

# PRESSURE CONTROL PRODUCTS



Dependable Well Site Protection



# SPECIFICATIONS



**We are committed to product safety and quality. Argus Pressure Switches and Isolation Valves conform to the following standards:**

**API**

Spec. Q1

**American Petroleum Institute**

Specification for Quality Programs for the Petroleum and Natural Gas Industry

**ANSI/ASME**

B16.34\*

B31.3

**American National Standard Institute/****American Society of Mechanical Engineers**

Valves - Flanged, Threaded, and Welding End

Process Piping

**ANSI/ISA**

12.27.01

**American National Standard Institute/International Society of Automation**

Requirements for Process Sealing (Dual Seal)

**ISO**

ISO 9001

15156

**International Organization for Standardization**

Quality Management System

Materials for use in H<sub>2</sub>S containing environments in oil & gas production

**NACE**

MR0175

**National Association of Corrosion Engineers**

Materials for use in H<sub>2</sub>S containing environments in oil & gas production

**CSA**

C22.2 No.14<sup>+</sup>

C22.2 No.30<sup>†</sup>

C22.2 No.142<sup>‡</sup>

**Canadian Standards Association**

Industrial Control Equipment

Explosion-proof Enclosures for Use in Class I Hazardous Locations

Process Control Equipment

**CRN**

0C08439.2/0C11820.2

0F2161.2134

0F11158.2

**Canadian Registration Numbers**

Isolation Valve

Pressure Switch

Digital Pressure Switch

*\* Isolation Valves only.*

*<sup>+</sup> Pressure Switch only.*

*<sup>‡</sup> Digital Pressure Switch only.*

*<sup>†</sup> Digital Pressure Switch and Pressure Switch only.*



Q1-0424, Edmonton, AB, Canada

# PRESSURE SWITCH

*Rugged and reliable, the Argus Pressure Switch provides effective on/off pump control for dependable well site protection.*

## CONSIDER THESE BENEFITS

- Simple yet versatile, as each spring encompasses a broad spectrum of pressure settings
- Utilizes an Inconel® diaphragm to withstand sour and corrosive media in oil, gas, and steam applications
- Dual Seal Certification (CSA and ANSI/ISA 12.27.01)
- Convenient, field replaceable micro-switch
- High Temperature models available
- Externally adjustable set point
- Automatic or manual reset

## Temperature Range

Standard: -50°F to +400°F (-46°C to +204°C)

High Temperature: -50°F to +675°F (-46°C to +357°C)

## Pressure Range

Working: 20 PSI (138 kPa) to 5000 PSI (34,470 kPa)\*

Proof: 7500 PSI (51,710 kPa)

## Process Connections

2" NPT Male Thread

Grayloc (2GR20)

Securamax (2SJ20)

Bluesky (2CJ20)

## Available Options

Anti-Vibration Lock

Security Seal Assembly

Factory installed Cable Assembly

\* Upper pressure limit for 2" NPT process connection.





# PRESSURE SWITCH SPECIFICATIONS

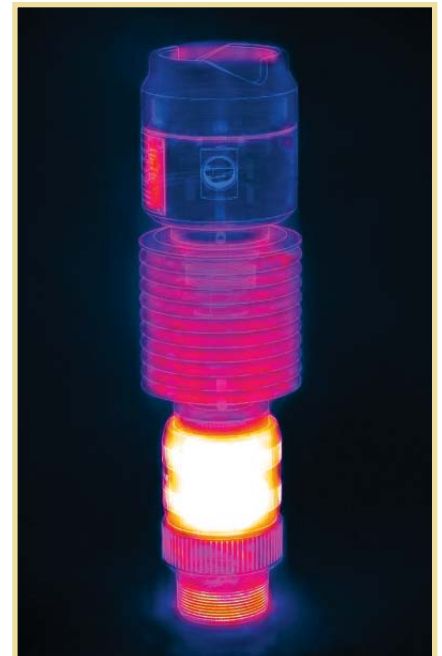


<b>Classification:</b>	CSA Class I, Div. 1 & 2, Group D Hazardous Locations
<b>Dead Band:</b>	Fixed
<b>Electrical Connection:</b>	1/2" NPT Female Thread
<b>Electrical Rating:</b>	1/2 Amp @ 125 VDC 1/4 Amp @ 250 VDC 5 Amps @ 125, 250, or 480 VAC (50/60 Hz)
<b>Enclosure:</b>	Type 4
<b>Pressure Sensing Element:</b>	Diaphragm
<b>Setting:</b>	External
<b>Set Point Repeatability:</b>	± 1% of Adjustable Range
<b>Std. Process Connection:</b>	2" NPT Male Thread

