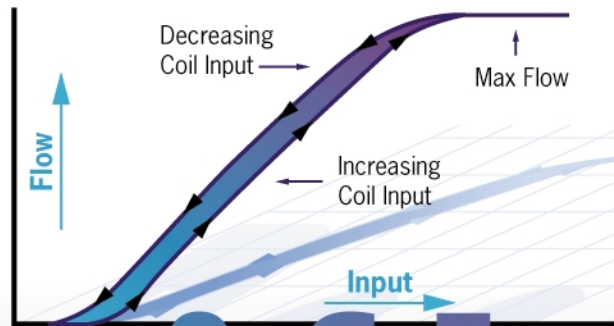
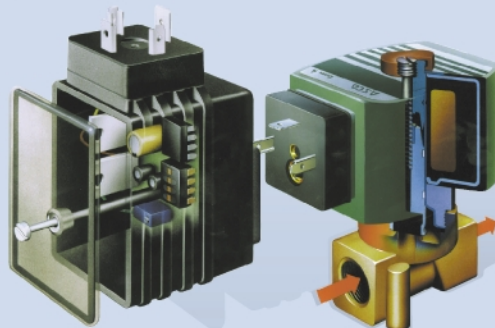


precise flow control



Posiflow

Proportional Solenoid Valves™



ASCO[®]
A Constant Flow Of Ideas

What is an ASCO® Posiflow™ Valve?



ASCO Posiflow Valves are 2 way direct acting, and pilot operated fail closed Proportional Solenoid Valves in which flow is directly related to the electrical input. As input increases, so does the flow, and vice versa. Flow can be adjusted from 0% to 100% of the valve's capacity to meet your specific application needs.

The core (plunger) in a traditional On/Off valve moves completely up or down when current is applied. As a result, a normally closed valve switches from no flow to full flow, with no intermediate flow rates.

In an **ASCO Posiflow Valve**, the flow is proportional to the input signal. As current is applied, the electromagnetic pullforce exerted on the core soon exceeds the opposing force of the spring which is holding it closed. At this point, the core moves upward and the valve opens. How much the valve opens depends on how much additional current is applied after the spring force has been overcome. The electrical input can be provided by the ASCO Electronic Control Unit (or by connecting the valve to a similar, user supplied, electronic control circuit).

To simplify **Posiflow Valve** installation and allow more flexibility in your system design, ASCO's compatible Electronic Control Unit, which meets ISO 4400, can be plugged directly into the valve via a DIN connector to provide three different types of electrical control input: 0-10VDC, 0-20 mA or 4-20 mA.

Not only can **Posiflow Valves** be used in any domestic or industrial application where the flow of gas or air must be controlled, they perform equally well in applications where the precise flow control of a liquid is required. In fact, **Posiflow Valves** deliver the long life and precision performance that is demanded in today's sophisticated applications.

Key features of the

Temperature Compensation

A built-in circuit automatically adjusts coil current to compensate for any change in coil resistance due to temperature variation.

Ramp Function

When activated, the Ramp Function enables the valve to gradually open or close. Problems such as water hammer are eliminated, even when the control current is suddenly decreased.

Switch Off Function

To ensure the valve will close at a minimum signal, the control unit switches off the coil current completely when the control signal falls below 2% of its maximum value.

Switching Frequency

Frequency of the pulse-width modulated supply voltage can be adjusted between 40 and 700 Hz by means of a potentiometer. The frequency is factory set at 300 Hz.

Flow Rate Adjustment

Two potentiometers make it possible to set the minimum and maximum coil current, enabling you to select in which part of the flow curve the valve will operate.

