162**	**0**	**50**	*3.5*	**50**	*3.5*							
E271AN...31///...		**0.118**	*3*	**0.220**	**0**	**29**	*2*	**29**	*2*							

① Seal — Ordination example: E271ANB15///U35B NBR seal, connection 1/8 NPT
② Coil — Coil 24V 60Hz certified c UL us and marked CE
③ Safe Working Pressure:725 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.
④ Direct current (DC) series 3 coil available only without UL certification

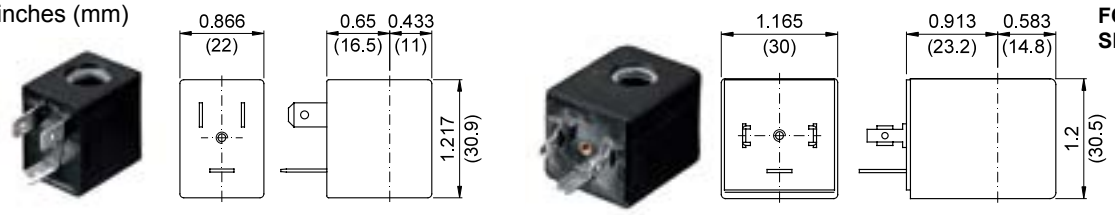
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

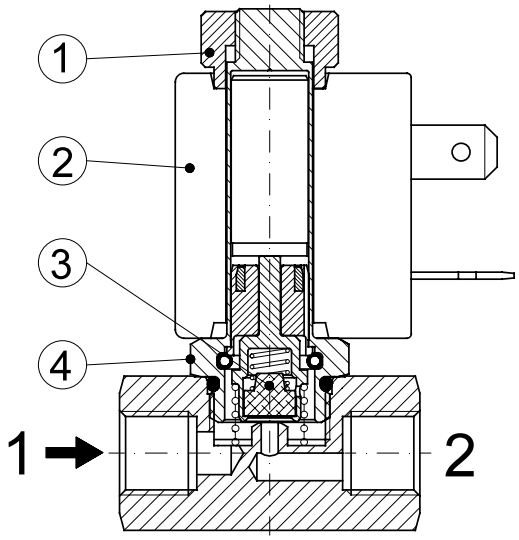
OVERALL DIMENSIONS
inches (mm)



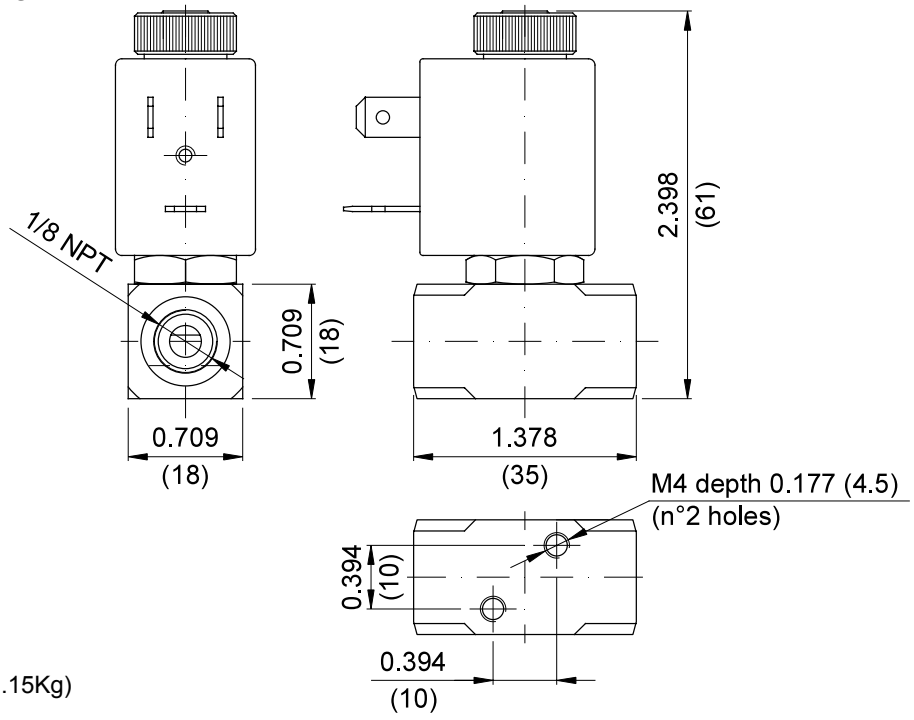
Series 3 Weight 0.11lb (0.05Kg)

Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)

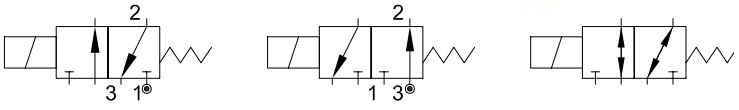


Weight = 0.33lb (0.15Kg)

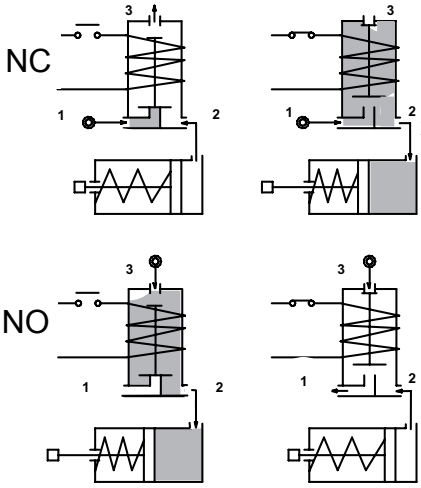
DESCRIPTION
Solenoid valve 3 way
direct acting poppet type

CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM



FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Manual override
Stainless steel armature tube
Electroless nickel plating
Exhaust port with hosetail connection
Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6

ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size	Orifice Size				Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③					Nominal power			Coil		Seal	Temp. range
		Inlet		Exhaust			Min	Max				AC (VA)		DC	Series	Width		
	NPT	(in)	(mm)	(in)	(mm)	(gpm)		AC (psi)	AC (bar)	DC (psi)	DC (bar)	Inrush	Holding	(W)		(mm)	①	(°F)
NC Normally closed																		
E305AN...12///...	1/8	**0.047**	*1.2*	**0.059**	*1.5*	**0.046**	**0**	**217**	*15*	**217**	*15*	**12**	**8**	**6.5**	**3**	**22**	NBR=B	**+14 +194**
E305AN...15///...		**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**145**	*10*	**145**	*10*							
E305AN...20///...		**0.079**	*2*	**0.067**	*1.7*	**0.104**	**0**	**87**	*6*	**87**	*6*							
NO Normally open																	EPDM=E	**+14 +284**
E305AN...15/S/...	1/8	**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**145**	*10*	**145**	*10*	**12**	**8**	**6.5**	**3**	**22**		
E305AN...17/S/...		**0.067**	*1.7*	**0.079**	*2*	**0.081**	**0**	**87**	*6*	**87**	*6*						FPM=V	**+14 +284**
U Universal																		
E305AN...15/G/...	1/8	**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**87**	6	**87**	6	**12**	**8**	**6.5**	**3**	**22**		

① Seal — Ordination example: E305ANB15///U35B NBR seal, connection 1/8 NPT
② Coil — Coil 24V 60Hz certified cULus and marked CE
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

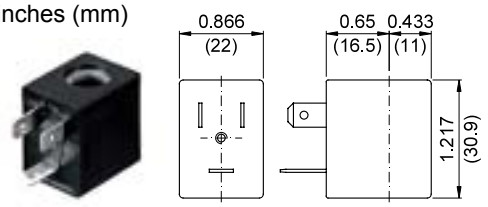
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

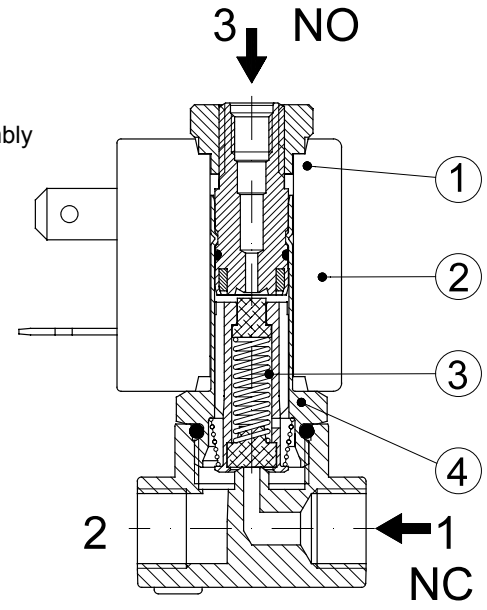
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

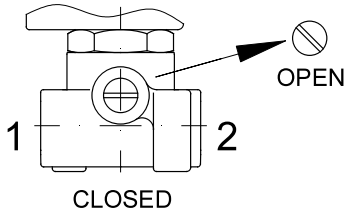


Series 3 Weight 0.11lb (0.05Kg)

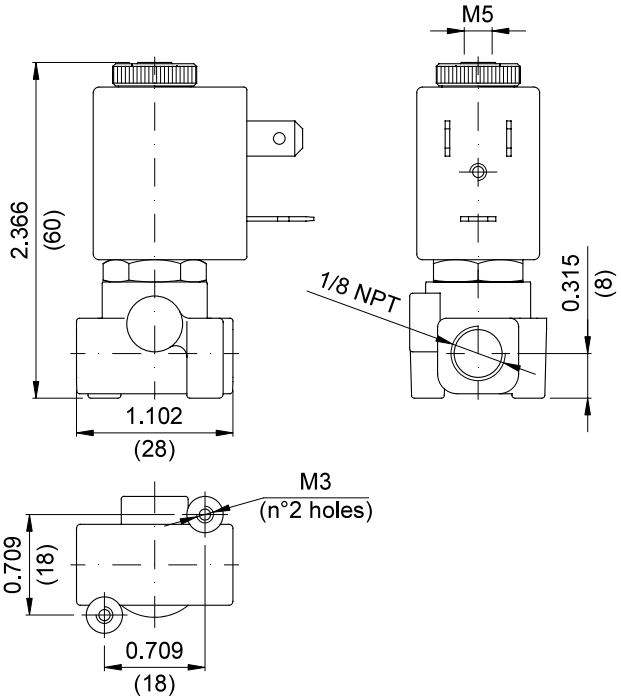
SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly



MANUAL OVERRIDE



OVERALL DIMENSIONS
inches (mm)

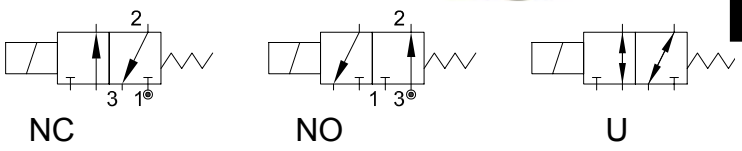


Weight=0.29lb (0.13Kg)

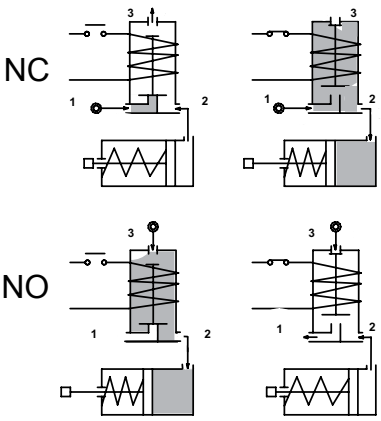
DESCRIPTION
Solenoid valve 3 way
direct acting poppet type

CONSTRUCTION

Body	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM



FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Manual override
Stainless steel seat
Electroless nickel plating

ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size NPT	Orifice Size Inlet (in)	Inlet (mm)	Exhaust (in)	Exhaust (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	AC (VA) Holding	DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
NC Normally closed																		
E306BN...15///...		**0.059**	*1.5*	**0.094**	*2.4*	**0.081**	**0**	**290**	*20*	**290**	*20*							
E306BN...20///...	**1/4**	**0.079**	*2*	**0.094**	*2.4*	**0.127**	**0**	**188**	*13*	**188**	*13*	**20**	**15**	**10**	**2**	**30**	**NBR=B**	**+14 +194**
E306BN...25///...		**0.098**	*2.5*	**0.094**	*2.4*	**0.185**	**0**	**145**	*10*	**145**	*10*							
NO Normally open																	**EPDM=E**	**+14 +284**
E306BN...25/S/...	**1/4**	**0.094**	*2.4*	**0.098**	*2.5*	**0.185**	**0**	**130**	*9*	**130**	*9*	**20**	**15**	**10**	**2**	**30**		
E306BN...29/S/...		**0.114**	*2.9*	**0.118**	*3*	**0.231**	**0**	**94**	*6.5*	**94**	*6.5*						**FPM=V**	**+14 +284**
U Universal																		
E306BN...25/G/...	**1/4**	**0.098**	*2.5*	**0.094**	*2.4*	**0.185**	**0**	**72.5**	*5*	**58**	*4*	**20**	**15**	**10**	**2**	**30**		

① Seal — Ordination example: E306BNB25/S/U25F NBR seal, connection 1/4 NPT , NO version
② Coil — Coil 240V 60Hz certified c UL us and marked CE
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

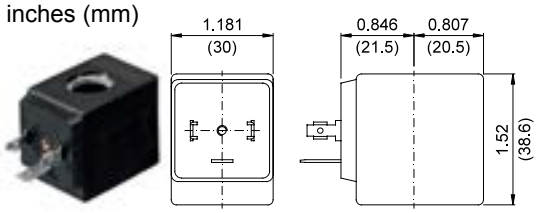
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

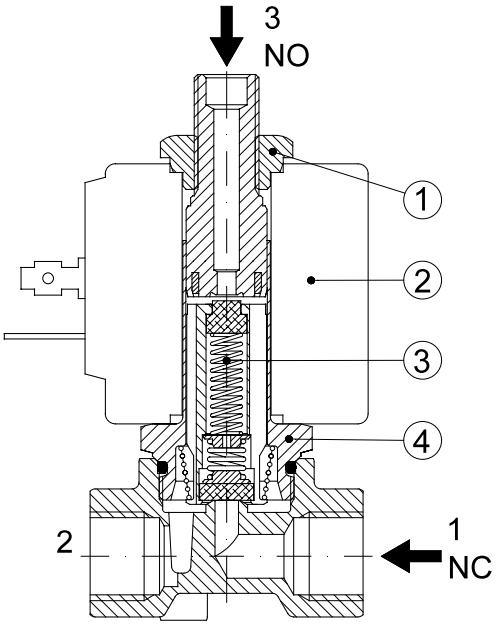
FOR COIL SPECIFICATION SEE SECTION 6

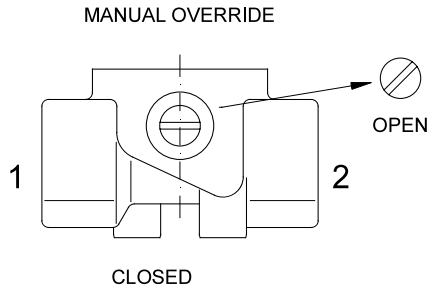
OVERALL DIMENSIONS
inches (mm)



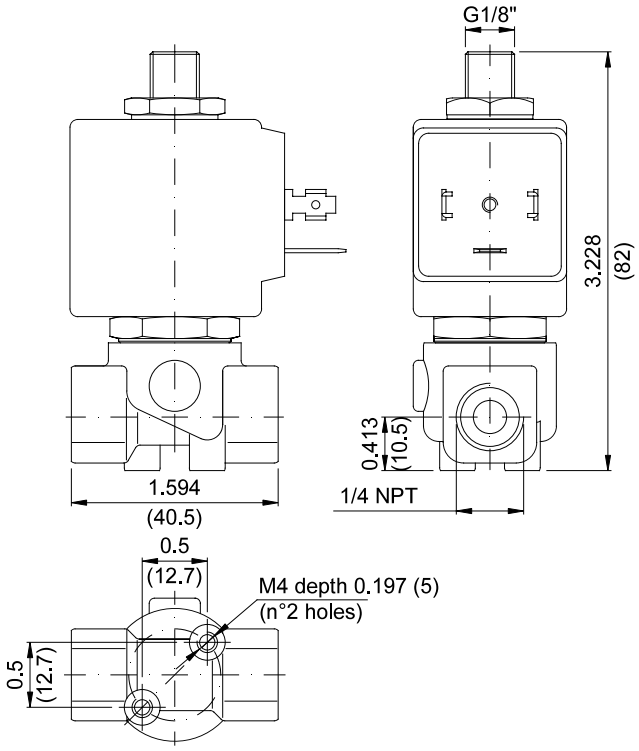
Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly





OVERALL DIMENSIONS
inches (mm)



Weight=0.7lb (0.32Kg)

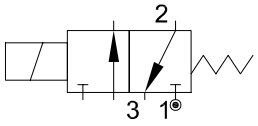
DESCRIPTION

Solenoid valve 3 way normally closed
direct acting poppet type.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

3

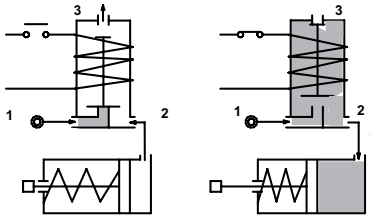
VALVE CONSTRUCTION

Body	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	FPM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (painted with epoxy powder)
Electrical connection	1/2” NPT (M20x1 on request)



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°C ÷ +35°C(*T6*), +50°C(*T5*), +60°C(*T4*)
Mounting position with vertical coil above

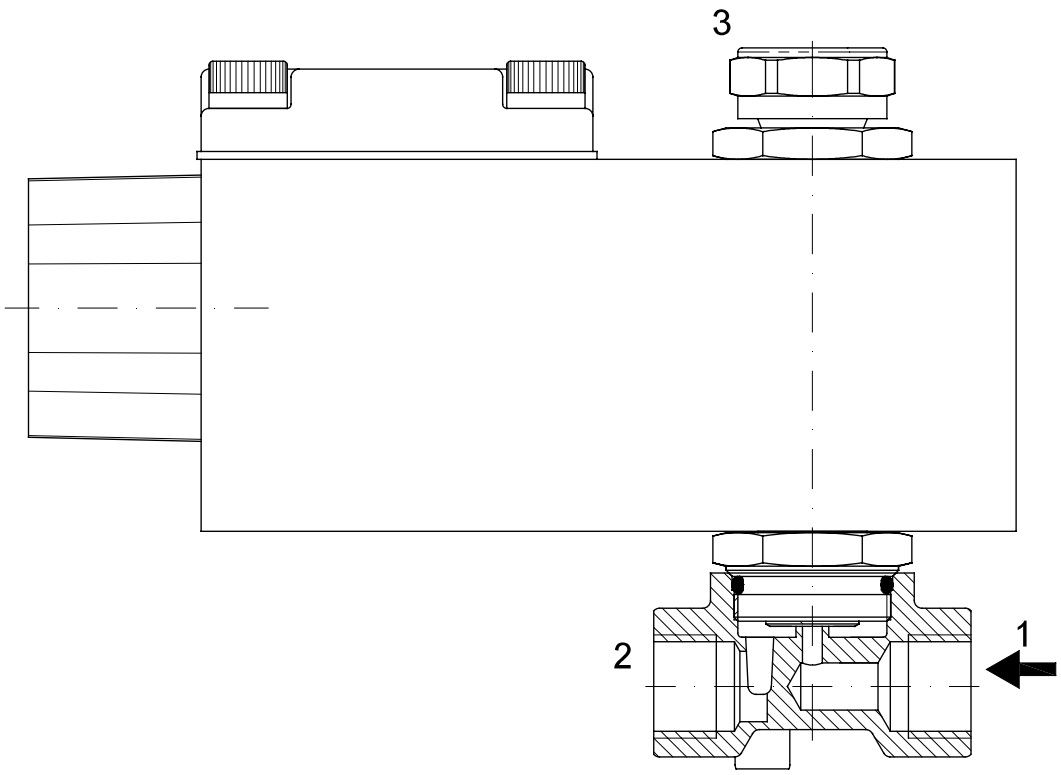
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

CODE ① ② ③	Port Size NPT	Orifice Size Inlet (in)	Inlet (mm)	Exhaust (in)	Exhaust (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA)	Nominal power DC (W)	Coil Series	Seal	Temp. range (°F)
A306...N...15///...		**0.059**	*1.5*	**0.094**	*2.4*	**0.081**	**0**	**232**	*16*	**232**	*16*					
A306...N...20///...	**1/4**	**0.079**	*2*	**0.094**	*2.4*	**0.127**	**0**	**188**	*13*	**188**	*13*	**20**	**10**	**A6**	**FPM=V**	**+14 +284**
A306...N...25///...		**0.098**	*2.5*	**0.094**	*2.4*	**0.185**	**0**	**145**	*10*	**145**	*10*					

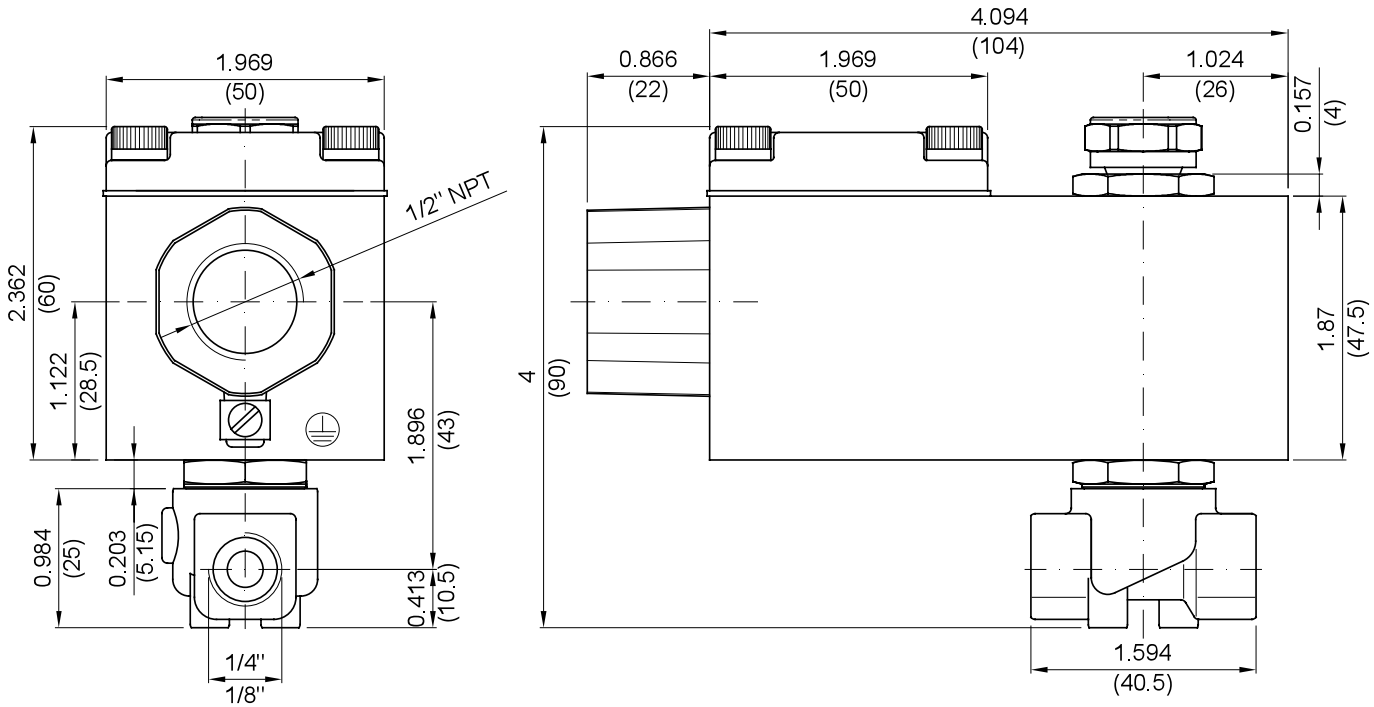
① Port size: A=1/8 B=1/4
② Seal
③ Coil
④ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

COILS	Alternating Current 50/60Hz (V)				Direct Current (V)			Electrical connection
	24	48	110	220 230	12	24	48	
Series **A6** **CODE** ②	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2" NPT**

DESCRIPTION
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSION

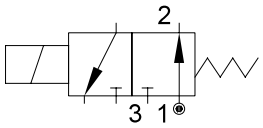


DESCRIPTION
Solenoid valve 3 way normally open
direct acting poppet type

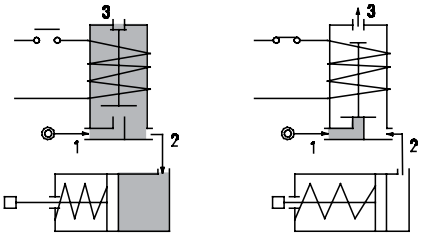
CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube
Electroless nickel plating
Exhaust port with hosetail connection
Series 7 explosion proof coil according to
ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6



CODE ① ②	Port Size	Orifice Size				Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③					Nominal power			Coil		Seal	Temp. range
		Inlet		Exhaust			Min	Max				AC (VA)		DC	Series	Width		
	NPT	(in)	(mm)	(in)	(mm)	(gpm)		AC (psi)	AC (bar)	DC ④ (psi)	DC ④ (bar)	Inrush	Holding	(W)		(mm)	①	(°F)
E307AN...12///...	1/8	**0.047**	*1.2*	**0.047**	*1.2*	**0.046**	**0**	**174**	*12*	**116**	*8*	**12**	**8**	**-**	**3**	**22**	**NBR=B**	**+14 +194**
E307AN...15///...		**0.059**	*1.5*	**0.047**	*1.2*	**0.069**	**0**	**130**	*9*	**87**	*6*						**EPDM=E**	**+14 +284**
E307AN...12///...	1/8	**0.047**	*1.2*	**0.047**	*1.2*	**0.046**	**0**	**174**	*12*	**116**	*8*	**15**	**11**	**8**	**4**	**30**	**FPM=V**	**+14 +284**
E307AN...15///...		**0.059**	*1.5*	**0.047**	*1.2*	**0.069**	**0**	**130**	*9*	**87**	*6*							

① Seal — Ordination example: E307ANB15///U35B NBR seal, connection 1/8 NPT
② Coil — Coil 24V 60Hz certified c UL us and marked CE
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.
④ Direct current (DC) series 3 coil available only without UL certification

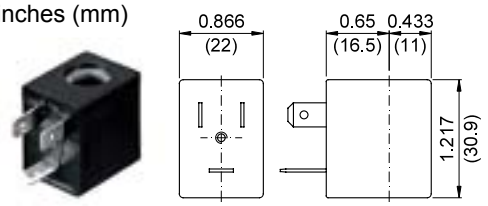
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

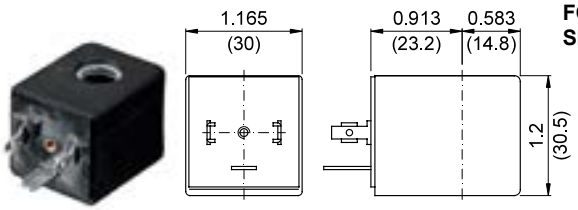
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

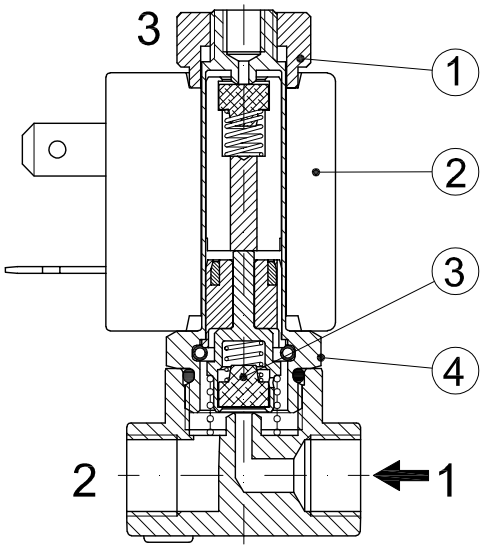


Series 3 Weight 0.11lb (0.05Kg)

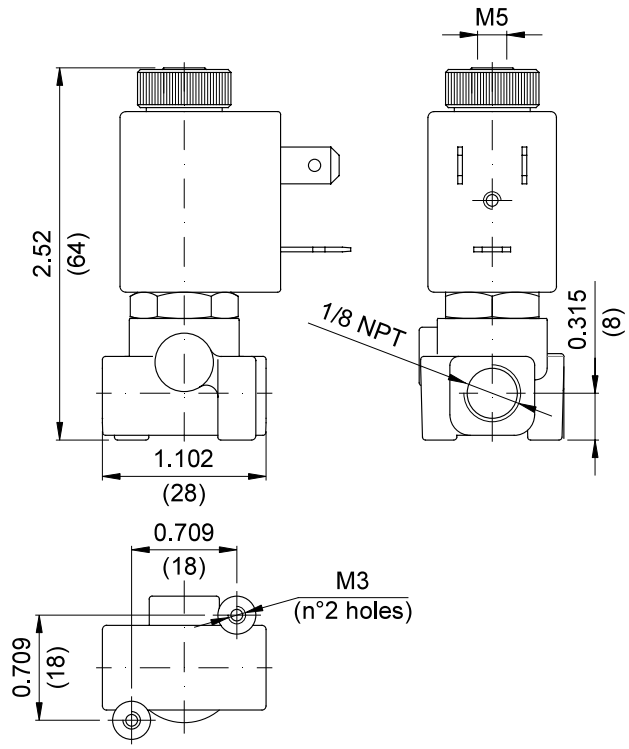


Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)

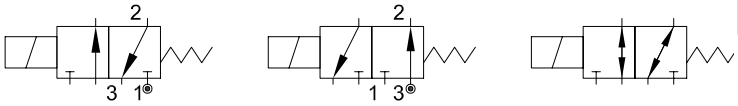


Weight=0.27lb (0.13Kg)

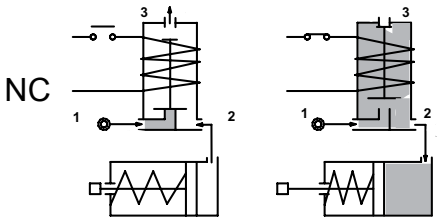
DESCRIPTION
Solenoid valve 3 way
direct acting poppet type

CONSTRUCTION

Body	AISI 303
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

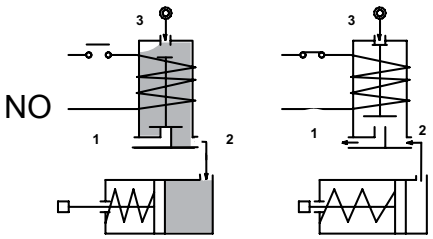


FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Silver shading ring

ON REQUEST: Versions for use with fluid temperature at -40°C



CODE ① ②	Port Size NPT	Orifice Size Inlet (in)	Inlet (mm)	Exhaust (in)	Exhaust (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	AC (VA) Holding	DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
NC Normally closed																		
E310BN...20///...	**1/4**	**0.079**	*2*	**0.094**	*2.4*	**0.127**	**0**	**188**	*13*	**188**	*13*	**20**	**15**	**10**	**2**	**30**		
E310BN...25///...		**0.098**	*2.5*	**0.094**	*2.4*	**0.185**	**0**	**145**	*10*	**145**	*10*						**NBR=B**	**+14 +194**
NO Normally open																		
E310BN...25/S/...	**1/4**	**0.094**	*2.4*	**0.098**	*2.5*	**0.185**	**0**	**130**	*9*	**130**	*9*	**20**	**15**	**10**	**2**	**30**	**EPDM=E**	**+14 +284**
E310BN...29/S/...		**0.114**	*2.9*	**0.118**	*3*	**0.231**	**0**	**94**	*6.5*	**94**	*6.5*							
U Universal																	**FPM=V**	**+14 +284**
E310BN...25/G/...	**1/4**	**0.098**	*2.5*	**0.094**	*2.4*	**0.185**	**0**	**72.5**	*5*	**58**	*4*	**20**	**15**	**10**	**2**	**30**		

① Seal
② Coil
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

Ordination example: E310BNB25///U25B NBR seal, connection 1/4 NPT , NC version
Coil 24V 60Hz certified c UL us and marked CE

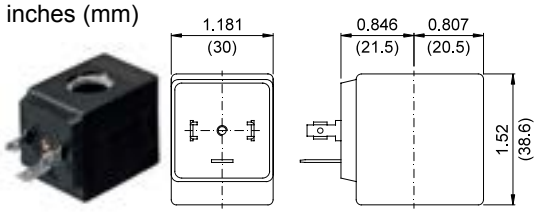
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

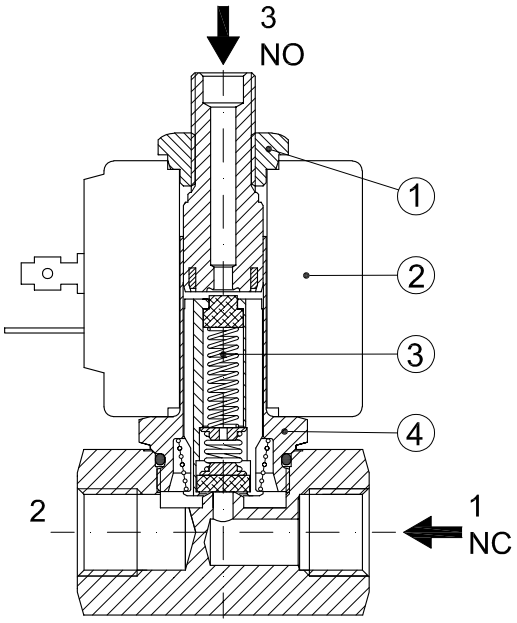
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

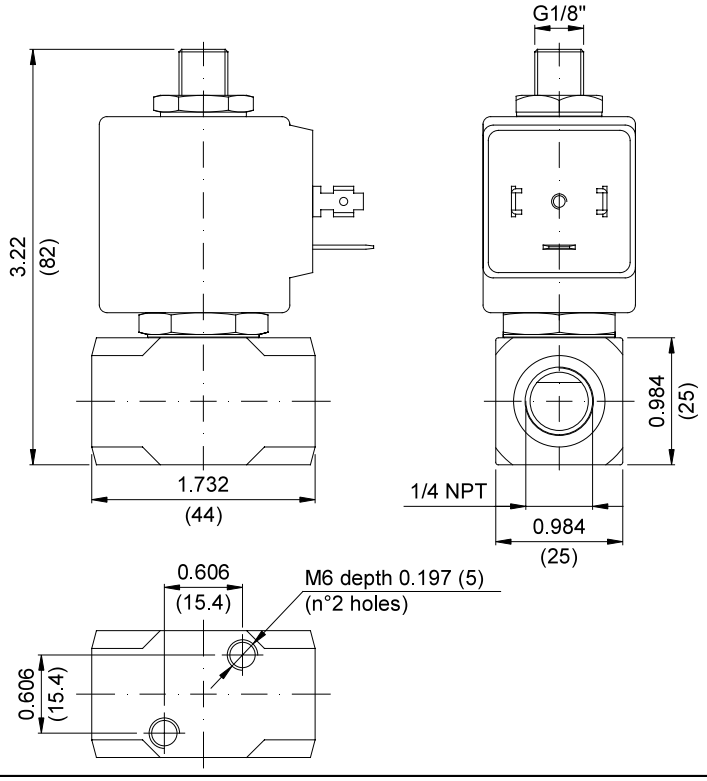


Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)

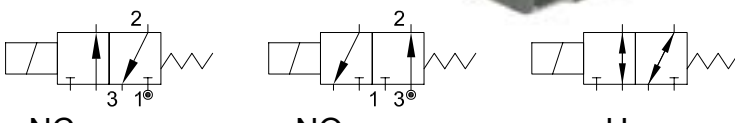


Weight=0.79lb (0.36Kg)

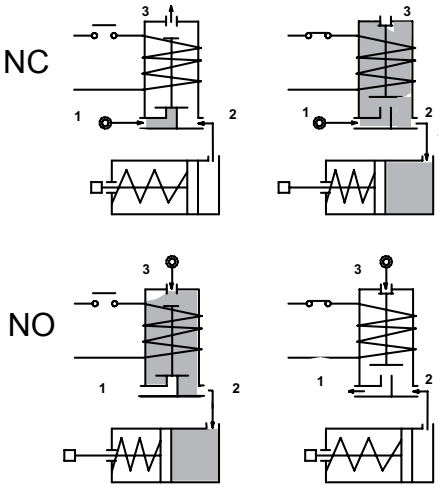
DESCRIPTION
Solenoid valve 3 way
direct acting poppet type

CONSTRUCTION

Body	AISI 303
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM



FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Silver shading ring
Electroless nickel plating
Exhaust port with hosetail connection
Series 7 explosion proof coil according to
ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6

ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size	Orifice Size Inlet		Exhaust		Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC		Max DC		Nominal power AC (VA) Inrush	Holding	DC (W)	Coil Series	Width	Seal ①	Temp. range
	NPT	(in)	(mm)	(in)	(mm)	(gpm)		(psi)	(bar)	(psi)	(bar)					(mm)		(°F)
NC Normally closed																		
E311AN...12///...	1/8	0.047	1.2	0.059	1.5	0.046	0	217	15	217	15	12	8	6.5	3	22	NBR=B	+14 +194
E311AN...15///...		0.059	1.5	0.059	1.5	0.069	0	145	10	145	10							
E311AN...20///...		0.079	2	0.067	1.7	0.104	0	87	6	87	6							
NO Normally open																	EPDM=E	+14 +284
E311AN...15/S/...	1/8	0.059	1.5	0.059	1.5	0.069	0	145	10	145	10	12	8	6.5	3	22		
E311AN...17/S/...		0.067	1.7	0.079	2	0.081	0	87	6	87	6						FPM=V	+14 +284
U Universal																		
E311AN...15/G/...	1/8	0.059	1.5	0.059	1.5	0.069	0	87	6	87	6	12	8	6.5	3	22		

① Seal — Ordination example: E311ANB15///U35B NBR seal, connection 1/8 NPT
② Coil — Coil 24V 60Hz certified c UL us and marked CE
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

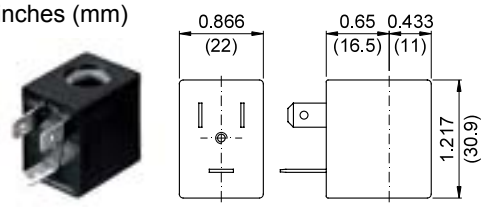
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **3** Width 22mm	**U35B**	**30B**	**U35D**	**30D**	**U35F**	**30F**	**U350**	**300**	**U351**	**301**	**DIN 46244**	**PG9 code 10348000**

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

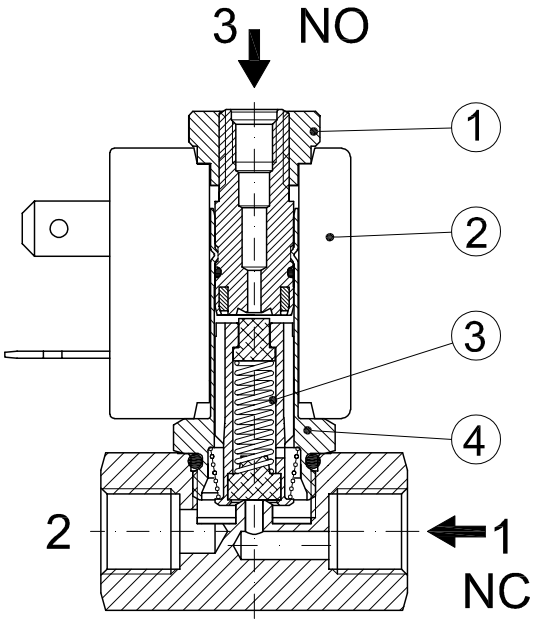
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

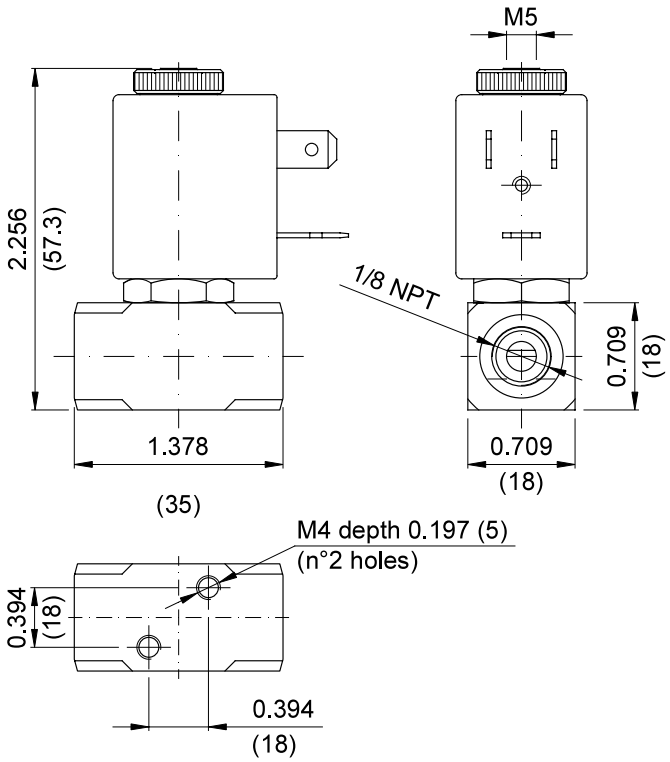


Series 3 Weight 0.11lb (0.05Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)

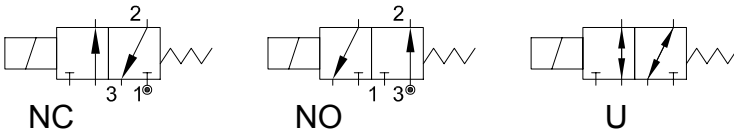


Weight=0.33lb (0.15Kg)

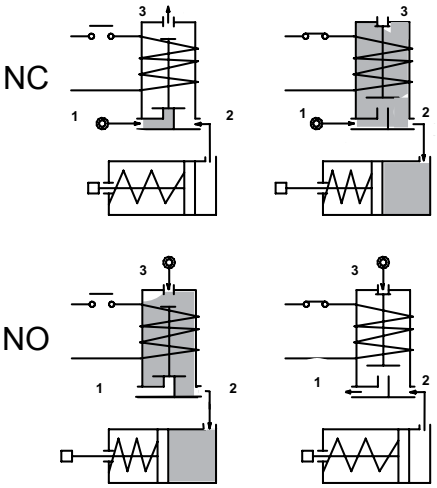
DESCRIPTION
Solenoid valve 3 way
direct acting poppet type

CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM



FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS:
Silver shading ring
Electroless nickel plating
Exhaust port with hosetail connection
Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6

ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size □1in (□25mm)	Orifice Size Inlet (in)	Inlet (mm)	Exhaust (in)	Exhaust (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	AC (VA) Holding	DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
NC Normally closed																		
E312X...12///...	□1in (□25mm)	**0.047**	*1.2*	**0.059**	*1.5*	**0.046**	**0**	**217**	*15*	**217**	*15*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E312X...15///...		**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**145**	*10*	**145**	*10*							
NO Normally open																	**EPDM=E**	**+14 +284**
E312X...15/S/...	□1in (□25mm)	**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**145**	*10*	**145**	*10*	**12**	**8**	**6.5**	**3**	**22**		
U Universal																	**FPM=V**	**+14 +284**
E312X...15/G/...	□1in (□25mm)	**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**87**	*6*	**87**	*6*	**12**	**8**	**6.5**	**3**	**22**		

① Seal — Ordination example: E312XB15///U35B NBR seal
② Coil — Coil 24V 60Hz certified cULus and marked CE
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

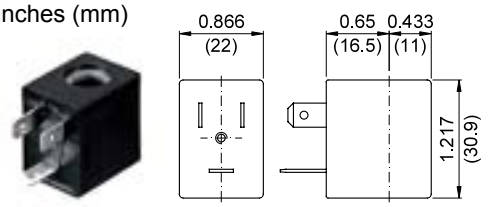
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

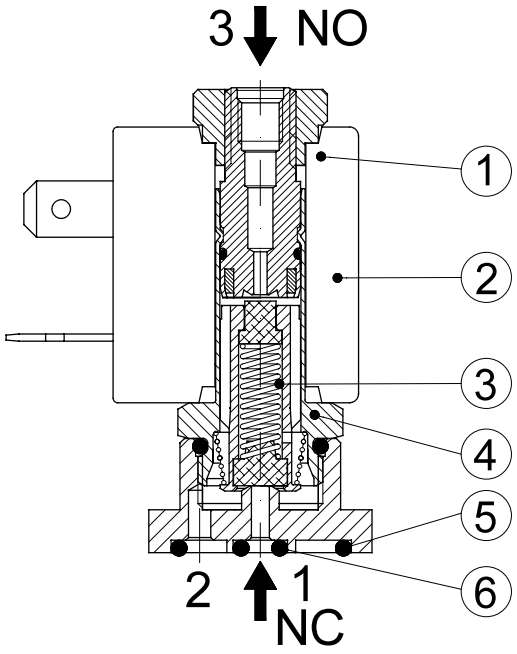
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

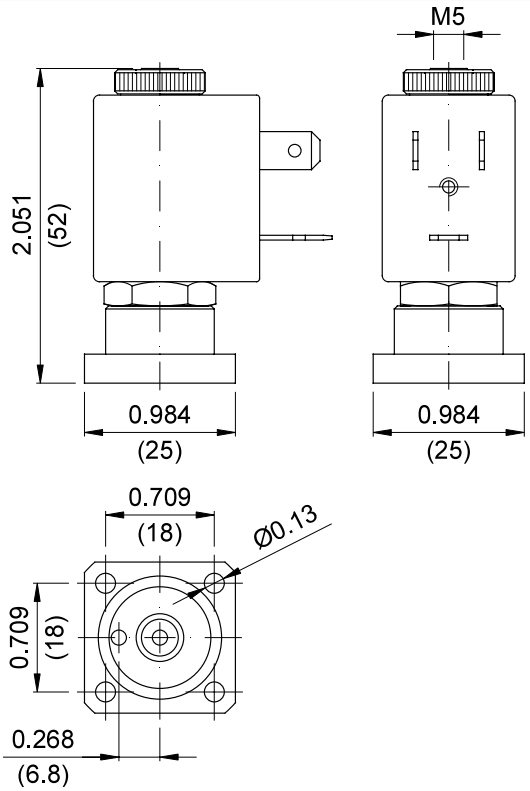


Series 3 Weight 0.11lb (0.05Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger
4. Armature tube assembly
5. OR 2068
6. OR2010



OVERALL DIMENSIONS
inches (mm)

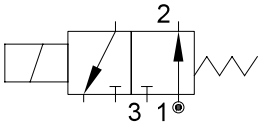


Weight=0.26lb (0.12Kg)

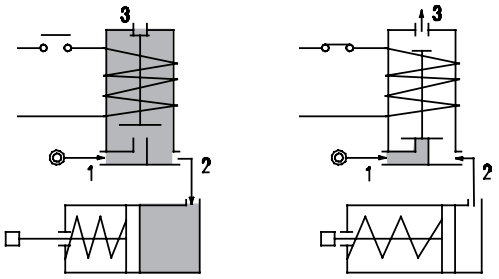
DESCRIPTION
Solenoid valve 3 way normally open
direct acting poppet type

CONSTRUCTION

Body	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM



FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube
Electroless nickel plating
Exhaust port with hosetail connection
Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6

ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size □1in (□25mm)	Orifice Size Inlet (in)	Inlet (mm)	Exhaust (in)	Exhaust (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC ④ (psi)	Max DC ④ (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E313X...12///...	□1in (□25mm)	**0.047**	*1.2*	**0.047**	*1.2*	**0.046**	**0**	**174**	*12*	**116**	*8*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E313X...15///...		**0.059**	*1.5*	**0.047**	*1.2*	**0.069**	**0**	**130**	*9*	**87**	*6*						**EPDM=E**	**+14 +284**
E313X...12///...	□1in (□25mm)	**0.047**	*1.2*	**0.047**	*1.2*	**0.046**	**0**	**174**	*12*	**116**	*8*	**15**	**11**	**8**	**4**	**30**	**FPM=V**	**+14 +284**
E313X...15///...		**0.059**	*1.5*	**0.047**	*1.2*	**0.069**	**0**	**130**	*9*	**87**	*6*							

① Seal — Ordination example: E313XB15///U35B NBR seal
② Coil — Coil 24V 60Hz certified c UL us and marked CE
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.
④ Direct current (DC) series 3 coil available only without UL certification

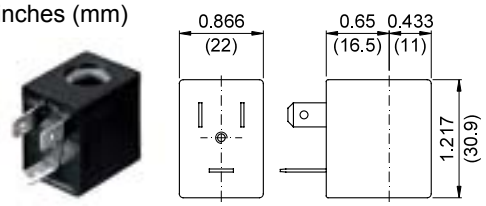
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