TEMPERATURE RANGE	STANDARD		HIGH TEMPERATURE	
	°F	(°C)	°F	(°C)
Continuous Process Operating	-50 to +400	(-46 to +204)	-50 to +675	(-46 to +357)
Switch Housing	-50 to +275	(-46 to +135)	-50 to +275	(-46 to +135)
Ambient	-50 to +104	(-46 to +40)	-50 to +104	(-46 to +40)

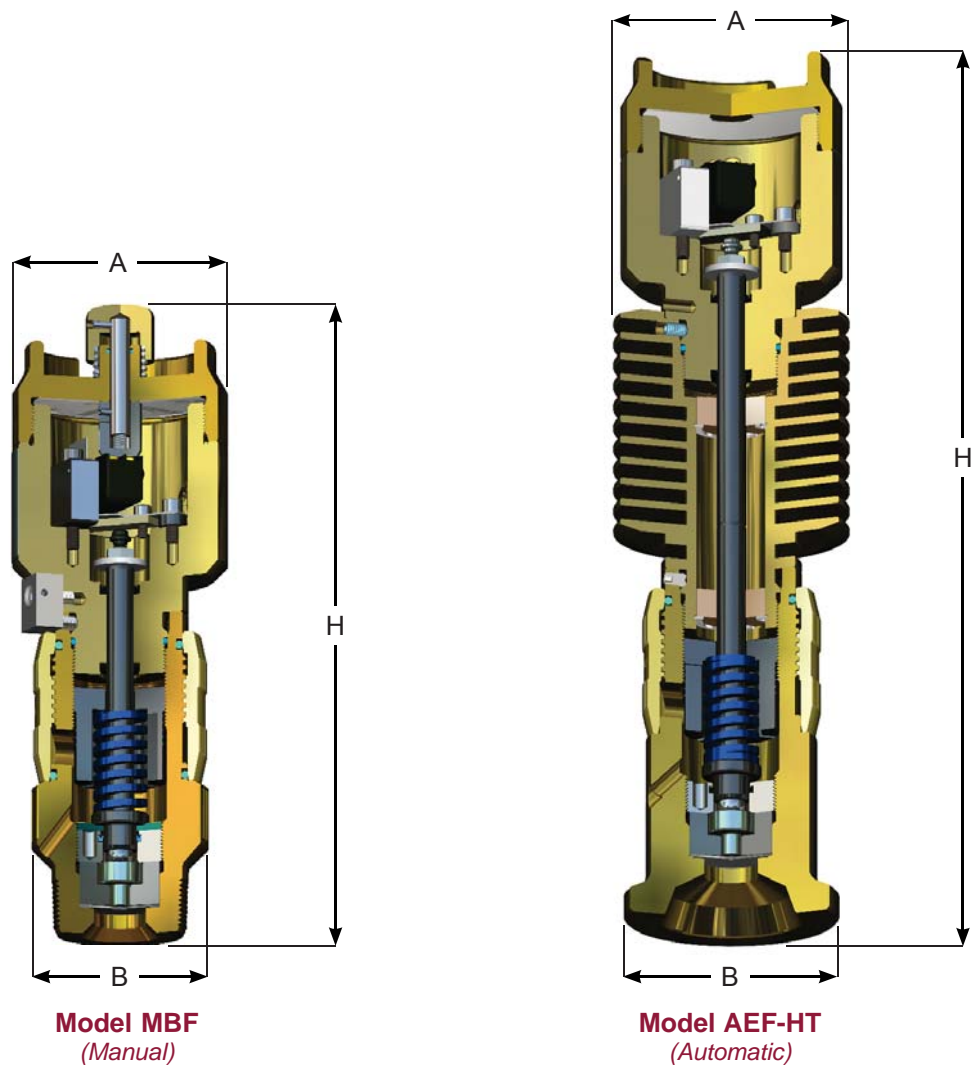
PRESSURE RANGE		MODEL NO.			
		STANDARD		HIGH TEMPERATURE	
PSI	(kPa)	Automatic	Manual	Automatic	Manual
20 – 100	(140 – 690)	AEF-1.0	MBF-1.0	AEF-HT-1.0	MBF-HT-1.0
40 – 200	(275 – 1380)	AEF-2.0	MBF-2.0	AEF-HT-2.0	MBF-HT-2.0
80 – 800	(550 – 5515)	AEF-8.0	MBF-8.0	AEF-HT-8.0	MBF-HT-8.0
150 – 1400	(1035 – 9650)	AEF-14	MBF-14	AEF-HT-14	MBF-HT-14
250 – 2000	(1720 – 13,790)	AEF-20	MBF-20	AEF-HT-20	MBF-HT-20
1500 – 5000	(10,340 – 34,470)	AEF-50	MBF-50	AEF-HT-50	MBF-HT-50