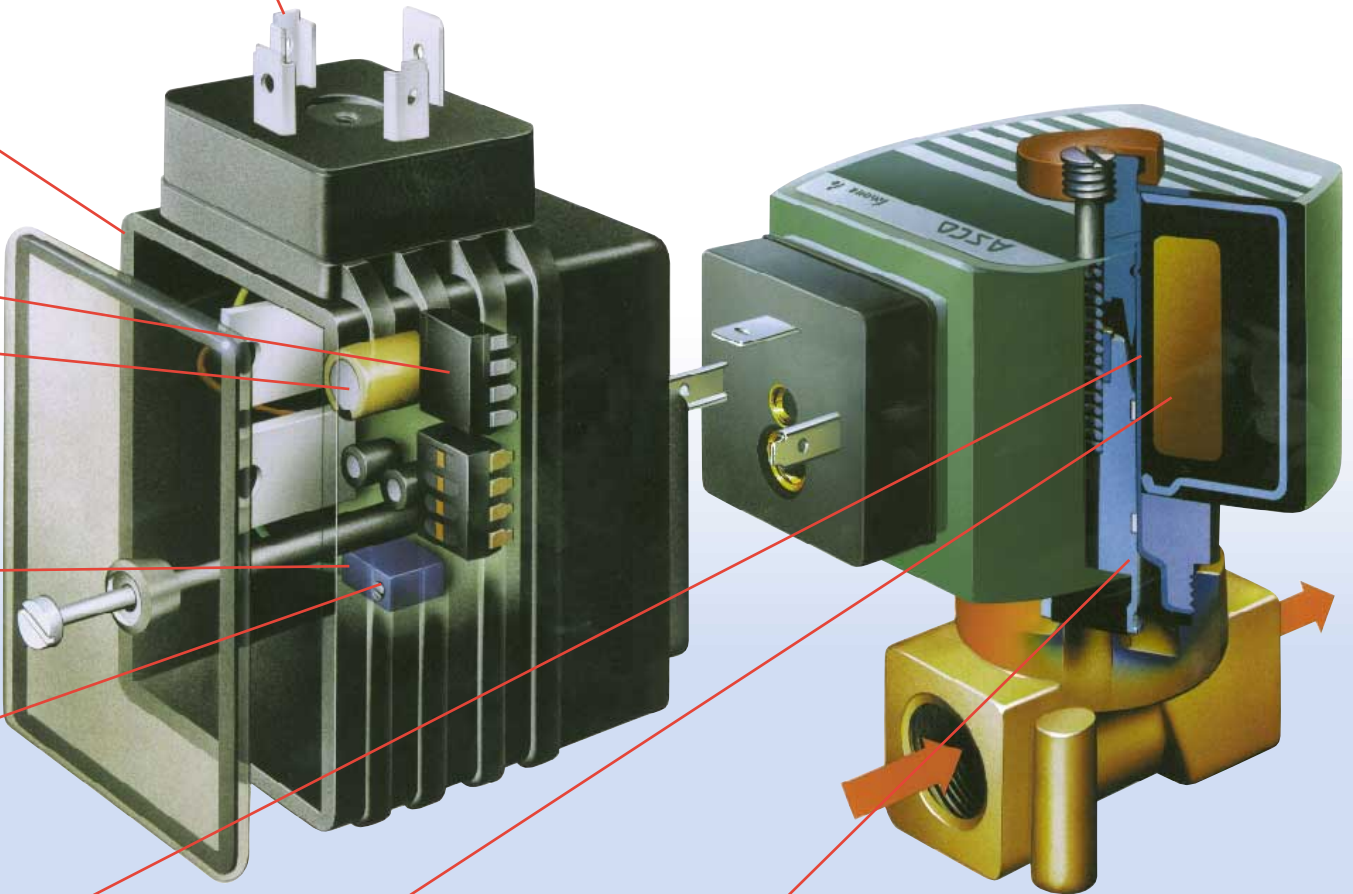
Precise Control

Unique core design enables precise flow control of liquids and gases.

ASCO® Posiflow™ Valve

Remote Control

Distance from the control signal source to the valve is almost unlimited. Because the control signal operates at relatively low current levels, it will not be distorted by a long cable connection.



Safety Features

All ASCO Posiflow Valves are “fail close.” In case of power failure or interruption of electrical input, the valve closes immediately.

Long Life, Low Maintenance

The core is guided by two rider rings, resulting in low friction and precise operation.



8202 1/8"



8202 1/4" - 3/8"



8203 3/8", 1/2"

Construction

Valve Parts in Contact with Fluids			
	8202		8203
Body	Brass	303 Stainless Steel	Brass
Seals and Disc/Diaphragm*	FKM		NBR
Core Tube	305 Stainless Steel		
Core and Plugnut	430F Stainless Steel		
Springs	302 Stainless Steel		
Rider Rings	PTFE		
Breaker Piece	Brass	303 Stainless Steel	Brass

* Diaphragm construction exists only in 8203 Valve Series

Solenoid Enclosures

Standard: Red-Hat II Class F coil with DIN connection (meets ISO 4400/DIN 43650A standards). For 22.6 watt solenoids.