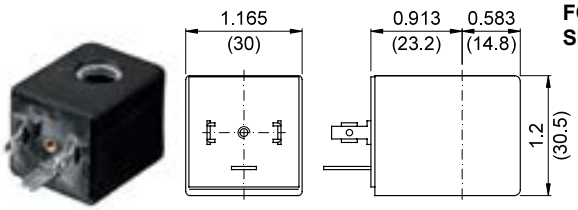
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

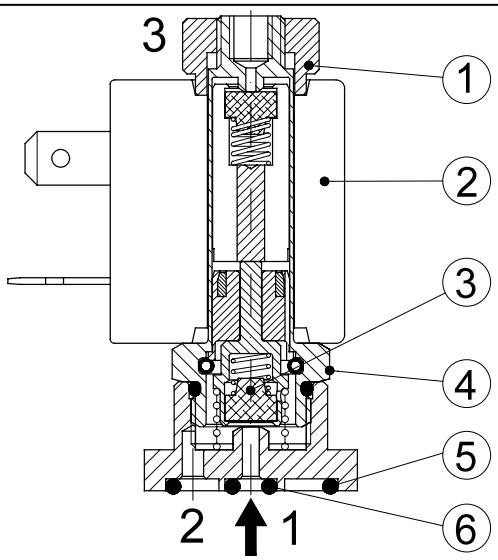


Series 3 Weight 0.11lb (0.05Kg)

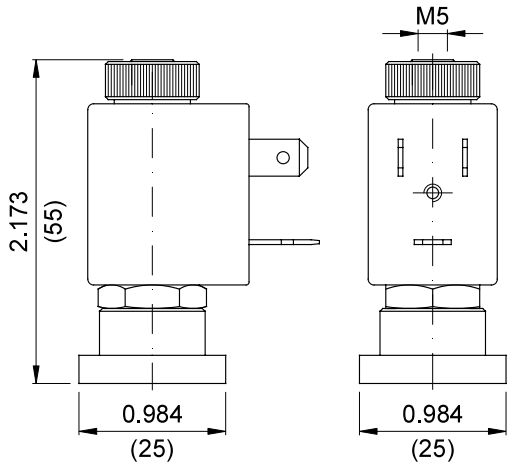


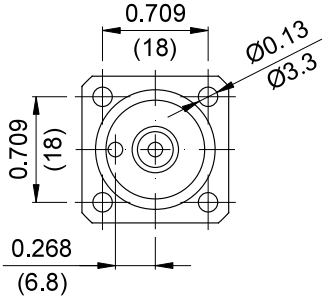
Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



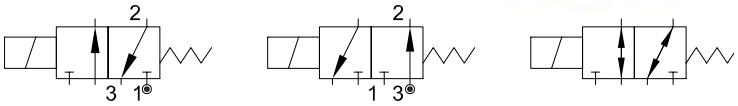


Weight=0.26lb (0.12Kg)

DESCRIPTION
Solenoid valve 3 way
direct acting poppet type

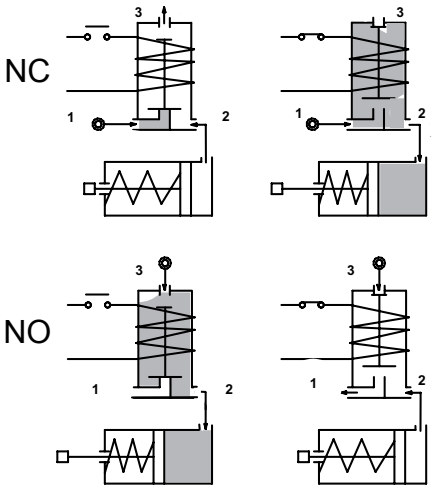
CONSTRUCTION

Body	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM



NC NO U

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Manual override
Electroless nickel plating
Stainless steel seat

ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size □1.26in (□32mm)	Orifice Size Inlet (in)	Inlet (mm)	Exhaust (in)	Exhaust (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	AC (VA) Holding	DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
NC Normally closed																		
E314X...15///...		**0.059**	*1.5*	**0.094**	*2.4*	**0.081**	**0**	**290**	*20*	**290**	*20*							
E314X...20///...	□1.26in (□32mm)	**0.079**	*2*	**0.094**	*2.4*	**0.127**	**0**	**188**	*13*	**188**	*13*	**20**	**15**	**10**	**2**	**30**		
E314X...25///...		**0.098**	*2.5*	**0.094**	*2.4*	**0.185**	**0**	**145**	*10*	**145**	*10*						**NBR=B**	**+14 +194**
NO Normally open																	**EPDM=E**	**+14 +284**
E314X...24/S/...	□1.26in (□32mm)	**0.094**	*2.4*	**0.098**	*2.5*	**0.185**	**0**	**130**	*9*	**130**	*9*	**20**	**15**	**10**	**2**	**30**		
E314X...29/S/...		**0.114**	*2.9*	**0.118**	*3*	**0.231**	**0**	**94**	*6.5*	**94**	*6.5*						**FPM=V**	**+14 +284**
U Universal																		
E314X...25/G/...	□1.26in (□32mm)	**0.098**	**2.5**	**0.094**	*2.4*	**0.185**	**0**	**72.5**	*5*	**58**	*4*	**20**	**15**	**10**	**2**	**30**		

① Seal — Ordination example: E314XB15///U251 NBR seal

② Coil — Coil 24V DC certified c UL us and marked CE

③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

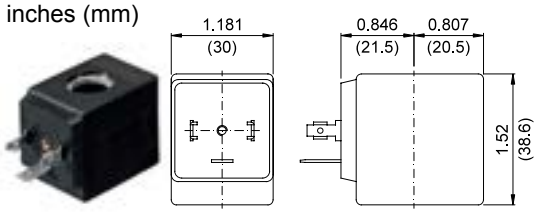
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

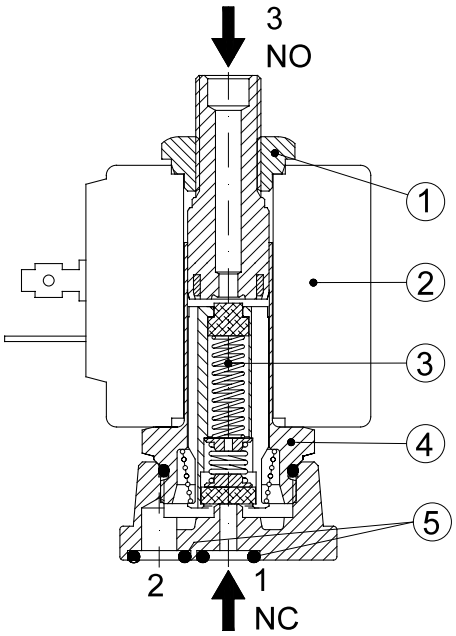
FOR COIL SPECIFICATION SEE SECTION 6

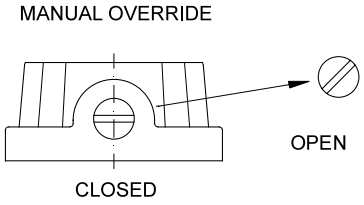
OVERALL DIMENSIONS
inches (mm)



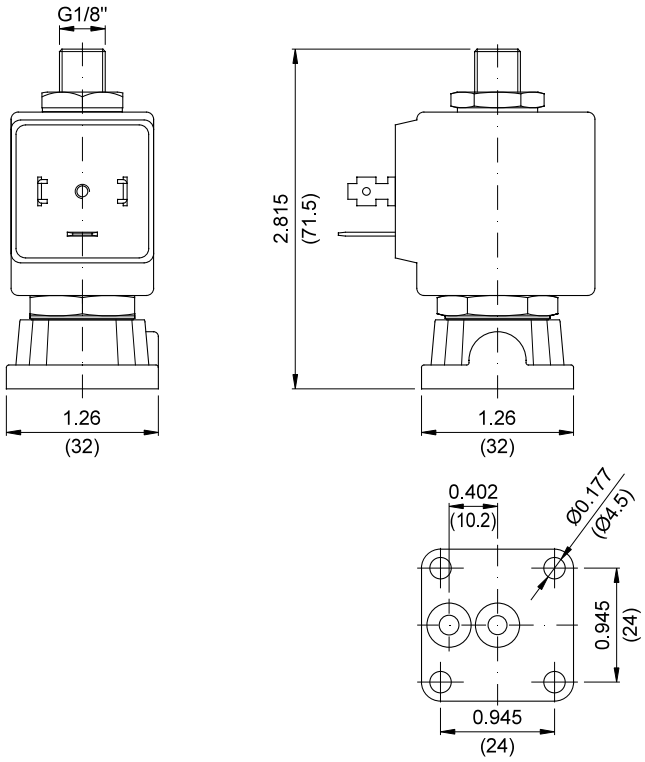
Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger
4. Armature tube assembly
5. OR 2010





OVERALL DIMENSION



Weight=0.55lb (0.25Kg)

DESCRIPTION

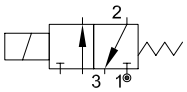
Solenoid valve 3 way direct acting poppet type.
The balanced seal and the special construction allows a big flow.
The solenoid valve can be used as normally closed, normally open, mixer or diverter.

3

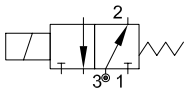
CONSTRUCTION

Body	Anodized aluminium (320,321,322) AISI 303 (323,324,325)
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	FPM

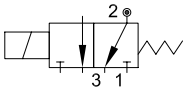
3/2 NC



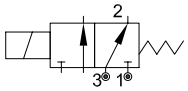
3/2 NO



Diverting



Mixing



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature +14°F +176°F (class H coil)
Universal mounting position

OPTIONS

Position detector with 2 mt prewired connection cable 2-wires *(option /P2)*
Position detector with 2 mt prewired connection cable 3-wires *(option /P3)*
Position detector with 3-pin M8 connector to be wired *(option /PC)*

CODE ① ②	Port Size	Orifice Size				Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③					Nominal power			Coil		Seal	Temp. range
		Inlet		Exhaust			Min	Max				AC (VA)		DC	Series	Width		
	NPT	(in)	(mm)	(in)	(mm)	(gpm)		AC (psi)	AC (bar)	DC (psi)	DC (bar)	Inrush	Holding	(W)		(mm)	①	(°F)
ANODIZED ALUMINIUM BODY																		
Universal																	FPM=V	+14 +284
E320BNV75///...	1/4	0.295	7.5	0.295	7.5	0.74	0	72.5	5	72.5	5	40	30	27	5	36		
NC Normally closed																		
E321BNV75///...	1/4	0.295	7.5	0.295	7.5	0.74	0	130	9	130	9	40	30	27	5	36		
NO Normally open																		
E322BNV75///...	1/4	0.295	7.5	0.295	7.5	0.74	0	130	9	130	9	40	30	27	5	36		
STAINLESS STEEL BODY																		
Universal																	FPM=V	+14 +284
E323BNV75///...	1/4	0.295	7.5	0.295	7.5	0.74	0	72.5	5	72.5	5	40	30	27	5	36		
NC Normally closed																		
E324BNV75///...	1/4	0.295	7.5	0.295	7.5	0.74	0	130	9	130	9	40	30	27	5	36		
NO Normally open																		
E325BNV75///...	1/4	0.295	7.5	0.295	7.5	0.74	0	130	9	130	9	40	30	27	5	36		

① Seal

Ordination example: E321BNV75///521 FPM seal, 1/4 NPT , NC version , 24V DC
E320BV75/**P2**/521 Universal, FPM seal, coil 24V DC,
with position detector 2-wires prewired

② Coil

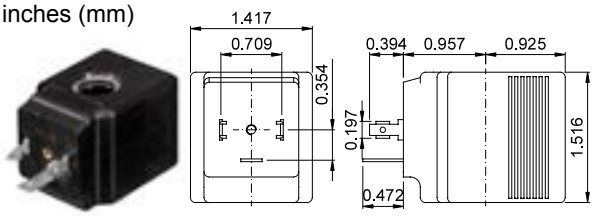
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

COILS Code ②	Alternating Current				Direct Current		Electrical connection	Connectors
	12V	24V	110-120V	240V	12V	24V		
Series **5** Width 36mm	**52A**	**52B**	**52D**	**52F**	**520**	**521**	**DIN 43650A**	**PG11 code 10349001**

DESCRIPTION
Insulation class H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

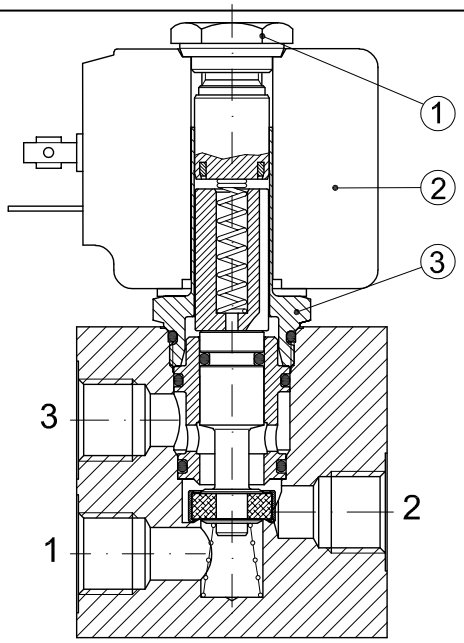
OPTIONS
Cable attached
Special coil voltage
Special coil powers

OVERALL DIMENSIONS
inches (mm)

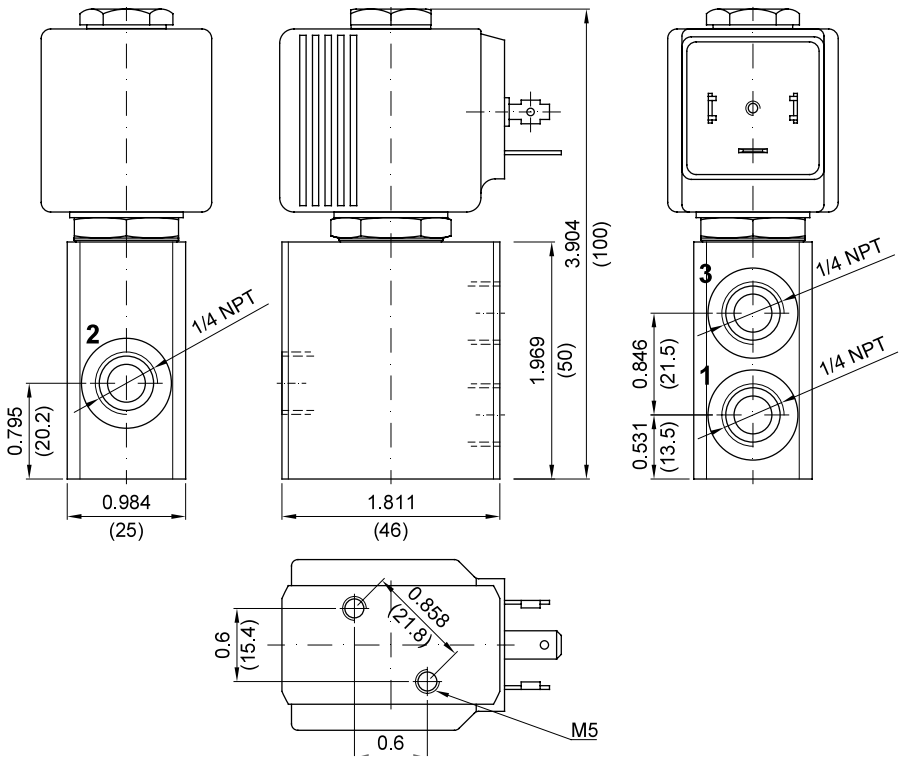


Series 5 Weight 0.44lb (0.2Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Armature tube assembly



OVERALL DIMENSION

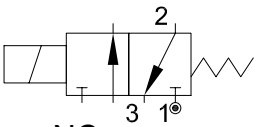


Weight=0.95lb (0.43Kg)

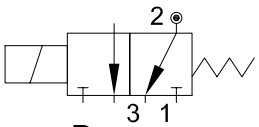
DESCRIPTION
Solenoid valve 3 way direct acting with dry armature.
No metal parts in contact with the media.

CONSTRUCTION
Body	Acetal copolymer
Seal material	NBR

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature +14°F +113°F
Maximum fluid temperature +122°C
Universal mounting position



NC



D

ELECTRICAL OPERATING FEATURES
Duty cycle ED100%
Insulation class F
Voltage tolerance ±5%
Protection class IP65 with connector fitted

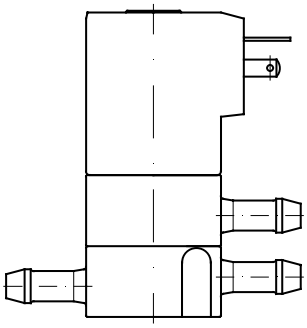
CODE ①	Hosetail	Orifice Size Inlet (in)	Orifice Size Inlet (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) Min	Max AC-DC (psi)	Max AC-DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Voltage AC	Voltage DC	Connector
E330PB32/.../106620	**Ø0.216in (Ø5.5mm)**	**0.126**	*3.2*	**0.173**	**0**	**0.016**	*0.4*	**6.5**	**4.5**	**-**	**230**	**-**	**PG7 cod.10348040**
D330PB32/.../111140		**0.126**	*3.2*	**0.173**	**0**	**0.016**	*0.4*	**-**	**-**	**4**	**-**	**12**	
D330PB32/.../111150		**0.126**	*3.2*	**0.173**	**0**	**0.016**	*0.4*	**-**	**-**	**4**	**-**	**24**	

① Configuration:
/// NC version, D diverting version, R electrical connection is on the opposite side to the interface

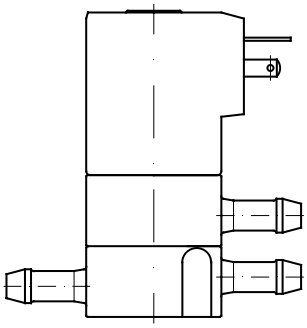
Example: D330PB32///111140 3/2 NC version Coil 12V DC
D330PB32/D/111150 Diverting version Coil 24V DC

Safe Working Pressure: 7.25psi
Is the line or system pressure to which the valve may be subjected without being damaged.

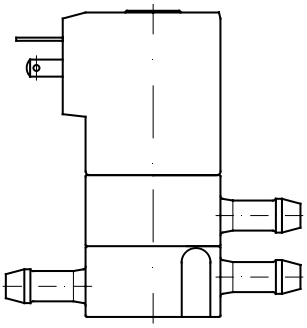
CONFIGURATION



code ///
3/2 NC

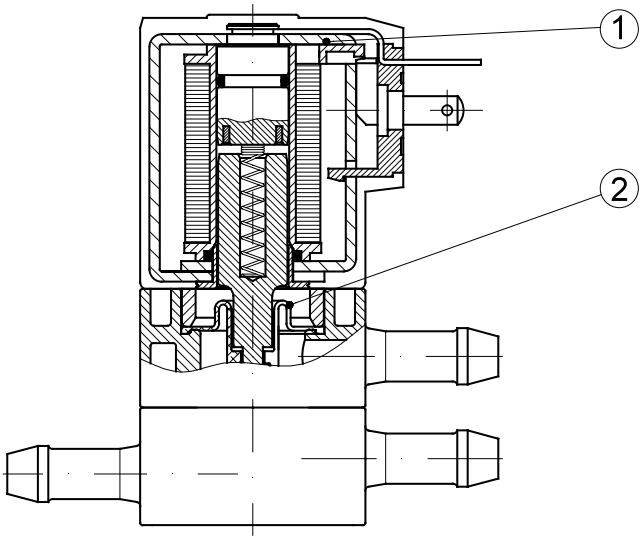


code /D/
DIVERTING

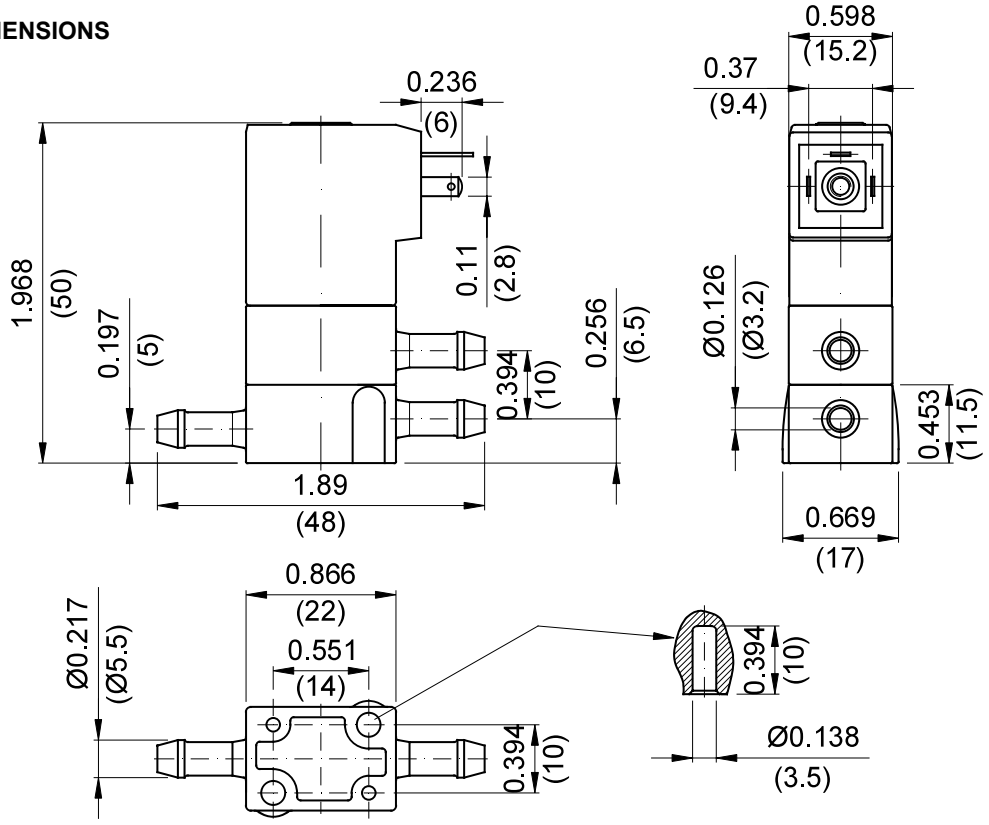


code /R/
Electrical connection is opposite side to the interface

SPARE PARTS LIST
1. Coil
2. Diaphragm



OVERALL DIMENSIONS
inches (mm)



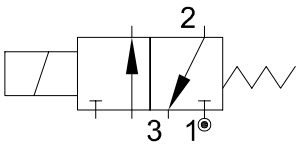
Weight=0.088lb (0.04Kg)

DESCRIPTION

Solenoid valve 3 way normally closed
direct acting poppet type, suitable for
food applications and all compatible fluids.

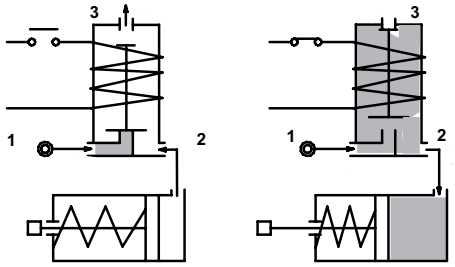
CONSTRUCTION

Body	Thermoplastic polymer ACS, KTW, W270, WRAS, NSF, FDA certified
Armature tube	Brass chemically nickel plated
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Stainless steel armature tube

CONNECTIONS
Z

PUSH IN for semiflexible pipes Øext 5/32"

CODE ① ②	Port type *	Orifice Size Inlet (in)	Inlet (mm)	Exhaust (in)	Exhaust (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	AC (VA) Holding	DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range ④ (°F)
E335 * ...15///...	**Z**	**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**130**	*9*	**130**	*9*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B** **EPDM=E** **FPM=V**	**+14 +194** **+14 +284** **+14 +284**

① Seal — Ordination example: E335ZA15///U35F NBR seal, push-in connection

② Coil — Coil 240V 60Hz certified c UL us and marked CE

③ Safe Working Pressure:M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

④ The temperature range is related to the material of the seals (NBR, EPDM, FPM), and the valves' body.
Please contact us concerning the temperature range referred to the different types of connection.

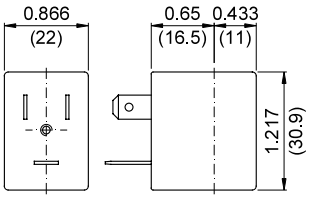
COILS Code ②	Alternating Current 60Hz						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

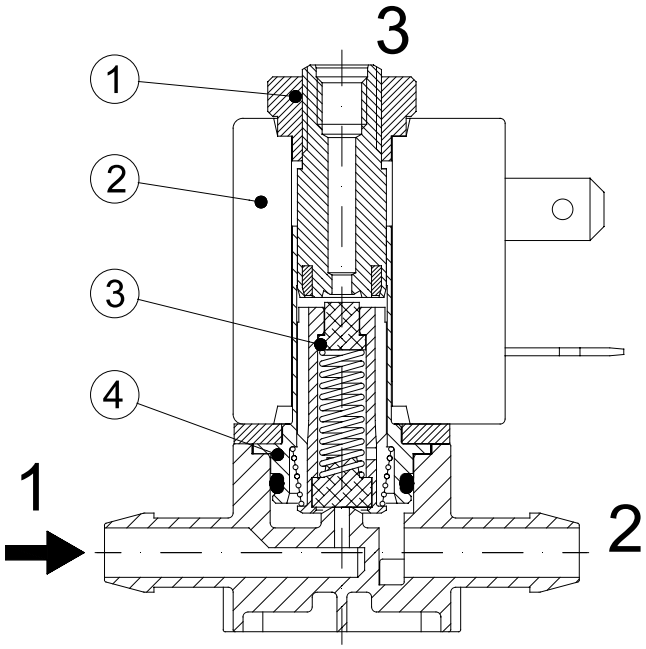
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

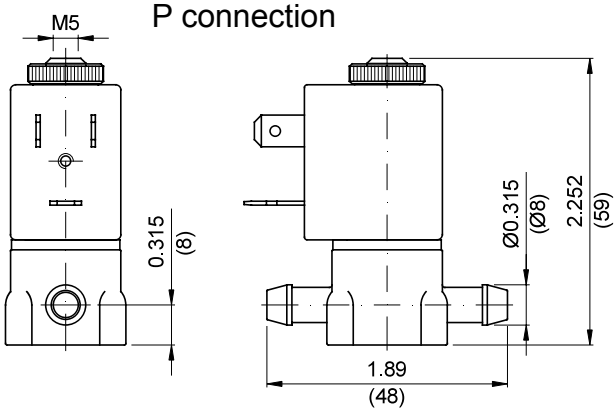


SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly

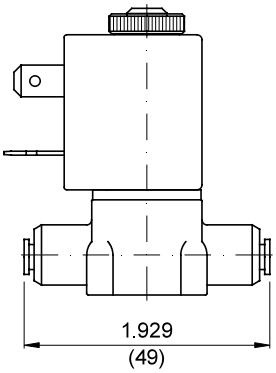


OVERALL DIMENSIONS
inches (mm)

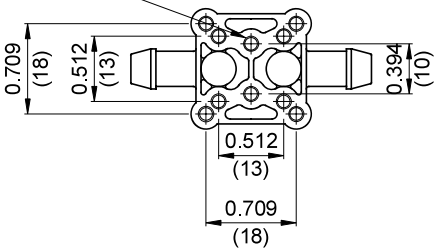
P connection



Z connection



Holes for self-threading screws Ø0.118 max depth 0.315
Max tightening torque 5 Nm



Weight=0.22lb (0.1Kg)

DESCRIPTION
Solenoid valve 3 way direct acting poppet type

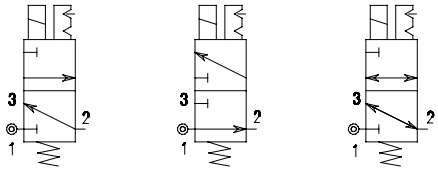
CONSTRUCTION

Body	Acetal copolymer
Internal parts	Acetal copolymer - Stainless steel
Seal material	NBR

FEATURES

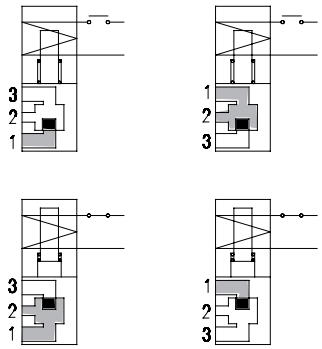
Fixing method:	M3 screws max torque 0,5Nm
Universal mounting position	
Fluid temperature:	+122°F max
Ambient temperature:	+5°F +122°F
Fluid:	Air, neutral gases
Response time:	10-15ms
Manual override:	Enclosed bi-stable function

3/2 NC 3/2 NO 3/2 U



ELECTRICAL OPERATING FEATURES

Duty cycle:	ED100%
Insulation class:	F (+311°F)
Voltage tolerance:	±10%
Protection class:	Cables IP65 IP65 with connector fitted
Electrical connection:	Cables L=11.8in (300mm) or AMP 2.8x0.5 or DIN 43650C

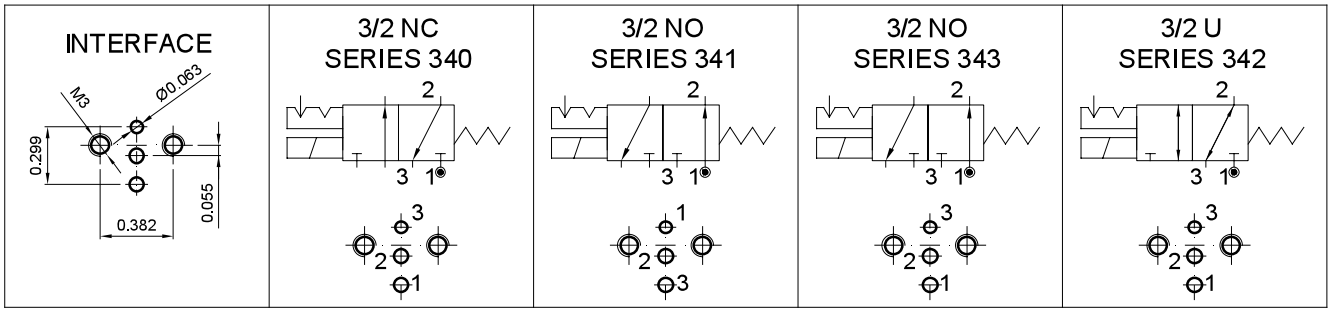


CODE		Port type	Orifice Size				Nominal flow rate	Operating Pressure Differential (M.O.P.D.)			Nominal power		
			1→2		2→3			Min	Max		AC (VA)		DC
Alternating current	Direct current		(in)	(mm)	(in)	(mm)	ΔP=1bar (Nl/1')		AC - DC (psi)	(bar)	Inrush	Holding	(W)
NC Normally closed													
E340XB08/...	D340XB08/...	Flange	0.031	0.8	0.035	0.9	23	0	145	10	-	-	1.5
E340XB12/...	D340XB12/...		0.047	1.2	0.051	1.3	29	0	145	10	3.6	2.5	2.5
E340XB15/...	D340XB15/...		0.059	1.5	0.063	1.6	43	0	87	6	3.6	2.5	2.5
NO Normally open													
E341XB10/...	D341XB10/...	Flange	0.039	1	0.047	1.2	26	0	116	8	3.6	2.5	2.5
E343XB10/...	D343XB10/...		0.039	1	0.047	1.2	26	0	116	8	3.6	2.5	2.5
U Universal													
E342XB15/...	D342XB15/...	Flange	0.059	1.5	0.063	1.6	43	0	36	2.5	3.6	2.5	2.5

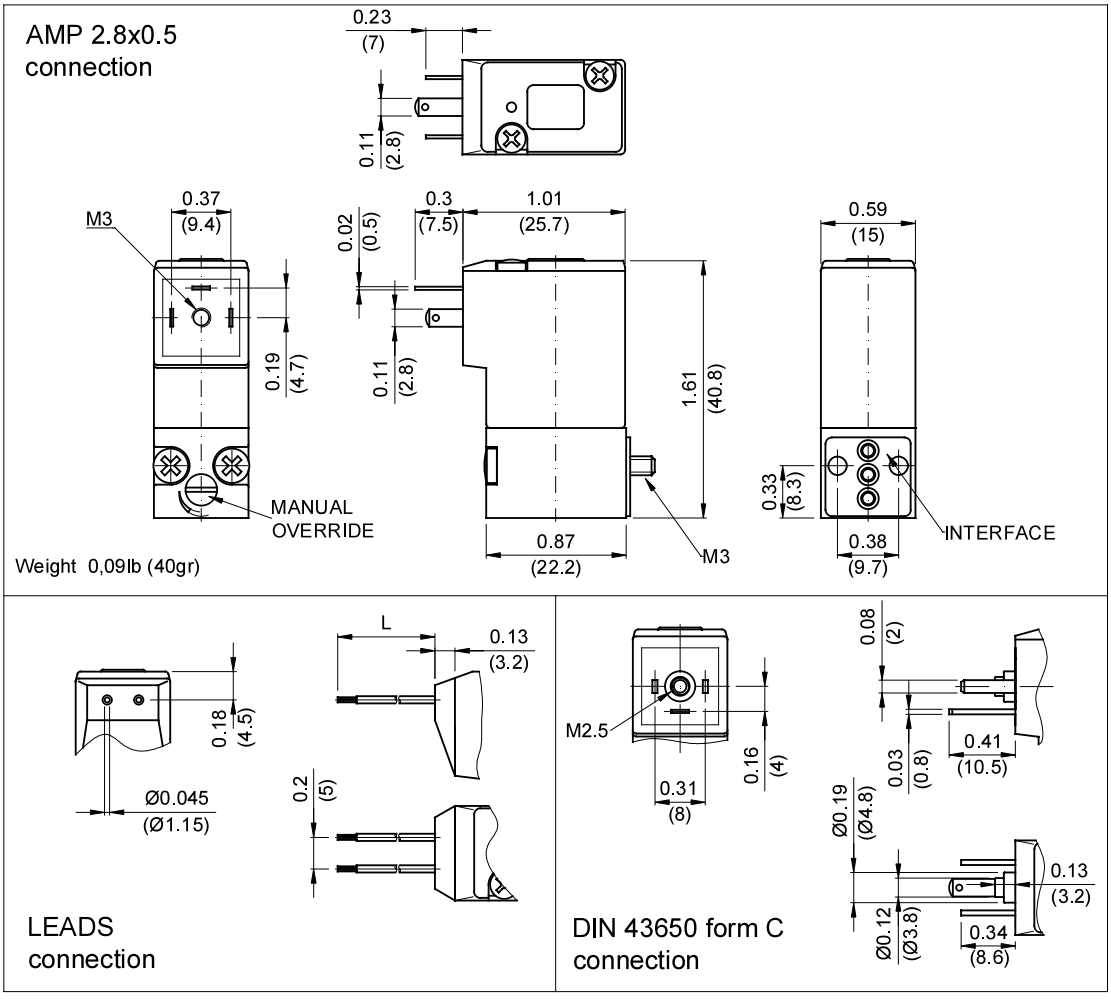
COILS CODE									
VOLTAGE	AMP 2.8x0.5			DIN 43650 form C			CABLE		
	50/60Hz	1.5W DC	2.5W DC	50/60Hz	1.5W DC	2.5W DC	50/60Hz	1.5W DC	2.5W DC
12	-	106970	106950	-	109020	109040	-	107010	106990
24	107030	106980	106960	108990	109030	109050	107040	107020	107000
110	107060	-	-	109000	-	-	-	-	-
220/230	107050	-	-	109010	-	-	-	-	-

NOTE: 1.5W power available on Ø0.031 orifice only.

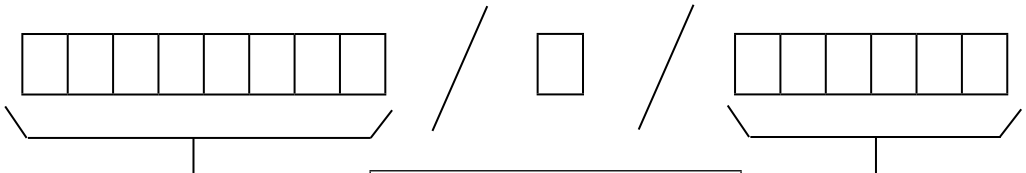
CONNECTIONS



OVERALL DIMENSION



TYPE NUMBER COMPOSITION



VALVE CODE
SEE TABLE

OPTIONS
/ = electrical connection is opposite side to the interface
R = electrical connection is on the same side to the interface
S = interface gasket included in valve

COIL CODE
SEE TABLE

DESCRIPTION
Solenoid valve 3 way direct acting poppet type

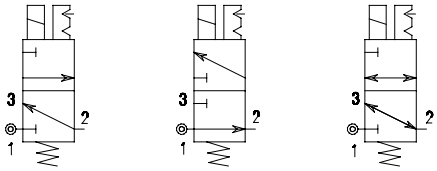
CONSTRUCTION

Body	Acetal copolymer
Internal parts	Acetal copolymer - Stainless steel
Seal material	NBR

FEATURES

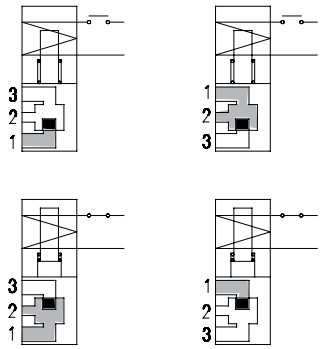
Fixing method:	M2.5 screws max torque 0,5Nm
Universal mounting position	
Fluid temperature:	+122°F max
Ambient temperature:	+5°F +122°F
Fluid:	Air, neutral gases
Response time:	10-15ms
Manual override:	Enclosed bi-stable function

3/2 NC 3/2 NO 3/2 U



ELECTRICAL OPERATING FEATURES

Duty cycle:	ED100%
Insulation class:	F (+311°F)
Voltage tolerance:	±10%
Protection class:	Cables IP65 IP65 with connector fitted
Electrical connection:	Cables L=11.8in (300mm) or AMP 2.8x0.5 or DIN 43650C

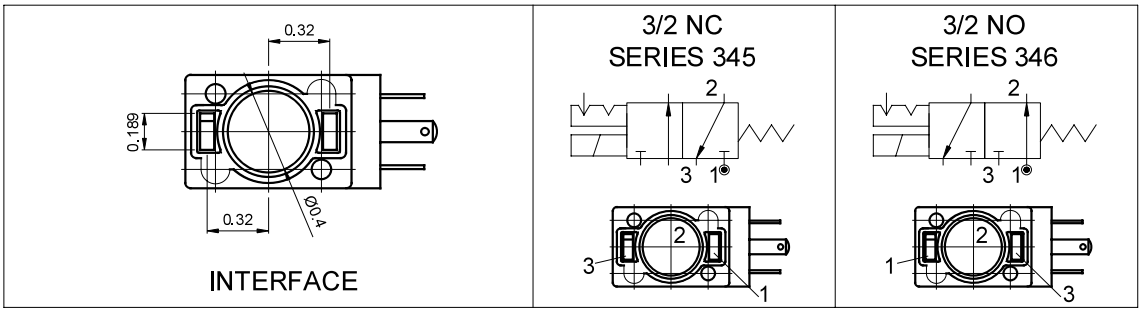


CODE		Port type	Orifice Size				Nominal flow rate	Operating Pressure Differential (M.O.P.D.)			Nominal power		
			1→2		2→3			Min	Max		AC		DC
Alternating current	Direct current		(in)	(mm)	(in)	(mm)	ΔP=1bar (Nl/1')		(psi)	(bar)	(VA) Inrush	(VA) Holding	(W)
NC Normally closed													
E345XB08/...	D345XB08/...	Flange	0.031	0.8	0.035	0.9	23	0	145	10	-	-	1.5
E345XB12/...	D345XB12/...		0.047	1.2	0.051	1.3	29	0	145	10	3.6	2.5	2.5
E345XB15/...	D345XB15/...		0.059	1.5	0.063	1.6	43	0	87	6	3.6	2.5	2.5
NO Normally open													
E346XB10/...	D346XB10/...	Flange	0.039	1	0.047	1.2	26	0	116	8	3.6	2.5	2.5
U Universal													
E347XB15/...	D347XB15/...	Flange	0.059	1.5	0.063	1.6	43	0	36	2.5	3.6	2.5	2.5

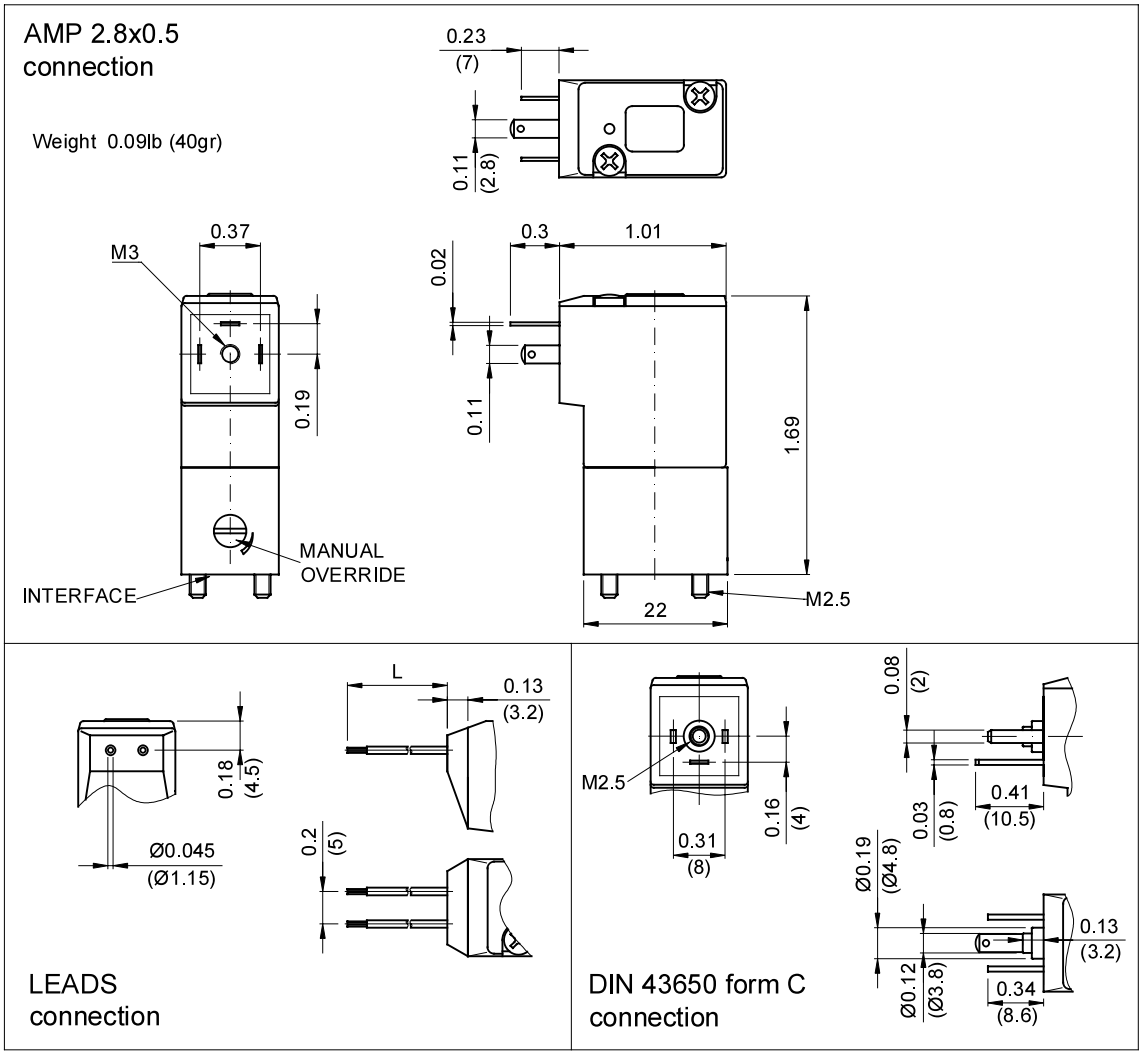
COILS CODE									
VOLTAGE	AMP 2.8x0.5			DIN 43650 form C			CABLE		
	50/60Hz	1.5W DC	2.5W DC	50/60Hz	1.5W DC	2.5W DC	50/60Hz	1.5W DC	2.5W DC
12	-	106970	106950	-	109020	109040	-	107010	106990
24	107030	106980	106960	108990	109030	109050	107040	107020	107000
110	107060	-	-	109000	-	-	-	-	-
220/230	107050	-	-	109010	-	-	-	-	-

NOTE: 1,5W power available on Ø0.8 orifice only.