PRESSURE SWITCH STANDARD TRIM MATERIALS	
Electrical Housing	6061-T6 Aluminum, Coated
Microswitch (Precision Snap Acting - SPDT)	Beryllium Copper Spring
Pressure Diaphragm	Inconel®, Grade 718
Process Housing	ASTM A350-LF2 Class 1, Coated
Seals	Fluorosilicone



**High Temperature Switch (Thermal Image)**  
Heat is effectively dispensed, thus maintaining the integrity of the microswitch under continuous high process temperatures.

# PRESSURE SWITCH DIMENSIONS



STANDARD	HEIGHT 'H'				A		B		APPROX. WT.	
	Automatic		Manual							
Process Connection	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
2" NPT Male Thread	10.38	(263.7)	11.10	(281.9)	3.73	(94.7)	3.06	(77.8)	10.0	(4.5)
Clamp/Hub Style	11.00	(279.4)	11.72	(297.6)	3.73	(94.7)	3.63	(92.1)	10.0	(4.5)

HIGH TEMPERATURE	HEIGHT 'H'				A		B		APPROX. WT.	
	Automatic		Manual							
Process Connection	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
2" NPT Male Thread	14.88	(377.8)	15.59	(396.1)	3.97	(100.8)	3.06	(77.8)	12.5	(5.7)
Clamp/Hub Style	15.50	(393.7)	16.22	(412.0)	3.97	(100.8)	3.63	(92.1)	12.5	(5.7)

# DIGITAL PRESSURE SWITCH

The Argus Digital Pressure Switch utilizes an interactive digital display for precise and real time pressure monitoring and control.

## Features

- Ability to program dual high and low set points
- Interactive display for simple, externally adjustable set points
- Pressure transmitting capability with 4–20mA analog signal
- Variable time delay of 0 to 99 seconds on set points
- Dual Seal Certification (CSA and ANSI/ISA 12.27.01)
- Adjustable automatic and manual reset options
- Two independent programmable relays

## Temperature Range

Process: -50°F to +185°F (-46°C to +85°C)

Ambient: -40°F to +104°F (-46°C to +40°C)

Storage: -40°F to +185°F (-46°C to +85°C)

## Pressure Range

Working: 0 to 3000 PSI (0 to 20,680 kPa)

Proof: 4500 PSI (31,026 kPa)

## Process Connection

2" NPT Male Thread

## Power Options

12 or 24 VDC

120 VAC 60 Hz 50mA

STANDARD TRIM MATERIALS	
Process Connection	A350-LF2 c/w ENP
Sensor	Hastelloy C-22/316 S.S.
Seals	Durabla® Black Nitrile & Fluorosilicone
Enclosure (Type 4)	6061-T6 Aluminum



