

# Pressure Gage

## 45APE Series

The 45APE Series gage instrument is a mechanical gage for pressure indication. It includes two adjustable SPDT switches. These snap-acting switches can be used for start and stop, to trip alarms and to shut down equipment. Ranges are available from 30 psi (207 kPa) [2.06 bar] thru 5,000 psi (34.48 Mpa) [344.73 bar].

The 45APE Series utilizes a bourdon tube sensing unit with a stainless steel dual-sector geared movement. Each of the sectors drives separate pointers when pressure is applied to the bourdon tube. The indicating pointer (visible pointer) shows actual pressure reading, including below and beyond the low and high trip points. The low and high trip points are adjustable independently on the gage front lens. The switch operator pointer (behind the dial) is calibrated to follow the indicating pointer. The low and high trip point indicators arrest the switch operator pointer. As pressure decreases or increases through the principal of lost motion, the respective snap-switch is tripped.

The 45APE Series models are widely used in applications requiring pressure indication and Form C low and high pressure switches.

### Basic Models

**45APE Series gage instrument** - Surface mount (square case) version

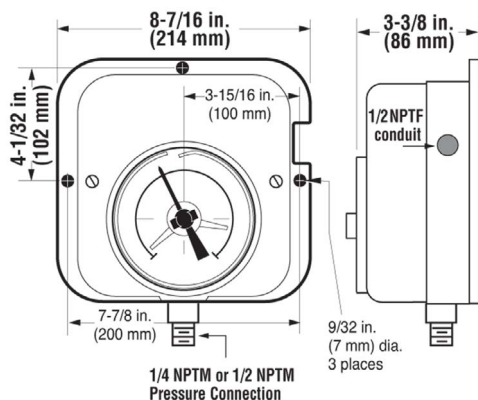
**45APEF Series gage instrument** - Panel mount (round case) version



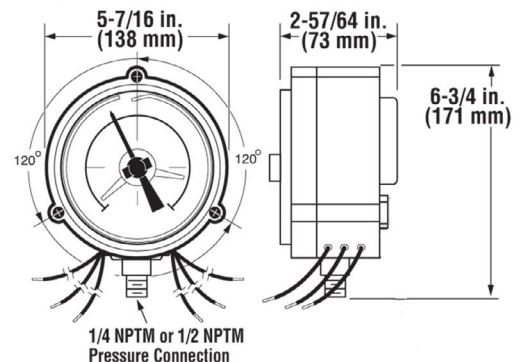
Certain models listed for non-hazardous locations. Pending for hazardous location.

## Dimensions

### Surface Mount Models



### Panel Mount Models



# Specifications

**Dial:** White on black, dual scale, psi and kPa standard, 4-1/2 in. (114 mm) diameter

**Case:** Die cast aluminum, surface or panel mount

**Overrange:** Do not exceed 10% FS above full range

**Process Connection:**

1/4 NPTM thru 1000 psi; 1/2 NPTM 1500 - 5,000 psi

**Sensing Element:** Bronze or 316 stainless steel bourdon tube

**Gage Accuracy:** Indicating pointer within switch points with hysteresis of <1%: ±2% for first and last quarters of scale; middle half of scale is ±1%. Indicating pointer above or below trip point:

Range	Accuracy (+/-) above or below trip point only
< 100	10
100-300	4
400-1500	2
2000	12
3000-5000	8

Reading based on testing performed with switch point at mid scale which represents worst case.

**Switch Point Accuracy:** ±1.5%.

**Switch Reset Deadband:** Approximately 10% FS

**Pressure Relief Disc:** Back of case (except EX models)

**Snap-Acting Switches:** 2-SPDT; 2 A @ 250 VAC

**Wire Connections (Surface Mount):**

1/2 NPTF conduit entry with terminal block

**Wire Connections (Panel Mount):**

Wire leads, 18 AWG (1.0 mm<sup>2</sup>) x 9 in. (229 mm) long

**Weight:** 5 lbs 6 oz (2.4 kg) approximately

**Explosion-proof models:** 21 lb. (9.5 kg) approximately

**Dimensions:** 10 x 9 x 6 in. (254 x 229 x 152 mm) approximately

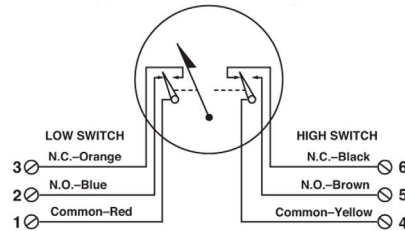
**Explosion-proof models:** 12 x 12 x 9 in (305 x 305 x 229 mm) approximately

**CSA Certified Models:**

45APE Series models with pressure range thru 5000 psig (34.4 MPa) [344 bar] are CSA approved for non-hazardous locations.

Explosion-proof EX models with pressure range thru 5000 psig (34.4 MPa) [344 bar] are CSA approved for Hazardous locations Class I, Groups C & D.