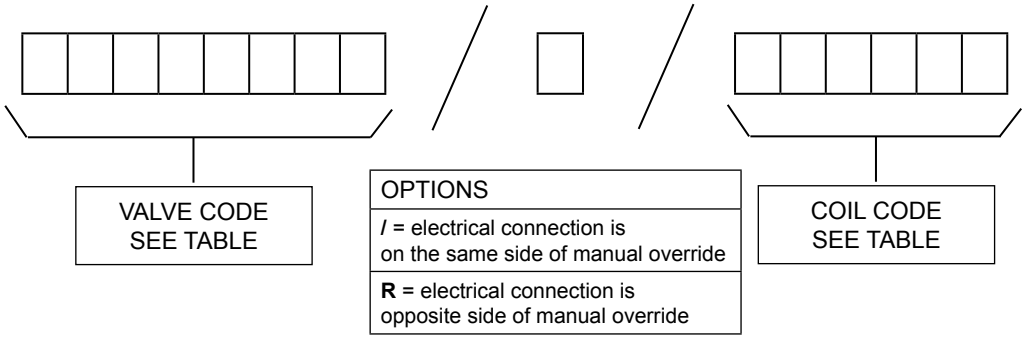
CONNECTIONS



OVERALL DIMENSION



TYPE NUMBER COMPOSITION

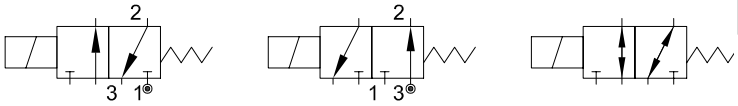


DESCRIPTION

Solenoid valve 3 way in stainless steel AISI 316
direct acting poppet type

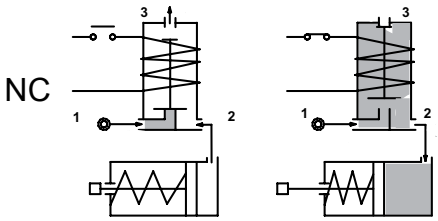
CONSTRUCTION

Body	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Shading ring	Silver
Spring	AISI 316
Seal material	NBR - FPM - EPDM - FFKM (Kalrez)



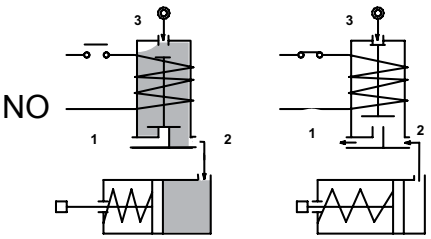
FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position



OPTIONS: Versions for use with oxygen
c UL us certified coils

ON REQUEST: Versions for use with fluid temperature at -40°C



CODE ① ②	Port Size NPT	Orifice Size Inlet (in)	Inlet (mm)	Exhaust (in)	Exhaust (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	AC (VA) Holding	DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
NC Normally closed																		
E370BN...15///...		**0.059**	*1.5*	**0.094**	*2.4*	**0.081**	**0**	**232**	*16*	**232**	*16*							
E370BN...20///...	**1/4**	**0.079**	*2*	**0.094**	*2.4*	**0.127**	**0**	**188**	*13*	**188**	*13*	**20**	**15**	**10**	**2**	**30**	**NBR=B**	**+14 +194**
E370BN...25///...		**0.098**	*2.5*	**0.094**	*2.4*	**0.185**	**0**	**145**	*10*	**145**	*10*						**EPDM=E**	**+14 +284**
NO Normally open																	**FPM=V**	**+14 +284**
E370BN...25/S/...	**1/4**	**0.094**	*2.4*	**0.098**	*2.5*	**0.185**	**0**	**130**	*9*	**130**	*9*	**20**	**15**	**10**	**2**	**30**	**FFKM=K**	**+14 +356**
U Universal																		
E370BN...25/G/...	**1/4**	**0.098**	*2.5*	**0.094**	*2.4*	**0.185**	**0**	**72.5**	*5*	**58**	*4*	**20**	**15**	**10**	**2**	**30**		

① Seal
② Coil

Ordination example: E370BNB25///U25B NBR seal, connection 1/4 NPT , NC version
Coil 24V 60Hz certified c UL us and marked CE

③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

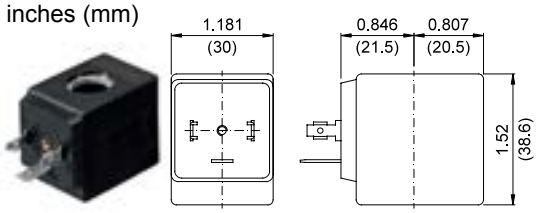
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	201	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

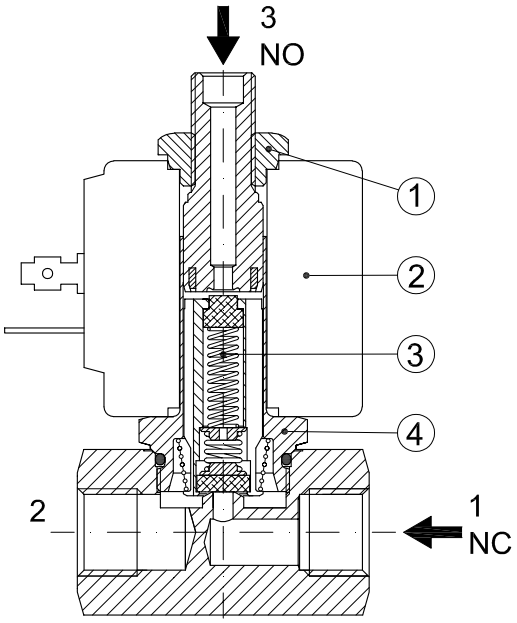
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

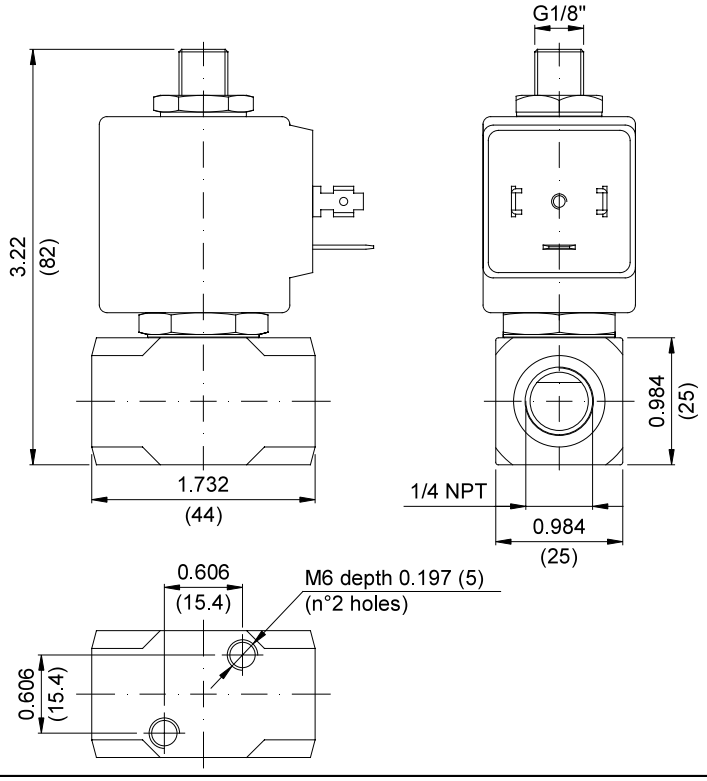


Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



Weight=0.79lb (0.36Kg)

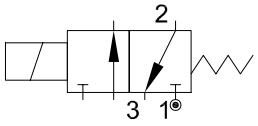
DESCRIPTION

Solenoid valve 3 way normally closed in stainless steel AISI 316 direct acting poppet type.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

3

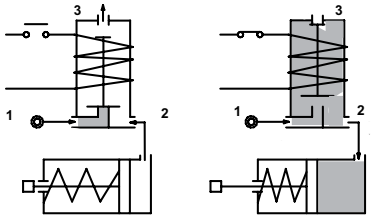
VALVE CONSTRUCTION

Body	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Springs	AISI 316
Seal material	FPM



EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (painted with epoxy powder)
Electrical connection	1/2” NPT (M20x1 on request)



FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F*(T6)*, +122°F*(T5)*, +140°F*(T4)*
Mounting position with vertical coil above

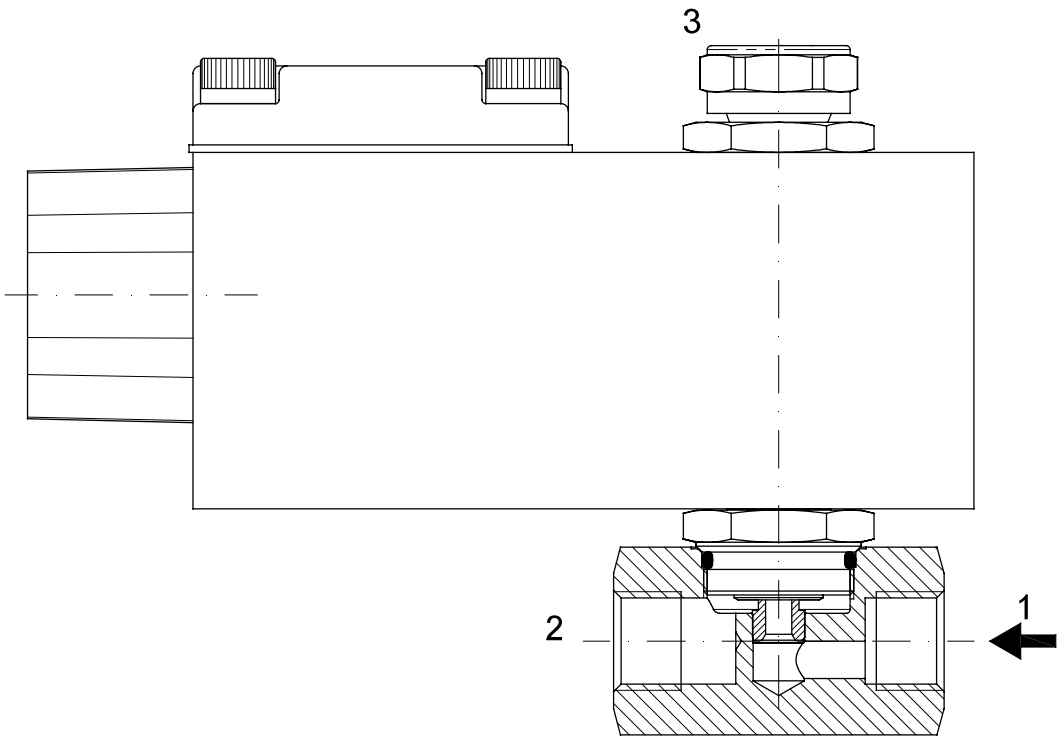
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

CODE ① ②	Port Size	Orifice Size				Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③					Nominal power		Coil	Seal	Temp. range
		Inlet		Exhaust			Min	Max						Series		
								AC		DC		AC	DC			
	NPT	(in)	(mm)	(in)	(mm)	(gpm)		(psi)	(bar)	(psi)	(bar)	(VA)	(W)			(°F)
A370BN...15///...		**0.059**	*1.5*	**0.094**	*2.4*	**0.081**	**0**	**232**	*16*	**232**	*16*					
A370BN...20///...	**1/4**	**0.079**	*2*	**0.094**	*2.4*	**0.127**	**0**	**188**	*13*	**188**	*13*	**12**	**8**	**A6**	**FPM=V**	**+14 +284**
A370BN...25///...		**0.098**	*2.5*	**0.094**	*2.4*	**0.185**	**0**	**145**	*10*	**145**	*10*					

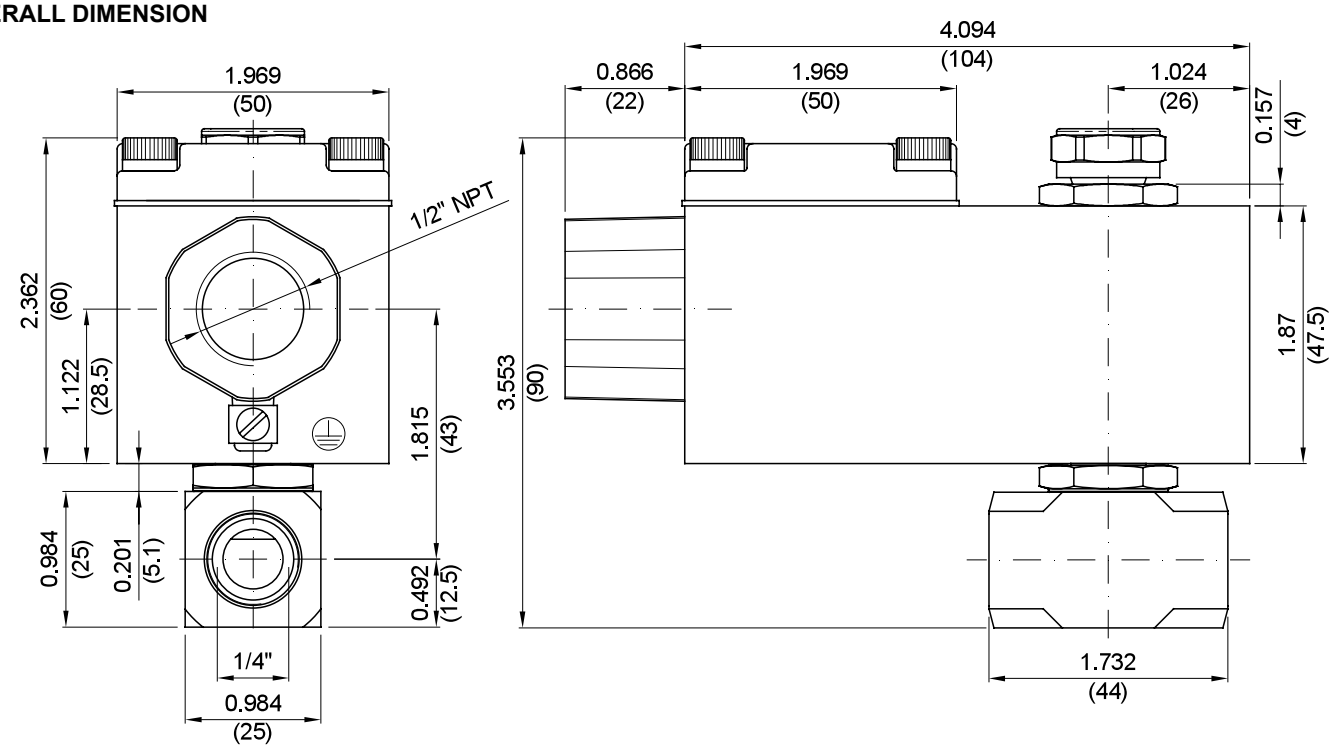
① Seal — Example: A370BNV15///A6B FPM seal, connection 1/4 NPT, Ø0.059in
② Coil — Coil 24V 50/60Hz
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

COILS	Alternating Current 50/60Hz (V)				Direct Current (V)			Electrical connection
	24	48	110	220 230	12	24	48	
Series **A6** **CODE** ③	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2" NPT**

DESCRIPTION
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSION

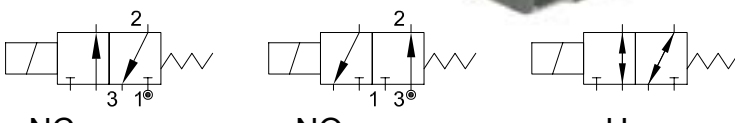


DESCRIPTION

Solenoid valve 3 way in stainless steel AISI 316
direct acting poppet type

CONSTRUCTION

Body	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Springs	AISI 316
Seal material	NBR - FPM - EPDM

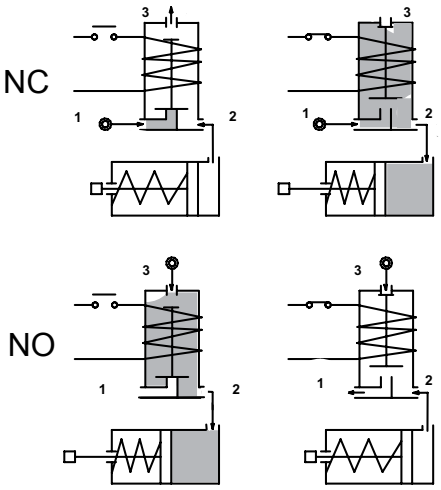


3

FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Universal mounting position

OPTIONS: Silver shading ring
Electroless nickel plating
Exhaust port with hosetail connection
Series 7 explosion proof coil according to
ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6



ON REQUEST: Versions for use with fluid temperature at -40°C

CODE ① ②	Port Size	Orifice Size Inlet (in)	Inlet (mm)	Exhaust (in)	Exhaust (mm)	Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③ Min	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	AC (VA) Holding	DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
	NPT					(gpm)												
NC Normally closed																		
E371AN...12///...		**0.047**	*1.2*	**0.059**	*1.5*	**0.046**	**0**	**217**	*15*	**217**	*15*							
E371AN...15///...	**1/8**	**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**145**	*10*	**145**	*10*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E371AN...20///...		**0.079**	*2*	**0.059**	*1.5*	**0.104**	**0**	**87**	*6*	**87**	*6*							
NO Normally open																	**EPDM=E**	**+14 +284**
E371AN...15/S/...	**1/8**	**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**145**	*10*	**145**	*10*	**12**	**8**	**6.5**	**3**	**22**		
U Universal																	**FPM=V**	**+14 +284**
E371AN...15/G/...	**1/8**	**0.059**	*1.5*	**0.059**	*1.5*	**0.069**	**0**	**87**	*6*	**87**	*6*	**12**	**8**	**6.5**	**3**	**22**		

① Seal — Ordination example: E371ANB15///U35B NBR seal, connection 1/8 NPT
② Coil — Coil 24V 60Hz certified c UL us and marked CE
③ Safe Working Pressure: M.O.P.D. +10%.
Is the line or system pressure to which the valve may be subjected without being damaged.

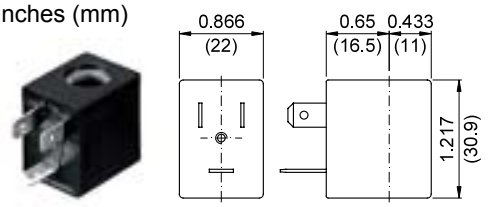
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **3** Width 22mm	**U35B**	**30B**	**U35D**	**30D**	**U35F**	**30F**	**U350**	**300**	**U351**	**301**	**DIN 46244**	**PG9 code 10348000**

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

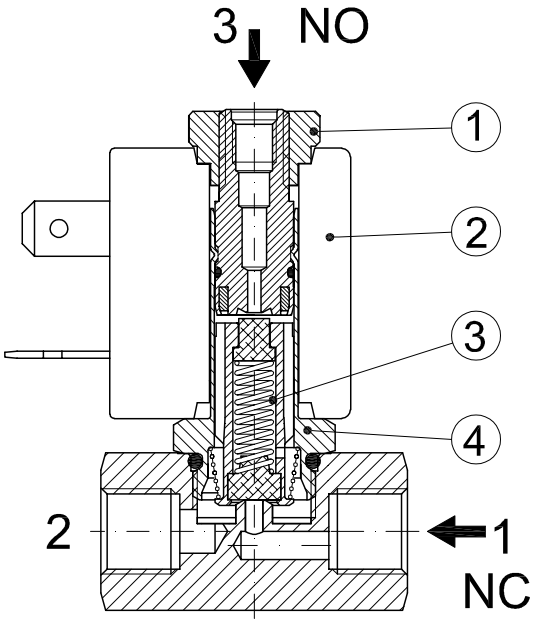
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

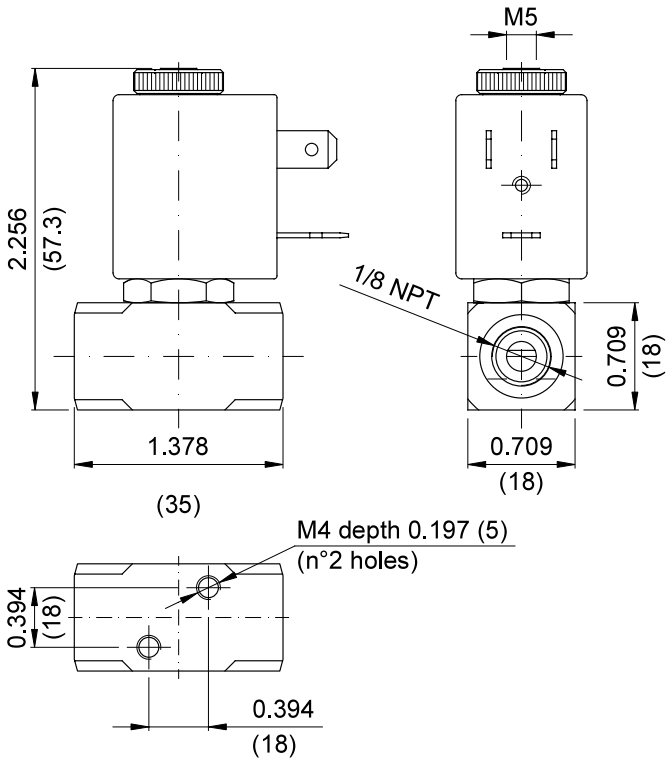


Series 3 Weight 0.11lb (0.05Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger
4. Armature tube assembly



OVERALL DIMENSIONS
inches (mm)



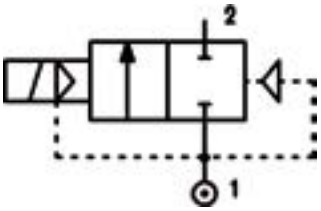
Weight=0.33lb (0.15Kg)

DESCRIPTION
Solenoid valve 2 way normally closed
with servo-assisted diaphragm

CONSTRUCTION

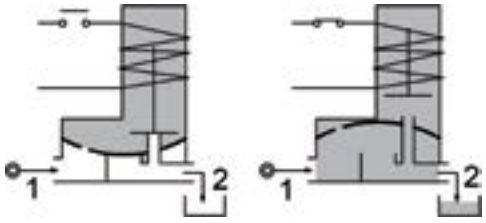
Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Minimum differential pressure 2.2÷7.2psi
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



4

OPTIONS: Manual override
Electroless nickel plating
Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6
Version with slow closing diaphragm
Version for vacuum applications (air/gas)



CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E107BN...10///...	**1/4**	**0.394**	*10*	**1.73**	**2.2**	*0.15*	**217**	*15*	**217**	*15*							
E107CN...10///...	**3/8**	**0.394**	*10*	**1.97**	**2.2**	*0.15*	**217**	*15*	**217**	*15*							
E107CN...12///...	**3/8**	**0.472**	*12*	**2.54**	**2.2**	*0.15*	**217**	*15*	**217**	*15*						**NBR=B**	**+14 +194**
E107DN...12///...	**1/2**	**0.472**	*12*	**2.89**	**2.2**	*0.15*	**217**	*15*	**217**	*15*	**12**	**8**	**6.5**	**3**	**22**	**EPDM=E**	**+14 +284**
E107EN...18///...	**3/4**	**0.709**	*18*	**6.36**	**2.2**	*0.15*	**188**	*13*	**188**	*13*						**FPM=V**	**+14 +284**
E107FN...25///...	**1**	**0.984**	*25*	**11.79**	**2.2**	*0.15*	**145**	*10*	**145**	*10*							
E107GN...30///...	**1-1/4**	**1.181**	*30*	**17.34**	**2.2**	*0.15*	**145**	*10*	**145**	*10*							
③**E107CN...12/W/...**	**3/8**	**0.472**	*12*	**2.54**	**7.2**	*0.5*	**360**	*25*	**360**	*25*	**15**	**11**	**8**	**4**	**30**	**NBR=B**	**+14 +194**
③**E107DN...12/W/...**	**1/2**	**0.472**	*12*	**2.89**	**7.2**	*0.5*	**360**	*25*	**360**	*25*							

① Seal — Ordination example: E107DNB12///U351 NBR seal, connection 1/2 NPT
② Coil — Coil 24V DC certified c UL us and marked CE
③ Reinforced diaphragm
④ Safe Working Pressure:360 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
The maximum allowable pressure PS for steam is 36 psi.

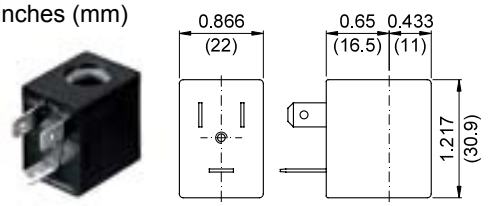
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

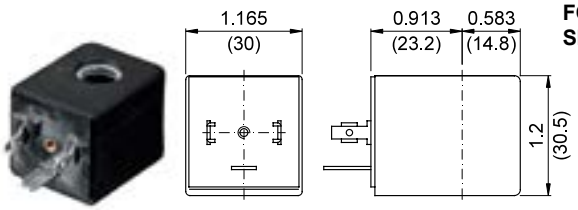
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

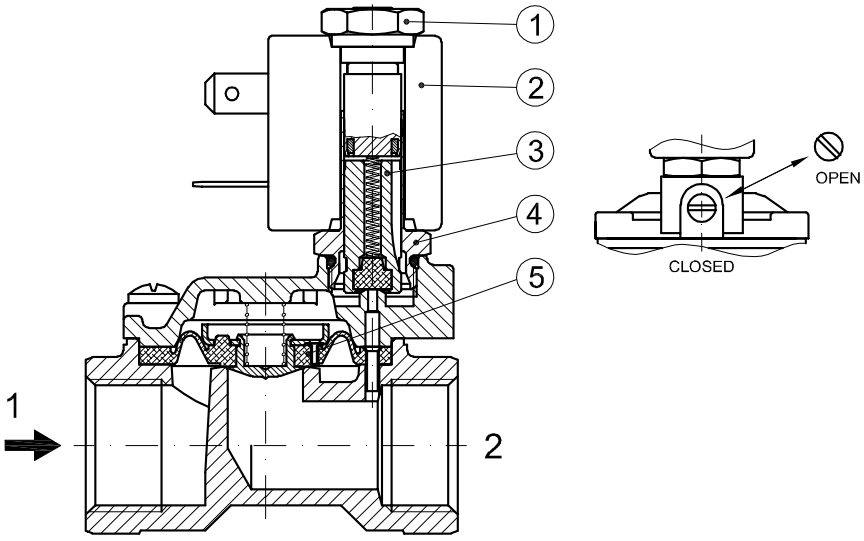


Series 3 Weight 0.11lb (0.05Kg)

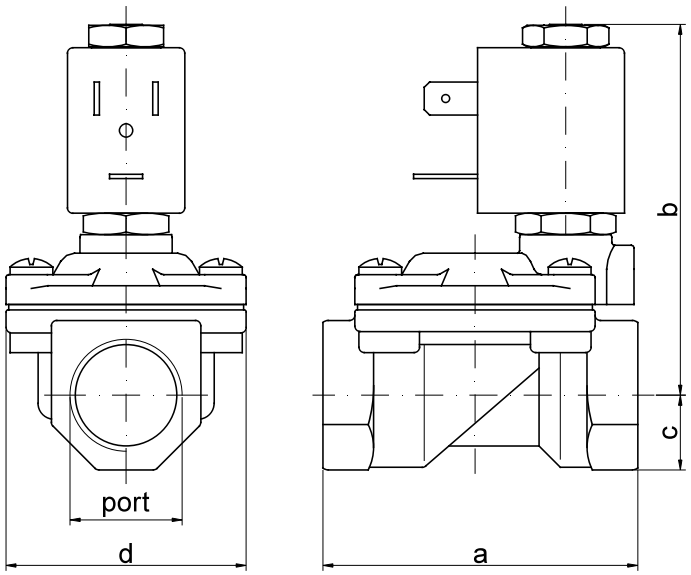


Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly
5. Diaphragm assembly



OVERALL DIMENSIONS
inches (mm)



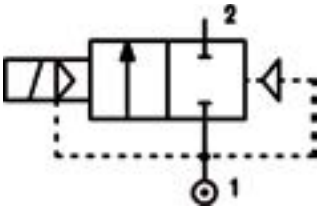
PORT SIZE	a in	a mm	b in	b mm	c in	c mm	d in	d mm	weight lb	weight Kg
1/4 Ø0.394 (Ø10)	1.93	49	2.56	65	0.43	11	1.26	32	0.53	0.24
3/8 Ø0.394 (Ø10)	1.93	49	2.56	65	0.43	11	1.26	32	0.51	0.23
3/8 Ø0.472 (Ø12)	2.32	59	2.76	70	0.55	14	1.77	45	0.93	0.42
1/2 Ø0.472 (Ø12)	2.32	59	2.76	70	0.55	14	1.77	45	0.86	0.39
3/4	3.11	79	2.99	76	0.71	18	2.17	55	1.43	0.65
1	3.78	96	3.35	85	0.79	20	2.83	72	2.31	1.05
1-1/4 Ø1.181 (Ø30)	4.69	119	3.62	92	0.98	25	3.35	85	3.75	1.70

DESCRIPTION
Solenoid valve 2 way normally closed
with servo-assisted diaphragm

CONSTRUCTION

Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Minimum differential pressure 2.2÷4.4psi
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



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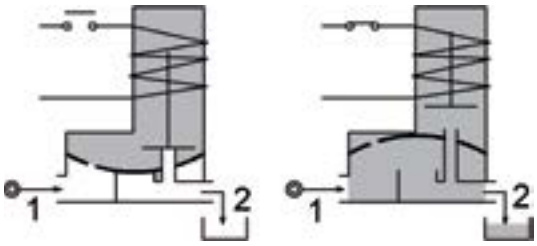
OPTIONS: Manual override
Electroless nickel plating
Version for vacuum appications (air/gas)



CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E107GN...37///...	**1-1/4**	**1.457**	*37*	**20.8**	**2.2**	*0.15*	**145**	*10*	**145**	*10*						**NBR=B**	**+14 +194**
E107HN...37///...	**1-1/2**	**1.457**	*37*	**24.3**	**2.2**	*0.15*	**145**	*10*	**145**	*10*	**20**	**15**	**10**	**2**	**30**	**EPDM=E**	**+14 +284**
E107IN...50///...	**2**	**1.969**	*50*	**41.6**	**2.2**	*0.15*	**145**	*10*	**145**	*10*						**FPM=V**	**+14 +284**
E107MNB75///...	**2-1/2**	**2.953**	*75*	**86.7**	**4.4**	*0.3*	**72.5**	*5*	**72.5**	*5*							
E107RNB75///...	**3**	**2.953**	*75*	**97.1**	**4.4**	*0.3*	**72.5**	*5*	**72.5**	*5*	**20**	**15**	**10**	**2**	**30**	**NBR=B**	**+14 +194**
③E107MNB75/W/...	**2-1/2**	**2.953**	*75*	**86.7**	**44**	*3*	**217**	*15*	**217**	*15*							
③E107RNB75/W/...	**3**	**2.953**	*75*	**97.1**	**44**	*3*	**217**	*15*	**217**	*15*							

① Seal
② Coil
③ Reinforced diaphragm

Ordination example: E107INB50///U251 NBR seal, connection 2 NPT
Coil 24V DC certified c UL us and marked CE

④ Safe Working Pressure:290 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

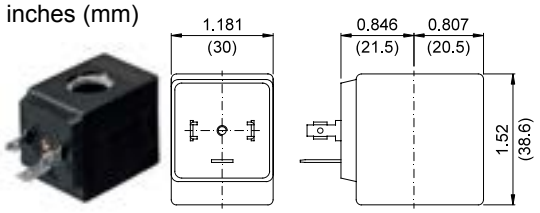
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	20B	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

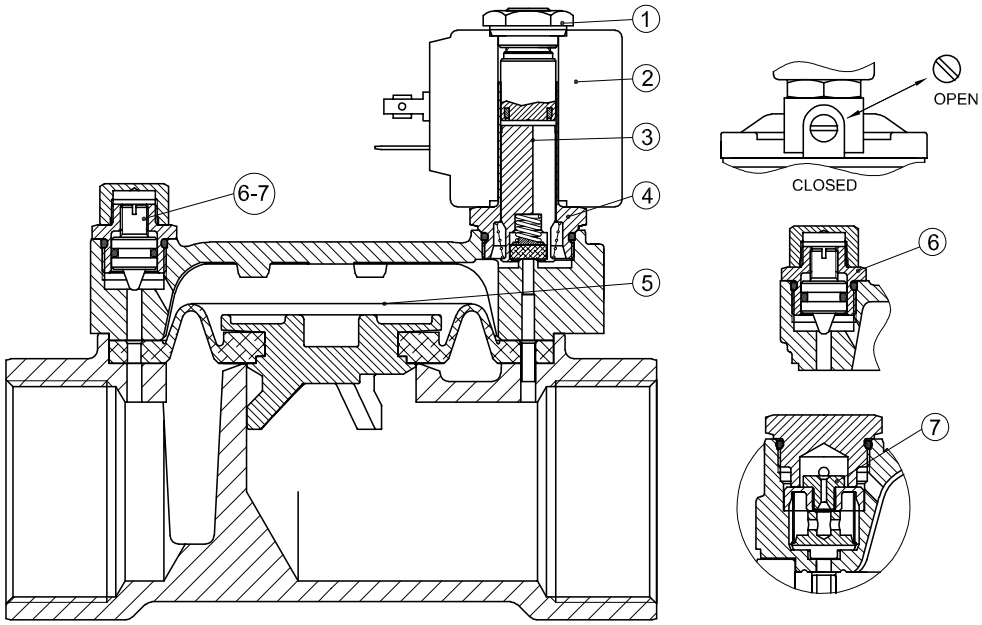
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

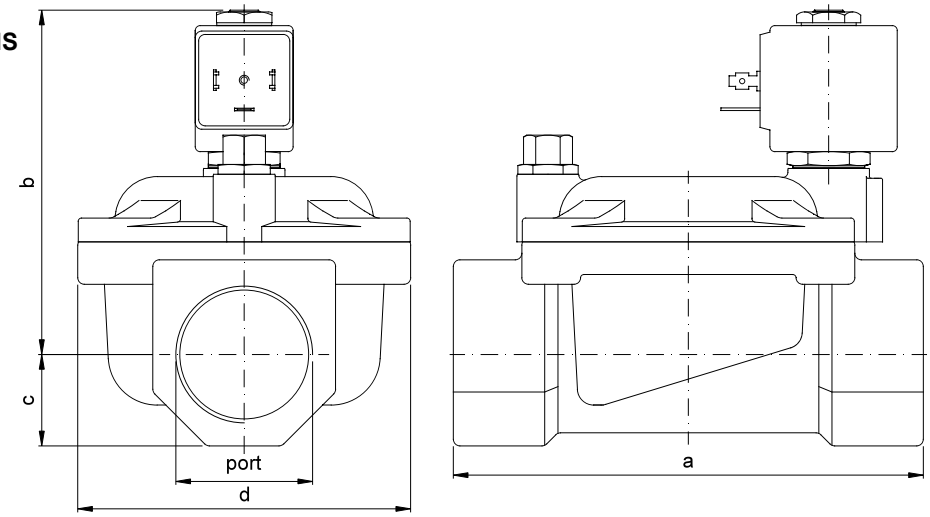


Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly
5. Diaphragm assembly
6. Speed control valve
7. Water hammering reducer
   Ø0.03-Ø0.039-Ø0.04
   (Ø0.8-Ø1.2-Ø1.5)



OVERALL DIMENSIONS
inches (mm)



PORT SIZE	a		b		c		d		weight	
	in	mm	in	mm	in	mm	in	mm	lb	Kg
1-1/4	5.59	142	4.13	105	1.1	28	4.02	102	6.61	3
1-1/2	5.59	142	4.13	105	1.1	28	4.02	102	6.28	2.85
2	6.22	158	4.53	115	1.38	35	4.69	119	9.48	4.3
2-1/2	8.9	226	5.28	134	2.01	51	6.65	169	25.8	11.7
3	8.9	226	5.28	134	2.01	51	6.65	169	21.8	9.9

DESCRIPTION

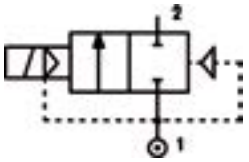
Solenoid valve 2 way normally closed
with servo-assisted diaphragm series 107.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

VALVE CONSTRUCTION

Body	Brass
Seal material	FPM, NBR

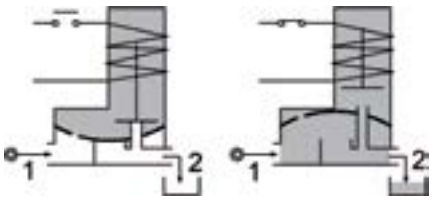
EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy (painted with epoxy powder)
Electrical connection	1/2” NPT (M20x1 on request)



FEATURES

Minimum differential pressure 2.2-4.4psi
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above



OPTIONS: Electroless nickel plating
Versions with slow closing diaphragm

NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

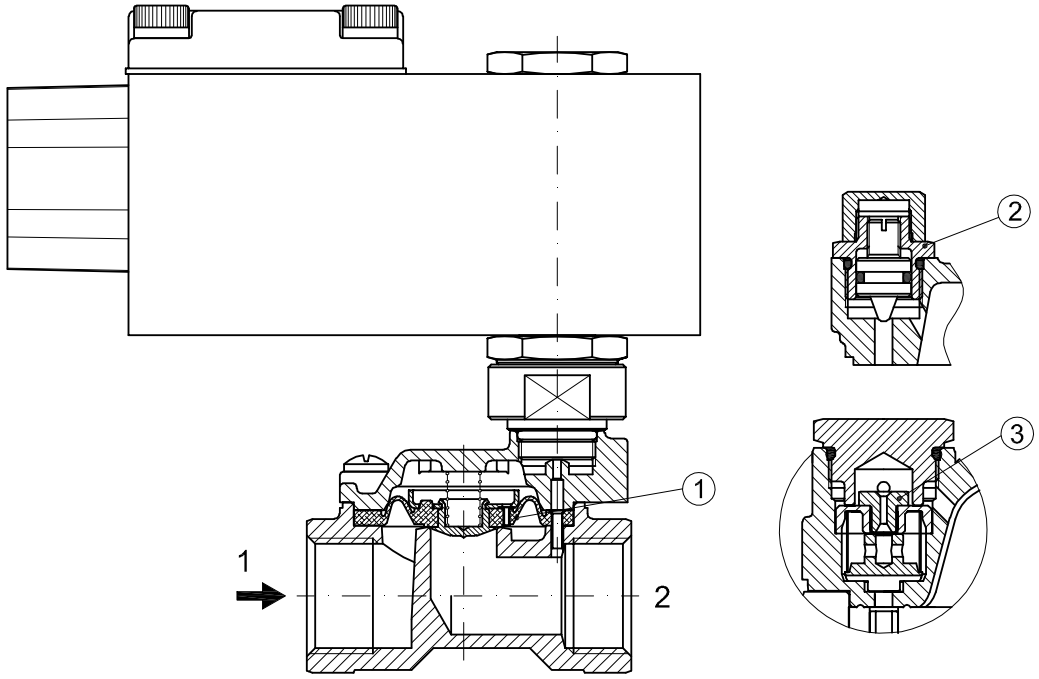
CODE ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal	Temp. range (°F)
A107BNV10/1/...	**1/4**	**0.394**	*10*	**1.73**	**2.2**	0.15	**217**	*15*	**217**	*15*					
A107CNV10/1/...	**3/8**	**0.394**	*10*	**1.97**	**2.2**	0.15	**217**	*15*	**217**	*15*					
A107CNV12/1/...	**3/8**	**0.472**	*12*	**2.54**	**2.2**	0.15	**217**	*15*	**217**	*15*					
A107DNV12/1/...	**1/2**	**0.472**	*12*	**2.89**	**2.2**	0.15	**217**	*15*	**217**	*15*					
A107ENV18/1/...	**3/4**	**0.709**	*18*	**6.36**	**2.2**	0.15	**188**	*13*	**188**	*13*				**FPM=V**	**+14 +284**
A107FNV25/1/...	**1**	**0.984**	*25*	**11.7**	**2.2**	0.15	**145**	*10*	**145**	*10*					
A107GNV30/1/...	**1-1/4**	**1.181**	*30*	**17.3**	**2.2**	0.15	**145**	*10*	**145**	*10*	**12**	**8**	**A6**		
A107GNV37/1/...	**1-1/4**	**1.457**	*37*	**20.8**	**2.2**	0.15	**145**	*10*	**145**	*10*					
A107HNV37/1/...	**1-1/2**	**1.457**	*37*	**24.3**	**2.2**	0.15	**145**	*10*	**145**	*10*					
A107INV50/1/...	**2**	**1.969**	*50*	**41.6**	**2.2**	0.15	**145**	*10*	**145**	*10*					
A107MNB75/1/...	**2-1/2**	**2.953**	*75*	**86.7**	**4.4**	0.3	**72.5**	*5*	**72.5**	*5*					
A107RNB75/1/...	**3**	**2.953**	*75*	**97.1**	**4.4**	0.3	**72.5**	*5*	**72.5**	*5*				**NBR=B**	**+14 +194**

② Coil

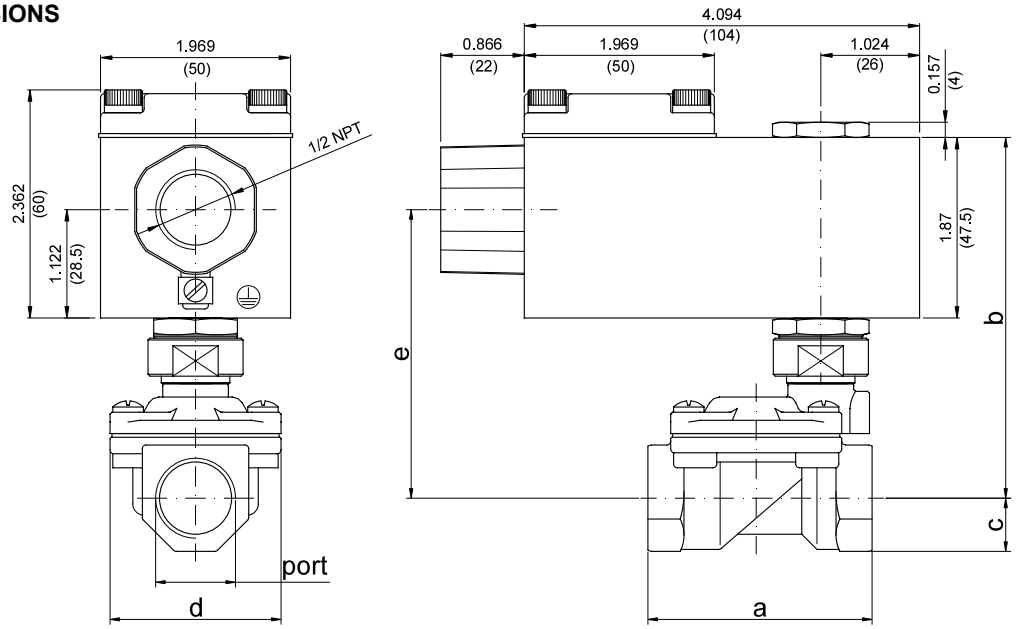
③ Safe Working Pressure:290 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

COILS Code ②	Alternating Current 50/ 24V	48V	110V	220V 230V	Direct Current 12V	24V	48V	Electrical connection
Series **6**	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2 NPT**

DESCRIPTION
Voltage tolerance ± 10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSIONS
inches (mm)



PORT SIZE	a in	a mm	b in	b mm	c in	c mm	d in	d mm	e in	e mm	weight lb	weight Kg
1/4 Ø0.394 (Ø10)	1.93	49	3.54	90	0.43	11	1.26	32	2.80	71	1.58	0.72
3/8 Ø0.394 (Ø10)	1.93	49	3.54	90	0.43	11	1.26	32	2.80	71	1.58	0.72
3/8 Ø0.472 (Ø12)	2.32	59	3.74	95	0.55	14	1.77	45	2.99	76	2.03	0.92
1/2 Ø0.472 (Ø12)	2.32	59	3.74	95	0.55	14	1.77	45	2.99	76	2.03	0.92
3/4	3.11	79	3.98	101	0.71	18	2.13	54	3.23	82	2.43	1.10
1	3.78	96	4.33	110	0.79	20	2.83	72	3.58	91	3.31	1.50

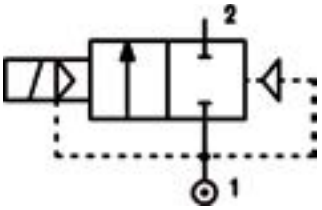
PORT SIZE	a in	a mm	b in	b mm	c in	c mm	d in	d mm	e in	e mm	weight lb	weight Kg
1-1/4 Ø1.181 (Ø30)	4.69	119	4.65	118	0.98	25	3.35	85	3.90	99	5	2.27
1-1/4	5.59	142	4.33	110	1.10	28	4.02	102	3.58	91	7.34	3.33
1-1/2	5.59	142	4.33	110	1.10	28	4.02	102	3.58	91	6.88	3.12
2	6.22	158	4.69	119	1.38	35	4.69	119	3.94	100	10.4	4.72
2-1/2	8.90	226	5.43	138	2.01	51	6.65	169	4.69	119	22.9	10.4
3	8.90	226	5.43	138	2.01	51	6.65	169	4.69	119	22	10

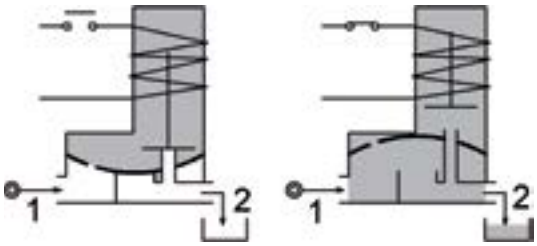
DESCRIPTION
Solenoid valve 2 way normally closed
with assisted-lift diaphragm

CONSTRUCTION

Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	FPM

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above
For complete diaphragm opening, a differential pressure of at least 2.2psi (0.15bar) is necessary





OPTIONS: Electroless nickel plating

CODE ①	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ② Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal	Temp. range (°F)
E108CNV12///...	**3/8**	**0.472**	*12*	**2.31**	**0**	**0**	**145**	*10*	**-**	-	**20**	**15**	**-**	**2**	**30**	**FPM=V**	**+14 +284**
E108DNV12///...	**1/2**	**0.472**	*12*	**2.54**	**0**	**0**	**145**	*10*	**-**	-							
E108CNV12///...	**3/8**	**0.472**	*12*	**2.31**	**0**	**0**	**174**	*12*	**145**	*10*	**40**	**30**	**27**	**5**	**36**		
E108DNV12///...	**1/2**	**0.472**	*12*	**2.54**	**0**	**0**	**174**	*12*	**145**	*10*							
E108ENV18///...	**3/4**	**0.709**	*18*	**5.2**	**0**	**0**	**130**	*9*	**-**	-	**40**	**30**	**-**				
E108FNV25///...	**1**	**0.984**	*25*	**9.82**	**0**	**0**	**101**	*7*	**-**	-							
D108ENV18///...	**3/4**	**0.709**	*18*	**5.2**	**0**	**0**	**-**	-	**130**	*9*	**-**	**-**	**27**				
D108FNV25///...	**1**	**0.984**	*25*	**9.82**	**0**	**0**	**-**	-	**116**	*8*							

Ordination example: E108FV25///521 FPM seal, connection 1 NPT

① Coil — Coil 24V DC marked CE

② Safe Working Pressure:362 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

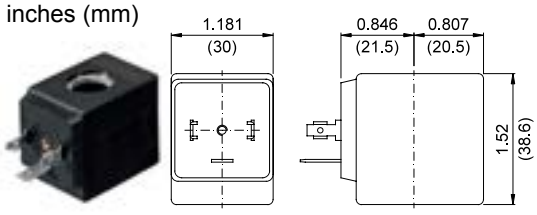
COILS Code ①	Alternating Current 60Hz						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	20B	U25D	20D	U25F	20F	-	-	-	-	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	-	52B	-	52D	-	52F	-	520	-	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

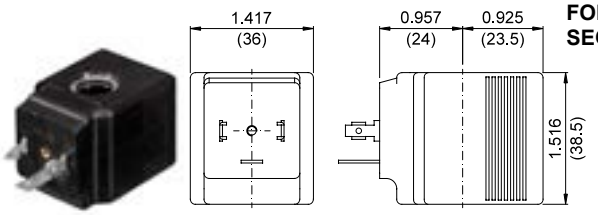
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

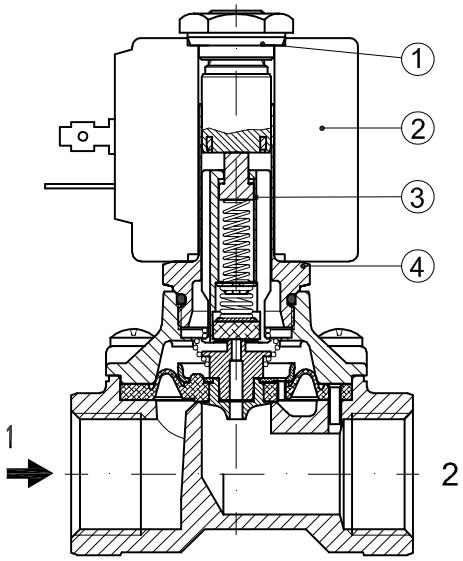


Series 2 Weight 0.26lb (0.12Kg)

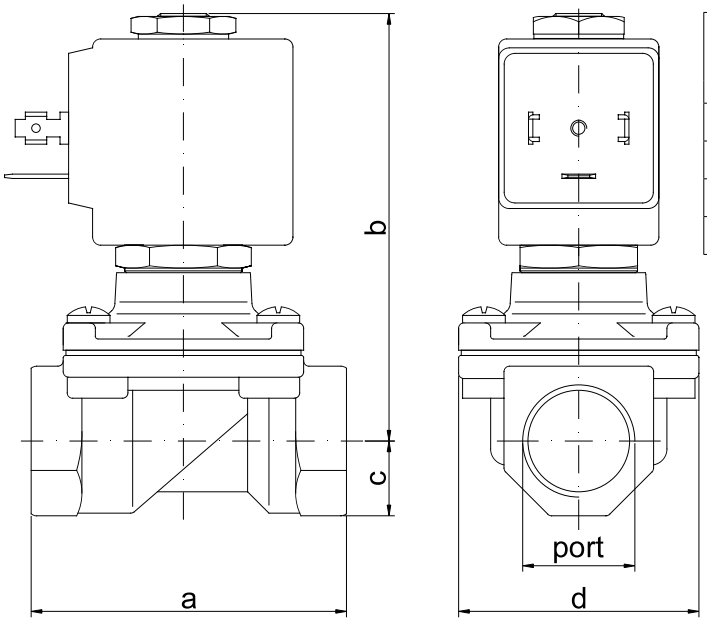


Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger
4. Armature tube with core



OVERALL DIMENSION



PORT SIZE	a		b		c		d		weight (coil series 2)		weight (coil series 5)	
	in	mm	in	mm	in	mm	in	mm	lb	Kg	lb	Kg
3/8	2.32	59	3.27	83	0.55	14	1.77	45	1.15	0.52	1.32	0.60
1/2	2.32	59	3.27	83	0.55	14	1.77	45	1.08	0.49	1.26	0.57
3/4	3.11	79	3.54	90	0.71	18	2.17	55	-	-	1.79	0.81
1	3.78	96	3.98	101	0.79	20	2.83	72	-	-	2.69	1.22

DESCRIPTION

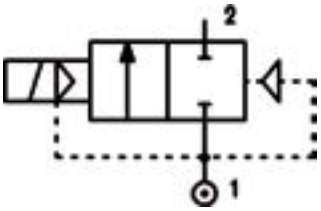
Solenoid valve 2 way normally closed
with servo-assisted piston

CONSTRUCTION

Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Piston	Brass
Piston seal	PTFE reinforced
Seal material	Main seal PTFE, other FPM

FEATURES

Minimum differential pressure 14.5psi
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



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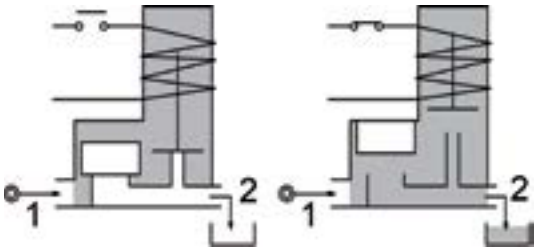
OPTIONS: Electroless nickel plating