# DIGITAL PRESSURE SWITCH SPECIFICATIONS

CSA Approved for Class I, Division 1 & 2, Group D Hazardous Locations

<b>Accuracy</b> Linearity ± 0.25% FSO Long Term Stability <0.8% FSO/year Repeatability ± 0.1% FSO Temp. Effect on Span ± 0.03% Reading/°C Temp. Effect on Zero ± 0.03% FSO/°C		<b>Power</b> Electrical Protection Polyswitch fuses (self resetting) Reverse Polarity (DC only)	
<b>Enclosure</b> Conduit Connection ½"-14 NPT (2) Environmental Protection Type 4 Keypad 4 magnetic receptors Material Aluminum Terminal Block 12 to 22 AWG		<b>Response Times</b> Display 1 s Relays < 15 ms Sensor Sampling Rate 10 Hz	
<b>Gauge</b> Engineering Units PSI, kPa Liquid Crystal Display 1-Line by 5-Digit Resolution 1 psi (1 kPa)		<b>Transmitter</b> Analog 4-20 mA Full Scale Offset Programmable Maximum Load 1000 Ω Zero Offset Programmable	
<b>Mechanical</b> Approx. Weight 10 lb (4.5 kg)		<b>Switching</b> Duty Continuous Ratings 5 A @ 125 VAC 2 A @ 30 VDC	
		Relays SPST	

## CABLE ASSEMBLY



### Features

- CSA Approved (C22.2 No. 0 & C22.2 No. 30)
- Explosion-proof for use in Class I Hazardous Locations
- 90° Quick Connect Elbow
- 3 wire (14 gauge)

LENGTH	MODEL NO.
30 ft	WH93-30
40 ft	WH93-40
50 ft	WH93-50
60 ft	WH93-60

# PRESSURE ISOLATION VALVE

The Argus Pressure Isolation Valve provides safe and economical isolation from flow-lines, allowing for ease in calibration and maintenance of pressure safety equipment.

## Features

- One piece body construction
- Two position lockable handle
- Two 1/2" FNPT accessory ports
- Stem is back seated and blowout proof
- Bidirectional shutoff of full operating pressure

## End Connections

2" MNPT X 2" FNPT

150-1500 ANSI Class Integral Flange X 2" FNPT

## Maximum Operation Pressure

4000 PSI @ 100°F (27,580 kPa @ 38°C)\*

## Temperature Range

Standard: -50°F to +250°F (-46°C to +121°C)

Medium: -20°F to +400°F (-46°C to +204°C)

STANDARD TRIM MATERIALS†	
Ball	A351-CF8M c/w ENP
Body	A350-LF2, Class 1
Bolting	A193-B8M
Seals	LTN and XNBR/Viton 'A'
Seat	Ertalyte®/Techtron®/PEEK
Stem:	17-4 PH S.S.



\* Flange connection ratings governed by ANSI class.

† Alternative trim materials available upon request.



# DOUBLE BLOCK & BLEED PRESSURE ISOLATION VALVE

## Features

- One piece body construction
- Two position lockable handle for each ball
- Two 1/2" FNPT accessory ports
- One 1/2" FNPT drain port between independent valve balls
- Independent bidirectional shutoff of full operating pressure
- Stems are back seated and blowout proof
- Dual stem seals for trouble free service

## End Connections

2" MNPT X 2" FNPT

150-1500 ANSI Class Integral Flange X 2" FNPT

## Maximum Operation Pressure

5000 PSI @ 100°F (34,474 kPa @ 38°C)\*

## Temperature Range

Standard: -50°F to +250°F (-46°C to +121°C)

Medium: -20°F to +400°F (-46°C to +204°C)

