

# ASCO™ Inherently Safe Manual Reset Valves

No Voltage Release | Brass or Stainless Steel Bodies | 1/4" - 3/4" NPT

3/2 | 4/2  
SERIES  
ISMR

## Features

- Inherently safe solenoid. When energized, holds the manual reset mechanism in the latched position
- Normally closed, normally open, or universal constructions
- Valve operates when the solenoid has been energized and the lever latched while holding in the yellow button
- Valve trips when power is interrupted. Valve can be manually cycled, but must be manually reset for automatic operation
- Designed solely for installation in intrinsically safe areas, with properly approved and sized current and voltage-limiting safety barriers

## Construction

Valve Parts in Contact with Fluids		
Body	Brass	Stainless Steel
Seals and Disc	NBR	
Core and Plugnut	430F Stainless Steel	
Core Springs	302 Stainless Steel	
Core Tube	305 Stainless Steel	
Pilot Seat Cartridge	CA (Series IS8308G041, -2, -3)	
Rider Rings	PTFE	
Spring Retainer	CA	

## Electrical

Nominal voltage before the barrier – 24VDC +/- 10%.

### IMPORTANT:

Maximum allowable off-state leakage or supervisory current: 4.0 mA

$I_{loop}$  - Loop current in the circuit, which may be calculated as follows:

$$I_{loop} = \frac{V_{supply}}{(R_{coil} + R_{loop} + R_{barrier})}$$

Where:  $R_{coil}$  - The resistance of the solenoid coil at  $T_{ambient}$  in degrees C

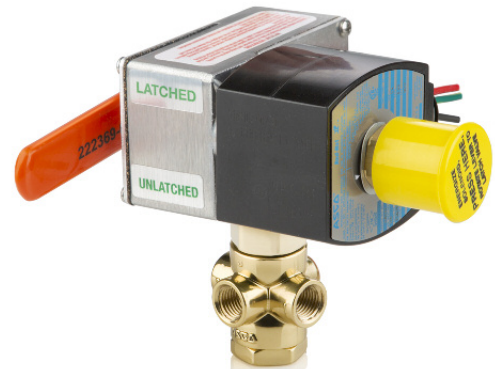
$$R_{coil} = 470 \text{ ohms} \times \frac{(T_{ambient} + 234)}{254}$$

$R_{loop}$  - Resistance of the lead wires

$R_{barrier}$  - Internal resistance of the barrier

$V_{supply}$  - Supply voltage

This current must always be greater than or equal to 0.024 amps for proper operation of the solenoid valve.



## Enclosure

**Standard:** RedHat II Type 4X, watertight enclosure.

**Optional:** No standard options are available.

Consult local sales office for your needs.

## Nominal Ambient Temp. Ranges

-4°F to 200°F (-20°C to 93°C), as indicated.

Refer to Engineering Section for details.

## Approvals

- FM/FMc and CSA approved for IS Class I, Div. 1 Groups A, B, C, and D; Class II Group E, F and G
  - FM/FMc approved for NIFW - Class I, Division 2
  - FM approved under certificate: FM17US0160X (US), FM17CA0085X(Canada)
  - CSA certified under file 13976, product class 3228-01, (Certificate 70136372)
  - NEPSI (China) cert GYJ18.1053X (Ex ia)
- Refer to Engineering Section for details.

## Entity Parameter

$V_{max} = 32 \text{ Vdc}$       $C_i = 0 \text{ nF}$

$I_{max} = 500 \text{ mA}$       $L_i = 0 \text{ uH}$

$P_i = 1.5 \text{ W}$

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PILOT

Specifications English units (Metric)