CODE ①	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ② Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal	Temp. range (°F)
E119CNV12///...	**3/8**	**0.472**	*12*	**2.31**	**14.5**	*1*	**435**	*30*	**435**	*30*	**20**	**15**	**10**	**2**	**30**	**PTFE/ FPM**	**+14 +284**
E119DNV12///...	**1/2**	**0.472**	*12*	**2.54**	**14.5**	*1*	**435**	*30*	**435**	*30*							
E119CNV12/1/...	**3/8**	**0.472**	*12*	**2.31**	**14.5**	*1*	**725**	*50*	**725**	*50*	**40**	**30**	**27**	**5**	**36**		
E119DNV12/1/...	**1/2**	**0.472**	*12*	**2.54**	**14.5**	*1*	**725**	*50*	**725**	*50*							

Ordination example: E119DNV12///U251 FPM/PTFE seal, connection 1/2 NPT

① Coil — Coil 24V DC certified c UL us and marked CE

② Safe Working Pressure:870 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

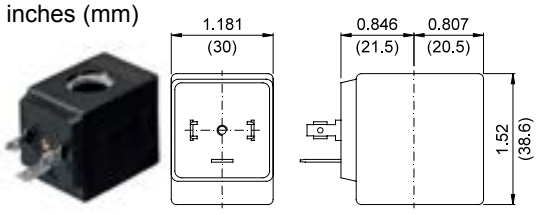
COILS Code ①	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	20B	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	-	52B	-	52D	-	52F	-	520	-	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

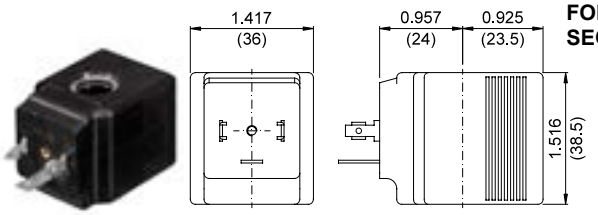
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

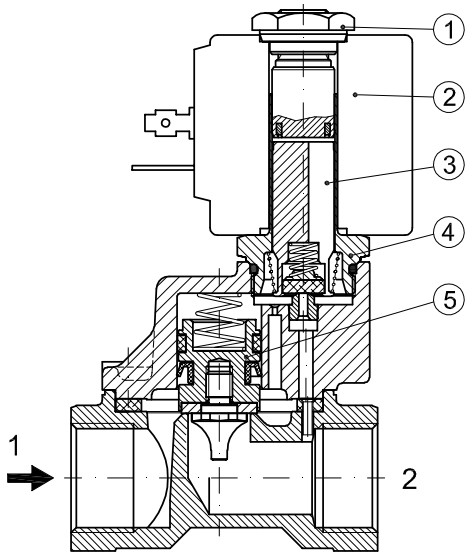


Series 2 Weight 0.26lb (0.12Kg)

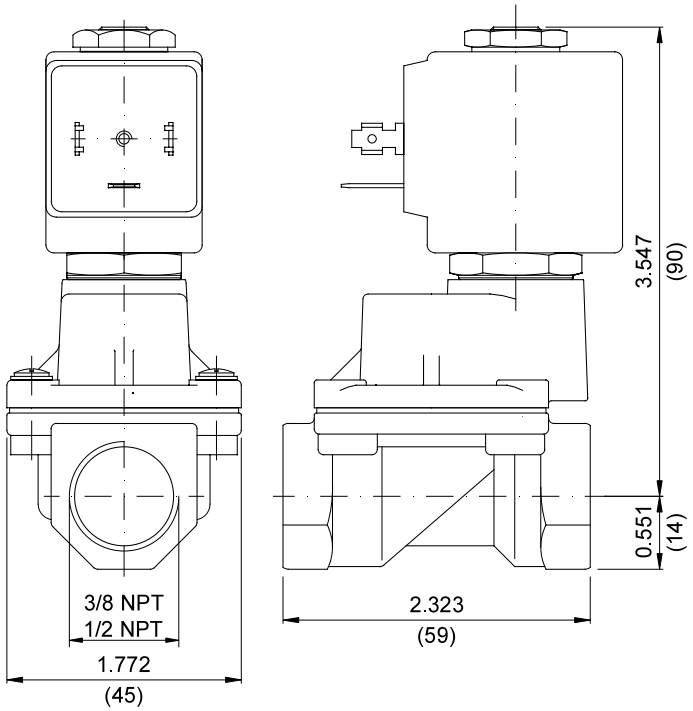


Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly
5. Piston assembly



OVERALL DIMENSIONS
inches (mm)



Weight 1.39lb (0.63Kg)

DESCRIPTION

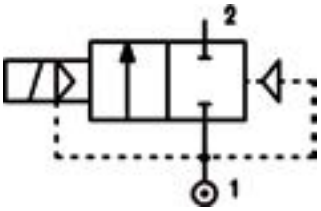
Solenoid valve 2 way normally closed
with servo-assisted piston for use with steam

CONSTRUCTION

Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Piston	AISI 303
Piston seal	PTFE reinforced
Seal material	PTFE

FEATURES

Minimum differential pressure 36psi
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



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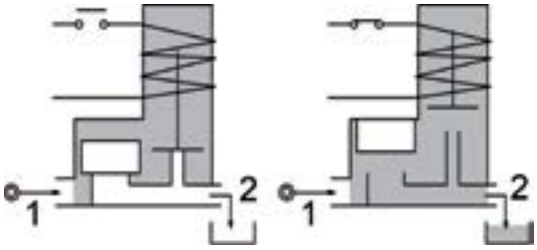
OPTIONS: Electroless nickel plating



CODE ①	Port Size	Orifice Size		Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) Min		Max AC		Max DC		Nominal power AC (VA)		DC	Coil Series	Coil Width	Seal	Temp. range
	NPT	(in)	(mm)	(gpm)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	Inrush	Holding	(W)		(mm)		(°F)
E119CNW12/1/...	**3/8**	**0.472**	*12*	**2.31**	**36**	*2.5*	**145**	*10*	**145**	*10*	**20**	**15**	**10**	**2**	**30**	**PTFE**	**+14 +356**
E119DNW12/1/...	**1/2**	**0.472**	*12*	**2.54**	**36**	*2.5*	**145**	*10*	**145**	*10*							

Ordination example: E119DNW12///U25B PTFE seal, connection 1/2 NPT
Coil 24V 60Hz certified c UL us and marked CE

① Coil

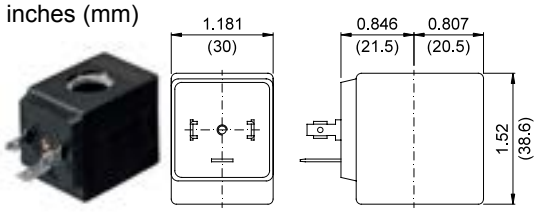
COILS Code ①	Alternating Current			Direct Current		Electrical connection	Connectors
	24V	120V	240V	12V	24V		
Series **2** Width 30mm	U25B	U25D	U25F	U250	U251	DIN 43650A	PG9 code 10349000

DESCRIPTION
Insulation class H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

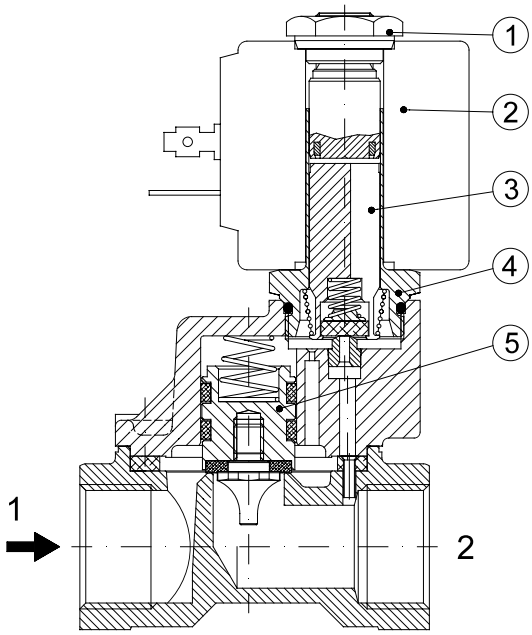
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

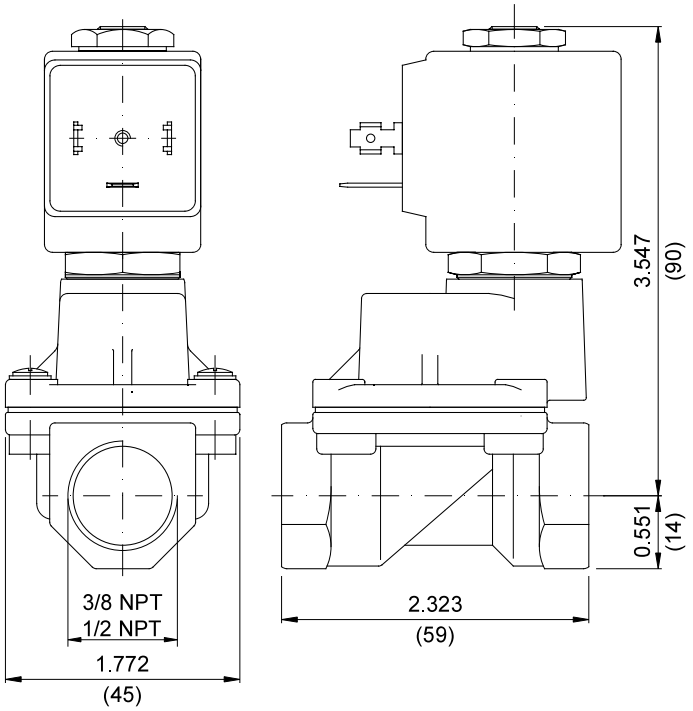


Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger assembly
4. Armature tube assembly
5. Piston assembly



OVERALL DIMENSIONS
inches (mm)



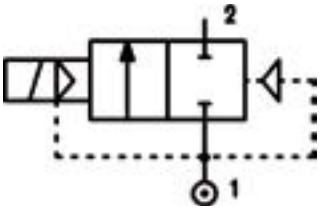
Weight 1.39lb (0.63Kg)

DESCRIPTION

Solenoid valve 2 way normally closed with servo-assisted piston suitable for air and water.
Its requested a minimum differential pressure of 10 psi.

COSTRUCTION

Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Piston	AISI 304
Springs	AISI 302
Seal material	main seal PTFE other FPM



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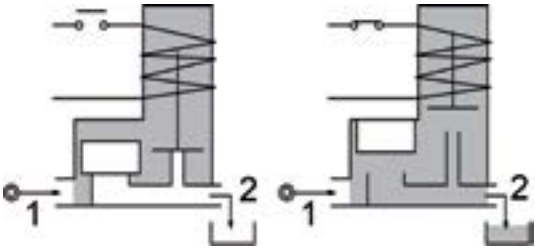
FEATURES

Minimum differential pressure 10 psi
Maximum allowable pressure 2900 psi
Maximum fluid viscosity 12cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above

OPTIONS: Electroless nickel plating
c UL us certified coils



CODE ①	Port Size GAS ISO 228	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal	Temp. range (°F)
E123CW07///...	**3/8**	**0.276**	*7*	**0.97**	**10**	*0.7*	**1450**	*100*	**1160**	*80*	**20**	**15**	**10**	**2**	**30**	**PTFE=W**	**+14 +203**
							2175	*150*	**2175**	*150*	**40**	**30**	**27**	**5**	**36**		

② Coil Example: E123CW07///201 PTFE seal
Coil 24V DC

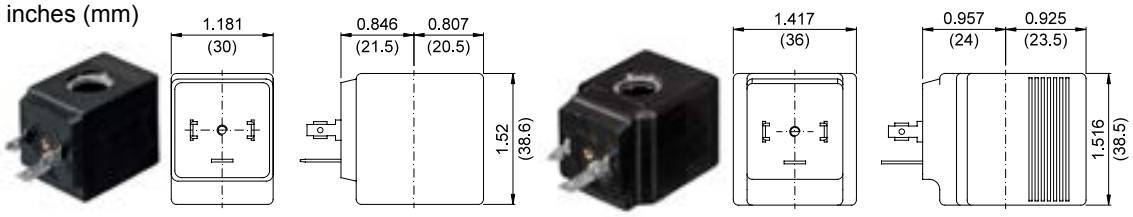
COILS Code ②	Alternating Current 24V		Alternating Current 120V		Alternating Current 240V		Direct Current 12V		Direct Current 24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	20B	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	52B		52D		52F		520		521		DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class
Series 2 =F Series 5=H
Voltage tolerance ±10%
Protection class
IP65 with connector fitted
IP00 without connector
Continuous service ED100%

OPTIONS
Class H insulation (series 2)
Cable attached
Special coil voltage
Special coil powers
c UL us certified coils

FOR COIL SPECIFICATION SEE SECTION 6

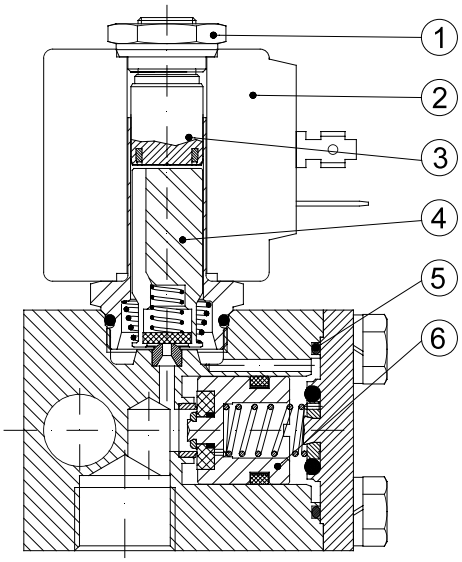
OVERALL DIMENSIONS
inches (mm)



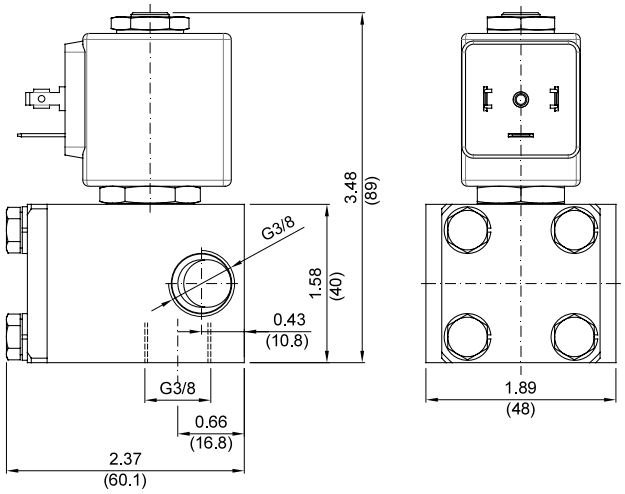
Series 2 Weight 0.26lb (0.12Kg)

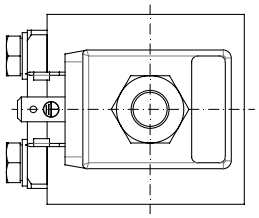
Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Armature tube assembly
4. Plunger assembly
5. Piston assembly
6. OR
7. OR



OVERALL DIMENSION
inches (mm)





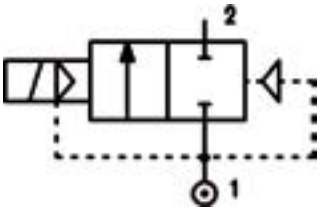
Weight with coil series 2 =2lb (0,91kg)
Weight with coil series 5 =2,18lb (0,99Kg)

DESCRIPTION

Solenoid valve 2 way normally closed with servo-assisted piston suitable for air and water.
Its requested a minimum differential pressure of 43.5 psi.

COSTRUCTION

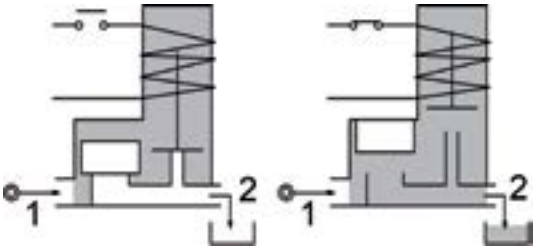
Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Piston	PBT
Springs	AISI 302
Seal material	main seal PTFE other FPM



4

FEATURES

Minimum differential pressure 43.5 psi
Maximum allowable pressure 2175 psi
Maximum fluid viscosity 12cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



OPTIONS: Electroless nickel plating
c UL us certified coils

CODE ①	Port Size GAS ISO 228	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal	Temp. range (°F)
E124DW12///...	**1/2**	**0.472**	*12*	**4.16**	**43.5**	*3*	**1450**	*100*	**1450**	*100*	**20**	**15**	**10**	**2**	**30**	**PTFE=W**	**+14 +203**

② Coil Example: E124DW12///201 PTFE seal
Coil 24V DC

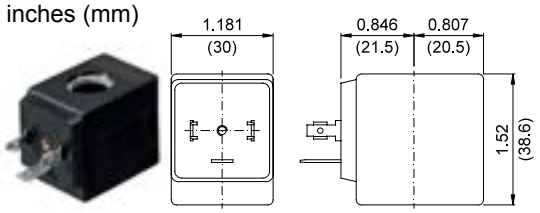
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	20B	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers
c UL us certified coils

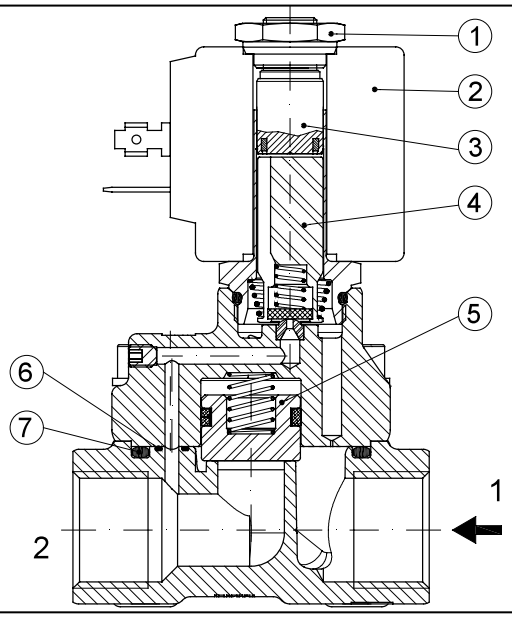
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

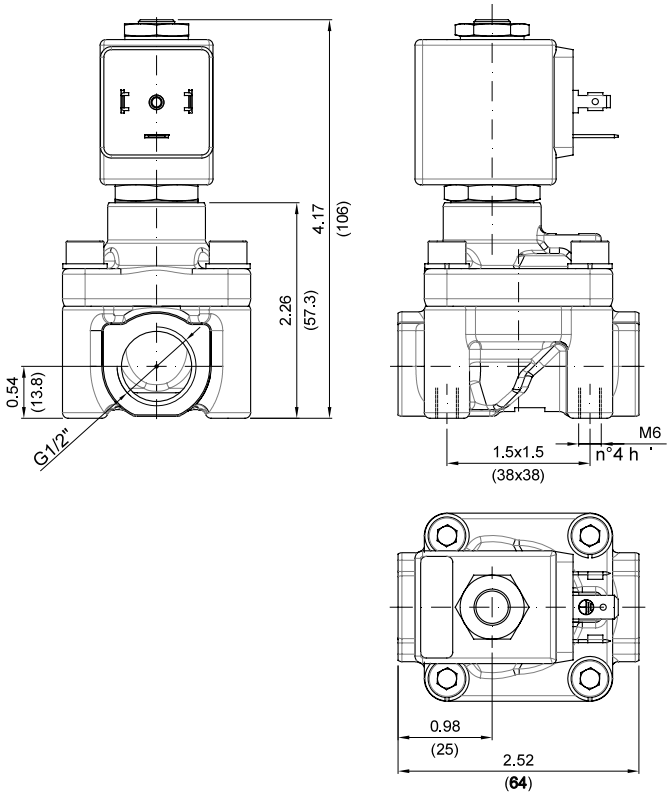


Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Armature tube assembly
4. Plunger assembly
5. Piston assembly
6. OR
7. OR



OVERALL DIMENSION
inches (mm)



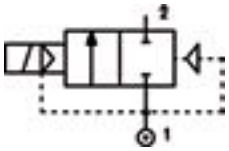
Weight = 1,94lb (0,88kg)

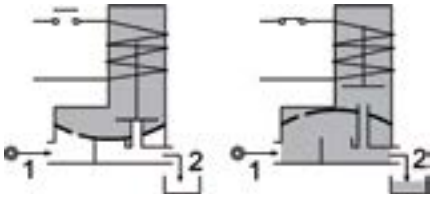
DESCRIPTION
Solenoid valve 2 way normally closed
with assisted-lift diaphragm

CONSTRUCTION

Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	FPM
	NBR (on request)

FEATURES
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above





OPTIONS: ATEX Ex d coils
Degreased for use with oxygen

CODE ① ②	Port Size NPT	Orifice mm (in)	Orifice mm (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min (psi)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E168CNV11///...	**3/8”**	**0.43**	*11*	**1.38**	**0**	**203**	*14*	**72.5**	*5*	**10W**	**2**	**30**	**FPM=V**	**+14 +284**
						-	-	**203**	*14*	**27W**	**5**	**36**		
E168DNV16///...	**1/2"**	**0.63**	*16*	**2.77**	**0**	**203**	*14*	**36**	*2.5*	**10W**	**2**	**30**		
						-	-	**203**	*14*	**27W**	**5**	**36**		
E168ENV16///...	**3/4"**	**0.63**	*16*	**2.77**	**0**	**203**	*14*	**36**	*2.5*	**10W**	**2**	**30**		
						-	-	**203**	*14*	**27W**	**5**	**36**		
E168ENV20/H/...	**3/4"**	**0.79**	*20*	**8.32**	**0**	**232**	*16*	**72.5**	*5*	**10W**	**2**	**30**		
						-	-	**232**	*16*	**27W**	**5**	**36**		
E168FNV25///...	**1"**	**1**	*25*	**8.32**	**0**	**116**	*8*	**-**	-	**10W**	**2**	**30**		
						203	*14*	**22**	*1.5*	**14W**	**5**	**36**		
						-	-	**87**	*6*	**27W**	**5**	**36**		
E168FNV25/H/...	**1"**	**1**	*25*	**9.71**	**0**	**232**	*16*	**72.5**	*5*	**10W**	**2**	**30**		
						-	-	**232**	*16*	**14W**	**5**	**36**		
E168GNV35///...	**1"1/4**	**1.38**	*35*	**18.7**	**0**	**232**	*16*	**-**	-	**10W**	**2**	**30**		
						-	-	**87**	*6*	**14W**	**5**	**36**		
						-	-	**232**	*16*	**27W**	**5**	**36**		
E168HNV40///...	**1"1/2**	**1.57**	*40*	**19.4**	**0**	**232**	*16*	**-**	-	**10W**	**2**	**30**		
						-	-	**87**	*6*	**14W**	**5**	**36**		
						-	-	**232**	*16*	**27W**	**5**	**36**		

① Seal
② Coil
③ Safe Working Pressure:232 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
The maximum allowable pressure PS for steam is 36 psi.

COILS ②	Alternating Current 50/60Hz (60Hz for UL coils) (V)							Direct Current (V)		Electrical connection	Connectors
	12	24	48	110	220 230	240	380	12	24		
Series **2** Width **30-10W**	-	**U25B**	-	**U25D**	**U25E**	**U25F**	-	**U250**	**U251**	**DIN 43650A**	**PG9 code 10349000 or PG11 code 10349001**
Series **5** Width **36-14W**	-	**U55B**	-	**U55D**	-	**U55F**	-	**U550**	**U551**		
Series **5** Width **36-27W**	**52A**	**52B**	**52C**	**52D**	**52E**	**52F**	**52G**	**520**	**521**		

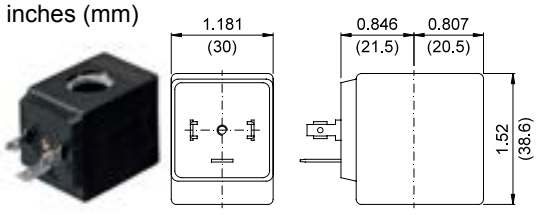
DESCRIPTION
Class H Insulation
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class
IP65 with connector fitted
IP00 without connector

OPTIONS
Cable attached
Special coil voltage
Special coil powers

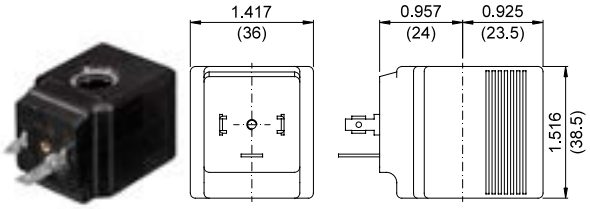
(for coil details see section 6)

OVERALL DIMENSIONS

inches (mm)



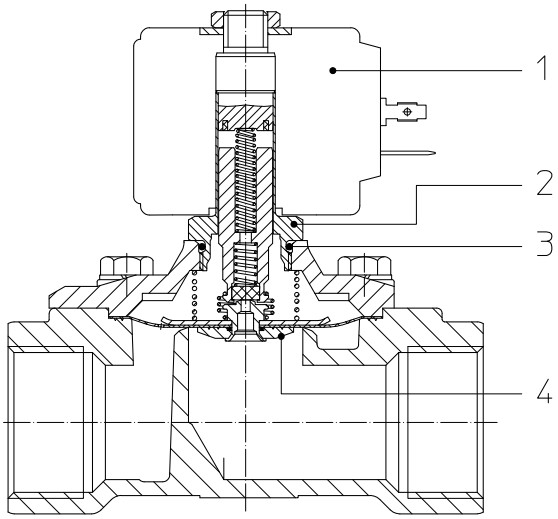
Series 2 Weight 0.26lb (0.12Kg)



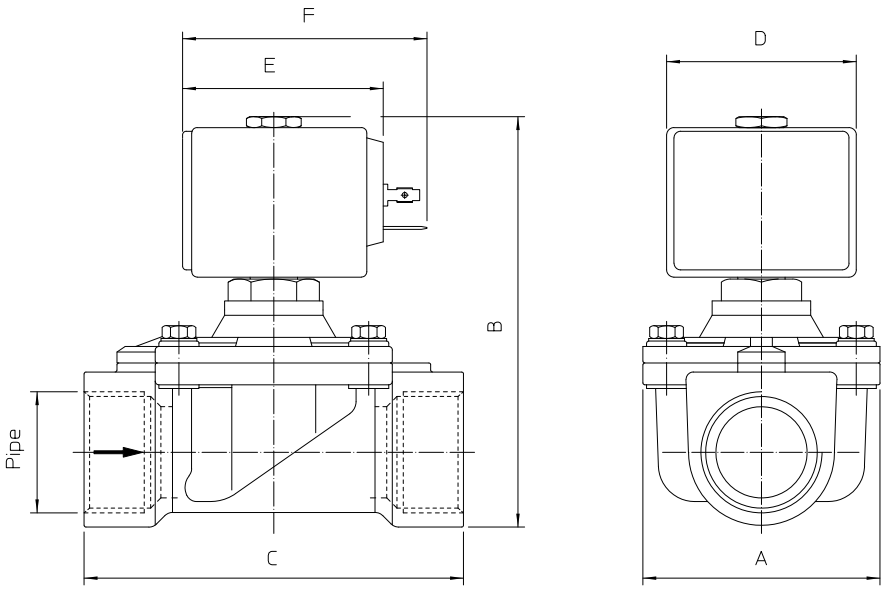
Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST

1. Coil
2. Armature tube
3. Armature tube OR
4. Diaphragm assembly+plunger



OVERALL DIMENSION



PIPE NPT	A		B		C	
	in	mm	in	mm	in	mm
3/8"	2	*50*	3,5	*89*	2,2	*56*
1/2"	2	*50*	4	*100*	2,76	*70*
3/4"	2	*50*	4	*100*	2,76	*70*
3/4" /H	2,6	*65*	4,1	*103*	4,1	*104*
1"	2,6	*65*	4,4	*112*	4,1	*104*
1" /H	2,6	*65*	4,3	*110*	4,1	*104*
1"1/4	3,7	*94*	5,1	*130*	5	*128*
1"1/2	3,7	*94*	5,1	*130*	5	*128*

COIL TYPE	D		E		F	
	in	mm	in	mm	in	mm
Series 2 30mm	1,2	*30*	1,65	*42*	2,1	*54*
Series 5 36mm	1,4	*36*	1,9	*48*	2,4	*60*

DESCRIPTION

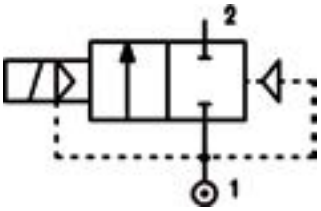
Solenoid valve 2 way normally closed in stainless steel AISI 316 with servo-assisted diaphragm

CONSTRUCTION

Body and cover	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES

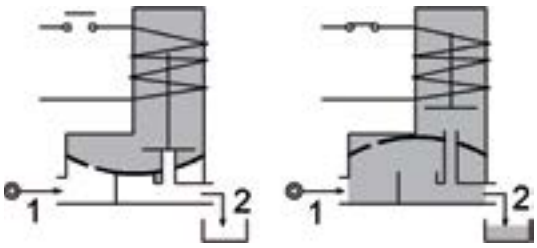
Minimum differential pressure 2.2psi
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



4

OPTIONS:

Manual override
Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C
similar to NEC 505 Div.1 Class II IIC T6
Food approval seal material
Version with slow closing diaphragm
Version for use with oxygen
Silver shading ring



CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E177CN...12///...	**3/8**	**0.472**	*12*	**2.54**	**2.2**	*0.15*	**217**	*15*	**217**	*15*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E177DN...12///...	**1/2**	**0.472**	*12*	**2.89**	**2.2**	*0.15*	**217**	*15*	**217**	*15*						**EPDM=E**	**+14 +284**
E177EN...18///...	**3/4**	**0.709**	*18*	**6.36**	**2.2**	*0.15*	**188**	*13*	**188**	*13*						**FPM=V**	**+14 +284**
E177FN...25///...	**1**	**0.984**	*25*	**11.79**	**2.2**	*0.15*	**145**	*10*	**145**	*10*							

① Seal
② Coil

Ordination example: E177DNB12///U35D NBR seal, connection 1/2 NPT
Coil 120V 60Hz certified c UL us and marked CE

③ Safe Working Pressure:360 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

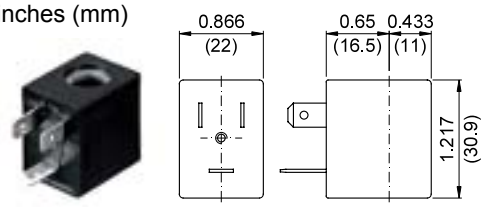
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	U350	300	U351	301	DIN 46244	PG9 code 10348000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

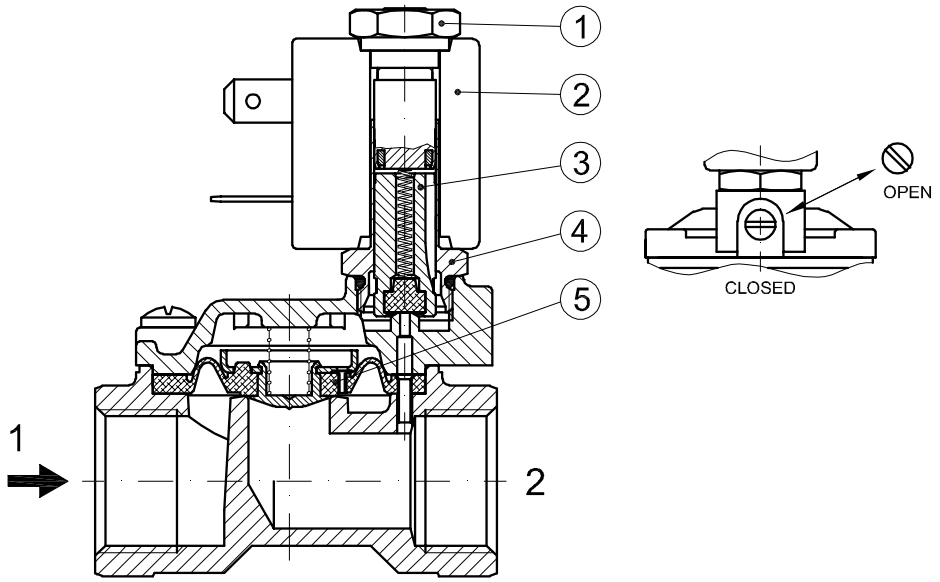
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

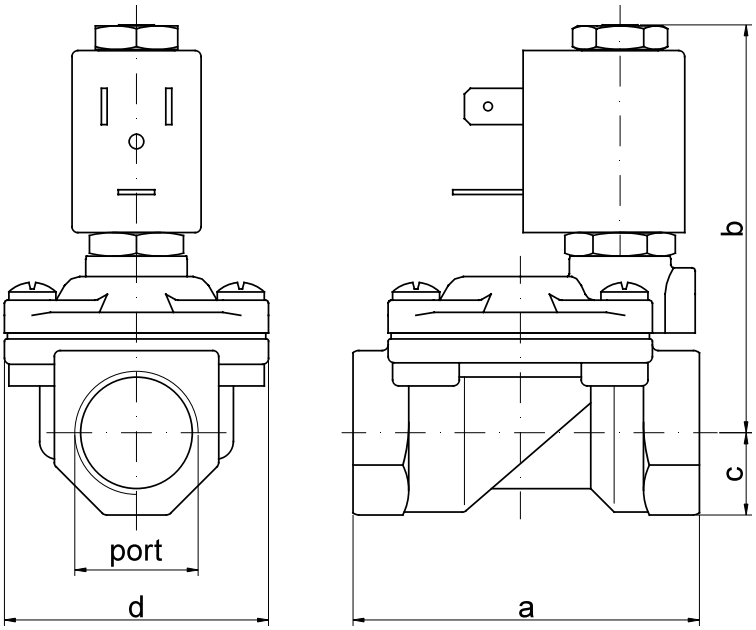


Series 3 Weight 0.11lb (0.05Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Plunger
4. Armature tube with core
5. Diaphragm assembly



OVERALL DIMENSION



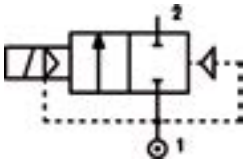
PORT SIZE	a		b		c		d		weight	
	in	mm	in	mm	in	mm	in	mm	lb	Kg
3/8	2.32	59	2.76	70	0.43	11	1.77	45	0.70	0.32
1/2	2.32	59	2.76	70	0.51	13	1.77	45	0.68	0.31
3/4	3.11	79	2.91	74	0.71	18	2.13	54	1.21	0.55
1	3.78	96	3.35	85	0.79	20	2.83	72	2.09	0.95

DESCRIPTION

Solenoid valve 2 way normally closed in stainless steel AIS 316 with servo-assisted diaphragm series 177.
With explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb**
Ex tb IIIC T80°C or **T95°C** or **T130°C Db IP66**
T176°F *or* ***T203°F*** *or* ***T266°F***
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***
CESI 03 ATEX 344 Extension No. 01/12
(other certifications e.g.EAC, INMETRO, CCOE etc. on request)

VALVE CONSTRUCTION

Body and cover	AISI 316
Seal material	FPM

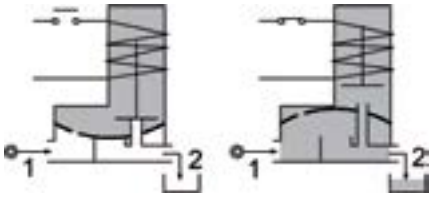


EXPLOSION PROOF COIL CONSTRUCTION

Housing	Red colour alloy
Electrical connection	1/2 NPT

FEATURES

Minimum differential pressure 2.2psi
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: +14°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)
Mounting position with vertical coil above



OPTIONS: Versions with slow closing diaphragm

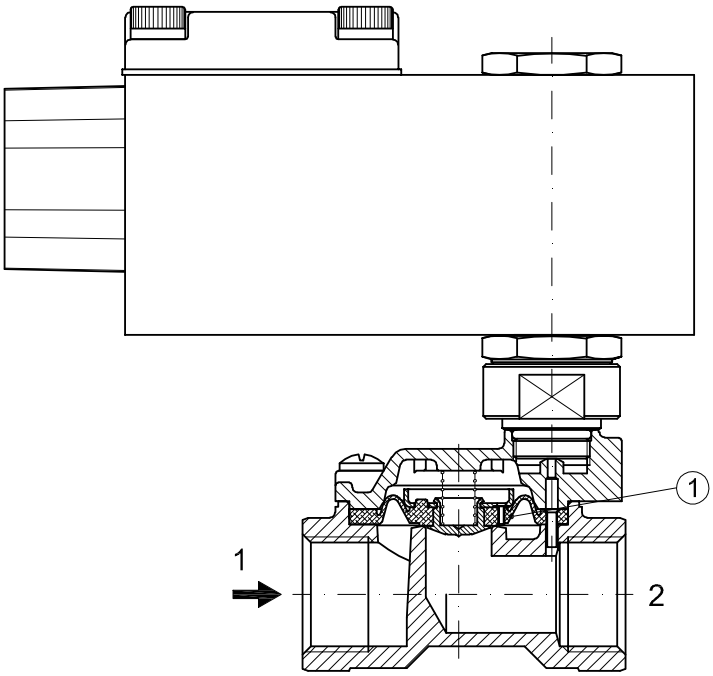
NOTE: The solenoid valve is suitable only with media that are **NOT** potentially explosive

CODE ①	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ② Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Seal	Temp. range (°F)
A177CNV12/1/...	**3/8**	**0.472**	*12*	**2.54**	**2.2**	*0.15*	**217**	*15*	**217**	*15*	**12**	**8**	**A6**	**FPM=V**	**+14 +284**
A177DNV12/1/...	**1/2**	**0.472**	*12*	**2.89**	**2.2**	*0.15*	**217**	*15*	**217**	*15*					
A177ENV18/1/...	**3/4**	**0.709**	*18*	**6.36**	**2.2**	*0.15*	**188**	*13*	**188**	*13*					
A177FNV25/1/...	**1**	**0.984**	*25*	**11.7**	**2.2**	*0.15*	**145**	*10*	**145**	*10*					

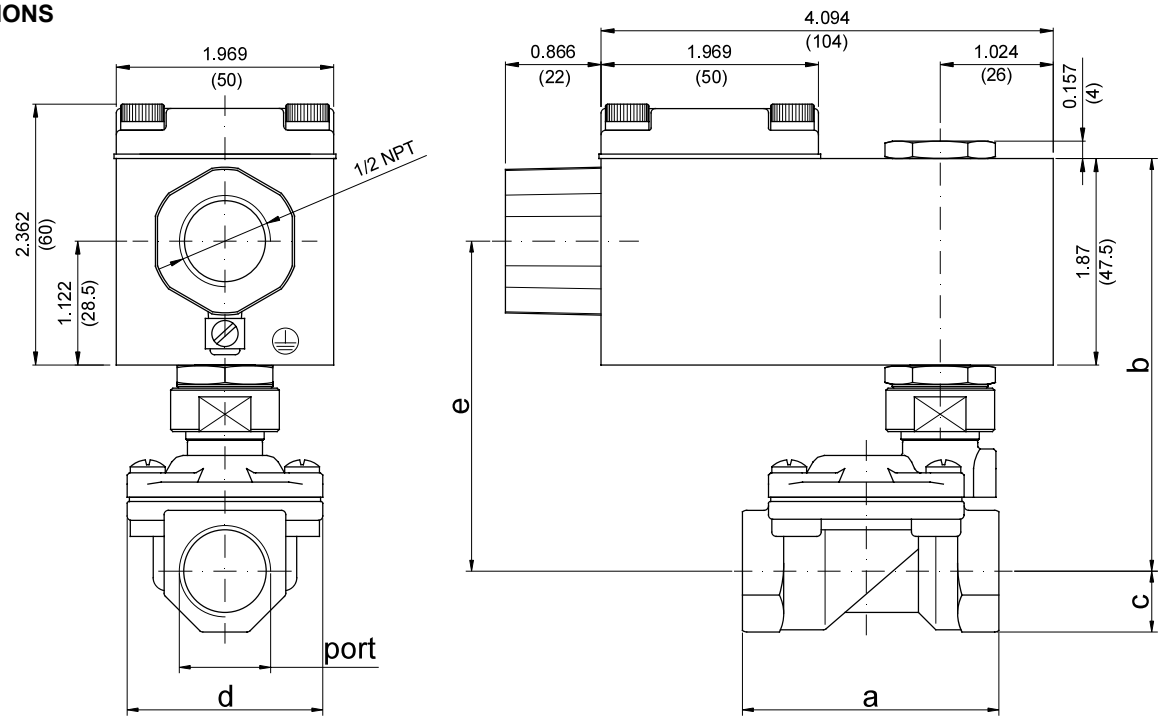
① Coil
② Safe Working Pressure:360 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

COILS Code ②	Alternating Current 50/60Hz				Direct Current			Electrical connection
	24V	48V	110V	220V 230V	12V	24V	48V	
Series **6**	**A6B**	**A6C**	**A6D**	**A6E**	**A60**	**A61**	**A62**	**1/2" NPT**

DESCRIPTION
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class IP66
Continuous service ED100%



OVERALL DIMENSIONS
inches (mm)



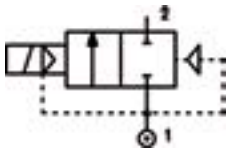
PORT SIZE	a		b		c		d		e		weight	
	in	mm	in	mm	in	mm	in	mm	in	mm	lb	Kg
3/8	2.32	59	3.74	95	0.55	14	1.77	45	2.99	76	2.03	0.92
1/2	2.32	59	3.74	95	0.55	14	1.77	45	2.99	76	2.03	0.92
3/4	3.11	79	4.13	105	0.71	18	2.13	54	3.23	82	2.43	1.10
1	3.78	96	4.45	113	0.79	20	2.83	72	3.58	91	3.31	1.50

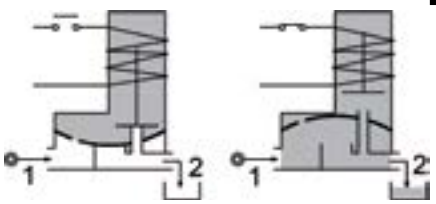
DESCRIPTION

Solenoid valve 2 way normally closed
with assisted-lift diaphragm in stainless steel AISI 316

CONSTRUCTION

Body and cover	AISI 316
Armature tube	AISI 316
Plunger and core	AISI 430FR
Springs	AISI 302
Shading ring	Silver
Seal material	FPM
	NBR (on request)





FEATURES

Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above

OPTIONS: ATEX Ex d coils
Degreased for use with oxygen

CODE ① ②	Port Size NPT	Orifice mm (in)	Orifice mm (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ③ Min (psi)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power	Coil Series	Coil Width	Seal ①	Temp. range (°F)
E178CNV15///...	**3/8”**	**0.59**	*15*	**2.77**	**0**	**203**	*14*	**87**	*6*	**10W**	**2**	**30**		
						-	-	**203**	*14*	**27W**	**5**	**36**		
E178DNV16///...	**1/2"**	**0.63**	*16*	**3.47**	**0**	**203**	*14*	**87**	*6*	**10W**	**2**	**30**		
						-	-	**203**	*14*	**27W**	**5**	**36**		
E178ENV20///...	**3/4"**	**0.79**	*20*	**4.16**	**0**	**203**	*14*	**87**	*6*	**10W**	**2**	**30**		
						-	-	**203**	*14*	**27W**	**5**	**36**		
E178FNV25///...	**1"**	**1**	*25*	**9.71**	**0**	**203**	*14*	**43.5**	*3*	**10W**	**2**	**30**	**FPM=V**	**+14 +284**
						-	-	**87**	*8*	**14W**	**5**	**36**		
						-	-	**203**	*14*	**27W**	**5**	**36**		
E178GNV35///...	**1"1/4**	**1.38**	*35*	**20.8**	**0**	**116**	*8*	**-**	-	**10W**	**2**	**30**		
						203	*14*	**29**	*2*	**14W**	**5**	**36**		
						-	-	**101**	*7*	**27W**	**5**	**36**		
E178HNV40///...	**1"1/2**	**1.57**	*40*	**22.2**	**0**	**116**	*8*	**-**	-	**10W**	**2**	**30**		
						203	*14*	**29**	*2*	**14W**	**5**	**36**		
						-	-	**101**	*7*	**27W**	**5**	**36**		

① Seal
② Coil
③ Safe Working Pressure:232 psi. Is the line or system pressure to which the valve may be subjected without being damaged.
The maximum allowable pressure PS for steam is 36 psi.