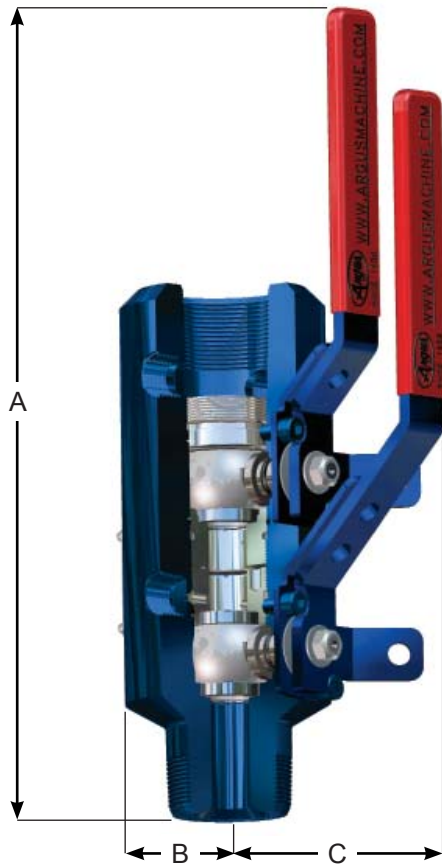
STANDARD TRIM MATERIALS†	
Ball	A351-CF8M, c/w ENP
Body	A350-LF2, Class 1
Bolting	316 Stainless Steel
Seals	LTN and XNBR/Viton 'A'
Seat	Ertalyte®/Techtron®/PEEK
Stem:	AISI 4140, c/w 0.001" ENP

\* Flange connection ratings governed by ANSI class.

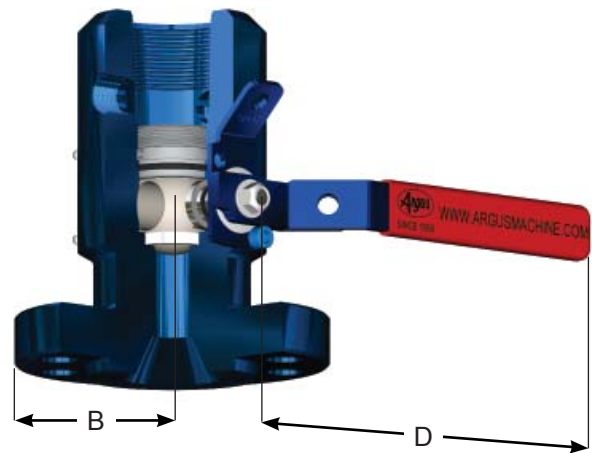
† Alternative trim materials available upon request.



# ISOLATION VALVE DIMENSIONS



**Threaded**  
(Open Position)



**Flanged (RF/RTJ)**  
(Closed Position)

STANDARD ISOLATION VALVE	A						B		C		D		APPROX. WT.	
	Threaded		RF		RTJ									
End Connection	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
2" FNPT × 2" MNPT	11.74	(298)	-	-	-	-	1.85	(47)	3.76	(95)	8.74	(222)	15	(7)
2" FNPT × 150 Class	-	-	11.74	(298)	-	-	3.00	(76)	3.76	(95)	8.74	(222)	21	(10)
2" FNPT × 300/600 Class	-	-	12.20	(310)	12.30	(312)	3.25	(83)	3.76	(95)	8.74	(222)	25	(11)
2" FNPT × 900/1500 Class	-	-	13.18	(335)	13.24	(336)	4.25	(108)	3.76	(95)	8.74	(222)	40	(18)

DOUBLE BLOCK & BLEED ISOLATION VALVE	A						B		C		D		APPROX. WT.	
	Threaded		RF		RTJ									
End Connection	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
2" FNPT × 2" MNPT	15.1	(382)	-	-	-	-	1.95	(49)	5.09	(129)	10.34	(263)	26	(12)
2" FNPT × 150 Class	-	-	15.1	(382)	-	-	3.00	(76)	5.09	(129)	10.34	(263)	31	(14)
2" FNPT × 300/600 Class	-	-	15.6	(395)	15.6	(397)	3.25	(83)	5.09	(129)	10.34	(263)	35	(16)
2" FNPT × 900/1500 Class	-	-	16.5	(419)	16.6	(420)	4.25	(108)	5.09	(129)	10.34	(263)	51	(23)

# APPLICATIONS

**Hydraulic Pump Jacks**



**Pump Jacks**



**Progressive Cavity Pumps**



# SINCE 1958

## ARGUS MACHINE CO. LTD.

1.780.434.9451

info@argusmachine.com



[argusmachine.com](http://argusmachine.com)

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