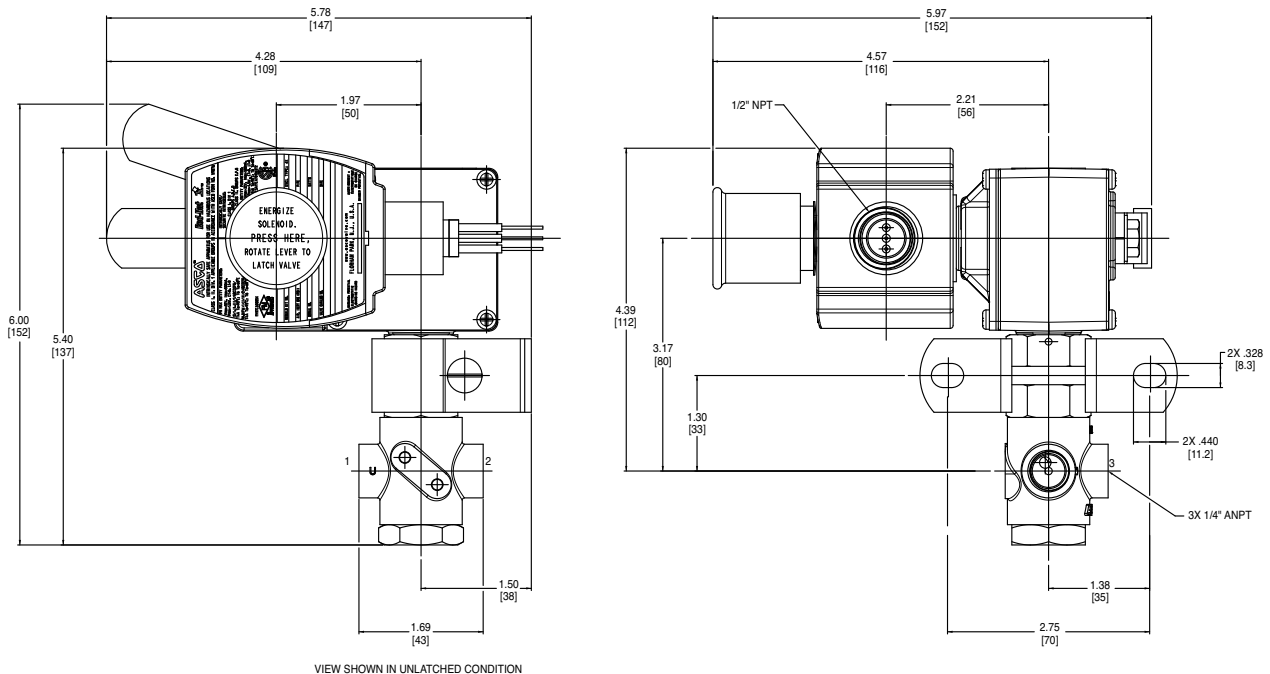
Pipe Size (in)	Orifice Size in (mm)	Flow Factor Cv (Kv)	Operating Pressure Differential psi (bar)		Max. Fluid and Ambient Temp. °F (°C)	Catalog Number	Const. Ref.
			Air-Inert Gas				
			Min.	Max.			
<b>3/2 UNIVERSAL OPERATION, Brass Body with NBR Disc or Stainless Steel Seats and Discs ②</b>							
1/4	11/64 (4)	.38 (.33)	0	125 (8.6)	180 (82)	IS8308G040	1
1/4	1/4 (6)	.45 (.39)	0	125 (8.6)	180 (82)	IS8308G044 ②	2
3/8	1/4 (6)	.45 (.39)	0	125 (8.6)	180 (82)	IS8308G045 ②	2
1/2	5/16 (8)	.75 (.64)	0	125 (8.6)	180 (82)	IS8308G046 ②	3
<b>3/2 NORMALLY CLOSED OR NORMALLY OPEN, Brass Body with NBR Disc</b>							
3/8	5/8 (16)	3 (2.57)	10 (0.7)	250 (17.2)	180 (82)	IS8308G041 ①	5
1/2	5/8 (16)	4 (3.43)	10 (0.7)	250 (17.2)	180 (82)	IS8308G042 ①	5
3/4	11/16 (17)	5.5 (4.71)	10 (0.7)	250 (17.2)	180 (82)	IS8308G043 ①	6
<b>3/2 UNIVERSAL OPERATION, Stainless Steel Body with Stainless Steel Seats and Discs</b>							
1/2	5/16 (8)	.75 (.64)	0	125 (8.6)	200 (93)	IS8308G047	4
<b>4/2 OPERATION, Brass Body with PTFE and FPM Seats and Discs</b>							
1/4	3/16 (5)	.80 (.69)	0	250 (17.2)	160 (71)	IS8408G006	7
3/8	3/16 (5)	.80 (.69)	0	250 (17.2)	160 (71)	IS8408G007	7