COILS ②	Alternating Current 50/60Hz (60Hz for UL coils) (V)							Direct Current (V)		Electrical connection	Connectors
	12	24	48	110	220 230	240	380	12	24		
Series **2** Width **30-10W**	-	U25B	-	U25D	U25E	U25F	-	U250	U251	DIN 43650A	PG9 code 10349000 or PG11 code 10349001
Series **5** Width **36-14W**	-	U55B	-	U55D	-	U55F	-	U550	U551		
Series **5** Width **36-27W**	52A	52B	52C	52D	52E	52F	52G	520	521		

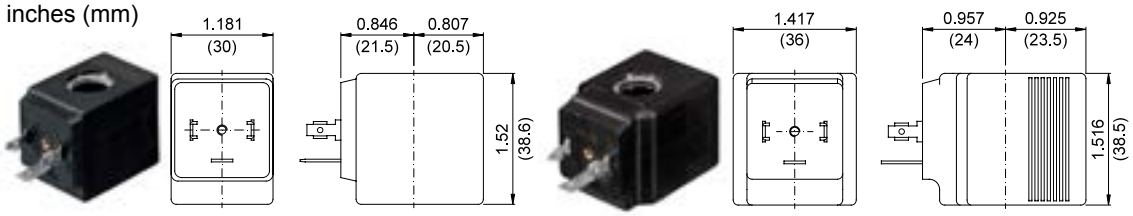
DESCRIPTION
Class H Insulation
Voltage tolerance
AC +15% -10%
DC ± 10%
Protection class
IP65 with connector fitted
IP00 without connector

OPTIONS
Cable attached
Special coil voltage
Special coil powers

(for coil details see section 6)

OVERALL DIMENSIONS

inches (mm)

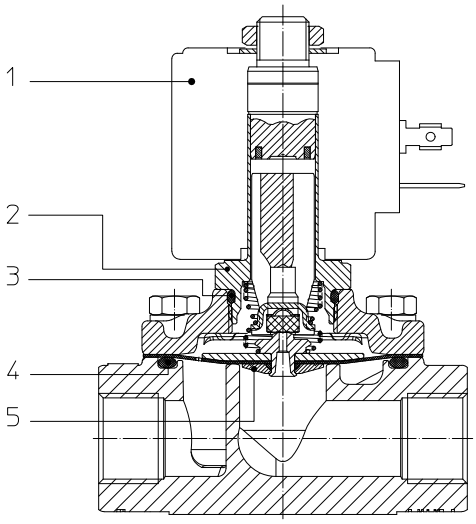


Series 2 Weight 0.26lb (0.12Kg)

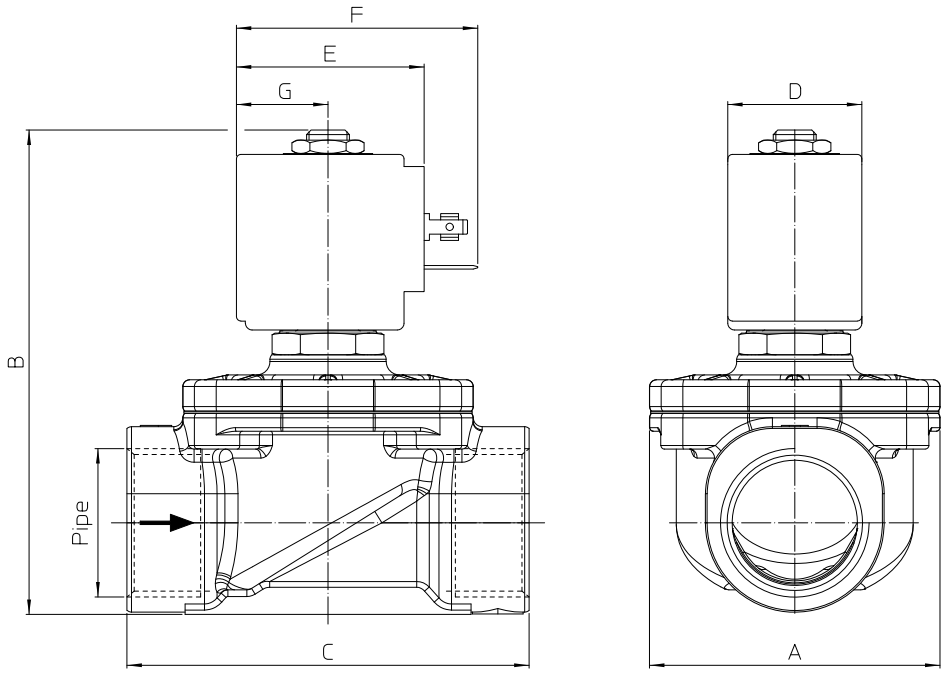
Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST

1. Coil
2. Armature tube
3. Armature tube OR
4. Body OR
5. Diaphragm assembly+plunger



OVERALL DIMENSION



PIPE NPT	A		B		C	
	in	mm	in	mm	in	mm
3/8”	2	52	3.6	92	2.7	68
1/2”	2	52	3.6	92	2.7	68
3/4”	2.3	58	4	100	3	75
1”	2.6	65	4.3	109	3.5	90
1"1/4	3.7	94	5	126	5	128
1"1/2	3.7	94	5	126	5	128

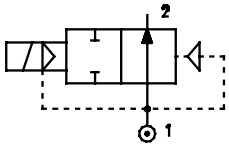
COIL TYPE	D		E		F		G	
	in	mm	in	mm	in	mm	in	mm
Series 2 30mm	1.2	30	1.65	42	2.1	54	0.8	20.5
Series 5 36mm	1.4	36	1.9	48	2.36	60	0.8	23.5

DESCRIPTION
Solenoid valve 2 way normally open
with servo-assisted diaphragm

CONSTRUCTION

Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Minimum differential pressure 2.2psi
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



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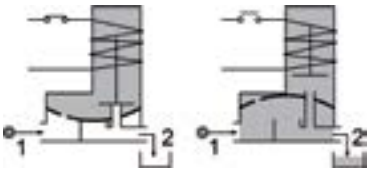
OPTIONS: Electroless nickel plating
Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6



ON REQUEST: Manual override

CODE ① ②	Port Size	Orifice Size		Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③ Min		Max AC		Max DC ④		Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width	Seal ①	Temp. range
	NPT	(in)	(mm)	(gpm)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)					(mm)		(°F)
E207BN...10///...	**1/4**	**0.394**	*10*	**1.73**	**2.2**	*0.15*	**217**	*15*	**217**	*15*							
E207CN...10///...	**3/8**	**0.394**	*10*	**1.97**	**2.2**	*0.15*	**217**	*15*	**217**	*15*							
E207CN...12///...	**3/8**	**0.472**	*12*	**2.54**	**2.2**	*0.15*	**217**	*15*	**217**	*15*							
E207DN...12///...	**1/2**	**0.472**	*12*	**2.89**	**2.2**	*0.15*	**217**	*15*	**217**	*15*	**12**	**8**	**6.5**	**3**	**22**		
E207EN...18///...	**3/4**	**0.709**	*18*	**6.36**	**2.2**	*0.15*	**188**	*13*	**188**	*13*						**NBR=B**	**+14 +194**
E207FN...25///...	**1**	**0.984**	*25*	**11.79**	**2.2**	*0.15*	**145**	*10*	**145**	*10*							
E207GN...30///...	**1-1/4**	**1.181**	*30*	**17.34**	**2.2**	*0.15*	**145**	*10*	**145**	*10*						**EPDM=E**	**+14 +284**
E207BN...10///...	**1/4**	**0.394**	*10*	**1.73**	**2.2**	*0.15*	**217**	*15*	**217**	*15*							
E207CN...10///...	**3/8**	**0.394**	*10*	**1.97**	**2.2**	*0.15*	**217**	*15*	**217**	*15*						**FPM=V**	**+14 +284**
E207CN...12///...	**3/8**	**0.472**	*12*	**2.54**	**2.2**	*0.15*	**217**	*15*	**217**	*15*							
E207DN...12///...	**1/2**	**0.472**	*12*	**2.89**	**2.2**	*0.15*	**217**	*15*	**217**	*15*	**15**	**11**	**8**	**4**	**30**		
E207EN...18///...	**3/4**	**0.709**	*18*	**6.36**	**2.2**	*0.15*	**188**	*13*	**188**	*13*							
E207FN...25///...	**1**	**0.984**	*25*	**11.79**	**2.2**	*0.15*	**145**	*10*	**145**	*10*							
E207GN...30///...	**1-1/4**	**1.181**	*30*	**17.34**	**2.2**	*0.15*	**145**	*10*	**145**	*10*							

① Seal — Ordination example: E207DNB12///U351 NBR seal, connection 1/2 NPT
② Coil — Coil 24V DC certified cULus and marked CE
③ Safe Working Pressure:360 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.
④ Direct current (DC) series 3 coil available only without UL certification

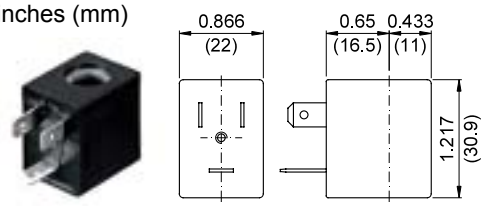
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

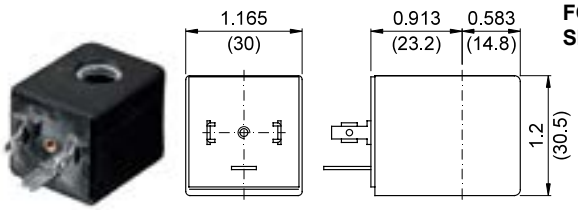
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

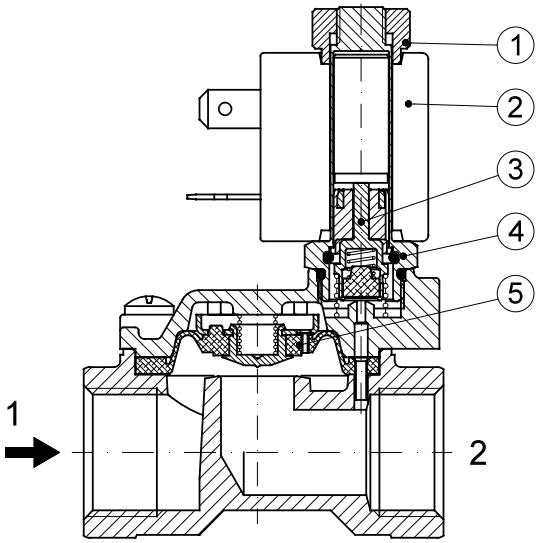


Series 3 Weight 0.11lb (0.05Kg)

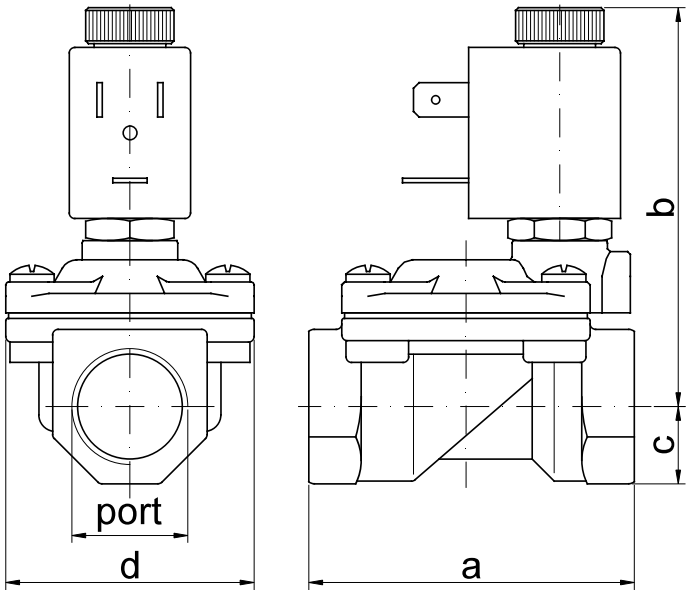


Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly
5. Diaphragm assembly



OVERALL DIMENSIONS
inches (mm)



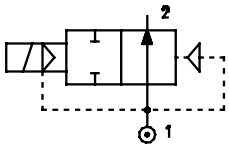
PORT SIZE	a in	a mm	b in	b mm	c in	c mm	d in	d mm	weight lb	weight Kg
1/4 Ø0.394 (Ø10)	1.93	49	2.83	72	0.43	11	1.26	32	0.53	0.24
3/8 Ø0.394 (Ø10)	1.93	49	2.83	72	0.43	11	1.26	32	0.51	0.23
3/8 Ø0.472 (Ø12)	2.32	59	3.03	77	0.55	14	1.77	45	0.93	0.42
1/2 Ø0.472 (Ø12)	2.32	59	3.03	77	0.55	14	1.77	45	0.86	0.39
3/4	3.11	79	3.27	83	0.71	18	2.17	55	1.43	0.65
1	3.78	96	3.62	92	0.79	20	2.83	72	2.31	1.05
1-1/4 Ø1.181 (Ø30)	4.69	119	3.90	99	0.98	25	3.35	85	3.75	1.70

DESCRIPTION
Solenoid valve 2 way normally open
with servo-assisted diaphragm

CONSTRUCTION

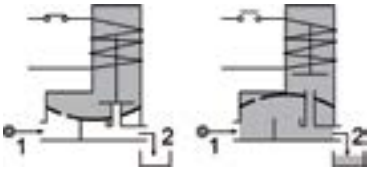
Body and cover	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES
Minimum differential pressure 2.2÷44psi
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



OPTIONS: Electroless nickel plating

ON REQUEST: Manual override



CODE ① ②	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ④ Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal ①	Temp. range (°F)
E207GN...37///...	**1-1/4**	**1.457**	*37*	**20.8**	**2.2**	*0.15*	**145**	*10*	**145**	*10*	**20**	**15**	**10**	**2**	**30**	**NBR=B**	**+14 +194**
E207HN...37///...	**1-1/2**	**1.457**	*37*	**24.3**	**2.2**	*0.15*	**145**	*10*	**145**	*10*						**EPDM=E**	**+14 +284**
E207IN...50///...	**2**	**1.969**	*50*	**41.6**	**2.2**	*0.15*	**145**	*10*	**145**	*10*						**FPM=V**	**+14 +284**
E207MNB75///...	**2-1/2**	**2.953**	*75*	**86.7**	**4.4**	*0.3*	**72.5**	*5*	**72.5**	*5*	**20**	**15**	**10**	**2**	**30**	**NBR=B**	**+14 +194**
E207RNB75///...	**3**	**2.953**	*75*	**97.1**	**4.4**	*0.3*	**72.5**	*5*	**72.5**	*5*							
③E207MNB75/W/...	**2-1/2**	**2.953**	*75*	**86.7**	**44**	*3*	**217**	*15*	**217**	*15*	**40**	**30**	**27**	**5**	**36**		
③E207RNB75/W/...	**3**	**2.953**	*75*	**97.1**	**44**	*3*	**217**	*15*	**217**	*15*							

① Seal
② Coil
③ Reinforced diaphragm

Ordination example: E207INB50///U251 NBR seal, connection 2 NPT
Coil 24V DC certified c UL us and marked CE

④ Safe Working Pressure:290 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

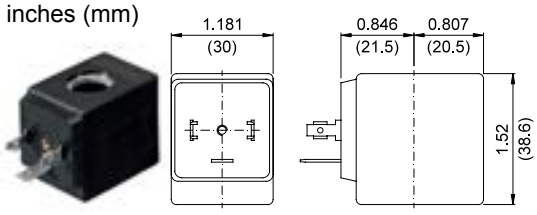
COILS Code ②	Alternating Current 24V		120V		240V		Direct Current 12V		24V		Electrical connection	Connectors
Series **2** Width 30mm	U25B	20B	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000
Series **5** Width 36mm	U55B	52B	U55D	52D	U55F	52F	U550	520	U551	521	DIN 43650A	PG11 code 10349001

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

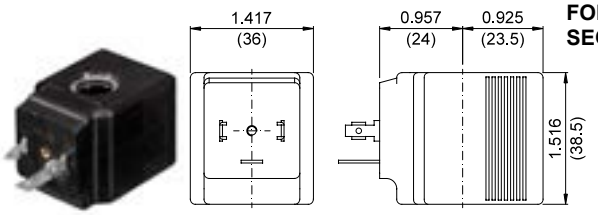
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

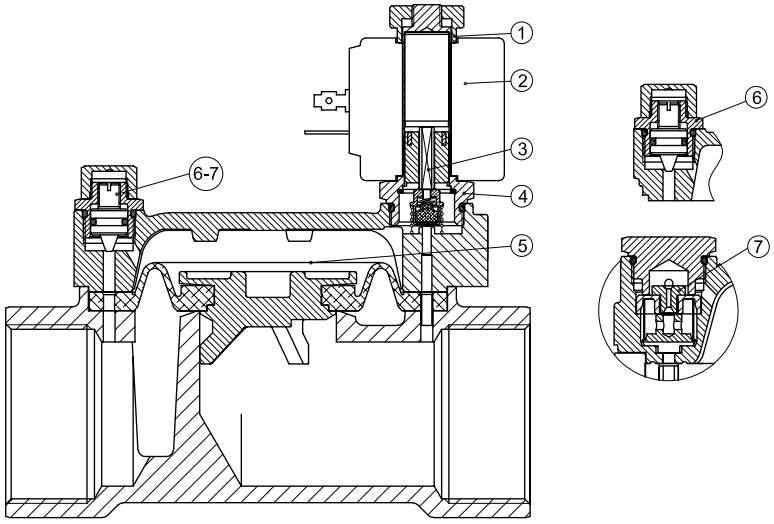


Series 2 Weight 0.26lb (0.12Kg)

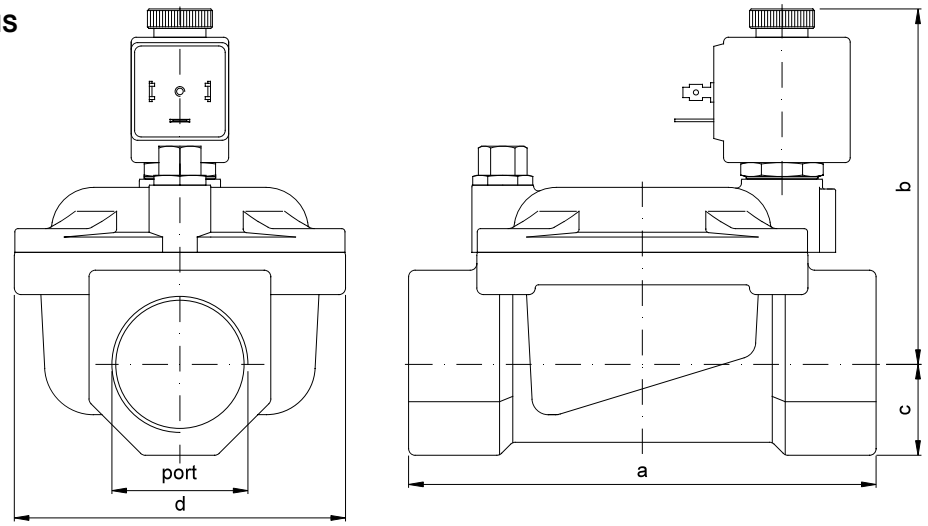


Series 5 Weight 0.44lb (0.20Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube with core
5. Diaphragm assembly
6. Speed control valve
7. Water hammering reducer
   Ø0.03-Ø0.039-Ø0.04
   (Ø0.8-Ø1.2-Ø1.5)



OVERALL DIMENSIONS
inches (mm)



PORT SIZE	a in	a mm	b in	b mm	c in	c mm	d in	d mm	weight lb	weight Kg
1-1/4	5.59	142	4.33	110	1.1	28	4.02	102	6.61	3
1-1/2	5.59	142	4.33	110	1.1	28	4.02	102	6.28	2.85
2	6.22	158	4.72	120	1.38	35	4.69	119	9.48	4.3
2-1/2	8.9	226	5.47	139	2.01	51	6.65	169	25.8	11.7
3	8.9	226	5.47	139	2.01	51	6.65	169	21.8	9.9

DESCRIPTION

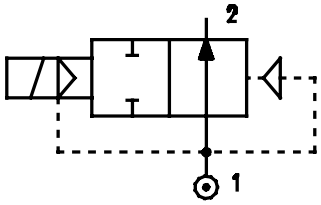
Solenoid valve 2 way normally open
with servo-assisted piston

CONSTRUCTION

Body and cover	Brass
Armature tube	Brass
Plunger and core	AISI 430FR
Springs	AISI 302
Piston	Brass
Piston seal	PTFE reinforced
Seal material	Main seal PTFE, other FPM

FEATURES

Minimum differential pressure 14.5psi
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



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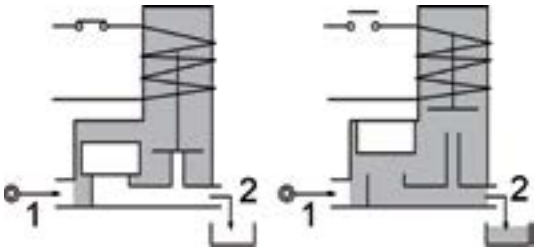
OPTIONS: Electroless nickel plating
Stainless steel armature tube



CODE ①	Port Size NPT	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) ② Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal	Temp. range (°F)
E219CNV12///...	**3/8**	**0.472**	*12*	**2.31**	**14.5**	*1*	**362**	*25*	**362**	*25*	**20**	**15**	**10**	**2**	**30**	**PTFE/ FPM**	**+14 +284**
E219DNV12///...	**1/2**	**0.472**	*12*	**2.54**	**14.5**	*1*	**362**	*25*	**362**	*25*							

Ordination example: E219DNV12///U251 FPM/PTFE seal, connection 1/2 NPT

① Coil — Coil 24V DC certified cULus and marked CE

② Safe Working Pressure:580 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.

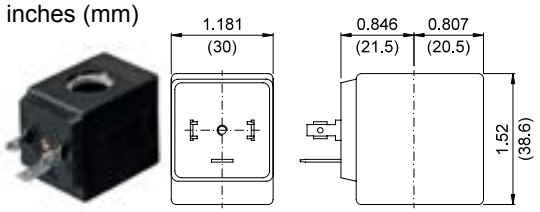
COILS Code ①	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	20B	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers

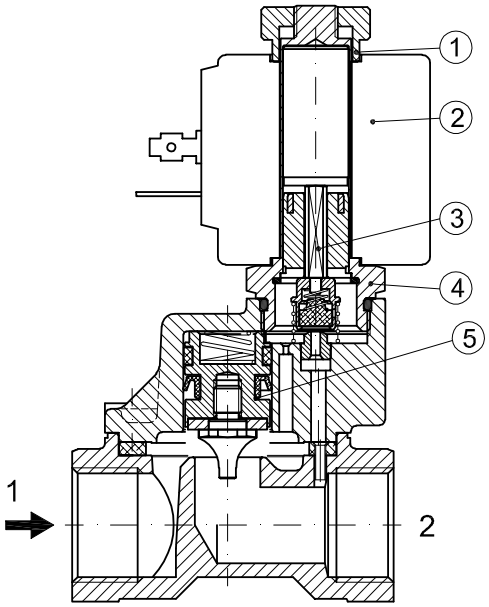
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

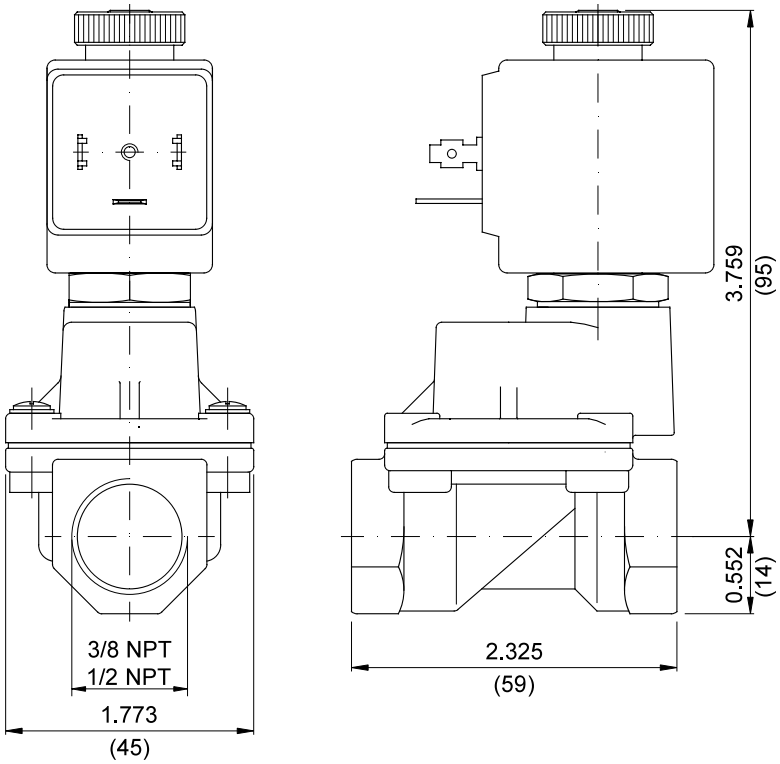


Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube with core
5. Piston assembly



OVERALL DIMENSIONS
inches (mm)



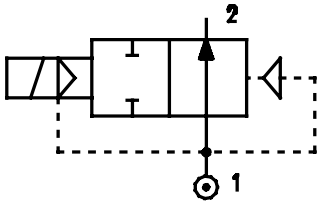
Weight=1.39lb (0.63Kg)

DESCRIPTION

Solenoid valve 2 way normally open with servo-assisted piston suitable for air and water.
Its requested a minimum differential pressure of 43.5 psi.

COSTRUCTION

Body and cover	Brass
Armature tube	AISI 303
Plunger and core	AISI 430FR
Piston	PBT
Springs	AISI 302
Seal material	main seal PTFE other FPM



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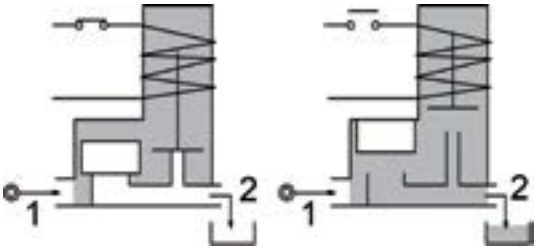
FEATURES

Minimum differential pressure 43.5 psi
Maximum allowable pressure 2175 psi
Maximum fluid viscosity 12cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above

OPTIONS: Electroless nickel plating
c UL us certified coils



CODE ①	Port Size GAS ISO 228	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Operating Pressure Differential (M.O.P.D.) Min (psi)	Min (bar)	Max AC (psi)	Max AC (bar)	Max DC (psi)	Max DC (bar)	Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width (mm)	Seal	Temp. range (°F)
E224DW12///...	**1/2**	**0.472**	*12*	**4.16**	**43.5**	*3*	**725**	*50*	**725**	*50*	**20**	**15**	**10**	**2**	**30**	**PTFE=W**	**+14 +203**

② Coil Example: E224DW12///201 PTFE seal
Coil 24V DC

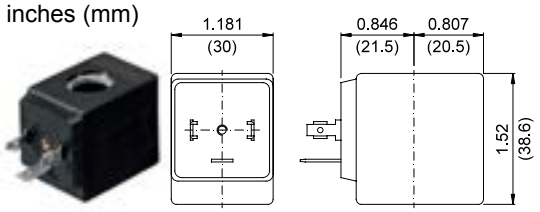
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series **2** Width 30mm	U25B	20B	U25D	20D	U25F	20F	U250	200	U251	201	DIN 43650A	PG9 code 10349000

DESCRIPTION
Insulation class F or H
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

OPTIONS
Cable attached
Special coil voltage
Special coil powers
cULus certified coils

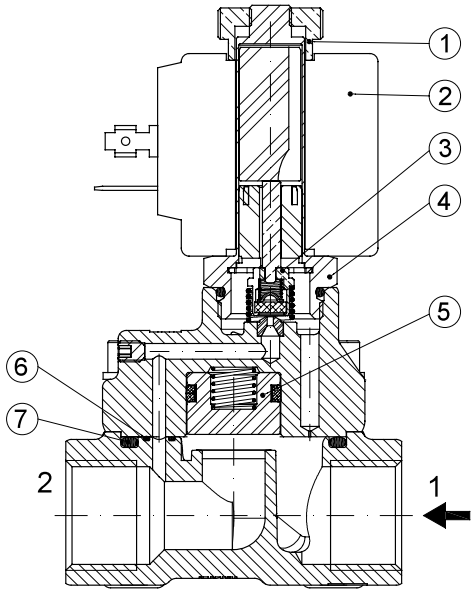
FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

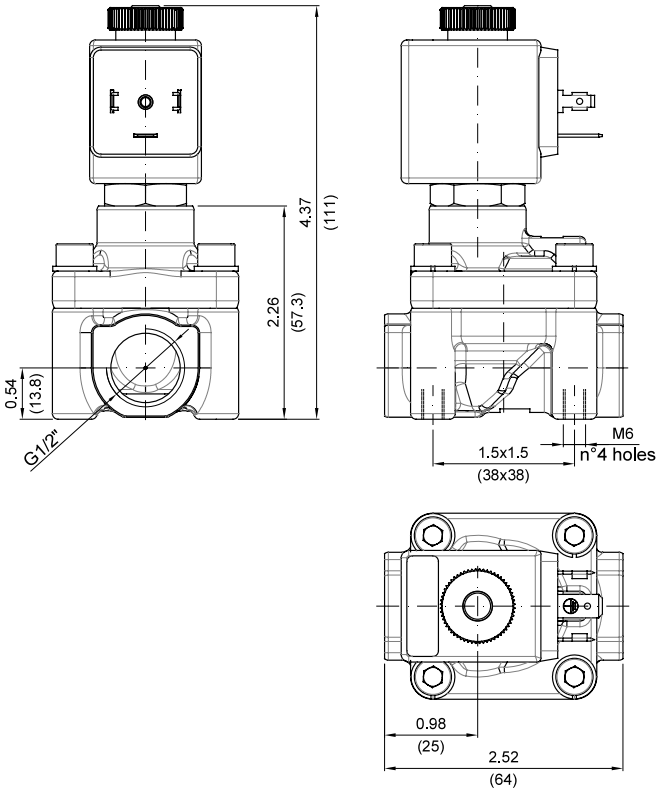


Series 2 Weight 0.26lb (0.12Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube assembly
5. Piston assembly
6. OR
7. OR



OVERALL DIMENSION
inches (mm)



DESCRIPTION

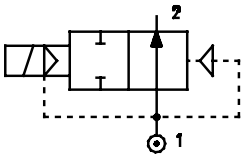
Solenoid valve 2 way normally open in stainless steel AISI 316 with servo-assisted diaphragm

CONSTRUCTION

Body and cover	AISI 316
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM

FEATURES

Minimum differential pressure 2.2psi
Maximum fluid viscosity 25cSt (mm^2/s)
Ambient temperature: from +14°F to +176°F according to the coil
Preferred mounting position with vertical coil above



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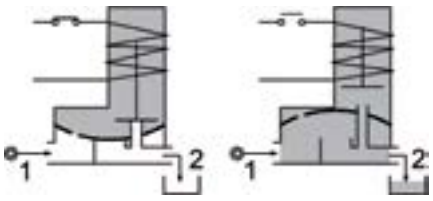
OPTIONS: Series 7 explosion proof coil according to
Ex ATEX II 2G Ex mb IIC T6, T5, T4 Gb
II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
similar to NEC 505 Div.1 Class II IIC T6
Version with slow closing diaphragm
Version for use with oxygen
Silver shading ring



CODE ① ②	Port Size	Orifice Size		Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③ Min		Max AC		Max DC ④		Nominal power AC (VA) Inrush	Nominal power AC (VA) Holding	Nominal power DC (W)	Coil Series	Coil Width	Seal ①	Temp. range
	NPT	(in)	(mm)	(gpm)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)					(mm)		(°F)
E277CN...12///...	**3/8**	**0.472**	*12*	**2.54**	**2.2**	*0.15*	**217**	*15*	**217**	*15*	**12**	**8**	**6.5**	**3**	**22**	**NBR=B**	**+14 +194**
E277DN...12///...	**1/2**	**0.472**	*12*	**2.89**	**2.2**	*0.15*	**217**	*15*	**217**	*15*							
E277EN...18///...	**3/4**	**0.709**	*18*	**6.36**	**2.2**	*0.15*	**188**	*13*	**188**	*13*							
E277FN...25///...	**1**	**0.984**	*25*	**11.79**	**2.2**	*0.15*	**145**	*10*	**145**	*10*						**EPDM=E**	**+14 +284**
E277CN...12///...	**3/8**	**0.472**	*12*	**2.54**	**2.2**	*0.15*	**217**	*15*	**217**	*15*	**20**	**15**	**5**	**4**	**30**	**FPM=V**	**+14 +284**
E277DN...12///...	**1/2**	**0.472**	*12*	**2.89**	**2.2**	*0.15*	**217**	*15*	**217**	*15*							
E277EN...18///...	**3/4**	**0.709**	*18*	**6.36**	**2.2**	*0.15*	**188**	*13*	**188**	*13*							
E277FN...25///...	**1**	**0.984**	*25*	**11.79**	**2.2**	*0.15*	**145**	*10*	**145**	*10*							

① Seal — Ordination example: E277DNB12///U451 NBR seal, connection 1/2 NPT
② Coil — Coil 24V DC certified c UL us and marked CE
③ Safe Working Pressure:360 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.
④ Direct current (DC) series 3 coil available only without UL certification

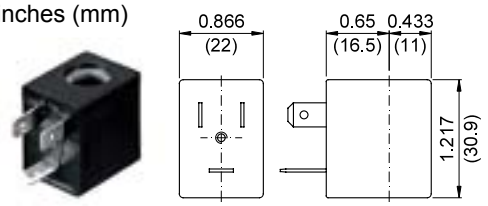
COILS Code ②	Alternating Current 24V		Alternating Current 120V		Alternating Current 240V		Direct Current 12V		Direct Current 24V		Electrical connection	Connectors
Series **3** Width 22mm	U35B	30B	U35D	30D	U35F	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series **4** Width 30mm	-	40B	-	40D	-	40F	U450	400	U451	401	DIN 43650A	PG9 code 10349000

DESCRIPTION
Class F or H insulation
Voltage tolerance ±10%
Protection class:
IP65 with connector attached
IP00 without connector
Continuous service ED100%

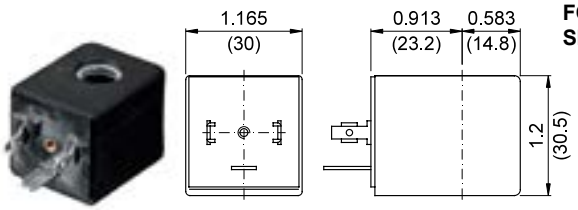
OPTIONS
Cable attached
Special coil voltage
Special coil powers

FOR COIL SPECIFICATION SEE SECTION 6

OVERALL DIMENSIONS
inches (mm)

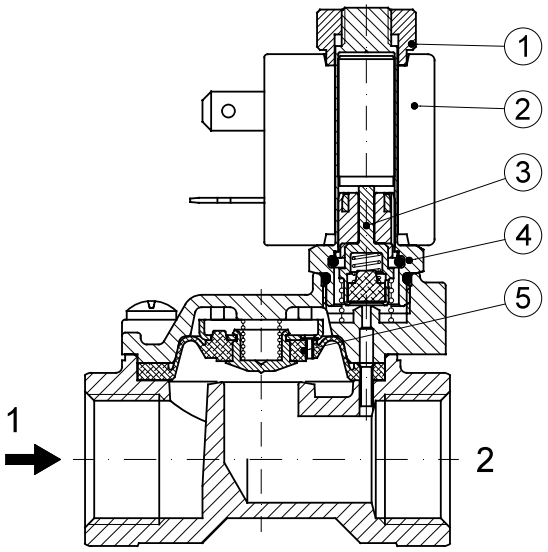


Series 3 Weight 0.11lb (0.05Kg)

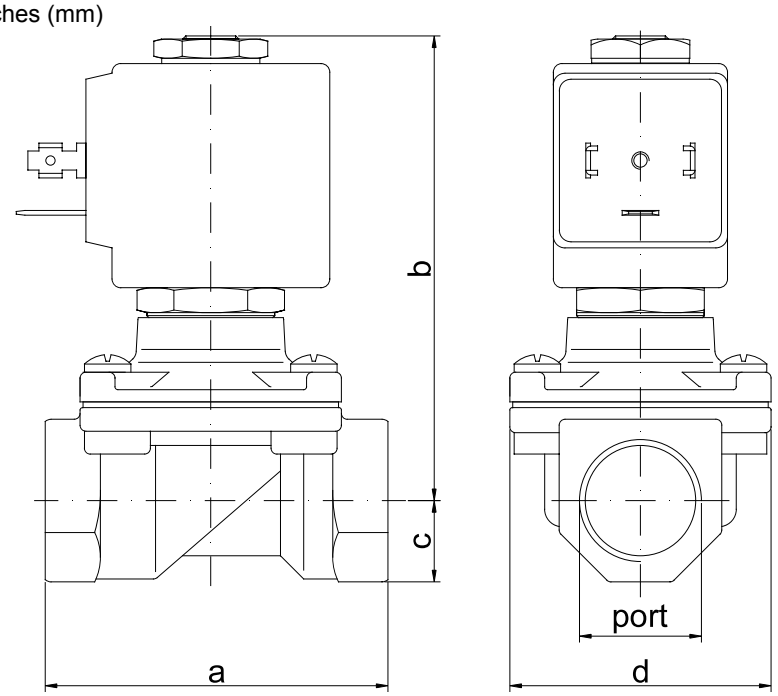


Series 4 Weight 0.22lb (0.1Kg)

SPARE PARTS LIST
1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube with core
5. Diaphragm assembly



OVERALL DIMENSIONS
inches (mm)



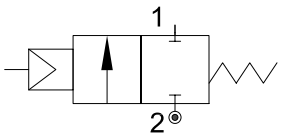
PORT SIZE	a in	a mm	b in	b mm	c in	c mm	d in	d mm	weight lb	weight Kg
3/8	2.32	59	2.87	73	0.55	14	1.77	45	0.66	0.30
1/2	2.32	59	2.87	73	0.55	14	1.77	45	0.71	0.32
3/4	3.11	79	2.99	76	0.71	18	2.17	55	1.21	0.55
1	3.78	96	3.35	85	0.79	20	2.83	72	2.09	0.95

DESCRIPTION
Normally Closed (NC) - Pneumatic Shuttle Valve

PRESENTATION
- Coaxial valve optimized to ensure high flow control
- The design allows high pressure management
- On request available Normally open or double acting version
- Universal mount position
- Optional EPDM sealing version for steam and hot water application

USE: Drinks Filling Machinery, Textile printing & Dyeing, Gas industry, Pharmacy & Medical Equipment, Chemical industry, Disinfection, Frothing Equipment, Water management

CONNECTION: Threaded NPT or GAS



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VALVE FEATURES

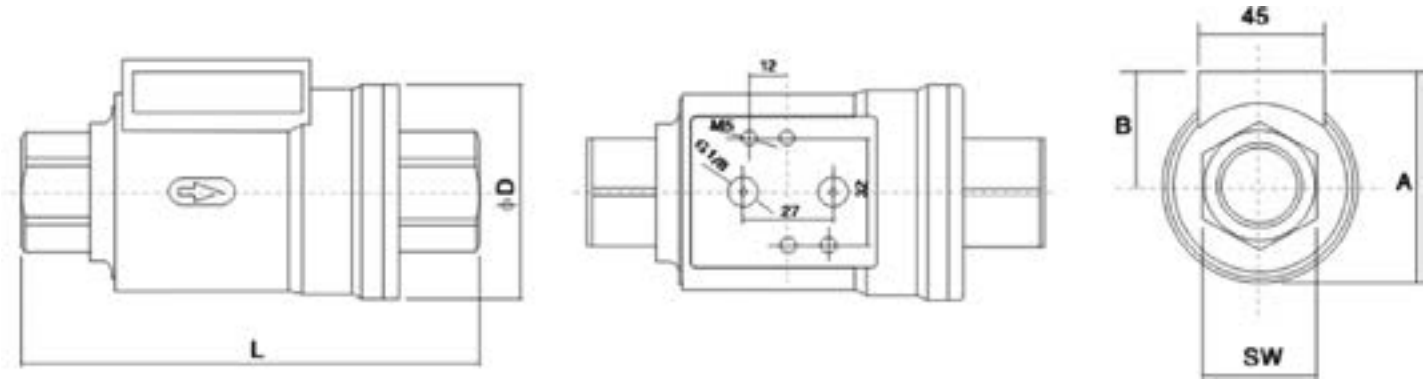
Fluid Pressure	Up to max 232psi (16bar)
Control Pressure	43.5 - 116psi (3 - 8bar)
Control Fluid	Neutral gas, Air
Body material	AISI 304
Seal	FKM
Fluid	Water, oils and neutral fluids
Fluid temperature	-4°F to +300°F (-20°C to +150°C)
Ambient temperature	-4°F to +176°F (-20°C to +80°C)
Control Type	Normally closed

OVERALL DIMENSION

CODE	Threaded connection	Nominal Diameter		Pilot pressure		Max pressure		A	D	SW	B	L	Weight
①	GAS or NPT	inches	*mm*	psi	*bar*	psi	*bar*	inches	inches	inches	inches	inches	Kg
CP100C...V10	**3/8”**	**0.39**	*10*	**45-120**	*3-8*	**232**	*16*	**2,20**	**1,81**	**0,87**	**1,30**	**3,86**	**0.80**
CP100D...V15	**1/2”**	**0.59**	*15*	**45-120**	*3-8*	**232**	*16*	**2,40**	**2,05**	**1,04**	**1,38**	**4,41**	**1.00**
CP100E...V20	**3/4”**	**0.79**	*20*	**45-120**	*3-8*	**232**	*16*	**2,83**	**2,52**	**1,26**	**1,57**	**5,31**	**1.50**
CP100F...V25	**1”**	**1**	*25*	**45-120**	*3-8*	**232**	*16*	**3,07**	**2,72**	**1,61**	**1,69**	**5,63**	**1.92**
CP100G...V32	**1 1/4”**	**1.26**	*32*	**45-120**	*3-8*	**232**	*16*	**3,70**	**3,39**	**1,97**	**2,01**	**6,50**	**3.06**
CP100H...V40	**1 1/2”**	**1.57**	*40*	**45-120**	*3-8*	**232**	*16*	**4,09**	**3,78**	**2,20**	**2,20**	**7,09**	**3.76**
CP100I...V50	**2”**	**2**	*50*	**45-120**	*3-8*	**232**	*16*	**4,57**	**4,25**	**2,76**	**2,44**	**8,15**	**5.71**

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

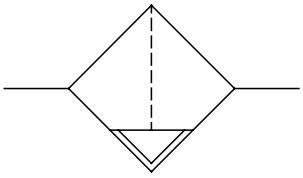
Ordination example: PEE332CNW10 connection 3/8” NPT
PEE332CGW10 connection 3/8” GAS



DESCRIPTION
Y-Type Strainer

PRESENTATION
- Filtration of impurity in pipelines
- Easy to clean from fluid contamination
- AISI 304 body option available
- Universal mounting position

USE: Suitable to filter air, steam, hot and cold water, slightly aggressive fluids, protection of downstream fluidic components



CONNECTION: from 1/4” to 3” NPT or GAS

VALVE FEATURES

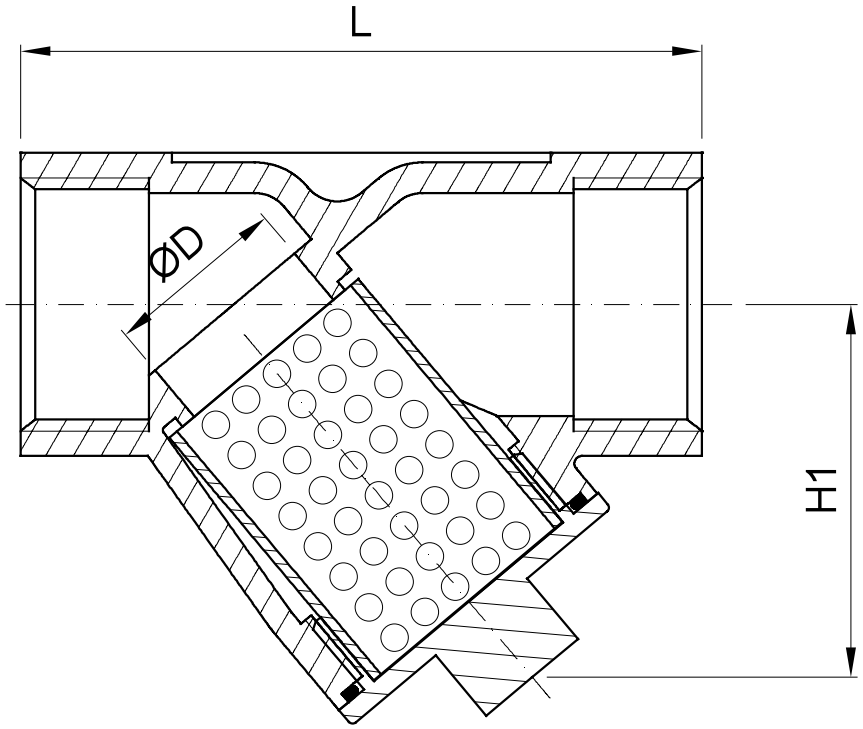
Body	AISI 316
Cover	AISI 316
Nominal diameter	from 0,5 to 3 inches (Ø14 to Ø80mm)
Normal pressure	800psi (55 bar)
Screen	AISI 304 (Wired or perforated mesh)
Gasket	PTFE
Fluids	Water, Alcohol, Oils, Fuels, Steam, Natural gases or Liquids, Organic solvents, Acids and Lyes
Ambient temperature	-4°F to +176°F (-20°C to +80°C)
Fluid temperature	-4°F to +284°F (-20°C to +140°C)

OVERALL DIMENSIONS

CODE	CONNECTION	ØD		H1		L	
①	GAS or NPT	inches	*mm*	inches	*mm*	inches	*mm*
FY00B...W14	**1/4”**	**0.55**	*14*	**1.46**	*37*	**2.56**	*65*
FY00C...W14	**3/8”**	**0.55**	*14*	**1.46**	*37*	**2.56**	*65*
FY00D...W14	**1/2”**	**0.55**	*14*	**1.46**	*37*	**2.56**	*65*
FY00E...W20	**3/4”**	**0.79**	*20*	**1.77**	*45*	**3.15**	*80*
FY00F...W25	**1”**	**1**	*25*	**2.13**	*54*	**3.54**	*90*
FY00.....W32	**1 1/4”**	**1.26**	*32*	**2.32**	*59*	**4.13**	*105*
FY00H...W40	**1 1/2”**	**1.57**	*40*	**2.6**	*66*	**4.72**	*120*
FY00I...W50	**2”**	**2**	*50*	**3**	*77*	**5.43**	*138*
FY00R...W80	**3”**	**3**	*80*	**4.65**	*118*	**8.27**	*210*

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

Ordination example: FY00DNW14 connection 1/2” NPT
FY00DGW14 connection 1/2” GAS



DESCRIPTION

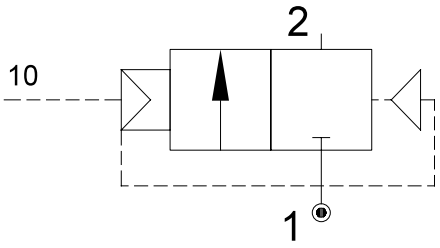
Solenoid valve 2 way normally closed
with servo-assisted diaphragm pneumatically operated

CONSTRUCTION

Body and cover	Brass
Seal material	NBR - FPM - EPDM

FEATURES

Minimum differential pressure 2.2psi
Maximum fluid viscosity 25cSt (mm^2/s)
Universal mounting position



OPTIONS: Electroless nickel plating
Versions with slow-closing diaphragm
Versions for vacuum application (air/gases)
Versions for use with oxygene

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REMARK

To pilot the valve use a series 105 solenoid valve (Es.105ANB15)

CODE ①	Port Size	Orifice Size		Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ④ Min		Max		Seal	Temp. range
	NPT	(in)	(mm)	(gpm)	(psi)	(bar)	(psi)	(bar)		(°F)
P107CN...12	**3/8**	**0.472**	*12*	**2.54**	**2.2**	*0.15*	**217**	*15*	**NBR=B**	**+14 +194**
P107DN...12	**1/2**	**0.472**	*12*	**2.89**	**2.2**	*0.15*	**217**	*15*	**EPDM=E**	**+14 +284**
P107EN...18	**3/4**	**0.709**	*18*	**6.36**	**2.2**	*0.15*	**188**	*13*	**FPM=V**	**+14 +284**
P107FN...25	**1**	**0.984**	*25*	**11.79**	**2.2**	*0.15*	**145**	*10*		

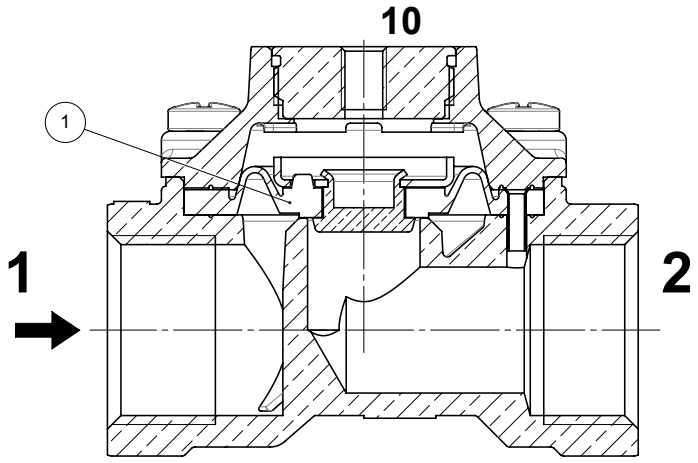
① Seal Example: P107DNB12 NBR seal , 1/2 NPT

④ Safe Working Pressure:360 psi. Is the line or system pressure to which the valve may be subjected without being damaged.