8.6 watt 'SC' solenoid uses electrical connector per DIN 46244.

Optional: For Class H coil, use prefix "SV" (for use with customer supplied electronics): General Purpose and Watertight, Types 1, 2, 3, 3S, and 4X on 22.6 watt solenoids.

Nominal Ambient Temperature Ranges:

14°F to 104°F (-10°C to 40°C) for 22.6 watt solenoid.

32°F to 104°F (0°C to 40°C) for 8.6 watt solenoid.

Approvals: (8202 1/4" to 3/8" only)

UL recognized component with DIN solenoid (prefix SD or SV). UL listed with threaded conduit (no prefix).

CSA certified.

Note: The Electronic control unit (sold separately) is only compatible with DIN connections.

Electrical

Standard voltage: 24 VDC

Coil: Molded Class F

Coil resistance: 25 Ohm at 68°F (20°C)

Operating current: 100 - 500 mA

Electrical coil input: 0 - 24 VDC

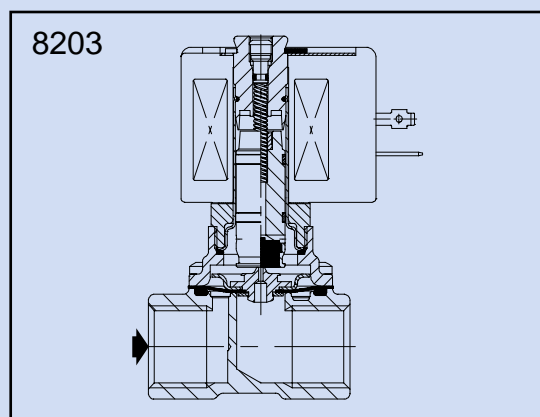
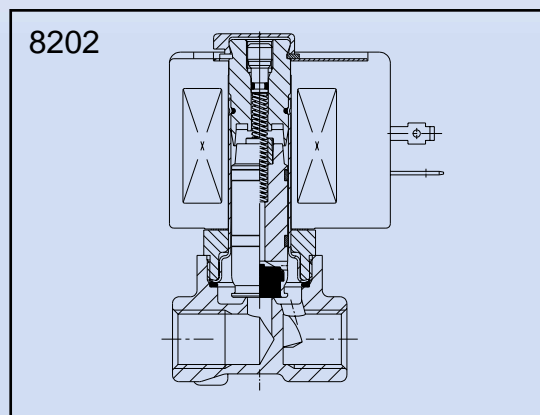
Recommended PWM frequency: 300 Hz Air/Gas;
200 Hz Water/Light Oil

Hysteresis: <5% ① (<7.5% for 8203 Valves)

Repeatability: <3% (<1% for 1/8" NPT Valves)①

Sensitivity: <2% (<1% for 1/8" NPT Valves)①

① Percentage of max. value with 24 VDC, PWM,
300 Hz voltage supply at constant differential pressure.





Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)			Temperature °F		Catalog Number		Constr. Ref. No.	Watt Rating/Class of Coil Insulation ④
			Min.	Max.		Fluid	UL ② Listing	Brass Body	Stainless Steel Body		
				Air/Gas/Low Vacuum	Liquid						
1/8	3/64	.04	0	115	75	180	-	SC8202A201V	SC8202A205V	5	8.6/F
1/8	1/16	.06	0	90	60	180	-	SC8202A202V	SC8202A206V	5	8.6/F
1/8	3/32	.14	0	60	45	180	-	SC8202A203V	SC8202A207V	5	8.6/F
1/8	1/8	.20	0	35	35	180	-	SC8202A204V	SC8202A208V	5	8.6/F

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)			Temperature °F		Catalog Number		Constr. Ref. No.	Watt Rating/Class of Coil Insulation ③
			Min.	Max.		Fluid	UL ② Listing	Air-Inert Gas	Water/Light Oil		
				Low Vacuum (Hg) ①	Air/Gas/Water/Oil						