① For Normally Closed operation, add suffix "F" to catalog number; for Normally Open operation, add suffix "G" to catalog number.  
② Supplied with stainless steel seats and discs.

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Dimensions: inches (mm)

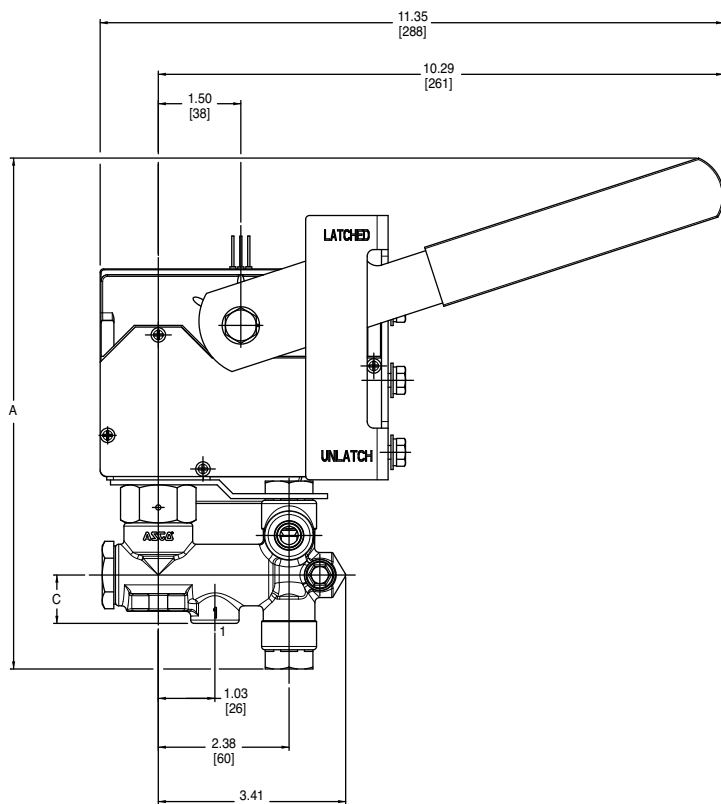
Const. Ref. 1



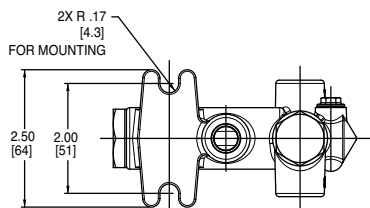
Dimensions: inches (mm)

Catalog Number		A	B	C	D	E	F	G
IS8308G044, IS8308G045	in	9.3	6.88	0.88	1.06	0.72	1.82	1.44
	mm	236	175	22	27	18	46	37
IS8308G046, IS8308G047	in	11.09	7.56	1.06	1.86	0.94	2.51	1.88
	mm	282	192	27	47	24	64	48