The maximum allowable pressure PS for steam is 36bar

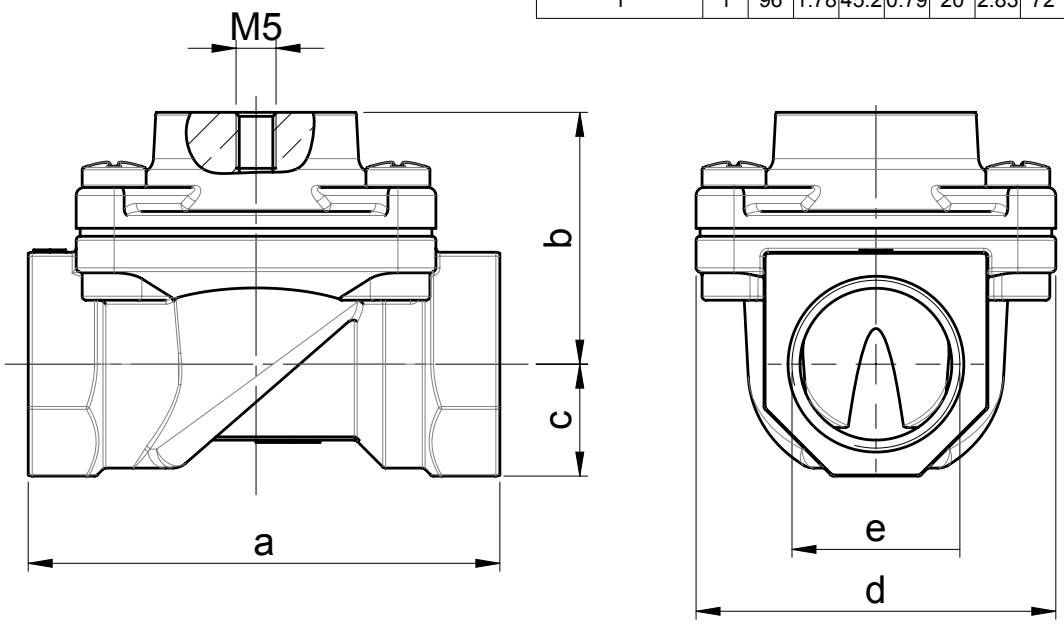
SPARE PARTS LIST

1. Diaphragm assembly



OVERALL DIMENSIONS

PORT SIZE (e)	a		b		c		d		Weight	
	in	mm	in	mm	in	mm	in	mm	lb	Kg
3/8	2.32	59	1.25	31.5	0.55	14	1.77	45	0.77	0.35
1/2	2.32	59	1.25	31.5	0.55	14	1.77	45	0.77	0.35
3/4	3.11	79	1.53	38.9	0.69	17.5	2.13	54	1.32	0.6
1	1	96	1.78	45.2	0.79	20	2.83	72	2.31	1.05



DESCRIPTION
2 way normally closed angle seat valve pneumatically operated

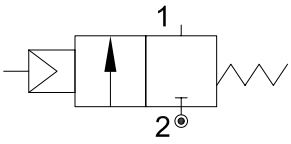
PRESENTATION
- High flow rate due to the angle seat configuration
- Anti-water hammer feature with the fluid entry below the seat
- Stainless steel and corrosion resistance body
- Orientable pneumatic actuator
- Self adjusting internal seal
- Optical position indicator
- Back pressure resistance capability
- Maintenance free sealing pack
- Universal mounting position

USE: Automation, heating, water, hot water, steam (356°F), aggressive and food fluid

CONNECTION: from 1/2 to 1 GAS or NPT

VALVE FEATURES

Fluid temperature	14°F +356°F
Ambient temperature	14°F +140°F
Fluid viscosity	max 600 cSt
Body material	Stainless steel AISI 316
Seal	PTFE
Packing gland	PTFE/FPM



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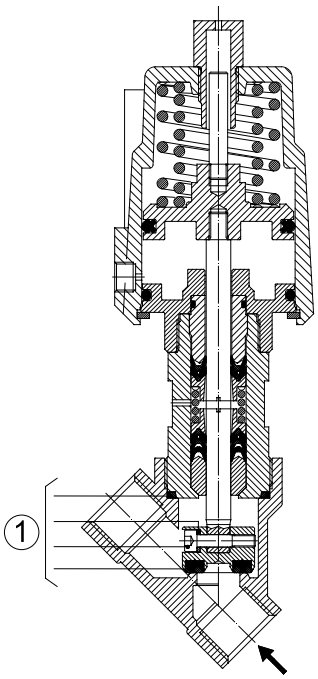
PILOT ACTUATOR FEATURES

Fluid	Dry or lubrificated air, gases and neutral fluids
Fluid temperature	max +140°F
Body material	Stainless steel AISI 316
Gaskets	NBR
Actuator	Ø2in (Ø50mm)

CODE ①	Port Size	Orifice Size		Flow Factor Cv	Actuator pilot pressure Min		Actuator pilot pressure Max		Operating Pressure Differential (M.O.P.D.) Min		Operating Pressure Differential (M.O.P.D.) Max		Max allowable pressure PS		Weight	
		(in)	(mm)	(gpm)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(lb)	(Kg)
P150D...W15/V	**1/2**	**0.59**	*15*	**5.5**							**362**	*25*			**3.5**	*1.6*
P150E...W20/V	**3/4**	**0.78**	*20*	**10.4**	**72.5**	*5*	**116**	*8*	**0**	*0*	**217**	*15*	**580**	*40*	**3.75**	*1.7*
P150F...W25/V	**1**	**1**	*25*	**13.2**							**145**	*10*			**4.6**	*2.1*

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

Ordination example: P150FNW25/V connection 1 NPT

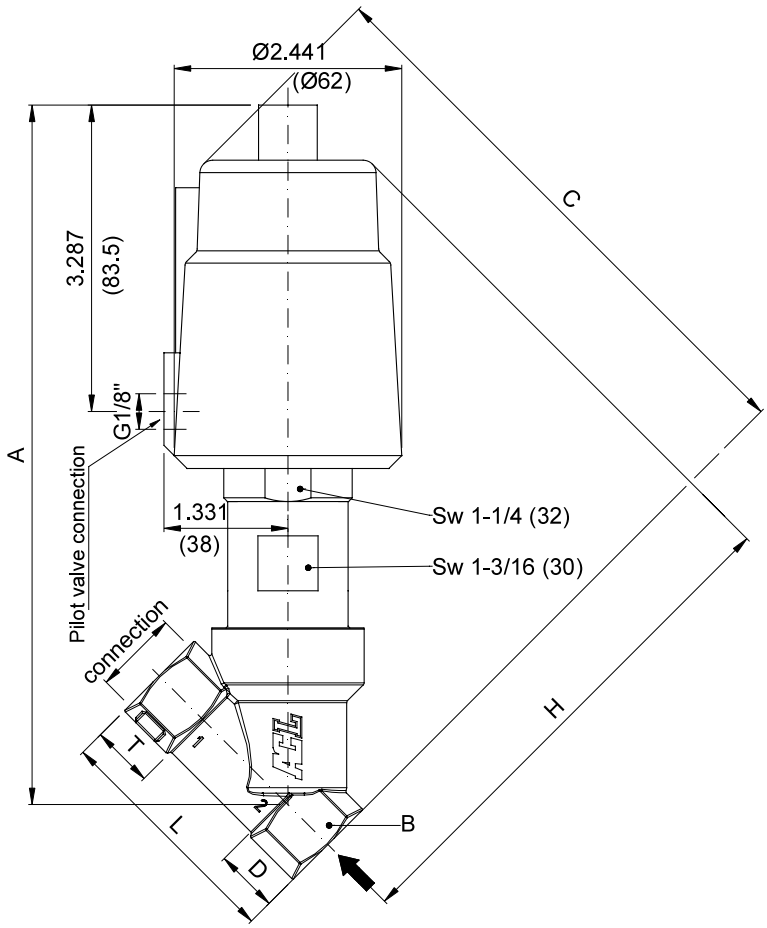


MAINTENANCE KIT

1.	1/2	R500078
	3/4	R500081
	1	R500084

OVERALL DIMENSION

CONNECTION GAS or NPT	A		B		C		D		H		L		T	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2	7.5	190.6	SW 1-1/16	SW 27	6.14	156	0.60	15.4	5.5	139.7	2.56	65	0.67	17
3/4	7.51	190.8	SW 1-1/4	SW 32	6.38	162	0.84	21.4	5.5	139.8	2.95	75	0.75	19
1	7.89	200.3	SW 1-5/8	SW 41	6.61	168	0.98	25	5.8	146.6	3.54	90	0.81	20.5

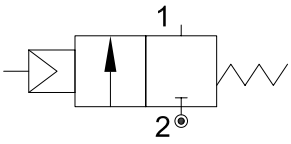


DESCRIPTION
2 way proportional angle seat valve pneumatically operated

PRESENTATION
- High flow rate due to the angle seat configuration
- Anti-water hammer feature with the fluid entry below the seat
- Stainless steel and corrosion resistance body
- Orientable pneumatic actuator
- Self adjusting internal seal
- Optical position indicator
- Back pressure resistance capability
- Maintenance free sealing pack
- Accurated flow control
- Universal mounting position

USE: Automation, heating, water, hot water, steam (356°F), aggressive and food fluid

CONNECTION: from 1/2 to 1 GAS or NPT



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VALVE FEATURES

Fluid temperature	14°F +356°F
Ambient temperature	14°F +140°F
Fluid viscosity	max 600 cSt
Body material	Stainless steel AISI 316
Seal	PTFE
Packing gland	PTFE/FPM

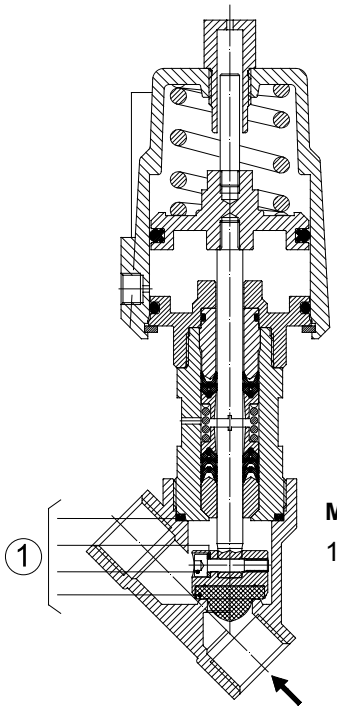
PILOT ACTUATOR FEATURES

Fluid	Dry or lubrificated air, gases and neutral fluids
Fluid temperature	max +140°F
Body material	Stainless steel AISI 316
Gaskets	NBR
Actuator	Ø2 in (Ø50mm)

CODE ①	Port Size	Orifice Size		Flow Factor Cv	Actuator pilot pressure Min		Actuator pilot pressure Max		Operating Pressure Differential (M.O.P.D.) Min		Operating Pressure Differential (M.O.P.D.) Max		Max allowable pressure PS		Weight	
		(in)	(mm)	(gpm)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(lb)	(Kg)
P152D...W15/V	**1/2**	**0.59**	*15*	**4.9**							**232**	*16*			**3.5**	*1.6*
P152E...W20/V	**3/4**	**0.78**	*20*	**7.6**	**0**	*0*	**116**	*8*	**0**	*0*	**145**	*10*	**580**	*40*	**3.75**	*1.7*
P152F...W25/V	**1**	**1**	*25*	**9**							**145**	*10*			**4.6**	*2.1*

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

Ordination example: P152DNW15/V connection 1/2 NPT

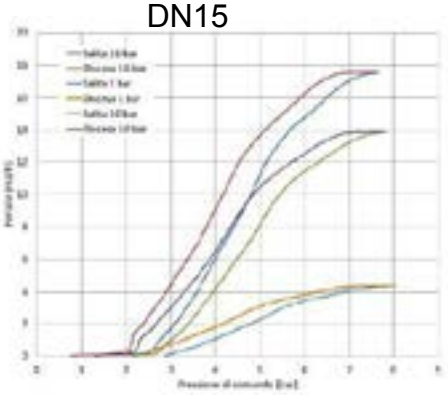


MAINTENANCE KIT

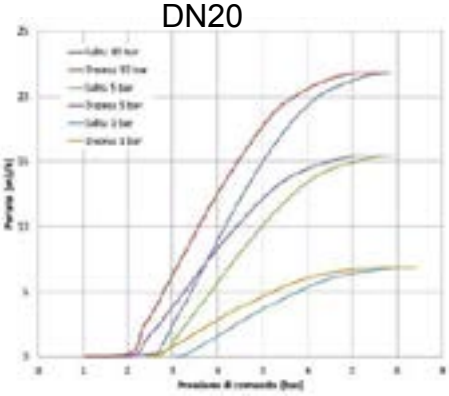
1.	1/2	R500078
	3/4	R500081
	1	R500084

Flow factor - Fluid +20°C

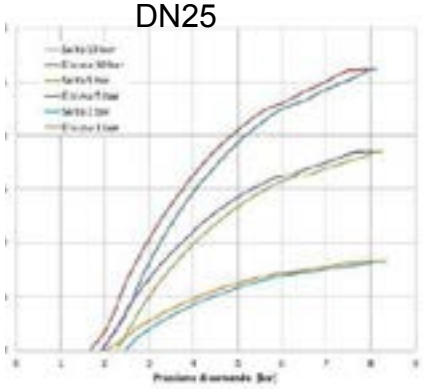
DN15



DN20

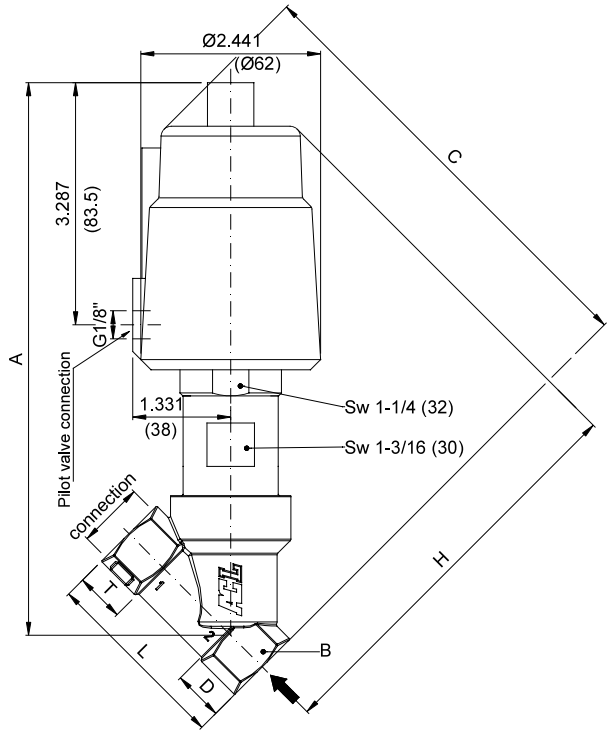


DN25



OVERALL DIMENSION

CONNECTION GAS or NPT	A		B		C		D		H		L		T	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2	7.5	190.6	SW 1-1/16	SW 27	6.14	156	0.60	15.4	5.5	139.7	2.56	65	0.67	17
3/4	7.51	190.8	SW 1-1/4	SW 32	6.38	162	0.84	21.4	5.5	139.8	2.95	75	0.75	19
1	7.89	200.3	SW 1-5/8	SW 41	6.61	168	0.98	25	5.8	146.6	3.54	90	0.81	20.5



DESCRIPTION
2 way normally closed angle seat valve pneumatically operated

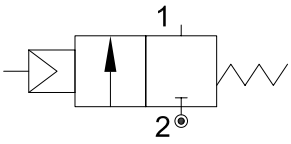
PRESENTATION
- High flow rate due to the angle seat configuration
- Anti-water hammer feature with the fluid entry below the seat
- Stainless steel and corrosion resistance body
- Orientable pneumatic actuator
- Self adjusting internal seal
- Optical position indicator
- Back pressure resistance capability
- Maintenance free sealing pack
- Universal mounting position

USE: Automation, heating, water, hot water, steam (356°F), aggressive and food fluid

CONNECTION: from 1/2 to 2 GAS o NPT

VALVE FEATURES

Fluid temperature	14°F +356°F
Ambient temperature	14°F +140°F
Fluid viscosity	max 600 cSt
Body material	Stainless steel AISI 316
Seal	PTFE
Packing gland	PTFE/FPM



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PILOT ACTUATOR FEATURES

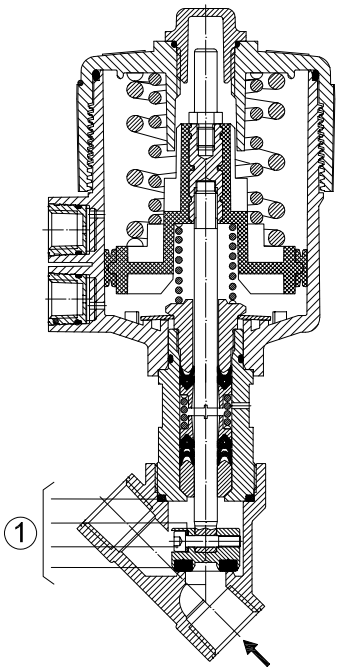
Fluid	Dry or lubrificated air, gases and neutral fluids
Fluid temperature	max +140°F
Body material	Polyamide 66 with 30% glass fibre
Gaskets	NBR
Actuator	Ø2.76in (Ø70mm)

CODE ①	Port Size	Orifice Size		Flow Factor Cv	Actuator pilot pressure Min		Actuator pilot pressure Max		Operating Pressure Differential (M.O.P.D.) Min		Operating Pressure Differential (M.O.P.D.) Max		Max allowable pressure PS		Weight	
		(in)	(mm)	(gpm)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(lb)	(Kg)
P170D...W15/V	**1/2**	**0.59**	*15*	**5.5**							**232**	*16*			**3.1**	*1.4*
P170E...W20/V	**3/4**	**0.78**	*20*	**10.4**							**145**	*10*	**580**	*40*	**3.3**	*1.5*
P170F...W25/V	**1**	**1**	*25*	**13.2**							**145**	*10*			**4**	*1.8*
P170G...W32/V	**1 1/4**	**1.26**	*32*	**23.5**	**58**	*4*	**145**	*10*	**0**	*0*	**101**	*7*	**362**	*25*	**5.3**	*2.4*
P170H...W40/V	**1 1/2**	**1.57**	*40*	**29.8**							**65**	*4.5*			**6**	*2.7*
P170I...W50/V	**2**	**1.97**	*50*	**43**							**43.5**	*3*	**232**	*16*	**8.6**	*3.9*

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

Ordination example: P170DNW15/V connection 1/2 NPT

CE Approval
(Pressure equipment directive 97/23/CE)
for valves P170G_W32 - P170H_W40 - P170I_W50

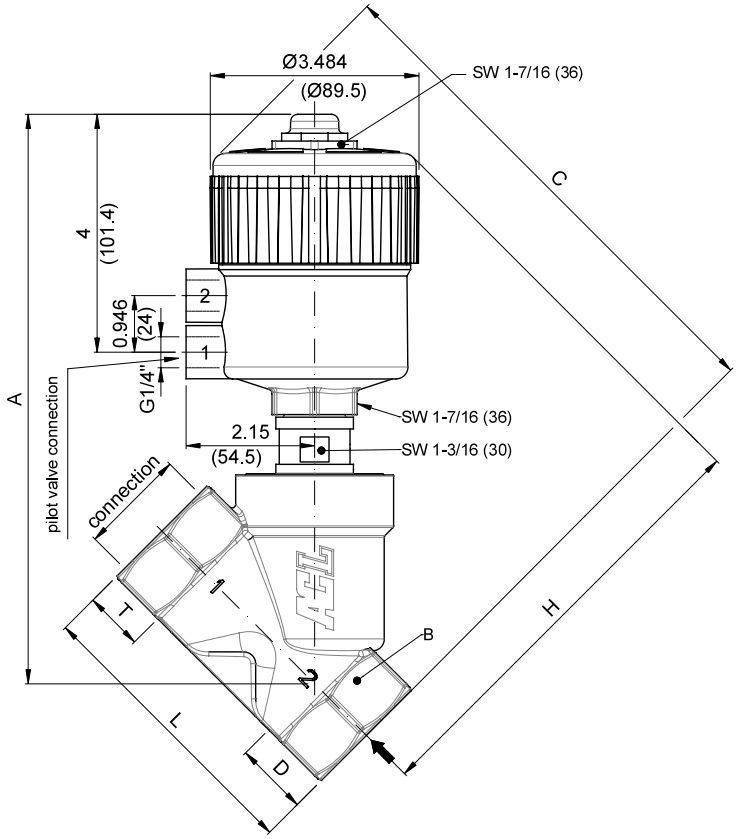


MAINTENANCE KIT

1.	1/2	R500045
	3/4	R500048
	1	R500051
	1 1/4	R500054
	1 1/2	R500057
	2	R500075

OVERALL DIMENSION

CONNECTION GAS or NPT	A		B		C		D		H		L		T	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2	8.14	206.8	SW 1-1/16	SW 27	7	178.7	0.61	15.4	6.43	163.3	2.56	65	0.67	17
3/4	8.33	211.7	SW 1-1/4	SW 32	7.4	188.6	0.86	21.9	6.56	166.7	2.97	75.5	0.75	19
1	8.66	220.1	SW 1-5/8	SW 41	7.8	197.8	0.99	25.1	6.8	172.7	3.54	90	0.83	21
1 1/4	9.29	235.9	SW 2	SW 50	8.4	212.3	1.12	28.5	7.24	183.8	4.33	110	0.95	24
1 1/2	9.41	238.9	SW 2-1/4	SW 55	8.5	217.0	1.22	31.0	7.32	186	4.8	122	1	25.2
2	9.76	247.8	SW 2-3/4	SW 70	9	229.7	1.48	37.5	7.57	192.2	5.95	151	1.12	28.5

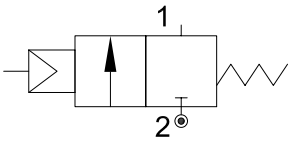


DESCRIPTION
2 way normally closed angle seat valve pneumatically operated for high pressure

PRESENTATION
- High flow rate due to the angle seat configuration
- Anti-water hammer feature with the fluid entry below the seat
- Stainless steel and corrosion resistance body
- Orientable pneumatic actuator
- Self adjusting internal seal
- Optical position indicator
- Back pressure resistance capability
- Maintenance free sealing pack
- Universal mounting position

USE: Automation, heating, water, hot water, steam (356°F), aggressive and food fluid

CONNECTION: from 1/2 to 2 GAS o NPT



VALVE FEATURES

Fluid temperature	14°F +356°F
Ambient temperature	14°F +140°F
Fluid viscosity	max 600 cSt
Body material	Stainless steel AISI 316
Seal	PTFE
Packing gland	PTFE/FPM

PILOT ACTUATOR FEATURES

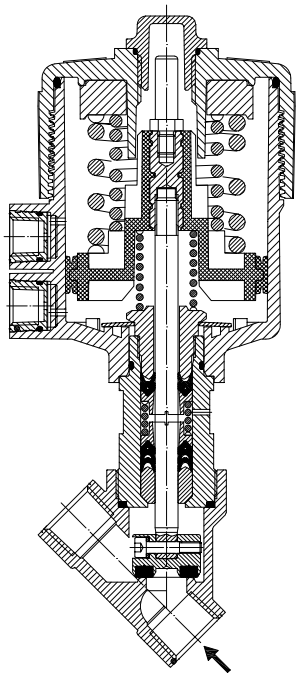
Fluid	Dry or lubrificated air, gases and neutral fluids
Fluid temperature	max +140°F
Body material	Polyamide 66 with 30% glass fibre
Gaskets	NBR
Actuator	Ø2.76in (Ø70mm)

CODE ①	Port Size	Orifice Size		Flow Factor Cv	Actuator pilot pressure Min		Actuator pilot pressure Max		Operating Pressure Differential (M.O.P.D.) Min		Operating Pressure Differential (M.O.P.D.) Max		Max allowable pressure PS		Weight	
		(in)	(mm)	(gpm)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(lb)	(Kg)
P171D...W15/V	**1/2**	**0.59**	*15*	**5.5**							**507**	*35*			**3.1**	**1.4**
P171E...W20/V	**3/4**	**0.78**	*20*	**10.4**							**362**	*25*	**580**	*40*	**3.3**	**1.5**
P171F...W25/V	**1**	**1**	*25*	**13.2**							**290**	*20*			**4**	**1.8**
P171G...W32/V	**1 1/4**	**1.26**	*32*	**23.5**	**72.5**	*5*	**145**	*10*	**0**	*0*	**188**	*13*			**5.3**	**2.4**
P171H...W40/V	**1 1/2**	**1.57**	*40*	**29.8**							**116**	*8*	**362**	*25*	**6**	**2.7**
P171I...W50/V	**2**	**1.97**	*50*	**43**							**79**	*5.5*	**232**	*16*	**8.6**	**3.9**

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

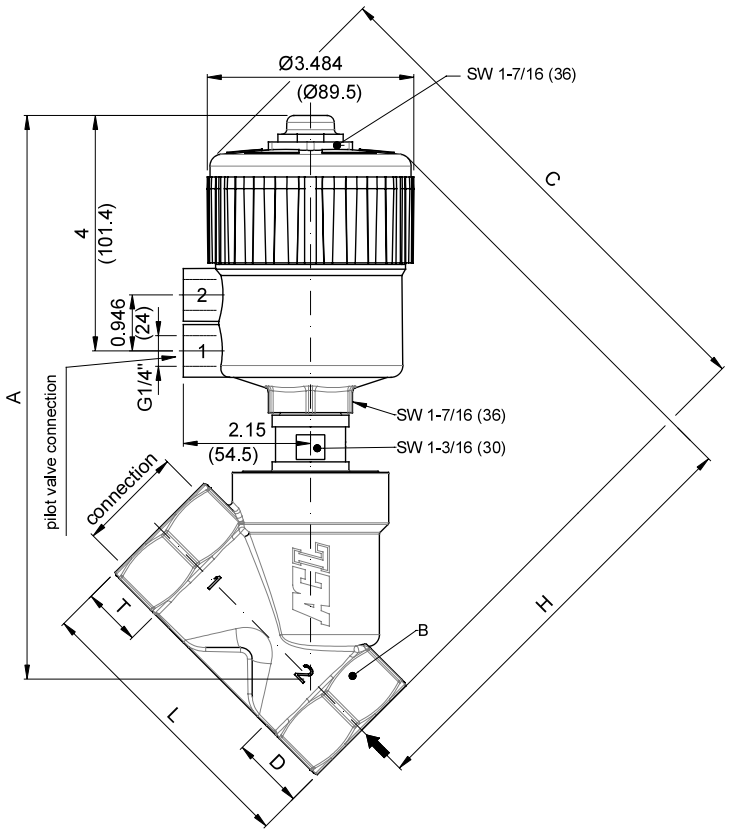
Ordination example: P171FNW25/V connection 1 NPT

CE Approval
(Pressure equipment directive 97/23/CE)
for valves P171G_W32 - P171H_W40 - P171I_W50



OVERALL DIMENSION

CONNECTION GAS or NPT	A		B		C		D		H		L		T	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2	8.14	206.8	SW 1-1/16	SW 27	7	178.7	0.61	15.4	6.43	163.3	2.56	65	0.67	17
3/4	8.33	211.7	SW 1-1/4	SW 32	7.4	188.6	0.86	21.9	6.56	166.7	2.97	75.5	0.75	19
1	8.66	220.1	SW 1-5/8	SW 41	7.8	197.8	0.99	25.1	6.8	172.7	3.54	90	0.83	21
1 1/4	9.29	235.9	SW 2	SW 50	8.4	212.3	1.12	28.5	7.24	183.8	4.33	110	0.95	24
1 1/2	9.41	238.9	SW 2-1/4	SW 55	8.5	217.0	1.22	31.0	7.32	186	4.8	122	1	25.2
2	9.76	247.8	SW 2-3/4	SW 70	9	229.7	1.48	37.5	7.57	192.2	5.95	151	1.12	28.5

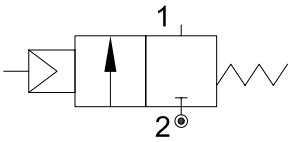


DESCRIPTION
2 way proportional angle seat valve pneumatically operated

PRESENTATION
- High flow rate due to the angle seat configuration
- Anti-water hammer feature with the fluid entry below the seat
- Stainless steel and corrosion resistance body
- Orientable pneumatic actuator
- Self adjusting internal seal
- Optical position indicator
- Back pressure resistance capability
- Maintenance free sealing pack
- Accurate flow control
- Universal mounting position

USE: Automation, heating, water, hot water, steam (356°F), aggressive and food fluid

CONNECTION: from 1/2 to 2 GAS o NPT



5

VALVE FEATURES

Fluid temperature	14°F +356°F
Ambient temperature	14°F +140°F
Fluid viscosity	max 600 cSt
Body material	Stainless steel AISI 316
Seal	PTFE
Packing gland	PTFE/FPM

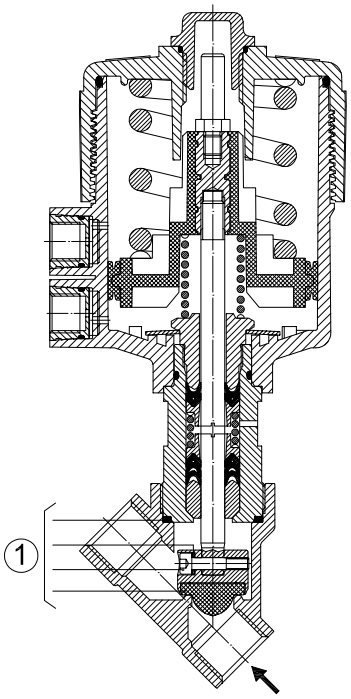
PILOT ACTUATOR FEATURES

Fluid	Dry or lubrificated air, gases and neutral fluids
Fluid temperature	max +140°F
Body material	Polyamide 66 with 30% glass fibre
Gaskets	NBR
Actuator	Ø2.76in (Ø70mm)

CODE ①	Port Size	Orifice Size		Flow Factor Cv	Actuator pilot pressure				Operating Pressure Differential (M.O.P.D.)				Max allowable pressure PS		Weight	
					Min		Max		Min		Max					
		(in)	(mm)	(gpm)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	(lb)	(Kg)
P172D...W15/V	**1/2**	**0.59**	**15**	**4.9**							**232**	**16**			**3.1**	**1.4**
P172E...W20/V	**3/4**	**0.78**	**20**	**9**	**0**	**0**	**145**	**10**	**0**	**0**	**145**	**10**	**580**	**40**	**3.3**	**1.5**
P172F...W25/V	**1**	**1**	**25**	**10.4**							**145**	**10**			**4**	**1.8**

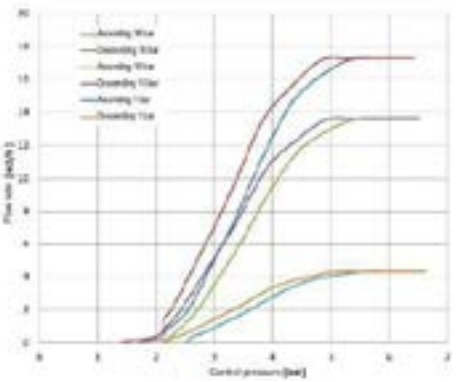
① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

Ordination example: P172ENW20/V connection 3/4" NPT

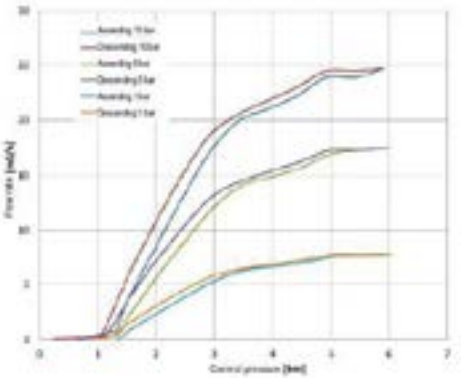


Flow factor - Fluid +20°C

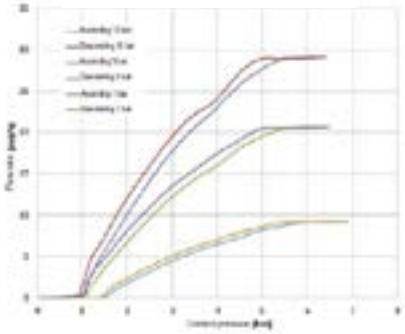
DN15



DN20



DN25

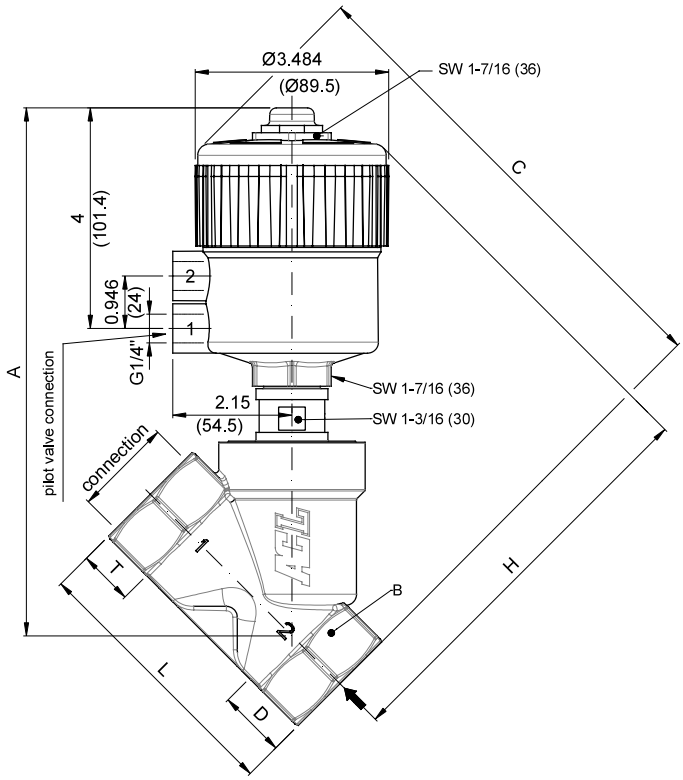


MAINTENANCE KIT

1.	1/2	R500078
	3/4	R500081
	1	R500084

OVERALL DIMENSION

CONNECTION GAS or NPT	A		B		C		D		H		L		T	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2	8.14	206.8	SW 1-1/16	SW 27	7	178.7	0.61	15.4	6.43	163.3	2.56	65	0.67	17
3/4	8.33	211.7	SW 1-1/4	SW 32	7.4	188.6	0.86	21.9	6.56	166.7	2.97	75.5	0.75	19
1	8.66	220.1	SW 1-5/8	SW 41	7.8	197.8	0.99	25.1	6.8	172.7	3.54	90	0.83	21



DESCRIPTION
2 way normally open angle seat valve pneumatically operated

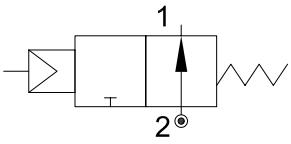
PRESENTATION
- High flow rate due to the angle seat configuration
- Anti-water hammer feature with the fluid entry below the seat
- Stainless steel and corrosion resistance body
- Orientable pneumatic actuator
- Self adjusting internal seal
- Optical position indicator
- Back pressure resistance capability
- Maintenance free sealing pack
- Universal mounting position

USE: Automation, heating, water, hot water, steam (356°F), aggressive and food fluid

CONNECTION: from 1/2" to 2" GAS o NPT

VALVE FEATURES

Fluid temperature	14°F +356°F
Ambient temperature	14°F +140°F
Fluid viscosity	max 600 cSt
Body material	Stainless steel AISI 316
Seal	PTFE
Packing gland	PTFE/FPM



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PILOT ACTUATOR FEATURES

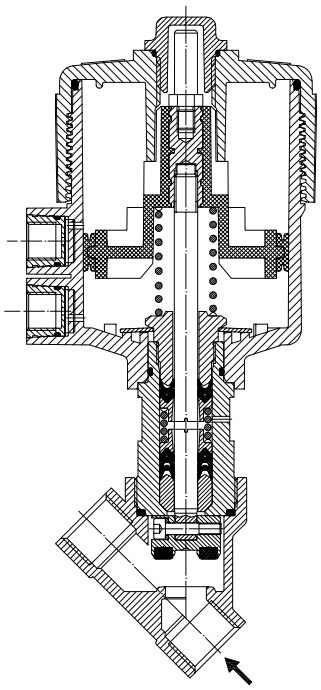
Fluid	Dry or lubrificated air, gases and neutral fluids
Fluid temperatures	max +140°F
Body material	Polyamide 66 with 30% glass fibre
Gaskets	NBR
Actuator	Ø2.76in (Ø70mm)

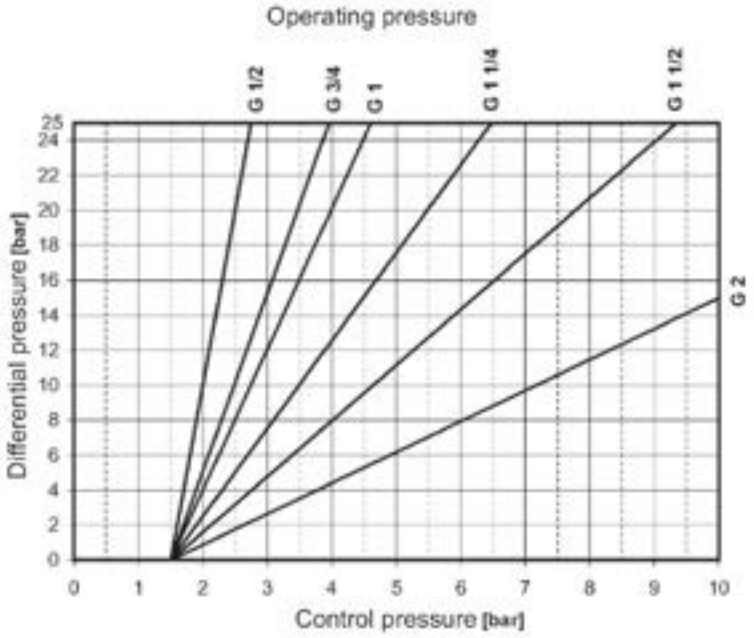
CODE ①	Port Size	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Actuator pilot pressure Min (psi)	Actuator pilot pressure Min (bar)	Actuator pilot pressure Max (psi)	Actuator pilot pressure Max (bar)	Operating Pressure Differential (M.O.P.D.) Min (psi)	Operating Pressure Differential (M.O.P.D.) Min (bar)	Operating Pressure Differential (M.O.P.D.) Max	Max allowable pressure PS (psi)	Max allowable pressure PS (bar)	Weight (lb)	Weight (Kg)
P270D...W15/V	**1/2**	**0.59**	*15*	**5.5**										**2.6**	*1.2*
P270E...W20/V	**3/4**	**0.78**	*20*	**10.4**										**2.9**	*1.3*
P270F...W25/V	**1**	**1**	*25*	**13.2**								**580**	*40*	**3.5**	*1.6*
P270G...W32/V	**1 1/4**	**1.26**	*32*	**23.5**	**21.8**	*1.5*	**145**	*10*	**0**	*0*	**see pressure table**			**4.9**	*2.2*
P270H...W40/V	**1 1/2**	**1.57**	*40*	**29.8**								**362**	*25*	**5.5**	*2.5*
P270I...W50/V	**2**	**1.97**	*50*	**43**							**(next page)**	**232**	*16*	**8.2**	*3.7*

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

Ordination example: P270FGW25/V connection G1"

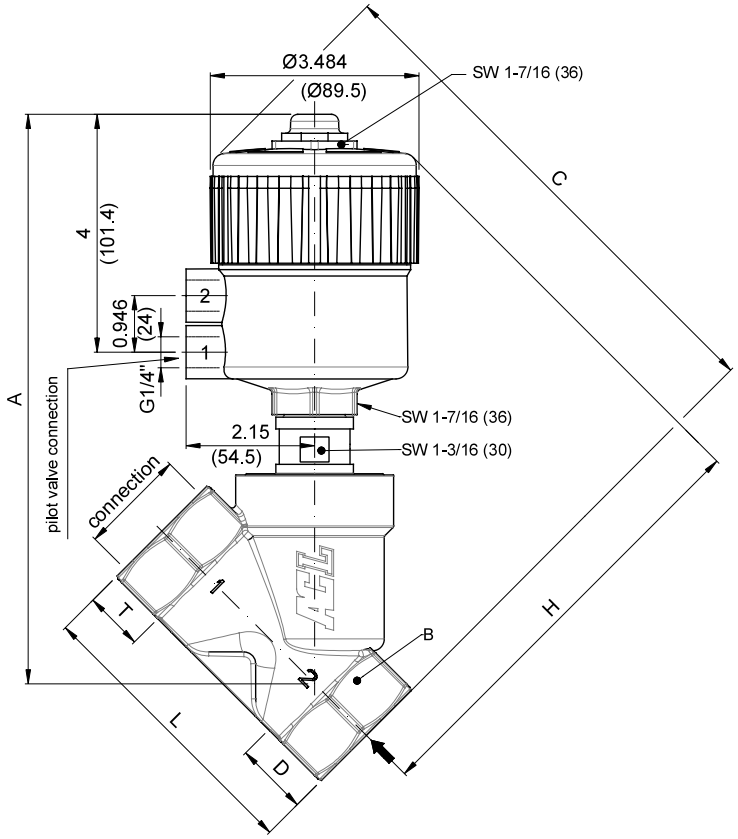
CE Approval
(Pressure equipment directive 97/23/CE)
for valves P270G_W32 - P270H_W40 - P270I_W50





OVERALL DIMENSION

CONNECTION GAS or NPT	A		B		C		D		H		L		T	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2	8.14	206.8	SW 1-1/16	SW 27	7	178.7	0.61	15.4	6.43	163.3	2.56	65	0.67	17
3/4	8.33	211.7	SW 1-1/4	SW 32	7.4	188.6	0.86	21.9	6.56	166.7	2.97	75.5	0.75	19
1	8.66	220.1	SW 1-5/8	SW 41	7.8	197.8	0.99	25.1	6.8	172.7	3.54	90	0.83	21
1 1/4	9.29	235.9	SW 2	SW 50	8.4	212.3	1.12	28.5	7.24	183.8	4.33	110	0.95	24
1 1/2	9.41	238.9	SW 2-1/4	SW 55	8.5	217.0	1.22	31.0	7.32	186	4.8	122	1	25.2
2	9.76	247.8	SW 2-3/4	SW 70	9	229.7	1.48	37.5	7.57	192.2	5.95	151	1.12	28.5



DESCRIPTION
2 way angle seat valve double effect pneumatically operated

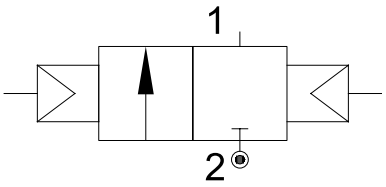
PRESENTATION
- High flow rate due to the angle seat configuration
- Anti-water hammer feature with the fluid entry below the seat
- Stainless steel and corrosion resistance body
- Orientable pneumatic actuator
- Self adjusting internal seal
- Optical position indicator
- Back pressure resistance capability
- Maintenance free sealing pack
- Universal mounting position

USE: Automation, heating, water, hot water, steam (356°F), aggressive and food fluid

CONNECTION: from 1/2" to 2" GAS o NPT

VALVE FEATURES

Fluid temperature	+14°F +356°F
Ambient temperature	+14°F +176°F
Fluid viscosity	max 600 cSt
Body material	Stainless steel AISI 316
Seal	PTFE
Packing gland	PTFE/FKM



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PILOT ACTUATOR FEATURES

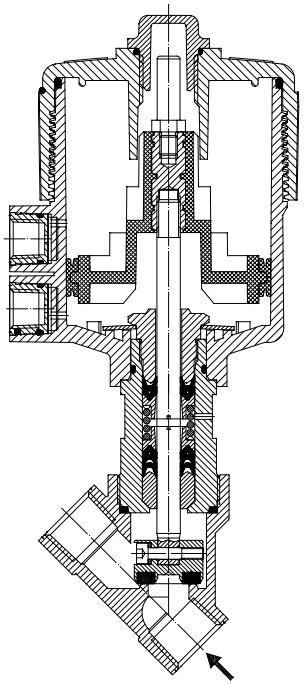
Fluid	Dry or lubrificated air, gases and neutral fluids
Fluid temperatures	max +140°F
Body material	Polyamide 66 with 30% glass fibre
Gaskets	NBR
Actuator	Ø2.76in (Ø70mm)

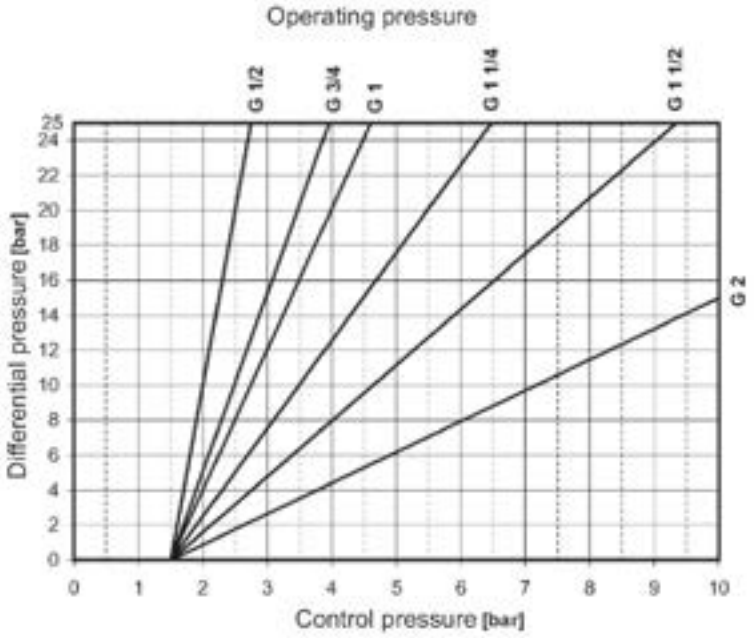
CODE ①	Port Size	Orifice Size (in)	Orifice Size (mm)	Flow Factor Cv (gpm)	Actuator pilot pressure Min (psi)	Actuator pilot pressure Min (bar)	Actuator pilot pressure Max (psi)	Actuator pilot pressure Max (bar)	Operating Pressure Differential (M.O.P.D.) Min (psi)	Operating Pressure Differential (M.O.P.D.) Min (bar)	Operating Pressure Differential (M.O.P.D.) Max	Max allowable pressure PS (psi)	Max allowable pressure PS (bar)	Weight (lb)	Weight (Kg)
P370D...W15/V	**1/2**	**0.59**	*15*	**5.5**										**2.6**	*1.4*
P370E...W20/V	**3/4**	**0.78**	*20*	**10.4**								**580**	*40*	**2.9**	*1.5*
P370F...W25/V	**1**	**1**	*25*	**13.2**										**3.5**	*1.8*
P370G...W32/V	**1 1/4**	**1.26**	*32*	**23.5**	**21.8**	*1.5*	**145**	*10*	**0**	*0*	**see pressure table (next page)**			**4.9**	*2.4*
P370H...W40/V	**1 1/2**	**1.57**	*40*	**29.8**								**362**	*25*	**5.5**	*2.7*
P370I...W50/V	**2**	**1.97**	*50*	**43**								**232**	*16*	**8.2**	*3.9*

① G= GAS (ISO228/1) N= NPT (ANSI/ASMI BI.20.1)

Ordination example: P370FGW25/V connection G1"

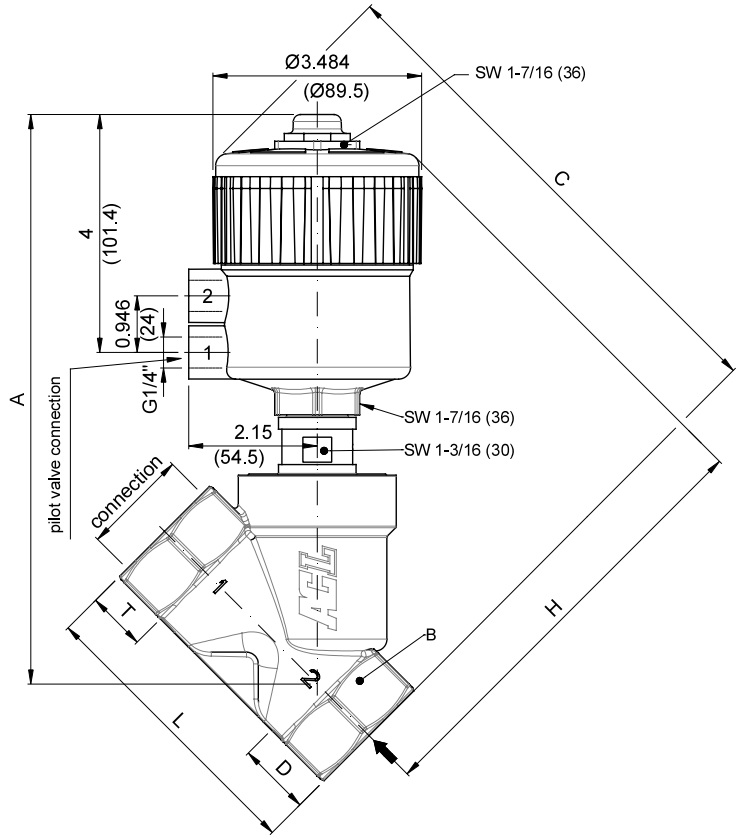
CE Approval
(Pressure equipment directive 2014/68/UE)
for valves P370G_W32 - P370H_W40 - P370I_W50





OVERALL DIMENSION

CONNECTION GAS or NPT	A		B		C		D		H		L		T	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2	8.14	206.8	SW 1-1/16	SW 27	7	178.7	0.61	15.4	6.43	163.3	2.56	65	0.67	17
3/4	8.33	211.7	SW 1-1/4	SW 32	7.4	188.6	0.86	21.9	6.56	166.7	2.97	75.5	0.75	19
1	8.66	220.1	SW 1-5/8	SW 41	7.8	197.8	0.99	25.1	6.8	172.7	3.54	90	0.83	21
1 1/4	9.29	235.9	SW 2	SW 50	8.4	212.3	1.12	28.5	7.24	183.8	4.33	110	0.95	24
1 1/2	9.41	238.9	SW 2-1/4	SW 55	8.5	217.0	1.22	31.0	7.32	186	4.8	122	1	25.2
2	9.76	247.8	SW 2-3/4	SW 70	9	229.7	1.48	37.5	7.57	192.2	5.95	151	1.12	28.5



DESCRIPTION

2 way normally closed angle seat valve pneumatically operated.
Inlet under seat.