## Typical Wiring Diagram



**Contact Ratings:** 2-SPDT snap-switches; 2 A @ 250 VAC

*NOTE: Diagram shows the pointer in the at rest (shelf) position.*

## How to Order

Options listed below. All configurations may not be available. Call your sales representative or FW Murphy for more information.

<b>45APE</b>	-	<b>S</b>	-	<b>100</b>	-	<b>EX</b>																																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">Base Model</th></tr> <tr><td>45APE</td></tr> <tr><td>45APEF</td></tr> </table>	Base Model		45APE	45APEF		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">Bourdon Tube and Socket</th></tr> <tr><td>A =</td><td>Bronze / Brass std. &lt;=1000 psi</td></tr> <tr><td>S =</td><td>316 Stainless Steel / 316 Stainless Steel</td></tr> </table>	Bourdon Tube and Socket		A =	Bronze / Brass std. <=1000 psi	S =	316 Stainless Steel / 316 Stainless Steel		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">Ranges</th></tr> <tr><th>Specify</th><th>Vacuum/psi</th></tr> <tr><td><b>30V100</b></td><td>= 30" vac-100 psi</td></tr> <tr><td><b>60</b></td><td>= 0-60 psi</td></tr> <tr><td><b>100</b></td><td>= 0-100 psi</td></tr> <tr><td><b>200</b></td><td>= 0-200 psi</td></tr> <tr><td><b>300</b></td><td>= 0-300 psi</td></tr> <tr><td><b>400</b></td><td>= 0-400 psi</td></tr> <tr><td><b>600</b></td><td>= 0-600 psi</td></tr> <tr><td><b>1000</b></td><td>= 0-1000 psi</td></tr> <tr><td><b>1500</b></td><td>= 0-1500 psi</td></tr> <tr><td><b>2000</b></td><td>= 0-2000 psi</td></tr> <tr><td><b>3000</b></td><td>= 0-3000 psi</td></tr> <tr><td><b>5000</b></td><td>= 0-5000 psi</td></tr> </table>	Ranges		Specify	Vacuum/psi	<b>30V100</b>	= 30" vac-100 psi	<b>60</b>	= 0-60 psi	<b>100</b>	= 0-100 psi	<b>200</b>	= 0-200 psi	<b>300</b>	= 0-300 psi	<b>400</b>	= 0-400 psi	<b>600</b>	= 0-600 psi	<b>1000</b>	= 0-1000 psi	<b>1500</b>	= 0-1500 psi	<b>2000</b>	= 0-2000 psi	<b>3000</b>	= 0-3000 psi	<b>5000</b>	= 0-5000 psi		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">Options</th></tr> <tr><td colspan="2">Verify Option Availability, Not All Options Can Be Provided For Every Model.</td></tr> <tr><td><b>EX</b></td><td>= Explosion-Proof; Approved for Hazardous Areas Class I, Groups C and D to &lt;=5000 psig</td></tr> <tr><td><b>EL</b></td><td>= (EXLC) Explosion-Proof Less Case</td></tr> </table>	Options		Verify Option Availability, Not All Options Can Be Provided For Every Model.		<b>EX</b>	= Explosion-Proof; Approved for Hazardous Areas Class I, Groups C and D to <=5000 psig	<b>EL</b>	= (EXLC) Explosion-Proof Less Case
Base Model																																																				
45APE																																																				
45APEF																																																				
Bourdon Tube and Socket																																																				
A =	Bronze / Brass std. <=1000 psi																																																			
S =	316 Stainless Steel / 316 Stainless Steel																																																			
Ranges																																																				
Specify	Vacuum/psi																																																			
<b>30V100</b>	= 30" vac-100 psi																																																			
<b>60</b>	= 0-60 psi																																																			
<b>100</b>	= 0-100 psi																																																			
<b>200</b>	= 0-200 psi																																																			
<b>300</b>	= 0-300 psi																																																			
<b>400</b>	= 0-400 psi																																																			
<b>600</b>	= 0-600 psi																																																			
<b>1000</b>	= 0-1000 psi																																																			
<b>1500</b>	= 0-1500 psi																																																			
<b>2000</b>	= 0-2000 psi																																																			
<b>3000</b>	= 0-3000 psi																																																			
<b>5000</b>	= 0-5000 psi																																																			
Options																																																				
Verify Option Availability, Not All Options Can Be Provided For Every Model.																																																				
<b>EX</b>	= Explosion-Proof; Approved for Hazardous Areas Class I, Groups C and D to <=5000 psig																																																			
<b>EL</b>	= (EXLC) Explosion-Proof Less Case																																																			

Approximate Shipping Weight and Dimensions		
Model	Weight	Dimension
45APE	5 lbs 6 oz (2.4 kg)	10 x 9 x 6 in. (254 x 229 x 152 mm)
45APEF	5 lbs 6 oz (2.4 kg)	10 x 9 x 6 in. (254 x 229 x 152 mm)
Explosion Proof	21 lb. (9.5 kg)	12 x 12 x 9 in (305 x 305 x 229 mm)