Brass Body

1/4	3/64	.06	0	29	230	150	●	SD8202G1V	SD8202G51V	1	22.6/F
1/4	3/32	.14	0	29	115	150	●	SD8202G2V	SD8202G52V	1	22.6/F
1/4	1/8	.28	0	29	60	150	●	SD8202G3V	SD8202G53V	1	22.6/F
1/4	5/32	.50	0	29	35	150	●	SD8202G4V	SD8202G54V	1	22.6/F
1/4	7/32	.85	0	29	20	150	●	SD8202G6V	SD8202G56V	1	22.6/F
1/4	9/32	1.06	0	29	15	150	●	SD8202G7V	SD8202G57V	1	22.6/F
3/8	1/8	.28	0	29	60	150	●	SD8202G23V	SD8202G73V	2	22.6/F
3/8	5/32	.50	0	29	35	150	●	SD8202G24V	SD8202G74V	2	22.6/F
3/8	7/32	.85	0	29	20	150	●	SD8202G26V	SD8202G76V	2	22.6/F
3/8	9/32	1.06	0	29	15	150	●	SD8202G27V	SD8202G77V	2	22.6/F

Stainless Steel Body

1/4	3/64	.06	0	29	230	150	●	SD8202G11V	SD8202G61V	3	22.6/F
1/4	3/32	.14	0	29	115	150	●	SD8202G12V	SD8202G62V	3	22.6/F
1/4	1/8	.28	0	29	60	150	●	SD8202G13V	SD8202G63V	3	22.6/F
1/4	5/32	.50	0	29	35	150	●	SD8202G14V	SD8202G64V	3	22.6/F
1/4	7/32	.85	0	29	20	150	●	SD8202G16V	SD8202G66V	3	22.6/F
1/4	9/32	1.06	0	29	15	150	●	SD8202G17V	SD8202G67V	3	22.6/F
3/8	1/8	.28	0	29	60	150	●	SD8202G33V	SD8202G83V	4	22.6/F
3/8	5/32	.50	0	29	35	150	●	SD8202G34V	SD8202G84V	4	22.6/F
3/8	7/32	.85	0	29	20	150	●	SD8202G36V	SD8202G86V	4	22.6/F
3/8	9/32	1.06	0	29	15	150	●	SD8202G37V	SD8202G87V	4	22.6/F

Notes: ① Applicable to air-Inert gas valves only.

② ● General Purpose valve. Refer to Engineering Section (Approvals) for more details.

③ Will vary with duty cycle (8.5 watts at 500 mA with ambient temp. = 104°F (40°C).

④ Will vary with duty cycle (Cold = 6.8 watts, hot 9.1 watts at 450 mA with ambient temp. = 69°F (20°C).

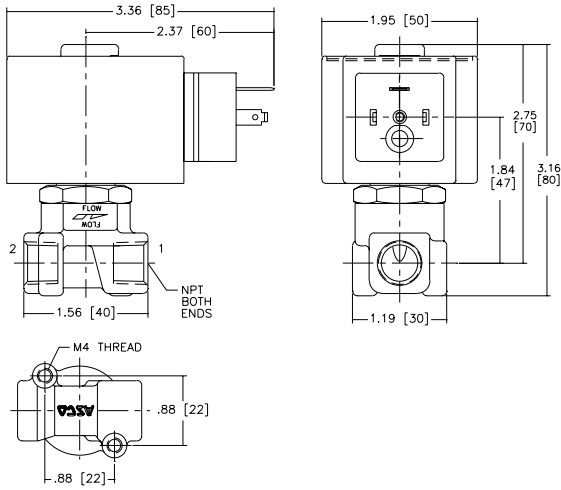
(Cold = 6.3 watts, hot 8.6 watts at 450 mA with ambient temp. = 104°F (40°C).

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)		Temperature °F		Catalog Number	Constr. Ref. No.	Watt Rating/Class of Coil Insulation ③	
			Min.	Max.	Fluid	UL ② Listing				
				Water/Light Oil						
Brass Body										
3/8	1/2	2.43	5	150	150	-	SD8203G1	6	22.6/F	
1/2	1/2	2.43	5	150	150	-	SD8203G2	6	22.6/F	