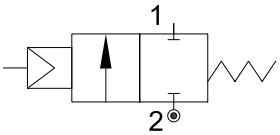
PRESENTATION

- Compact valve
- Water hammer effect prevention
- Protected visual position indicator
- PTFE sealing pack
- from 3/8” up to 3”
- Maintenance free sealing pack
- Normally open version available on request
- Double acting version available on request
- Pilot thread: 1/8” (1/4” for 125mm actuators) BSP or NPT
- Universal mounting position

USE: Packaging, Drinks Filling Machinery, Textile printing, Pharmacy & Medical Equipment, Chemical industry, Foaming Equipment, Water/sewage Disposal

5

CONNECTION: Threaded NPT or GAS



VALVE FEATURES

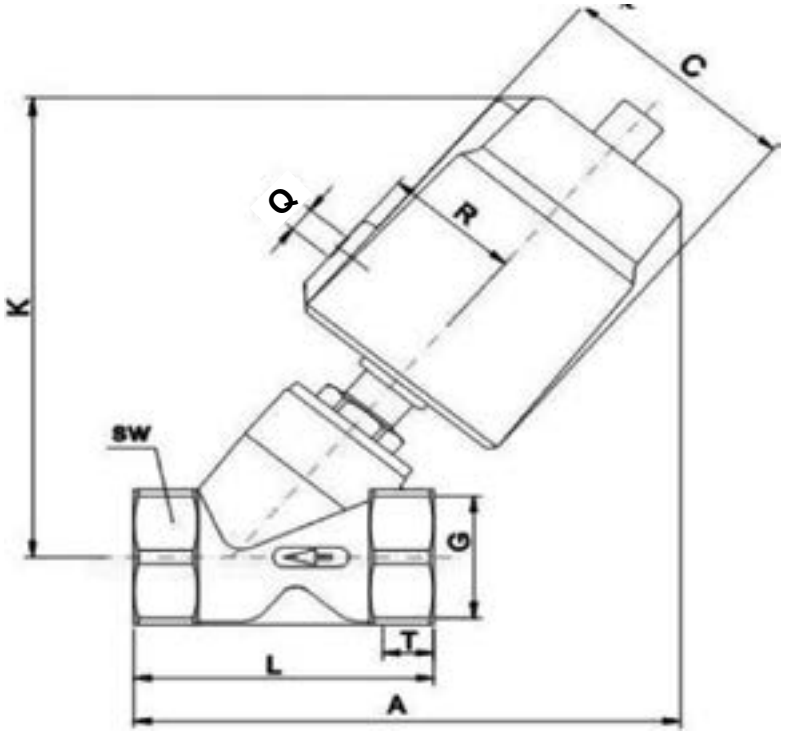
Fluid Pressure	Up to max 232psi (16bar)
Control Pressure	50 - 87psi (3.5 - 6bar)(see table)
Control Fluid	Neutral gas, Air
Body material	Stainless steel AISI 316
Sealing	PTFE
Actuator Material	AISI 304 or Aluminium for 4.9inches actuator
Actuator Size	1.6 - 2 - 2.5 - 3.5 - 4.9 inches (40 - 50 - 63 - 90 - 125 mm)
Fluids	Water, Alcohol, Oils, Fuels, Steam, Natural gases or Liquids, Organic solvents, Acids and Lyes
Fluid viscosity	Max 600cSt (mm^2/s)
Fluid temperature	14°F +356°F (-10°C to +180°C)
Ambient temperature	14°F +176°F (-10°C to +80°C)
Control Type	Normally closed, (on request Normally open, Double acting)

For piloting please use the solenoid valve E311ANB15///U35D (3/2NC, Ø1.5, 120V AC UL approved)

CODE ①	G GAS or NPT	Actuator Diameter		Nominal Diameter		Pilot Pressure		Max Pressure		Q	C	R	K	T	A	L	SW
		inches	*mm*	inches	*mm*	psi	*bar*	psi	*bar*		inches	inches	inches	inches	inches	inches	inches
PE140C...W10/V	**3/8”**	**1.57**	*40*	**0.39**	*10*	**58**	*4*	**188**	*13*	**G1/8”**	**1.99**	**1.06**	**4.41**	**0.47**	**4.88**	**2.68**	**1.06**
PE150C...W10/V		**1.97**	*50*			**65**	*4.5*	**203**	*14*	**G1/8”**	**2.36**	**1.30**	**4.92**		**5.31**		
PE140D...W15/V	**1/2”**	**1.57**	*40*	**0.59**	*15*	**58**	*4*	**188**	*13*	**G1/8”**	**1.99**	**1.06**	**4.41**	**0.47**	**4.88**	**2.68**	**1.06**
PE150D...W15/V		**1.97**	*50*			**65**	*4.5*	**203**	*14*	**G1/8”**	**2.36**	**1.30**	**4.92**		**5.31**		
PE150E...W20/V	**3/4”**	**1.97**	*50*	**0.79**	*20*	**65**	*4.5*	**203**	*14*	**G1/8”**	**2.36**	**1.30**	**5.20**	**0.63**	**5.51**	**2.95**	**1.26**
PE150F...W25/V	**1”**	**1.97**	*50*	**1**	*25*	**65**	*4.5*	**116**	*8*	**G1/8”**	**2.36**	**1.30**	**5.35**	**0.67**	**5.91**	**3.54**	**1.57**
PE163F...W25/V		**2.48**	*63*			**72.5**	*5*	**188**	*13*	**G1/8”**	**2.95**	**1.61**	**6.38**		**6.77**		
PE190F...W25/V		**3.54**	*90*			**50**	*3.5*	**203**	*14*	**G1/8”**	**4.17**	**2.17**	**8.78**		**9.25**		
PE163G...W32/V	**1 1/4”**	**2.48**	*63*	**1.26**	*32*	**72.5**	*5*	**87**	*6*	**G1/8”**	**2.95**	**1.61**	**6.85**	**0.83**	**7.48**	**4.57**	**1.97**
PE190G...W32/V		**3.54**	*90*			**87**	*6*	**232**	*16*	**G1/8”**	**4.17**	**2.17**	**8.78**		**9.25**		
PE163H...W40/V	**1 1/2”**	**2.48**	*63*	**1.57**	*40*	**72.5**	*5*	**72.5**	*5*	**G1/8”**	**2.95**	**1.61**	**6.89**	**0.83**	**7.48**	**4.57**	**2.20**
PE190H...W40/V		**3.54**	*90*			**87**	*6*	**232**	*16*	**G1/8”**	**4.17**	**2.17**	**8.78**		**9.25**		
PE163I...W50/V	**2”**	**2.48**	*63*	**2**	*50*	**72.5**	*5*	**43.5**	*3*	**G1/8”**	**2.95**	**1.61**	**7.20**	**0.87**	**8.07**	**5.43**	**2.72**
PE190I...W50/V		**3.54**	*90*			**87**	*6*	**145**	*10*	**G1/8”**	**4.17**	**2.17**	**9.13**		**9.84**		
PE190M...W65/V	**2 1/2”**	**3.54**	*90*	**2.56**	*65*	**87**	*6*	**87**	*6*	**G1/8”**	**4.17**	**2.17**	**10.43**	**1.02**	**11.2**	**7**	**3.35**
PE1125M...W65/V		**4.92**	*125*			**80**	*5.5*	**130**	*9*	**G1/4”**	**6.69**	**3.35**	**12.40**		**12.9**		
PE1125R...W80/V	**3”**	**4.92**	*125*	**3.15**	*80*	**80**	*5.5*	**72.5**	*5*	**G1/4”**	**6.69**	**3.35**	**12.87**	**1.06**	**15**	**8.27**	**3.94**

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

Ordination example: PE150FNW25/V connection 1” NPT
PE150FGW25/V connection 1” GAS



DESCRIPTION

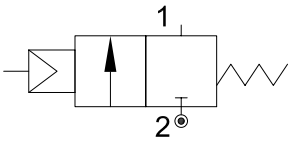
2 way bi-stable (double acting) angle seat valve pneumatically operated.
Inlet under seat.

PRESENTATION

- Compact solution
- Maintenance free sealing pack
- AISI 316 body available on request
- From 3/8” up to 2”
- 3/4” and 1 1/4” version available on request

USE: Food, Packaging, Petrochemical, Metallurgical, Spraying, Vehicles, Printing and Dyeing Machinery equipment

CONNECTION: Threaded NPT or GAS



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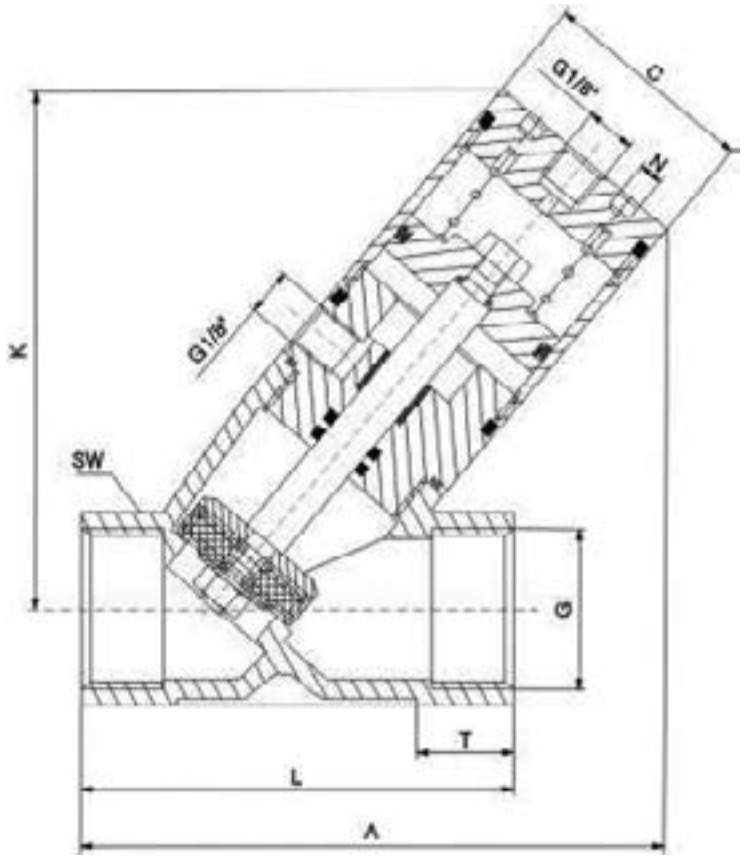
VALVE FEATURES

Fluid Pressure	Up to max 145psi (10bar)
Control Pressure	43.5 - 116psi (3 - 8bar)
Control Fluid	Neutral gases, Air
Body material	AISI 304
Sealing	PTFE
Fluids	Water, Oils, Gases, Pulp and other liquids
Fluid viscosity	Max 600cSt (mm^2/s)
Fluid temperature	14°F to +248°F (-10°C to +120°C)
Ambient temperature	14°F to +176°F (-10°C to +80°C)
Control Type	Double acting

CODE ①	G GAS or NPT	Actuator Diameter		Nominal Diameter		Pilot Pressure		Max Pressure		N	K	C	T	A	L	SW
		inches	*mm*	inches	*mm*	psi	*bar*	psi	*bar*	inches	inches	inches	inches	inches	inches	inches
PEE332C...W10	**3/8”**	**1.26**	*32*	**0.39**	*10*	**45-120**	*3-8*	**145**	*10*	**0.20**	**3.90**	**1.50**	**0.47**	**4.41**	**2.68**	**1.06**
PEE332D...W15	**1/2”**	**1.26**	*32*	**0.59**	*15*	**45-120**	*3-8*	**145**	*10*	**0.20**	**3.90**	**1.50**	**0.53**	**4.41**	**2.68**	**1.06**
PEE340F...W25	**1”**	**1.57**	*40*	**1**	*25*	**45-120**	*3-8*	**145**	*10*	**0.20**	**4.33**	**1.77**	**0.65**	**4.92**	**3.54**	**1.57**
PEE350H...W40	**1 1/2”**	**1.97**	*50*	**1.57**	*40*	**45-120**	*3-8*	**145**	*10*	**0.20**	**5.43**	**2.17**	**0.75**	**6.22**	**4.57**	**2.20**
PEE363I...W50	**2”**	**2.48**	*63*	**2**	*50*	**45-120**	*3-8*	**145**	*10*	**0.20**	**6.30**	**2.72**	**0.85**	**7.48**	**5.43**	**2.72**

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

Ordination example: PEE332CNW10 connection 3/8” NPT
PEE332CGW10 connection 3/8” GAS



DESCRIPTION

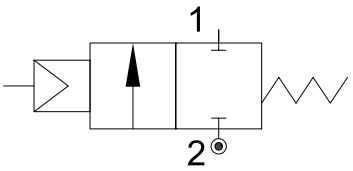
2 way normally closed angle seat valve pneumatically operated.
Inlet under seat. Flanged connections.

PRESENTATION

- Easy to mount with flanged connection
- Water hammer effect prevention
- Protected visual position indicator
- PTFE sealing pack
- Maintenance free sealing pack
- Normally open version available on request
- Double acting version available on request
- Pilot thread: 1/8” GAS
- Universal mounting position

USE: Packaging, Drinks Filling Machinery, Textile printing, Pharmacy & Medical Equipment, Chemical industry, Foaming Equipment, Water/sewage Disposal

CONNECTION: Flanged acc. to DIN2576

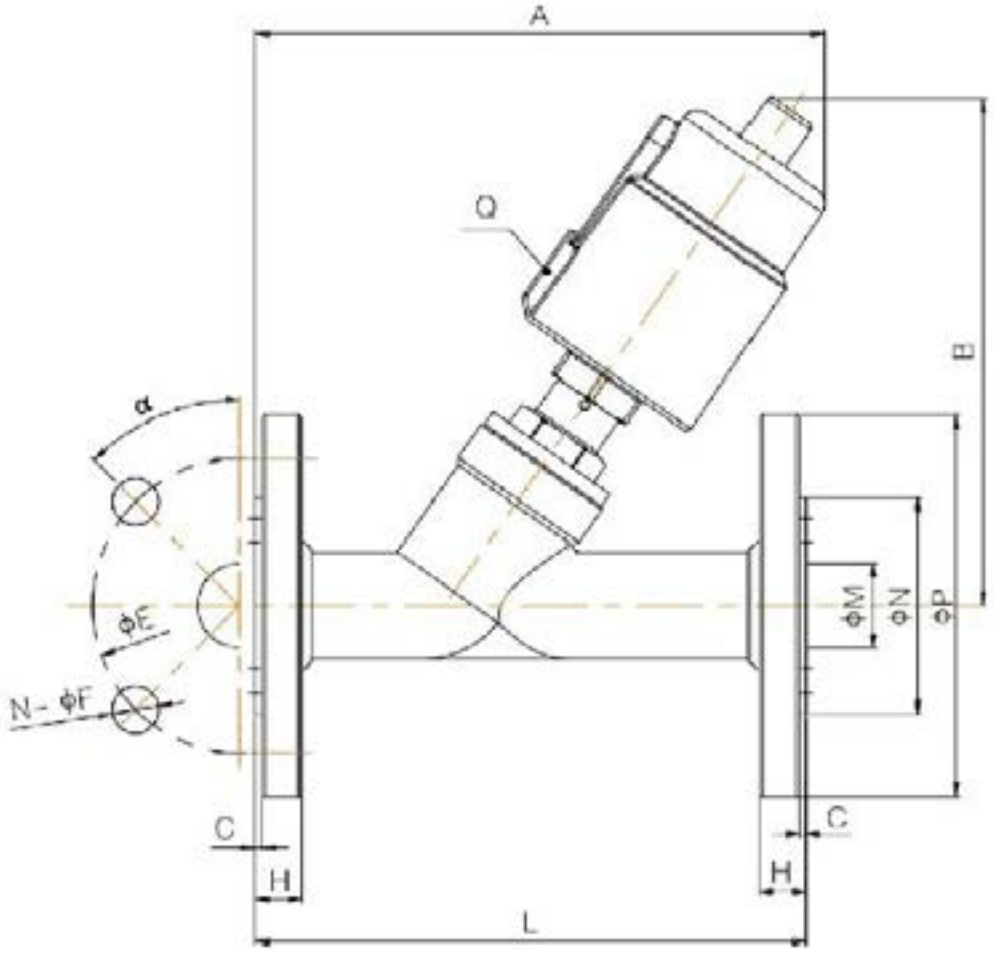


VALVE FEATURES

Fluid Pressure	Up to max 232psi (16bar)
Control Pressure	58 - 87psi (4 - 6bar)(see table)
Control Fluid	Neutral gas, Air
Body material	Stainless steel AISI 316
Sealing	PTFE
Actuator Material	AISI 304
Actuator Size	1.6 - 2 - 2.5 - 3.5 inches (40 - 50 - 63 - 90mm)
Fluids	Water, Alcohol, Oils, Fuels, Steam, Natural gases or Liquids, Organic solvents, Acids and Lyes
Fluid viscosity	Max 600cSt (mm^2/s)
Fluid temperature	14°F +356°F (-10°C to +180°C)
Ambient temperature	14°F +176°F (-10°C to +80°C)
Control Type	Normally closed, (on request Normally open, Double acting)

For piloting please use the solenoid valve E311ANB15///U35D (3/2NC, Ø1.5mm, 120V AC UL approved)

CODE	Actuator Diameter		Nominal Diameter		Pilot Pressure		Max Pressure		Q	A	B	L	C	H	ØE	n°ØF	ØM	ØN	ØP	α
	inches	*mm*	inches	*mm*	psi	*bar*	psi	*bar*		inches	inches	inches	inches	inches	inches	inches	inches	inches	inches	
PF140DGW15/V	**40**	*1.57*	**0.59**	*15*	**58**	*4*	**188**	*13*	**G1/8**	**5.3**	**4.9**	**5.1**	**0.08**	**0.55**	**2.56**	**4-0.55**	**1.63**	**1.77**	**3.74**	**45°**
PF150DGW15/V	**50**	*1.97*			**65**	*4.5*	**203**	*14*		**5.7**	**5.5**									
PF150EGW20/V	**50**	*1.97*	**0.79**	*20*	**65**	*4.5*	**203**	*14*	**G1/8**	**6.5**	**5.5**	**5.9**	**0.08**	**0.55**	**2.95**	**4-0.55**	**0.75**	**2.2**	**4.13**	**45°**
PF150FGW25/V	**50**	*1.97*	**0.98**	*25*	**65**	*4.5*	**116**	*8*	**G1/8**	**6.7**	**5.7**	**6.3**	**0.08**	**0.55**	**3.35**	**4-0.55**	**1.02**	**2.56**	**4.53**	**45°**
PF163FGW25/V	**63**	*2.48*			**72.5**	*5*	**188**	*13*	**G1/8**	**7.5**	**6.9**									
PF163GGW32/V	**63**	*2.48*	**1.26**	*32*	**72.5**	*5*	**87**	*6*	**G1/8**	**7.5**	**7.4**	**7.1**	**0.08**	**0.63**	**3.94**	**4-0.71**	**1.22**	**3.07**	**5.51**	**45°**
PF190GGW32/V	**90**	*3.54*			**87**	*6*	**232**	*16*	**G1/8**	**9.1**	**9.3**									
PF163HGW40/V	**63**	*2.48*	**1.57**	*40*	**72.5**	*5*	**72.5**	*5*	**G1/8**	**8.1**	**7.5**	**7.9**	**0.12**	**0.63**	**4.33**	**4-0.71**	**1.5**	**3.31**	**5.91**	**45°**
PF190HGW40/V	**90**	*3.54*			**87**	*6*	**232**	*16*	**G1/8**	**9.8**	**9.4**									
PF163IGW50/V	**63**	*2.48*	**1.97**	*50*	**72.5**	*5*	**43.5**	*3*	**G1/8**	**9.3**	**7.7**	**9.1**	**0.12**	**0.63**	**4.92**	**4-0.71**	**1.93**	**3.94**	**6.5**	**45°**
PF190IGW50/V	**90**	*3.54*			**87**	*6*	**232**	*16*	**G1/8**	**10.9**	**9.6**									
PF190MGW65/V	**90**	*3.54*	**2.56**	*65*	**87**	*6*	**87.0**	*6*	**G1/8**	**13.0**	**11.0**	**11.4**	**0.12**	**0.71**	**5.71**	**4-0.71**	**2.6**	**4.72**	**7.28**	**45°**
PF1125MGW65/V	**125**	*4.92*			**79.8**	*5.5*	**130**	*9*	**G1/4**	**14.8**	**13.0**									
PF1125RGW80/V	**125**	*4.92*	**3.15**	*80*	**79.8**	*5.5*	**72.5**	*5*	**G1/4**	**15.0**	**14.0**	**12.2**	**0.12**	**0.79**	**6.3**	**4-0.71**	**3.07**	**5.31**	**7.87**	**22.5°**
PF1125SGW100/V	**125**	*4.92*	**3.94**	*100*	**79.8**	*5.5*	**36**	*2.5*	**G1/4**	**16.5**	**15.6**	**13.8**	**0.12**	**0.79**	**7.09**	**4-0.71**	**3.78**	**6.1**	**8.46**	**22.5°**



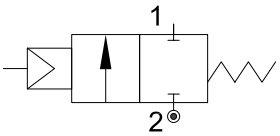
DESCRIPTION

2 way bi-stable (double acting) pneumatically operated valve.
Modular assembling.

PRESENTATION

- Best choice for fluid mixing
- Flanged connection modularity
- Water hammer effect prevention
- Protected visual position indicator
- PTFE sealing pack
- Maintenance free sealing pack
- Normally open version available on request
- Double acting version available on request
- Pilot thread: G1/8”
- Universal mounting position

USE: Packaging, Drinks Filling Machinery, Textile printing, Pharmacy & Medical Equipment, Chemical industry, Foaming Equipment, Water/sewage Disposal



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CONNECTION: Threaded (BSP, NPT)

CONNECTION KIT:	Inlet plate (plate+OR+screws+nuts)	cod.14913000
	Modules connection kit (OR+screws+nuts)	cod.14914000
	End plate (plate+OR+screws+nuts)	cod.14915000

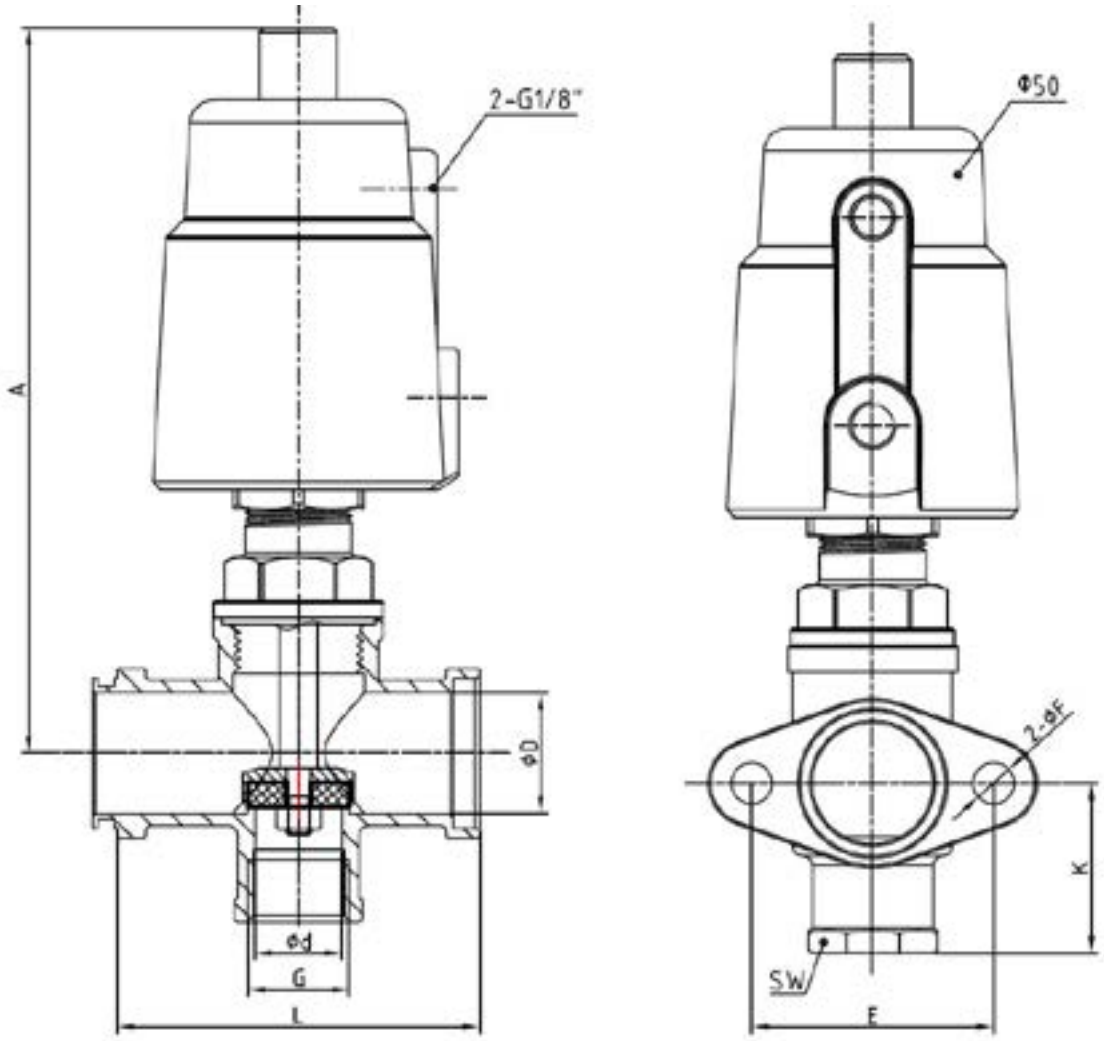
VALVE FEATURES

Fluid Pressure	Up to max 203psi (14bar)
Control Pressure	65psi (4.5bar)
Control Fluid	Neutral gas, Air
Body material	Stainless steel AISI 316
Sealing	PTFE
Actuator Material	AISI 304
Actuator Size	2 inches (50mm)
Fluids	Water, Alcohol, Oils, Fuels, Steam, Natural gases or Liquids, Organic solvents, Acids and Lyes
Fluid viscosity	Max 600cSt (mm^2/s)
Fluid temperature	14°F +356°F (-10°C to +180°C)
Ambient temperature	14°F +176°F (-10°C to +80°C)
Control Type	Double acting

CODE ①	DN (ØD) inches	Pilot Pressure psi	Pilot Pressure *bar*	Max Pressure psi	Max Pressure *bar*	A inches	L inches	K inches	2-ØF inches	E inches	ØD inches	Ød inches	G GAS or NPT	SW inches
PM150D...W15/V	**0.79**	**65**	*4.5*	**203**	*14*	**6**	**3**	**1.38**	**0.33**	**1.97**	**0.98**	**0.71**	**1/2”**	**1.06**
PM150F...W25/V	**1**	**65**	*4.5*	**116**	*8*	**6**	**3.54**	**1.81**	**0.33**	**2.24**	**1.26**	**0.94**	**1”**	**1.54**

① G= GAS (ISO228)
N= NPT (ANSI/ASMI BI.20.1)

Ordination example:PM150DNW15/V connection 1/2” NPT
PM150DGW15/V connection 1/2” GAS



DESCRIPTION

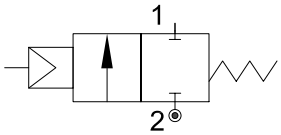
2 way normally closed angle seat valve pneumatically operated.
Inlet under seat. Welded socket.

PRESENTATION

- Welded Socket Valve Acc. to DIN 11850-2
- Optional Socket Valve Acc. to DIN 11850-3
- Water Hammer effect prevention (inlet under seat)
- Protected visual position indicator
- PTFE sealing pack
- Maintenance free sealing pack
- Double acting version available on request
- Normally open version available on request
- Pilot thread: 1/8” (1/4” for 125 mm actuators) BSP or NPT
- Universal mounting position

USE: Packaging, Drinks Filling Machinery, Textile printing, Pharmacy & Medical Equipment, Chemical industry, Foaming Equipment, Water/sewage Disposal

CONNECTION: Welded Acc. to DIN 11850-2



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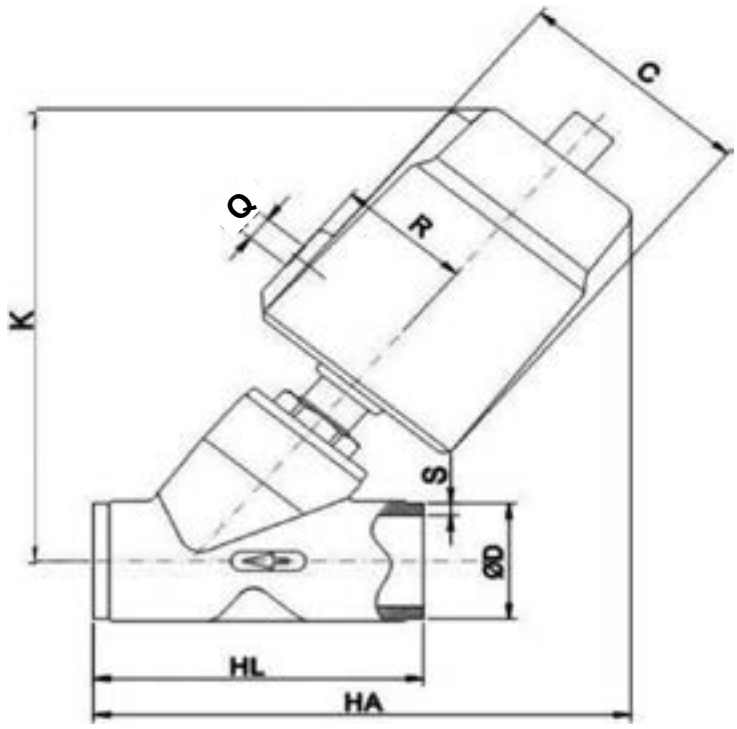
VALVE FEATURES

Fluid Pressure	Up to max 232psi (16bar)
Control Pressure	50 - 87psi (3.5 - 6bar)(see table)
Control Fluid	Neutral gas, Air
Body material	Stainless steel AISI 316
Sealing	PTFE
Actuator Material	AISI 304 or Aluminium for 4.9inches actuator
Actuator Size	1.6 - 2 - 2.5 - 3.5 - 4.9 inches (40 - 50 - 63 - 90 - 125 mm)
Fluids	Water, Alcohol, Oils, Fuels, Steam, Natural gases or Liquids, Organic solvents, Acids and Lyes
Fluid viscosity	Max 600cSt (mm^2/s)
Fluid temperature	14°F +356°F (-10°C to +180°C)
Ambient temperature	14°F +176°F (-10°C to +80°C)
Control Type	Normally closed (on request Normally open, Double acting)

For piloting please use the solenoid valve E311ANB15///U35D (3/2NC, Ø1.5, 120V AC UL approved)

CODE	Actuator Diameter		Nominal Diameter		Pilot Pressure		Max Pressure		Q	C	R	K	Welded connection			
													HA	HL	DIN 11850-2	
															D	S
	inches	*mm*	inches	*mm*	psi	*bar*	psi	*bar*		inches	inches	inches	inches	inches	inches	inches
PS140DGW15/V	**1.57**	*40*	**0.59**	*15*	**58**	*4*	**188**	*13*	**G1/8”**	**1.99**	**1.06**	**4.41**	**4.65**	**2.76**	**0.75**	**0.06**
PS150DGW15/V	**1.97**	*50*			**65**	*4.5*	**203**	*14*	**G1/8”**	**2.36**	**1.30**	**4.92**	**5.04**			
PS150EGW20/V	**1.97**	*50*	**0.79**	*20*	**65**	*4.5*	**203**	*14*	**G1/8”**	**2.36**	**1.30**	**5.20**	**5.31**	**3.23**	**0.91**	**0.06**
PS150FGW25/V	**1.97**	*50*	**1**	*25*	**65**	*4.5*	**116**	*8*	**G1/8”**	**2.36**	**1.30**	**5.35**	**5.91**	**3.94**	**1.14**	**0.06**
PS163FGW25/V	**2.48**	*63*			**72.5**	*5*	**188**	*13*	**G1/8”**	**2.95**	**1.61**	**6.38**	**6.89**			
PS190FGW25/V	**3.54**	*90*			**50**	*3.5*	**203**	*14*	**G1/8”**	**4.17**	**2.17**	**8.31**	**8.58**			
PS163GGW32/V	**2.48**	*63*	**1.26**	*32*	**72.5**	*5*	**87**	*6*	**G1/8”**	**2.95**	**1.61**	**6.85**	**7.32**	**4.92**	**1.38**	**0.06**
PS190GGW32/V	**3.54**	*90*			**87**	*6*	**232**	*16*	**G1/8”**	**4.17**	**2.17**	**8.78**	**9.13**			
PS163HGW40/V	**2.48**	*63*	**1.57**	*40*	**72.5**	*5*	**72.5**	*5*	**G1/8”**	**2.95**	**1.61**	**6.89**	**7.48**	**5.12**	**1.61**	**0.06**
PS190HGW40/V	**3.54**	*90*			**87**	*6*	**232**	*16*	**G1/8”**	**4.17**	**2.17**	**8.78**	**9.25**			
PS163IGW50/V	**2.48**	*63*	**2**	*50*	**72.5**	*5*	**43.5**	*3*	**G1/8”**	**2.95**	**1.61**	**7.20**	**8.11**	**6.1**	**2.09**	**0.06**
PS190IGW50/V	**3.54**	*90*			**87**	*6*	**14.5**	*10*	**G1/8”**	**4.17**	**2.17**	**9.13**	**9.84**			
PS190MGW65/V	**3.54**	*90*	**2.56**	*65*	**87**	*6*	**87**	*6*	**G1/8”**	**4.17**	**2.17**	**10.43**	**12.80**	**10.63**	**2.76**	**0.08**
PS1125MGW65/V	**4.92**	*125*			**80**	*5.5*	**130**	*9*	**G1/4”**	**6.69**	**3.35**	**12.40**	**14.37**			
PS1125RGW80/V	**4.92**	*125*	**3.15**	*80*	**80**	*5.5*	**72.5**	*5*	**G1/4”**	**6.69**	**3.35**	**12.87**	**15**	**11.18**	**3.35**	**0.08**



DESCRIPTION

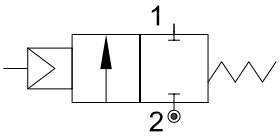
2 way normally closed angle seat valve pneumatically operated.
Inlet under seat.

PRESENTATION

- Tri-Clamp connection Acc.to ISO2852-1993
- Water hammer effect prevention
- Protected visual position indicator
- PTFE sealing pack
- Maintenance free sealing pack
- Normally open version available on request
- Double acting version available on request
- Pilot thread: 1/8” GAS
- Universal mounting position

USE: Packaging, Beverage equipment, Food processing, Textile printing & Dyeing, Gas industry, Pharmacy & Medical Equipment, Chemical industry, Disinfection, Foaming Equipment, Water/sewage Disposal

CONNECTION: Tri-Clamp ISO2852-1993

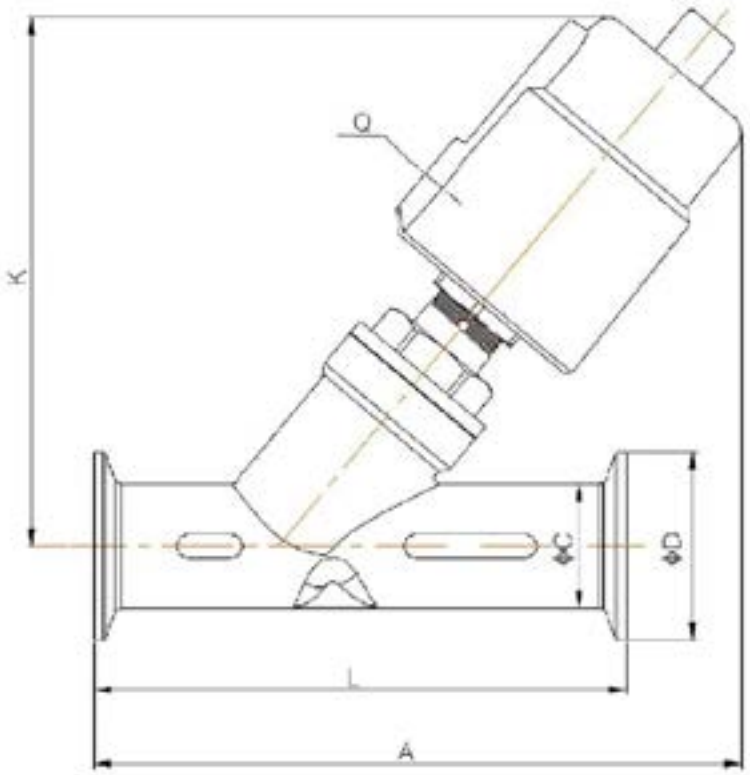


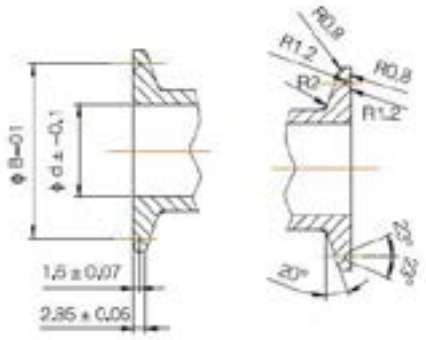
VALVE FEATURES

Fluid Pressure	Up to max 203psi (14bar)
Control Pressure	58 - 87psi (4 - 6bar)(see table)
Control Fluid	Neutral gas, Air
Body material	Stainless steel AISI 316
Sealing	PTFE
Actuator Material	AISI 304 or Aluminium for 4.9inches actuator
Actuator Size	1.6 - 2 - 2.5 - 3.5 inches (40 - 50 - 63 - 90 mm)
Fluids	Water, Alcohol, Oils, Fuels, Steam, Natural gases or Liquids, Organic solvents, Acids and Lyes
Fluid viscosity	Max 600cSt (mm^2/s)
Fluid temperature	14°F +356°F (-10°C to +180°C)
Ambient temperature	14°F +176°F (-10°C to +80°C)
Control Type	Normally closed, (on request Normally open, Double acting)

For piloting please use the solenoid valve E311ANB15///U35D (3/2NC, Ø1.5mm, 120V AC UL approved)

CODICE	Actuator Diameter		Nominal Diameter		Pilot Pressure		Max Pressure		Q	A	K	Tri-clamp connection				
												L	C	B	Ød	ØD
	inches	*mm*	inches	*mm*	psi	*bar*	psi	*bar*		inches	inches	inches	inches	inches	inches	inches
PT140DW15/V	**1.57**	*40*	**0.59**	*15*	**58**	*4*	**188**	*13*	**G1/8”**	**5.12**	**4.53**	**3.15**	**0.75**	**1.08**	**0.59**	**1.34**
PT150DW15/V	**1.97**	*50*			**65**	*4.5*	**203**	*14*	**G1/8”**	**5.51**	**4.96**					
PT150EW20/V	**1.97**	*50*	**0.79**	*20*	**65**	*4.5*	**203**	*14*	**G1/8”**	**5.83**	**4.96**	**4.02**	**0.98**	**1.71**	**0.83**	**1.99**
PT150FW25/V	**1.97**	*50*	**1**	*25*	**65**	*4.5*	**116**	*8*	**G1/8”**	**6.50**	**5.51**	**5.12**	**1.26**	**1.71**	**1.06**	**1.99**
PT163FW25/V	**2.48**	*63*			**72.5**	*5*	**188**	*13*	**G1/8”**	**7.40**	**6.54**					
PT163GW32/V	**2.48**	*63*	**1.26**	*32*	**72.5**	*5*	**87**	*6*	**G1/8”**	**7.87**	**6.85**	**5.75**	**1.4**	**1.71**	**1.22**	**1.99**
PT163HW40/V	**2.48**	*63*	**1.57**	*40*	**72.5**	*5*	**72.5**	*5*	**G1/8”**	**8.27**	**6.89**	**6.3**	**1.57**	**2.22**	**1.30**	**2.52**
PT163IW50/V	**2.48**	*63*	**2**	*50*	**72.5**	*5*	**43.5**	*3*	**G1/8”**	**8.70**	**7.28**	**6.89**	**2.09**	**2.22**	**1.77**	**2.52**
PT190IW50/V	**3.54**	*90*	**2**	*50*	**87**	*6*	**145**	*10*	**G1/8”**	**10.43**	**9.25**					





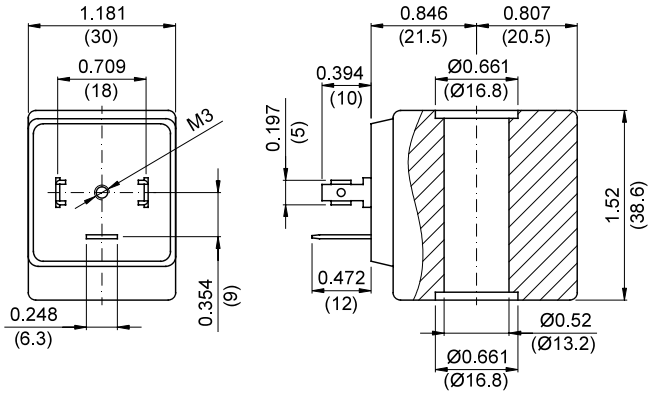
DESCRIPTION

Encapsulated coil incorporating the magnetic circuit.
Fixing by means of a central nut.
Electrical connection according to DIN 43650 A
(A EN 175301-803 ISO 4400)

CONSTRUCTION

Encapsulation:

Class F	Fibre-glass Nylon
Class H	Fibre-glass Polyarylamide
Magnetic circuit	Zinc-plated steel
Windings	Copper covered with class H insulation
Ambient temperature:	class F +14°F +131°F
	class H +14°F +176°F
	UL coils +14°F +140°F



OPTIONS: Electrical connection through cable
Special powers and voltages
Self-extinguish

CODE		Alternating Current Voltage	Direct Current Voltage	Power ①		Voltage tolerance		Connector	Service
Class F insulation	Class H insulation		(V)	Alternating Current (VA)	Direct Current (W)	Alternating current	Direct current		ED
20A	22A	12V 50/60Hz	-	15	-	+15% -10%	-	10349000	100%
20B	22B	24V 50/60Hz	-						
20C	22C	48V 50/60Hz	-						
20D	22D	110V 50/60Hz	-						
20E	22E	220/230V 50/60Hz	-						
20F	22F	240V 50/60Hz	-						
20G	22G	380V 50/60Hz	-						
200	220	-	12	-	10	-	±10%		
201	221	-	24						
202	222	-	48						

Certified versions c UL us

-	U25B	24V 60Hz	-	15	-	±10%	-	10349000	100%
-	U25D	120V 60Hz	-						
-	U25F	240V 60Hz	-						
-	U250	-	12	-	10	-	±10%		
-	U251	-	24						

① Considering nominal voltage and an ambient temperature of +68°F (+20°C)

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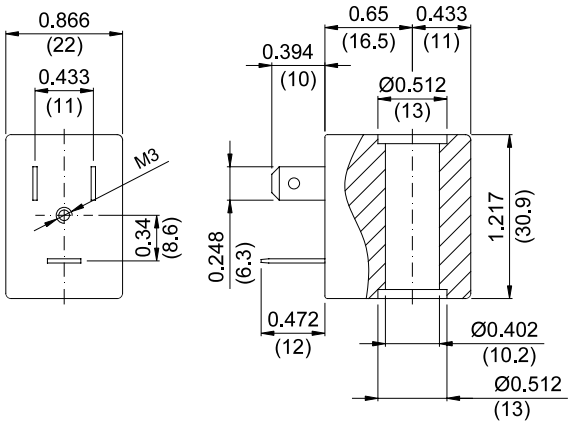
DESCRIPTION

Encapsulated coil incorporating the magnetic circuit.
Fixing by means of a central nut.
Electrical connection according to DIN 43650 B
(B Industrial connection)

CONSTRUCTION

Encapsulation:

Class F	Fibre-glass Nylon
Class H	Fibre-glass Polyarylamide
Magnetic circuit	Zinc-plated steel
Windings	Copper covered with class H insulation
Ambient temperature:	class F +14°F +131°F
	class H +14°F +176°F
	UL coils +14°F +140°F



OPTIONS: Electrical connection through cable
Special powers and voltages
Self-extinguish

CODE		Alternating Current Voltage	Direct Current Voltage	Power ①		Voltage tolerance		Connector	Service
Class F insulation	Class H insulation		(V)	Alternating Current (VA)	Direct Current (W)	Alternating current	Direct current		ED
30A	32A	12V 50/60Hz	-	8	-	+15% -10%	-	10348000	100%
30B	32B	24V 50/60Hz	-						
30C	32C	48V 50/60Hz	-						
30D	32D	110V 50/60Hz	-						
30E	32E	220/230V 50/60Hz	-						
30F	32F	240V 50/60Hz	-						
30G	32G	380V 50/60Hz	-						
300	320	-	12	-	6.5	-	±10%		
301	321	-	24						
302	322	-	48						

Certified versions c UL us

-	U35B	24V 60Hz	-	8	-	±10%	-	10348000	100%
-	U35D	120V 60Hz	-						
-	U35F	240V 60Hz	-						
-	U350	-	12	-	6.5	-	±10%		
-	U351	-	24						

Certified versions VDE

-	V32E	220/230	-	8	-	+15% -10%	-	10348000	100%

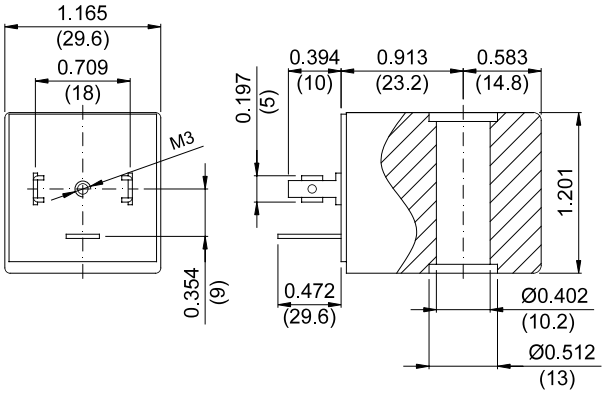
① Considering nominal voltage and an ambient temperature of +68°F (+20°C)

DESCRIPTION

Encapsulated coil incorporating the magnetic circuit.
Fixing by means of a central nut.
Electrical connection according to DIN 43650 A
(A EN 175301-803 ISO 4400)

CONSTRUCTION

Encapsulation:	
Class F	Fibre-glass Nylon
Class H	Fibre-glass Polyarylamide
Magnetic circuit	Zinc-plated steel
Windings	Copper covered with class H insulation
Ambient temperature:	class F +14°F +131°F
	class H +14°F +176°F
	UL coils +14°F +140°F



OPTIONS: Electrical connection through cable
Special powers and voltages
Self-extinguish

6

CODE		Alternating Current Voltage	Direct Current Voltage	Power ①		Voltage tolerance		Connector	Service
Class F insulation	Class H insulation		(V)	Alternating Current (VA)	Direct Current (W)	Alternating current	Direct current		ED
40A	42A	12V 50/60Hz	-	11	-	+15% -10%	-	10349000	100%
40B	42B	24V 50/60Hz	-						
40C	42C	48V 50/60Hz	-						
40D	42D	110V 50/60Hz	-						
40E	42E	220/230V 50/60Hz	-						
40F	42F	240V 50/60Hz	-						
40G	42G	380V 50/60Hz	-						
400	420	-	12	-	5	-	±10%		
401	421	-	24						
402	422	-	48						

Certified version cULus

-	U450	-	12	-	8	-	±10%	10349000	100%
-	U451	-	24						

① Considering nominal voltage and an ambient temperature of +68°F (+20°C)

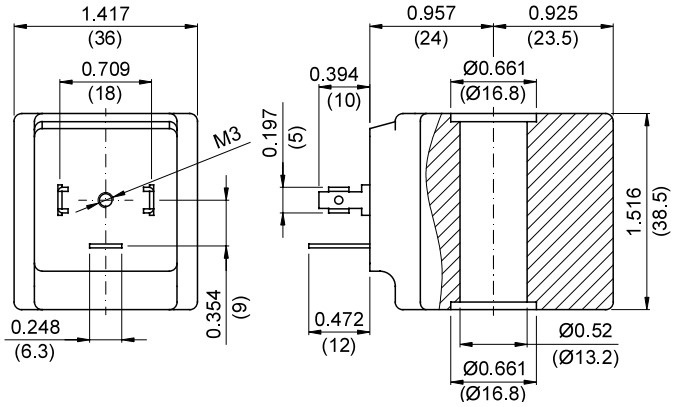
DESCRIPTION

Encapsulated coil incorporating the magnetic circuit.
Fixing by means of a central nut.
Electrical connection according to DIN 43650 A
(A EN 175301-803 ISO 4400)

CONSTRUCTION

Encapsulation:

Class H	Fibre-glass Polyarylamide
Magnetic circuit	Zinc-plated steel
Windings	Copper covered with class H insulation
Ambient temperature:	class H +14°F +176°F UL coils +14°F +140°F



OPTIONS: Electrical connection through cable
Special powers and voltages
Self-extinguish

CODE Class H insulation	Alternating Current Voltage	Direct Current Voltage (V)	Power ① Alternating Current (VA)	 Direct Current (W)	Voltage tolerance Alternating current	 Direct current	Connector	Service ED
52A	12V 50/60Hz	-	30	-	+15% -10%	-	10349000	100%
52B	24V 50/60Hz	-						
52C	48V 50/60Hz	-						
52D	110V 50/60Hz	-						
52E	220/230V 50/60Hz	-						
52F	240V 50/60Hz	-						
52G	380V 50/60Hz	-						
520	-	12	-	27	-	±10%		
521	-	24						
522	-	48						

Certified version cULus

U55B	24V 60Hz	-	20	-	±10%	-	10349000	100%
U55D	120V 60Hz	-						
U55F	240V 60Hz	-						
U550	-	12	-	14	-	±10%		
U551	-	24						

① Considering nominal voltage and an ambient temperature of +68°F (+20°C)

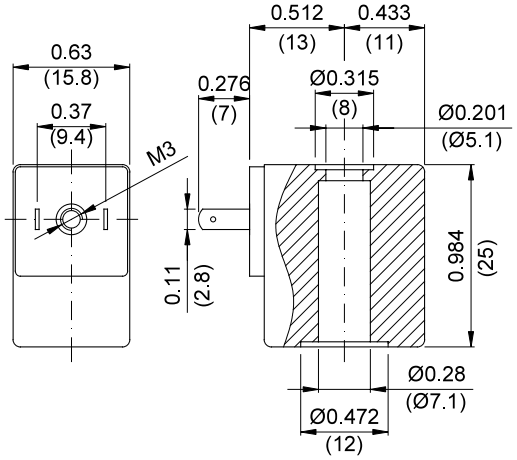
DESCRIPTION

Encapsulated coil incorporating the magnetic circuit.
Fixing by means of a central nut.
Electrical connection according to AMP 2.8x0.5.