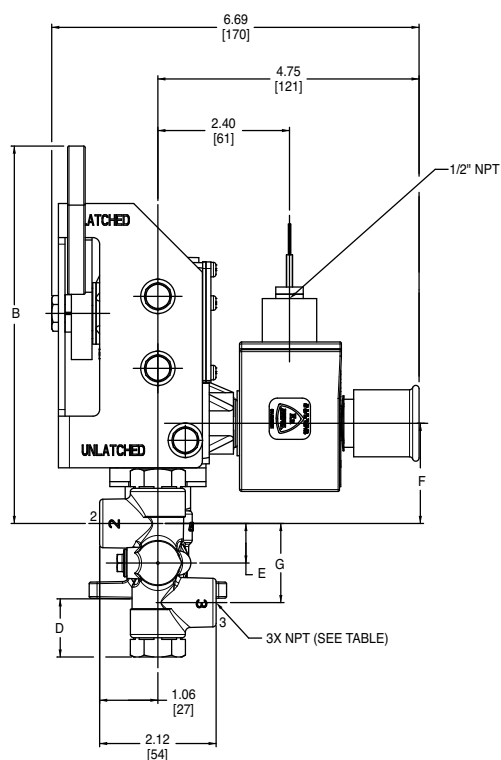
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VIEW SHOWN IN LATCHED CONDITION



VIEW SHOWN WITH  
MANUAL RESET ASSEMBLY REMOVED

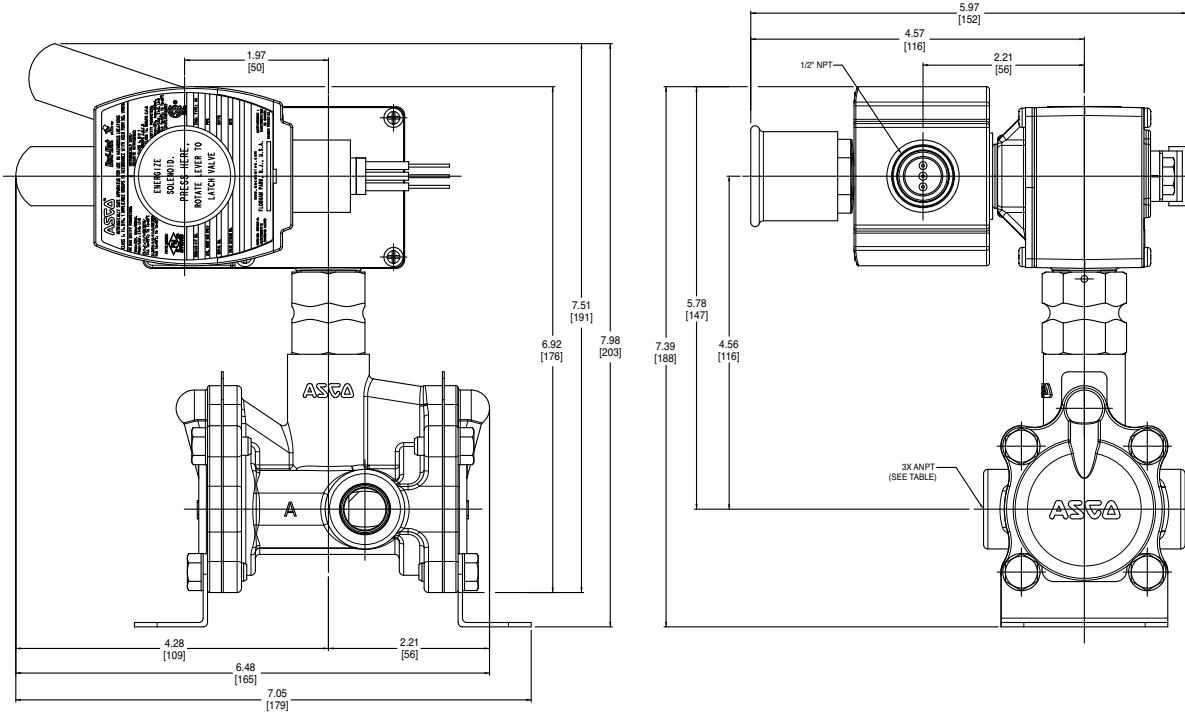


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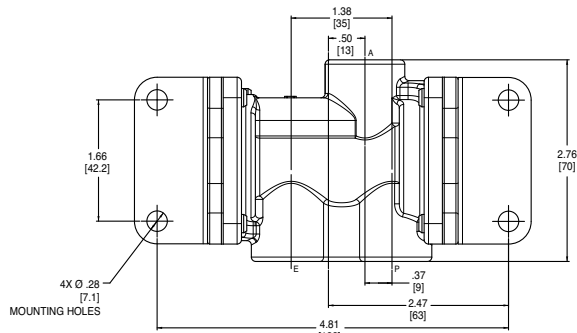
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Dimensions: inches (mm)