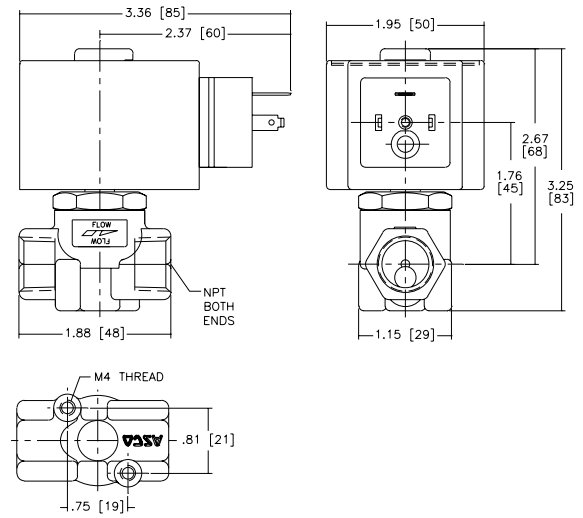


Dimensions: inches (mm)

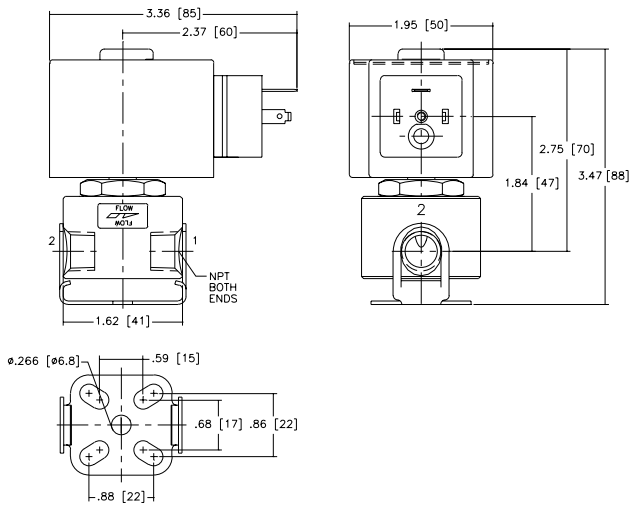
Constr. Ref. 1



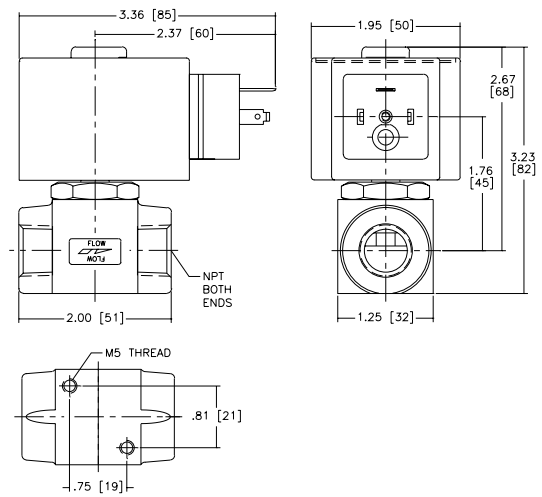
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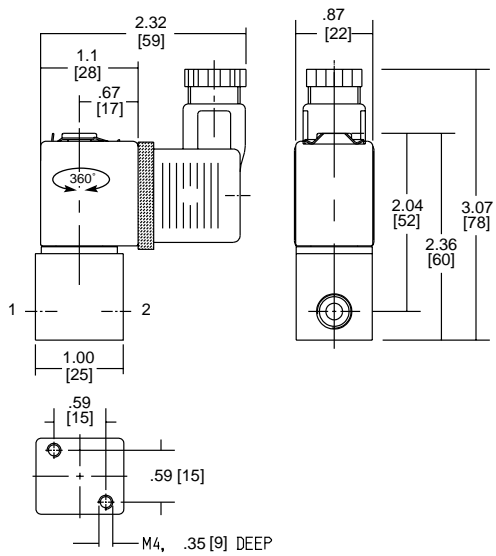
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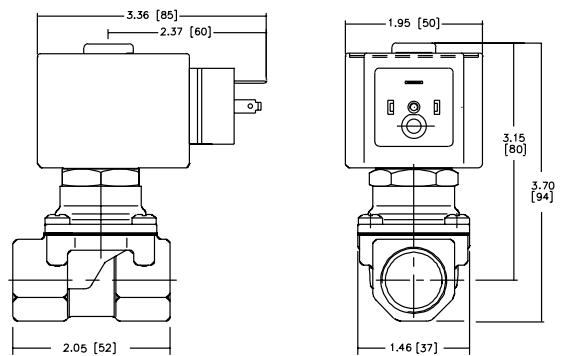
Constr. Ref. 4



Constr. Ref. 5



Constr. Ref. 6
SD8203G001, SD8203G002





Electronic Control Unit

Description

One unit, Catalog Number 8908A001, can be used for all 1/4" to 1/2" Posiflow valves with DIN solenoids. Another unit, Catalog Number 8908A003, can be used for all 1/8" Posiflow valves with DIN solenoids.