CONSTRUCTION

Encapsulation:

Class F	Fibre-glass Nylon
Magnetic circuit	Zinc-plated steel
Windings	Copper covered with class H insulation



OPTIONS: Electrical connection through cable
Special powers and voltages
Self-extinguish

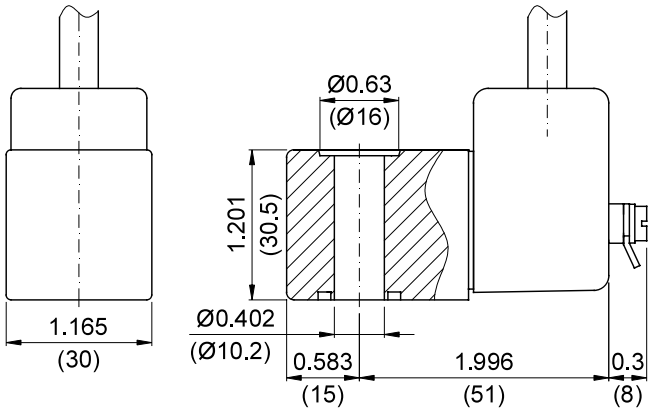
CODE Class F insulation	Direct Current Voltage (V)	Power ① Direct Current (W)	Voltage tolerance	Connector	Service ED
60014	12	4	±5%	10348040	100%
60048	12	8			25%
60114	24	4			100%
60148	24	8			25%
60012	12	2			100%
60112	24	2			100%

① Considering nominal voltage and an ambient temperature of +68°F (+20°C)

DESCRIPTION
Encapsulated coil in self-extinguish nylon incorporating a thermal resistor and a thermal fuse.
This design prevents any problems of overheating or sparking occurring making it particularly suitable for use in potentially explosive ambient.

CONSTRUCTION
Encapsulation:

Class F	Self-extinguish Nylon
Magnetic circuit	Zinc-plated steel
Windings	Copper covered with class H insulation



ELECTRICAL CONNECTION
3-core cable length=118in (300cm)

AMBIENT TEMPERATURE
-4°F ÷ +104°F

CERTIFICATE
Conforms to the European standards for the manufacturing of electrical components for use in potentially explosive atmospheres.
EN 50014-1997+ A1…A2
E50025-1997, IEC 60079-18:2002
European Community Standard 97/9/CE

EEx m II T4 INERIS 06ATEX0002X
CE 0080 Ex II 2 GD

CODE	Voltage (V)	Frequency (Hz)	Nominal power ① (W)
75BD	24	50-60	5.3
75CD	48	50-60	5.3
75DD	110	50-60	5.2
75ED	230	50-60	5.2
751D	24 DC	-	5.4

① Considering nominal voltage and an ambient temperature of +68°F (+20°C)

DESCRIPTION

Explosion proof coil certified for hazardous area:
ATEX II 2GDEx d IIC T6 or **T5** or **T4 Gb IP66**
Ex tb IIIC T85°C or **T100°C** or **T135°C Db IP66**
CESI 03 ATEX 344/02
Tamb -40°C ÷ +35°C(T6) or **+50°C(T5)** or **+60°C(T4)**
-40°F ÷ +95°F(T6) or ***+122°F(T5)*** or ***+140°F(T4)***

Series A6

FEATURES

Housing: Red colour alloy (series A6)
Stainless steel (series X6)
Electrical connection: 1/2" NPT (M20x1.5 on request)
Ambient temperature: -40°F ÷ +95°F(*T6*), +122°F(*T5*), +140°F(*T4*)

CONSTRUCTION

- Designed for extreme environmental condition
- Integrated terminal box and horizontal cable entry
- Surge suppressor provided
- Dual gasket

Series X6

OPTIONS

Certifications EAC, INMETRO, CCOE etc. on request
Special powers

CODE		Nominal voltage		Power		Voltage tolerances	Service
Alloy	Stainless steel	Alternating current 50/60Hz (V)	Direct current (V)	Alternating current (holding)	Direct current		ED
A6B	**X6B**	**24**	**-**				
A6C	**X6C**	**48**	**-**				
A6D	**X6D**	**110-120**	**-**				
A6E	**X6E**	**220-240**	**-**	**12 VA**	**8 W**	**±20%**	**100%**
A60	**X60**	**-**	**12**				
A61	**X61**	**-**	**24**				
A62	**X62**	**-**	**48**				

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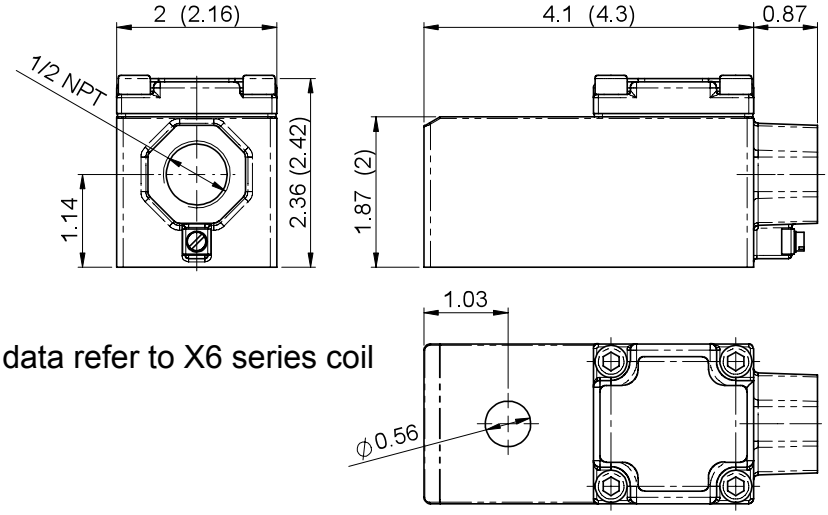
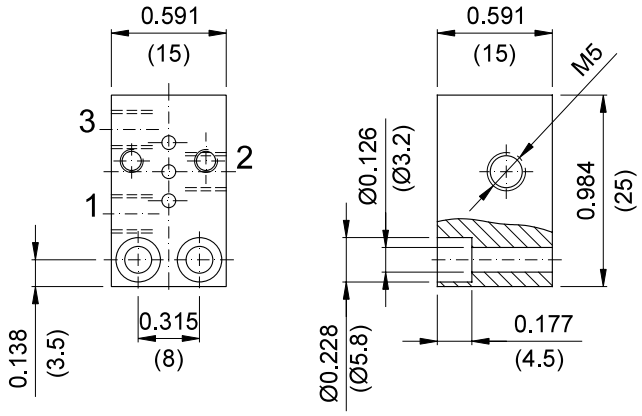
OVERALL DIMENSIONS



Parentheses data refer to X6 series coil

SINGLE BASE

Code:
B01/340/M5



MULTIPLE BASES

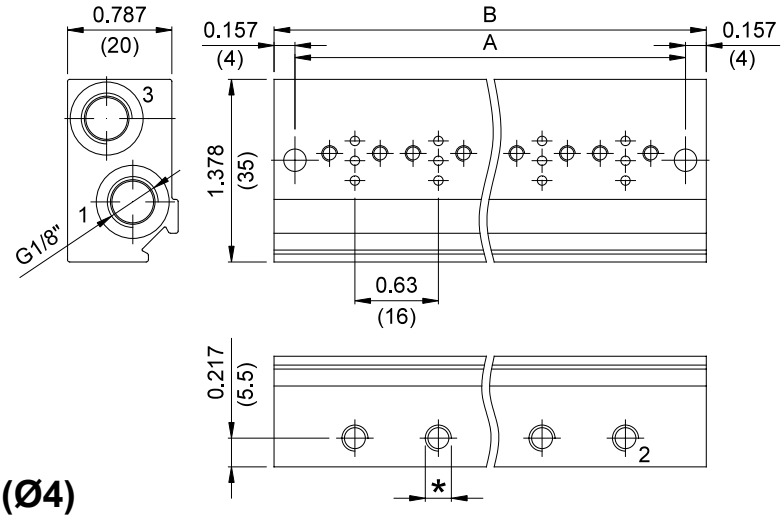
Code:

B...../340/M5

N° PLACES

B...../340/R4

N° PLACES



***=M5 thread**

***=quick connection for pipes Ø$_{ext}$5/32 (Ø4)**

N° PLACES	2		3		4		5		6		7		8		9		10	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
A	1.55	39	2.17	55	2.79	71	3.43	87	4.06	103	4.69	119	5.31	135	5.94	151	6.57	167
B	1.85	47	2.48	63	3.11	79	3.74	95	4.37	111	5	127	5.63	143	6.26	159	6.89	175

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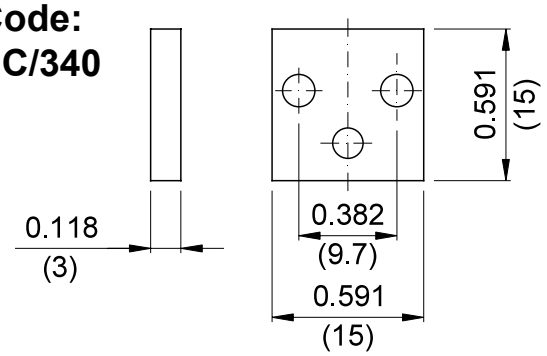
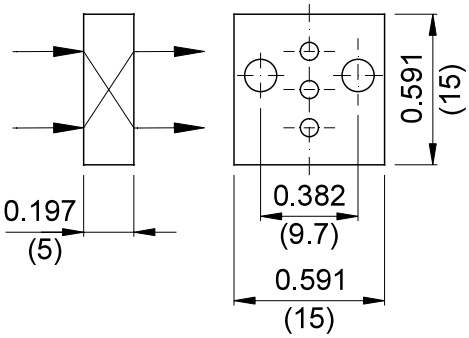
BLANKING PLATE

Code:
PC/340



REVERSING PLATE

Code:
PA/340



SINGLE BASE

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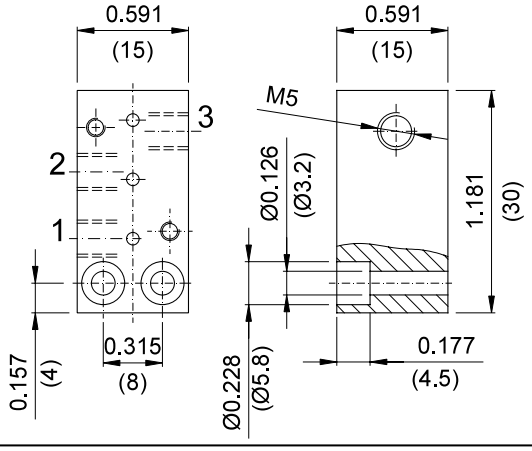
B01/345/M5



MULTIPLE BASES

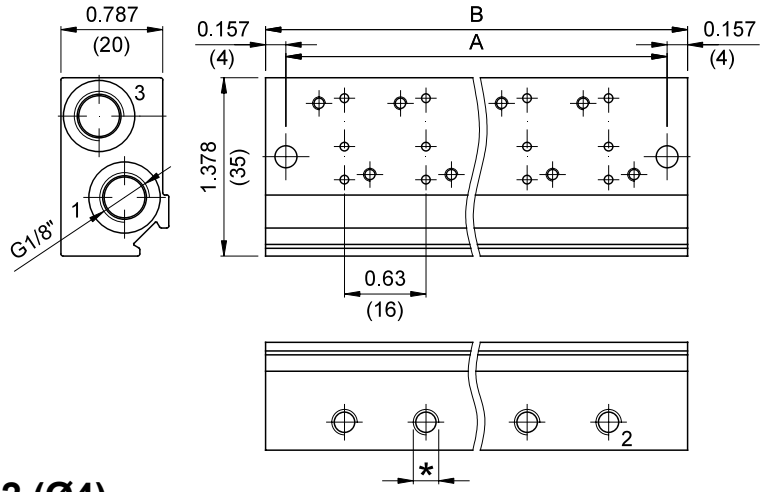
Code:

B...../345/M5

N° PLACES

B...../345/R4

N° PLACES



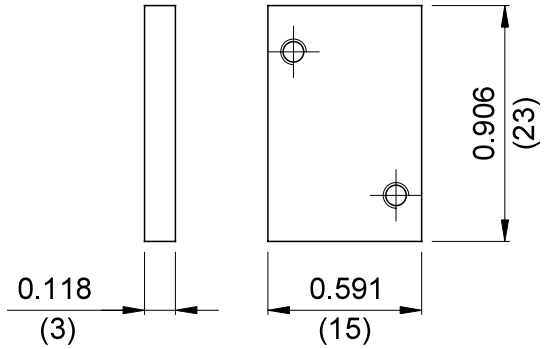
***=M5 thread**

***=quick connection for pipes Ø$_{ext}$Ø$_{ext}$5/32 (Ø4)**

N° PLACES	2		3		4		5		6		7		8		9		10	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
A	1.55	39	2.17	55	2.79	71	3.43	87	4.06	103	4.69	119	5.31	135	5.94	151	6.57	167
B	1.85	47	2.48	63	3.11	79	3.74	95	4.37	111	5	127	5.63	143	6.26	159	6.89	175

BLANKING PLATE

Code:
PC/345

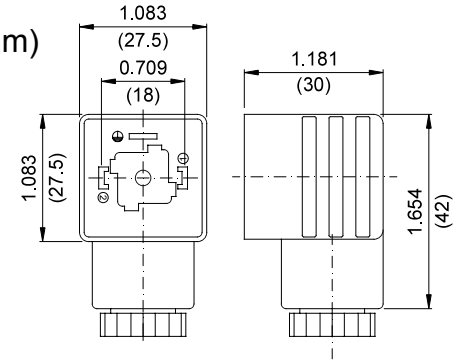


Connector code 10349...

DIN 43650 Form A connector

Contact distance:	0.709in (18mm)
Protection class:	IP65
Working temperature:	-40°F +212°F
Fixing method:	M3 central screw
Gland size:	PG9 cable Ø0.236-0.315in (Ø6-8mm) code 10349000 (n°2 poles+earth)
	PG11 cable Ø0.315-Ø0.394in (Ø8-10mm) code 10349001 (n°2 poles+earth)
On request:	PG9 cable Ø0.236-0.315in (Ø6-8mm) code 10349060 (n°3 poles+earth)

Weight 0.05lb (0.023Kg)

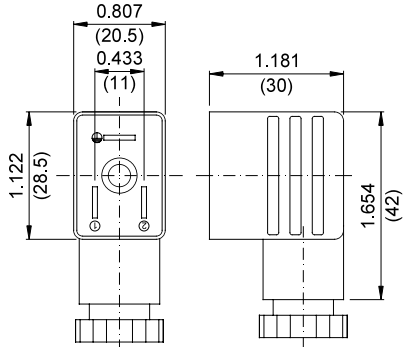


Connector code 10348...

DIN 46244 Form B (DIN 43650 Form B) connector

Contact distance:	0.433in (11mm)
Protection class:	IP65
Working temperature:	-40°F +212°F
Fixing method:	M3 central screw
Gland size:	PG9 cable Ø0.236-0.315in (Ø6-8mm) code 10348000 (n°3 poles+earth)

Weight 0.042lb (0.019Kg)



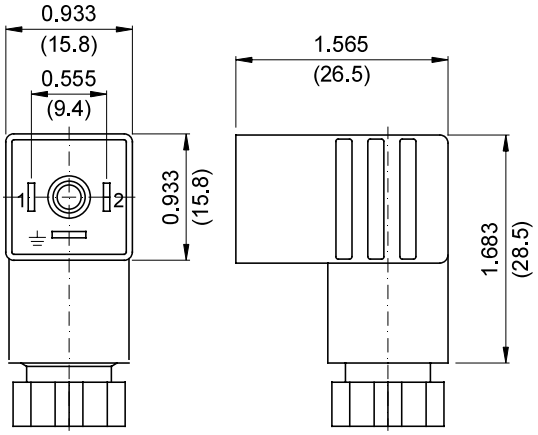
7

Connector code 10348040

AMP 2.8x0.5 connector

Contact distance: 0.555in (9.4mm)
Protection class: IP65
Working temperature: -40°F +212°F
Fixing method: M3 central screw
Gland size: PG7 cable Ø0.157-0.236in (Ø4-6mm)
(n°2 poles+earth)

Weight 0.022lb (0.010Kg)

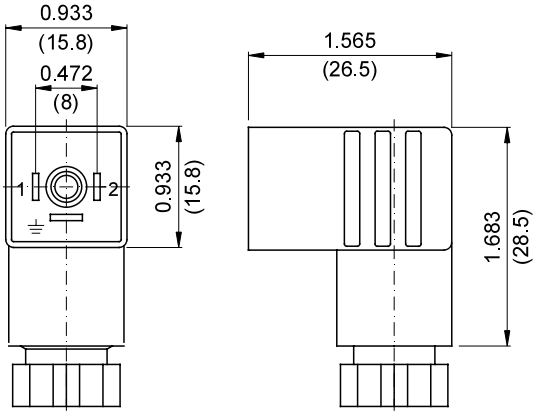


Connector code 10348060

DIN 43650 Form C connector

Contact distance: 0.472in (8mm)
Protection class: IP65
Working temperature: -40°F +212°F
Fixing method: M2.5 central screw
Gland size: PG7 cable Ø0.157-0.236in (Ø4-6mm)
(n°2 poles+earth)

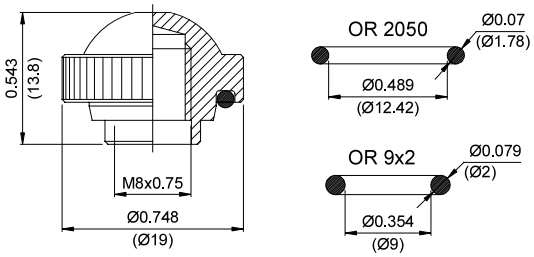
Weight 0.022lb (0.010Kg)



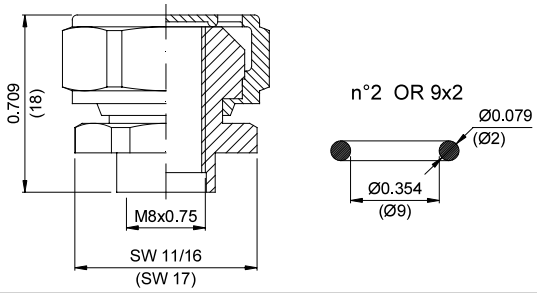
Wet-proof coil fixing nut

For coil series 3 and 4 (armature tube Ø10)

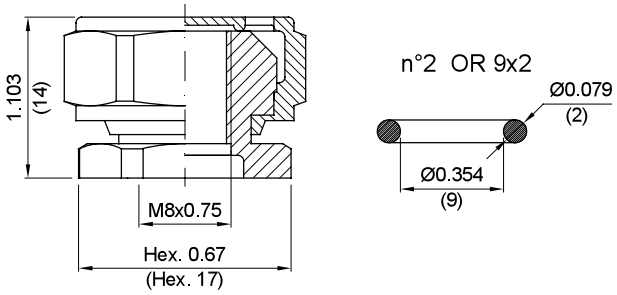
Solenoid valves 2/2NC
Code 11003000



Solenoid valves 3/2NC
Code 11586N00

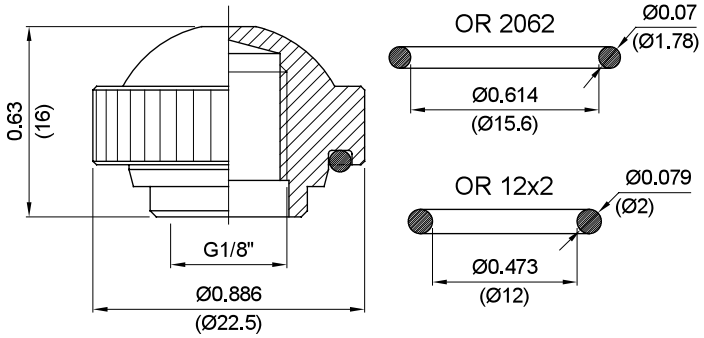


Solenoid valves 3/2NO
Code 11587N00

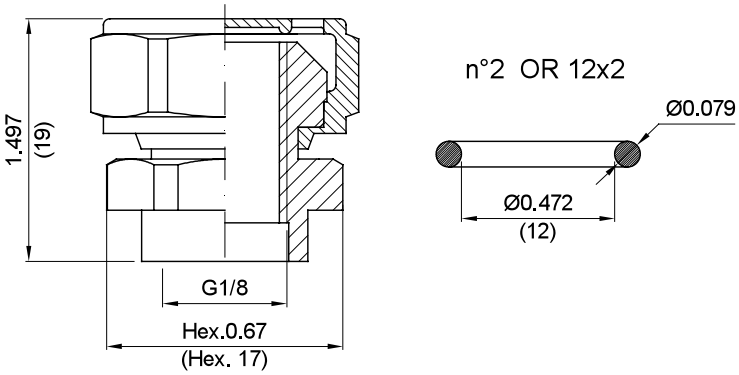


For coil series 2 and 5 (armature tube Ø13)

Solenoid valves 2/2NC
Code 11002000



Solenoid valves 3/2NC
Code 14792000



7

Repeat cycle timer for solenoid valve

Code 11303000 (output DIN 43650 A)
Code 11304000 (output DIN 46244 B)

FEATURES

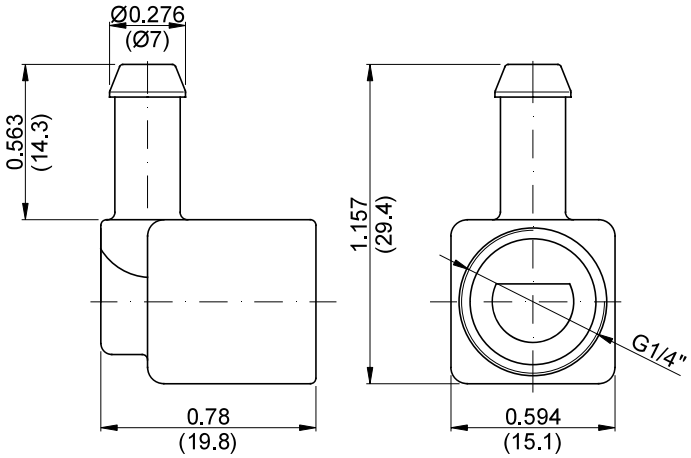
Electrical connection in/out:	DIN 43650 A / DIN 43650 A DIN 43650 A / DIN 46244 B
Time scales:	Time ON 0,5-10 sec Time OFF 0,5-45min

(other time scales available on request)
Reset/Test by manual touch switch
ON and OFF led indicators
Operating temperature: 14°F +122°F

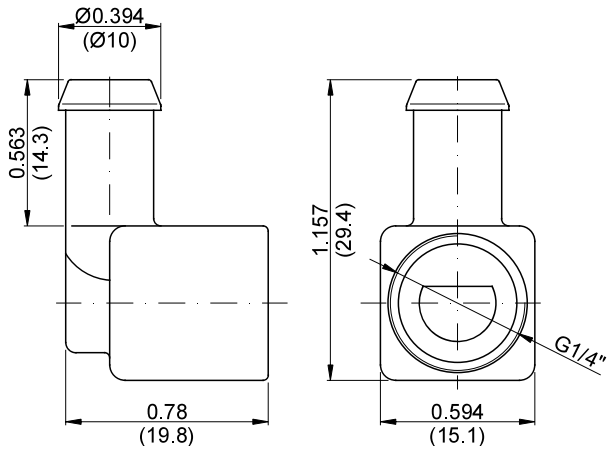
ELECTRICAL FEATURES

Supply voltage:	24-240V AC/DC 50/60Hz
Switch capacity:	1 A
Inrush current:	10 A for 10msec
Current consumption:	4 mA
Protection class:	IP65

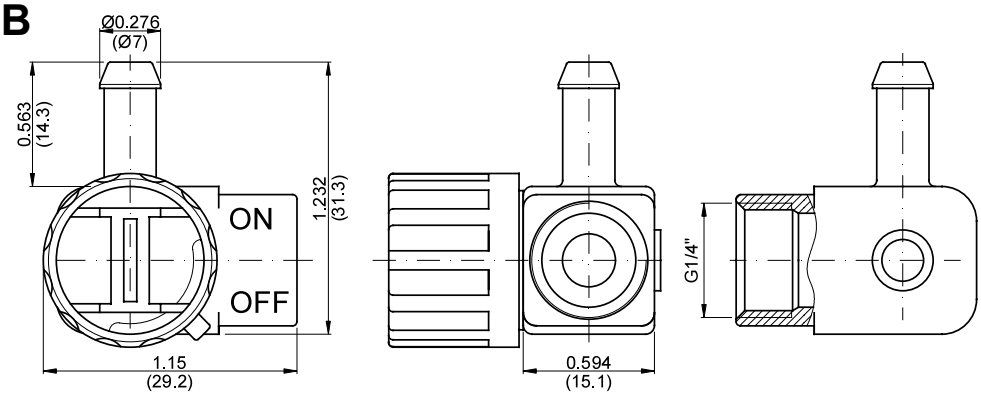
Hosetail DN4
Code P40B



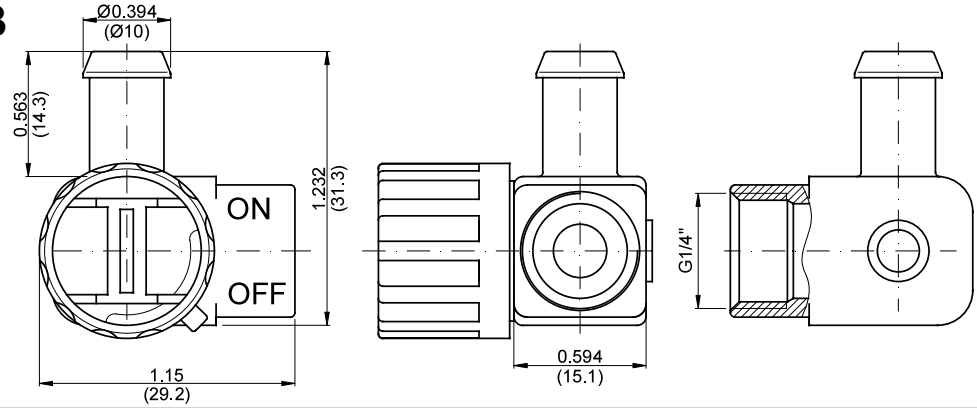
Hosetail DN6
Code P60B



Hosetail DN4 with flow regulator
Code VP40B



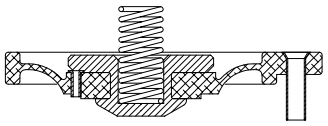
Hosetail DN6 with flow regulator
Code VP60B



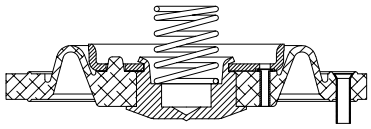
7

2/2NC and NO servo assisted diaphragm assembly

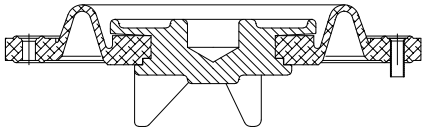
CODE	SEAL	VALVE SERIES
11030010 11030020 11030040	NBR FPM EPDM	107B...10 107C...10 207B...10 207C...10



13386010 13386020 13386040	NBR FPM EPDM	107C...12 107D...12 207C...12 207D...12
13850010	NBR	107CNB12/W 107DNB12/W
13850340	EPDM	107CNE12/W 107DNE12/W
13395010 13395020 13395040	NBR FPM EPDM	107E 207E
13402010 13402020 13402040	NBR FPM EPDM	107F 207F



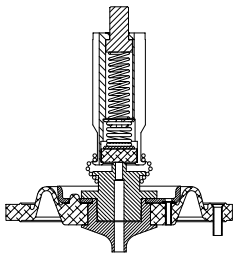
11266010 11266020 11266040	NBR FPM EPDM	107G 107H 207G 207H
11267010 11267020 11267040	NBR FPM EPDM	107I 207I
11269010	NBR	107M 107R 207M 207R
13744010	NBR	107M.../W 107R.../W 207M.../W 207R.../W



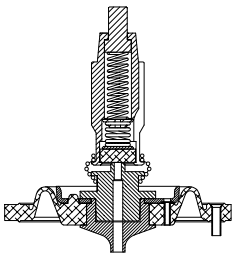
8

2/2NC assisted lift diaphragm assembly

CODE	SEAL	VALVE SERIES
13428020	FPM	E108C E108D
13429020	FPM	E108E
13430020	FPM	E108F

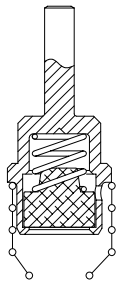


13431020	FPM	D108E
13432020	FPM	D108F



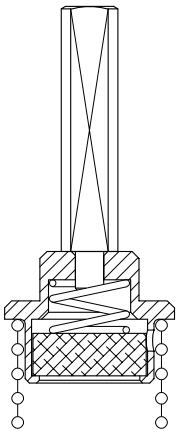
2/2 NO seal assembly for tube Ø0.394 (Ø10mm)

CODE		SEAL	VALVE SERIES	
BRASS	S.STEEL		BRASS	S.STEEL
14432010 14432020 14432040	14433010 14433020 14433040	NBR FPM EPDM	205A 207C 207D 207E 207F 212X	277C 277D 277E 277F



2/2 NO seal assembly for tube Ø0.512 (Ø13mm) (alternating current version)

CODE		SEAL	VALVE SERIES	
BRASS	S.STEEL		BRASS	S.STEEL
11167010 11167020 11167040	12916010 12916020 12916040	NBR FPM EPDM	E206...15 E206...20 E206...25 207G 207H 207I 207M 207R E214X...15 E214X...20 E214X...25 219C 219D	E210...15 E210...20 E210...25
13755010 13755020 13755040	12003010 12003020 12003040	NBR FPM EPDM	E206...35 E206...45 E214X...35 E214X...45 207M.../W 207R.../W	E210...35 E210...45 E210...52

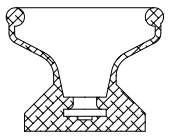


2/2 NO seal assembly for tube Ø0.512 (Ø13mm) (direct current version)

CODE		SEAL	VALVE SERIES	
BRASS	S.STEEL		BRASS	S.STEEL
13754010 13754020 13754040	12916010 12916020 12916040	NBR FPM EPDM	D206...15/3 D206...20/3 D206...25/3 D214X...15/5 D214X...20/5 D214X...25/5	D210...15 D210...20 D210...25
13755010 13755020 13755040	13756010 13756020 13756040	NBR FPM EPDM	D206...35/3 D206...45/3 D214X...35/5 D214X...45/5	D210...35/3 D210...45/3 D210...52/3

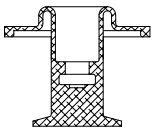
2/2NC with dry armature diaphragm

CODE	SEAL	VALVE SERIES
13635030	SILICONE	151
11315030	SILICONE	161



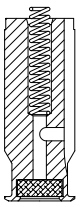
Diverting valve with dry armature diaphragm

CODE	SEAL	VALVE SERIES
10664010	NBR	330



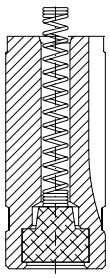
2/2 NC Ø0.25 (Ø6.35mm) plunger

CODE	SEAL	VALVE SERIES
1046301A 1046302A 1046304A	NBR	121



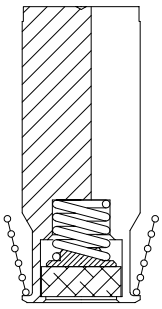
2/2 NC Ø0.354 (Ø9mm) plunger

CODE	SEAL	VALVE SERIES
14429010 14429020 14429040	NBR* FPM EPDM*	105 135 107C-107D-107E-107F 111 112



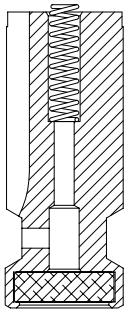
2/2 NC Ø0.466 (Ø11.85mm) plunger up to orifice Ø0.205 (Ø5.2mm)

CODE	SEAL	VALVE SERIES
10120010 10120020 10120040	NBR* FPM EPDM*	106 107G-107H-107I 114X 119C-119D
10120N10 10120N20 10120N40	NBR* FPM EPDM*	110



2/2 NC Ø0.466 (Ø11.85mm) plunger orifice Ø0.252 (Ø6.4mm)

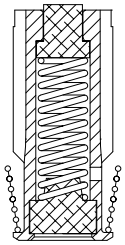
CODE	SEAL	VALVE SERIES
11035010 11035020 11035040 12004050	NBR* FPM EPDM* PTFE	106 110



* Food approval certified material on request

3/2 NC Ø0.354 (Ø9mm) plunger

CODE	SEAL	VALVE SERIES
10519010 10519020 10519040	NBR FPM EPDM	305 335 311 312



3/2 NO Ø0.354 (Ø9mm) plunger (inlet from the core)

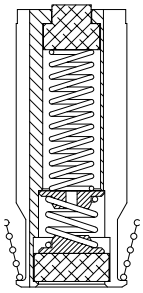
CODE	SEAL	VALVE SERIES
11289010 11289020 11289040	NBR FPM EPDM	305 311 312

3/2 UNIVERSAL SERVICE Ø0.354 (Ø9mm) plunger (NC and NO)

CODE	SEAL	VALVE SERIES
11291010 11291020 11291040	NBR FPM EPDM	305 311 312

3/2 NC Ø0.467 (Ø13mm) plunger

CODE	SEAL	VALVE SERIES
10966010 10966020 10966040	NBR FPM EPDM	203 306 314
10966N10 10966N20 10966N40	NBR FPM EPDM	310



3/2 NO Ø0.467 (Ø13mm) plunger (inlet from the core)

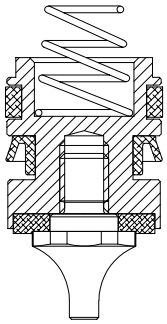
CODE	SEAL	VALVE SERIES
11045010 11045020 11045040	NBR FPM EPDM	306 314
11045N10 11045N20 11045N40	NBR FPM EPDM	310

3/2 UNIVERSAL SERVICE Ø0.467 (Ø13mm) plunger (NC and NO)

CODE	SEAL	VALVE SERIES
11044010 11044020 11044040	NBR FPM EPDM	306 314
11044N10 11044N20 11044N40	NBR FPM EPDM	310

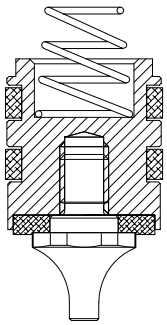
2/2 NC and NO piston assembly

CODE	SEAL	VALVE SERIES
12735000	FPM/PTFE	119 219



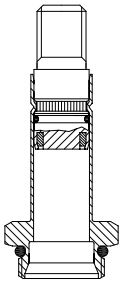
2/2 NC for steam (up to 356°F) piston assembly

CODE	SEAL	VALVE SERIES
11910000	PTFE	119W



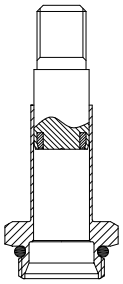
2/2 NC Ø0.394 (Ø10mm) brass armature tube (for AC and DC)

CODE	SEAL	VALVE SERIES
10128010 10128020 10128040	NBR FPM EPDM	105 112



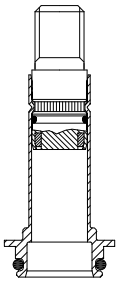
2/2 NC Ø0.394 (Ø10mm) stainless steel armature tube (for AC and DC)

CODE	SEAL	VALVE SERIES
10128SI10 10128SI20 10128SI40	NBR FPM EPDM	107B-107C-107D-107E 107F-107G(Ø30) 177 111



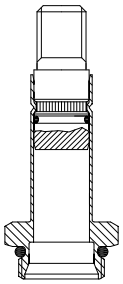
2/2 NC Ø0.394 (Ø10mm) nickel-plated brass armature tube (for AC and DC) Flange fixing

CODE	SEAL	VALVE SERIES
11762K10 11762K20 11762K40	NBR FPM EPDM	135



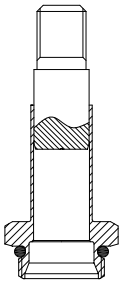
2/2 NC Ø0.394 (Ø10mm) brass armature tube (for DC)

CODE	SEAL	VALVE SERIES
10219010 10219020 10219040	NBR FPM EPDM	D105 D112



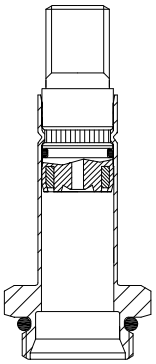
2/2 NC Ø0.394 (Ø10mm) stainless steel armature tube (for DC)

CODE	SEAL	VALVE SERIES
10219SI10 10219SI20 10219SI40	NBR FPM EPDM	D107B-D107C-D107D- D107E D107F-D107G(Ø30) D177 D111



3/2 NC Ø0.394 (Ø10mm) brass armature tube (for AC and DC)
Hole Ø0.06 (Ø1.5mm)

CODE	SEAL	VALVE SERIES
10340010 10340020 10340040	NBR FPM EPDM	305A 312X

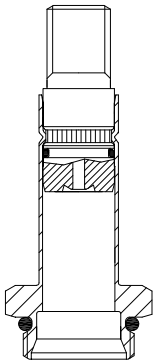


Hole Ø0.067 (Ø1.7mm)

CODE	SEAL	VALVE SERIES
10340110 10340120 10340140	NBR FPM EPDM	305A 312X

3/2 NC Ø0.394 (Ø10mm) brass armature tube (for DC)
Hole Ø0.06 (Ø1.5mm)

CODE	SEAL	VALVE SERIES
10341010 10341020 10341040	NBR FPM EPDM	D305A D312X

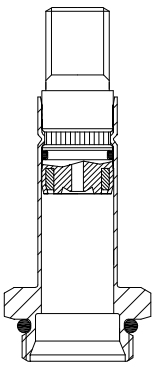


Hole Ø0.064 (Ø1.7mm)

CODE	SEAL	VALVE SERIES
10341110 10341120 10341140	NBR FPM EPDM	D305A D312X

3/2 NC Ø0.394 (Ø10mm) stainless steel armature tube (for AC and DC)
Hole Ø0.06 (Ø1.5mm)

CODE	SEAL	VALVE SERIES
10340SI010 10340SI020 10340SI040	NBR FPM EPDM	305A 311A* 312X

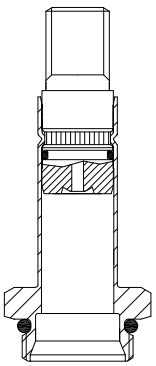


Hole Ø0.067 (Ø1.7mm)

CODE	SEAL	VALVE SERIES
10340SI110 10340SI120 10340SI140	NBR FPM EPDM	305A 311A* 312X

3/2 NC Ø0.394 (Ø10mm) stainless steel armature tube (for DC)
Hole Ø0.06 (Ø1.5mm)

CODE	SEAL	VALVE SERIES
10341SI010 10341SI020 10341SI040	NBR FPM EPDM	D305A D312X

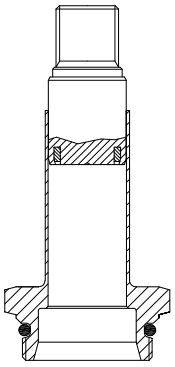


Hole Ø0.064 (Ø1.7mm)

CODE	SEAL	VALVE SERIES
10341SI110 10341SI120 10341SI140	NBR FPM EPDM	D305A D312X

2/2 NC Ø0.512 (Ø13mm) stainless steel armature tube (for AC and DC)

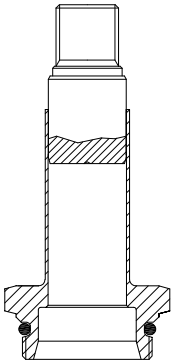
CODE	SEAL	VALVE SERIES
12456010 12456020 12456040	NBR FPM EPDM	106 107G(Ø37) - 107H 107I - 107M - 107R E108 109 110* 114 119 320



* for silver shading ring versions contact the manufacturer

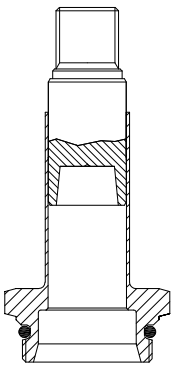
2/2 NC Ø0.512 (Ø13mm) stainless steel armature tube (for DC)

CODE	SEAL	VALVE SERIES
12457010 12457020 12457040	NBR FPM EPDM	D106 D107G(Ø37) - D107H D107I - D107M - D107R D108 D109 D110 D114 D119 D320



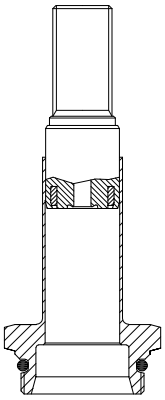
2/2 NC Ø0.512 (Ø13mm) stainless steel armature tube for D108 3/4 and 1”

CODE	SEAL	VALVE SERIES
12465020	FPM	D108E D108F



3/2 NC Ø0.512 stainless steel armature tube (for AC and DC)
Hole Ø0.094 (Ø2.4mm)

CODE	SEAL	VALVE SERIES
12464010 12464020 12464040	NBR FPM EPDM	306 310* 314



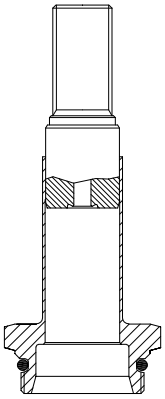
Hole Ø0.110 (Ø2.9mm)

CODE	SEAL	VALVE SERIES
12464210 12464220 12464240	NBR FPM EPDM	306 310* 314

* for silver shading ring versions contact the manufacturer

3/2 NC Ø0.512 stainless steel armature tube (for DC)
Hole Ø0.094 (Ø2.4mm)

CODE	SEAL	VALVE SERIES
12462010 12462020 12462040	NBR FPM EPDM	D306 D310 D314

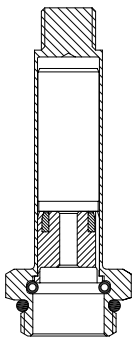


Hole Ø0.110 (Ø2.9mm)

CODE	SEAL	VALVE SERIES
12462210 12462220 12462240	NBR FPM EPDM	D306 D310 D314

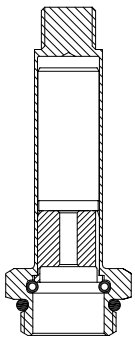
2/2 NO Ø0.394 (Ø10mm) armature tube (for AC and DC)

CODE		SEAL	VALVE SERIES	
BRASS	S.STEEL		BRASS	S.STEEL
11170010 11170020 11170040	11170SI10 11170SI20 11170SI40	NBR FPM EPDM	E205A E212X	E205A 207C - 207D 207E - 207F



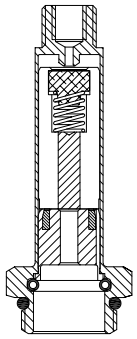
2/2 NO Ø0.394 (Ø10mm) armature tube (for DC)

CODE		SEAL	VALVE SERIES	
BRASS	S.STEEL		BRASS	S.STEEL
11171010 11171020 11171040	11171SI10 11171SI20 11171SI40	NBR FPM EPDM	D205A D212X	D205A D207C- D207D D207E - D207F



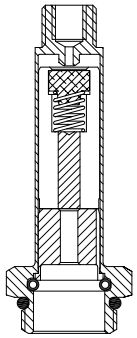
3/2 NO Ø0.394 (Ø10mm) brass armature tube (for AC and DC)

CODE	SEAL	VALVE SERIES
11174010 11174020 11174040	NBR FPM EPDM	307A 312X



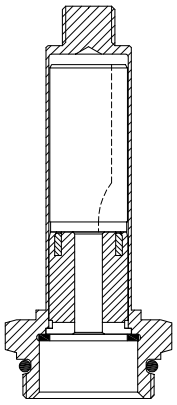
3/2 NO Ø0.394 (Ø10mm) brass armature tube (for DC)

CODE	SEAL	VALVE SERIES
11175010 11175020 11175040	NBR FPM EPDM	D307A D312X



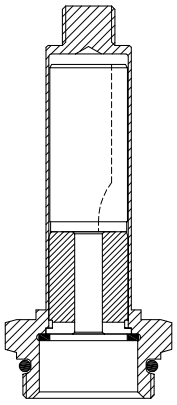
2/2 NC Ø0.512 (Ø13mm) armature tube (for AC and DC)

CODE		SEAL	VALVE SERIES	
BRASS	S.STEEL		BRASS	S.STEEL
11172010 11172020 11172040	11172SI10 11172SI20 11172SI40	NBR FPM EPDM	E206 E214X 207G 207H 207I 207M 207R 219	E206 E214X 207G 207H 207I 207M 207R 219



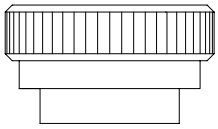
2/2 NC Ø0.512 (Ø13mm) armature tube (for DC)

CODE		SEAL	VALVE SERIES	
BRASS	S.STEEL		BRASS	S.STEEL
11173010 11173020 11173040	11173SI10 11173SI20 11173SI40	NBR FPM EPDM	D206 D214X D207G D207H D207I D207M D207R D219	D206 D214X D207G D207H D207I D207M D207R D219

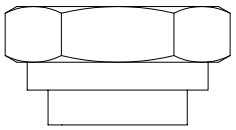


COIL FIXING NUT

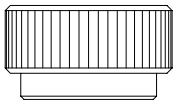
Code 10203000
Coil fixing nut for series 3 and series 4
2/2NC and 3/2NC solenoid valves
with brass tube



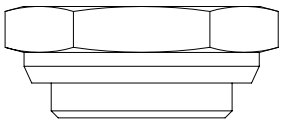
Code 11643K0A
Coil fixing nut for series 3 and series 4
2/2NC and 3/2NC solenoid valves
with stainless steel tube



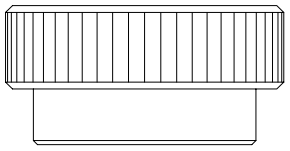
Code 1012600B
Coil fixing nut for series 3 and series 4
2/2NO and 3/2NO solenoid valves



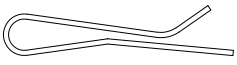
Code 10097000
Coil fixing nut for series 2 and series 5
2/2NC and 3/2NC solenoid valves



Code 10293000
Coil fixing nut for series 2 and series 5
2/2NO solenoid valves



Code 10464000
Coil fixing nut for series 6



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