Const. Ref. 5



VIEW SHOWN IN UNLATCHED CONDITION  
 FOR CATALOG ISS806041FMB

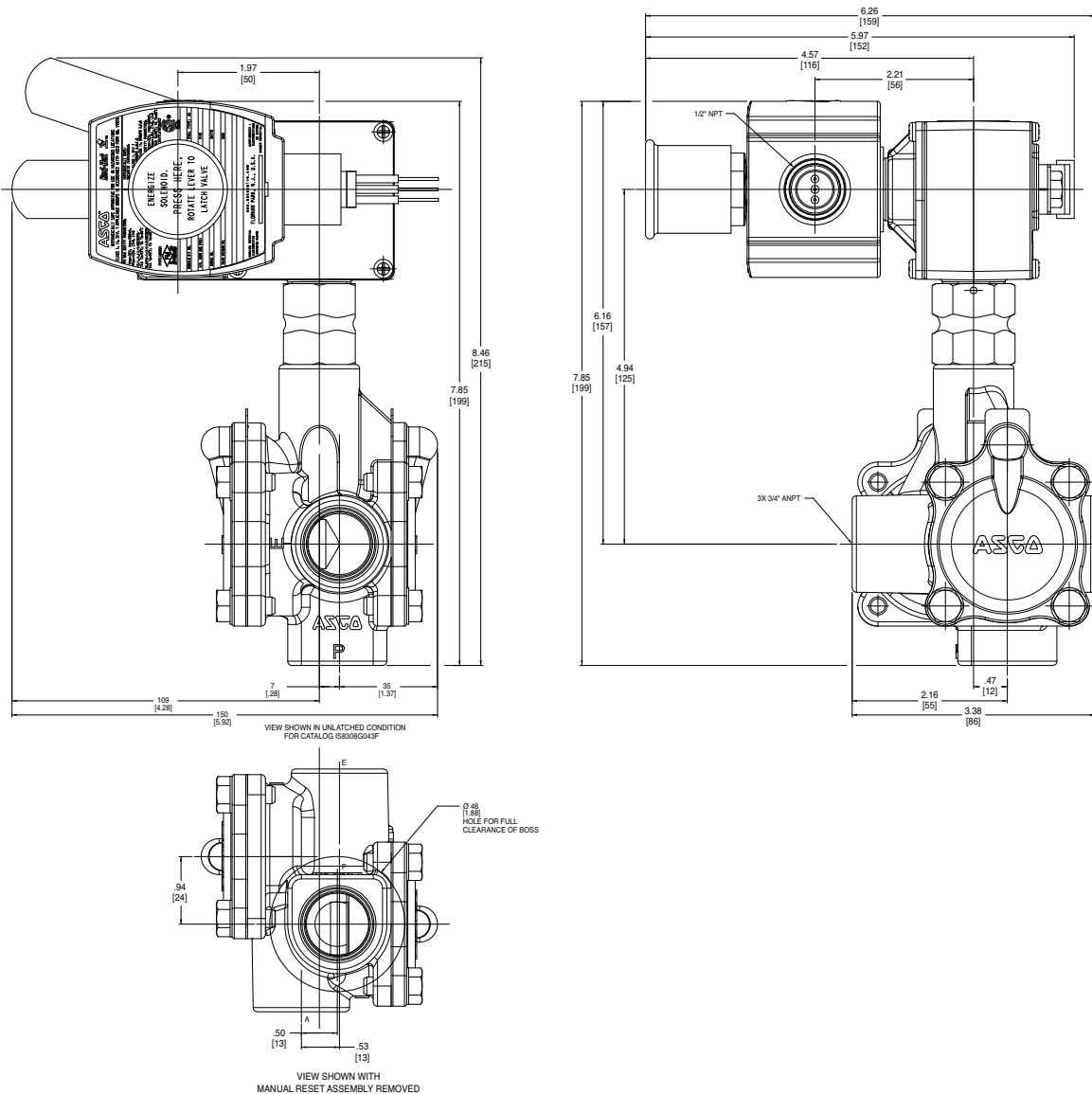


VIEW SHOWN WITH  
 MANUAL RESET ASSEMBLY REMOVED

SPECIAL SERVICE  
 PILOT

Dimensions: inches (mm)

Const. Ref. 6