To maintain a specific flow rate, current through the coil must be kept constant and substantially independent from changes in the coil winding resistance (caused by temperature variation). The Electronic Control Unit will accomplish this quite efficiently via pulse width modulation. Voltage to the coil is cut into rectangular pulses by rapidly switching it on and off. By varying the "on" time (pulse width) percentage to compensate for temperature variations, current through the coil is kept constant.

Construction

Housing Assembly	PA + FV
Cover	PA + FV
Screw	Zinc plated steel
Gasket	NBR
Connector Specification	ISO 4400
Protection	IP 65 (Dust-tight Protection against water jets from any direction)

Electrical Characteristics:

Nominal supply voltage: 24 VDC \pm 10%,
maximum ripple 10%

Maximum full-load current: 1100 mA
(factory set at 500 mA)

Input control signal (selectable): 0-10 VDC or 0-20 mA
or 4-20 mA

Switch-off current: <2% of max. input control signal

Adjustable off-set: 15-50% of pulse width
modulation voltage

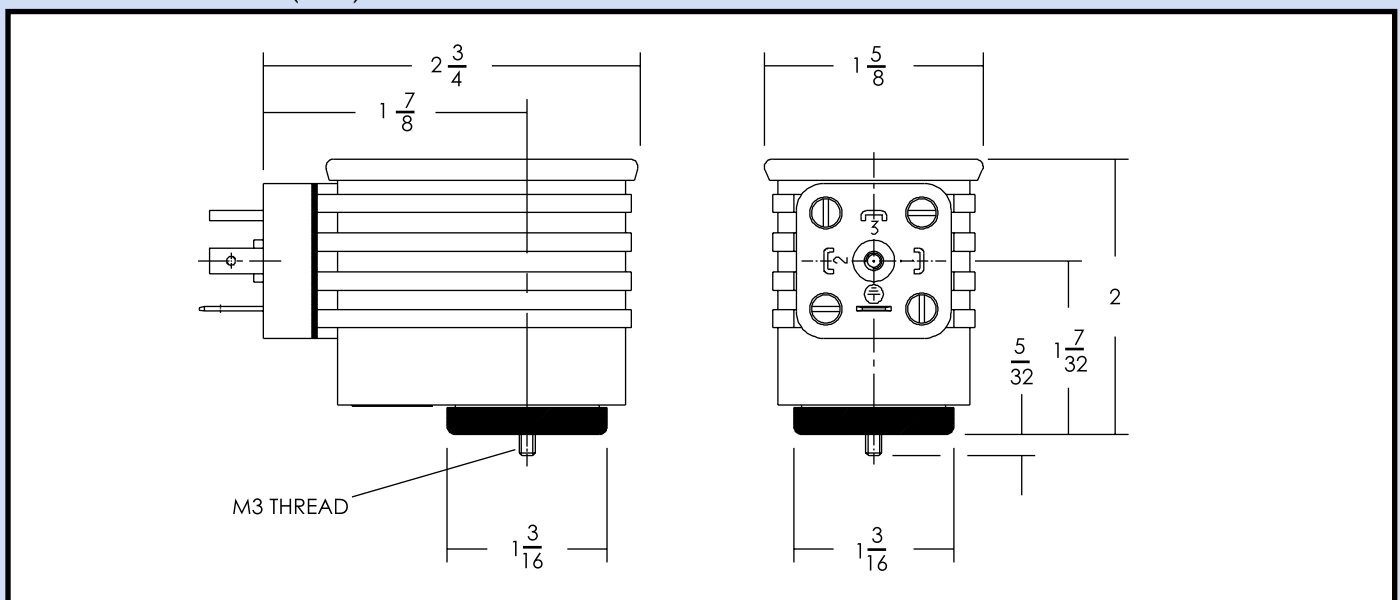
Adjustable full-load: 30-100% of pulse width
modulation voltage

Ramp time: Manually activated via on/off switch;
adjustable 0.1-3 seconds

Adjustable PWM frequency: 40-700 Hz

Power consumption: 0.8 watts

Dimensions: inches (mm)



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