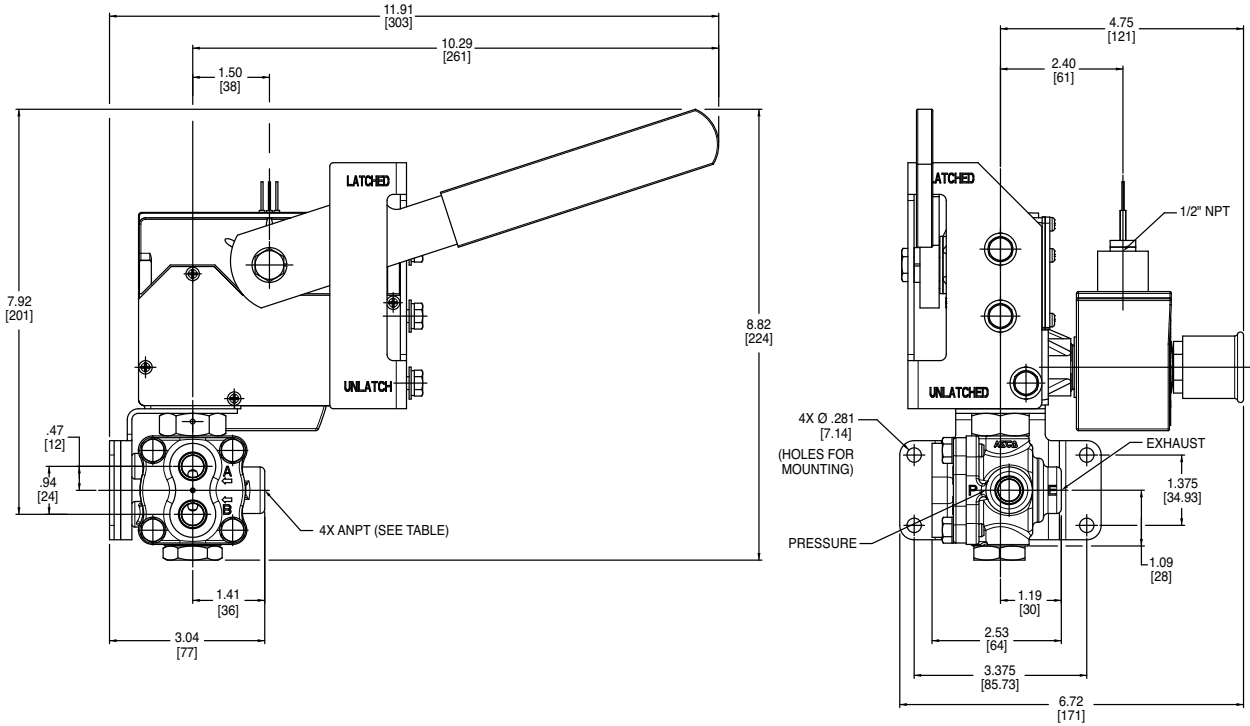


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PILOT

3/2 | 4/2  
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Dimensions: inches (mm)

Const. Ref. 7



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