

## BARTON Differential Pressure Indicators: Models 199, 200A

Cameron's BARTON<sup>®</sup> differential pressure indicators are available for a variety of safe working pressures and differential pressure ranges. They are widely used for the measurement of differential pressure, flow rate and liquid level applications.

### Features

- BARTON differential pressure unit (DPU) sensor
- NEMA-4/IP65 cases
- Wide selection of differential pressure ranges (including absolute, zero-center and split ranges)
- Pulsation dampening

### Actuating Units

- The indicator is actuated by a rupture-proof bellows DPU with integral temperature compensation.
- The M199 DPU features dual, liquid-filled bellows designed to withstand repeated overranges equal to the safe working pressure of the housings without a change in calibration.

### Indicating Mechanism

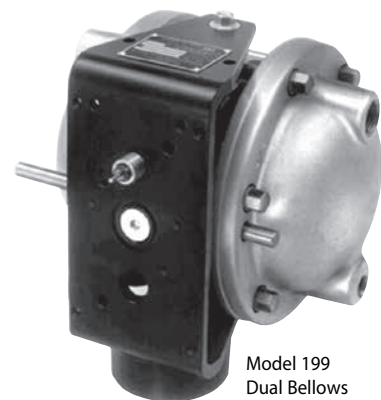
- The indicating pointer traverses a 270-degree arc, providing excellent readability. It is driven by a precision-jeweled rotary movement that multiplies rotation of the torque tube through a gear and pinion to the pointer. The movement employs a thermally stable Ni-Span-C hair spring.
- The movement has a micrometer screw for convenient range adjustments. Zero/range adjustments can be made without removing the scale plate or pointer. Linearity adjustments are readily accessible after removal of the scale plate.

### Cases

- BARTON indicators are available in 6" (152 mm) dial size. The standard case is die-cast aluminum with a special baked epoxy black finish, which is NEMA-4/IP65 rated. An optional "S" version 316 stainless steel case is available for offshore/corrosive environments.

### Scales

- All indicating scales can be graduated uniformly for measurement of differential pressure, liquid level or square root for direct reading of flow rate. Special scales can be furnished for indicating liquid level in horizontal or non-uniform tanks. Scales are available in black with white lettering (standard) and in white with black lettering (optional, as shown).



Model 199  
Dual Bellows

## M199 DPU Actuated Units

- Model 200A/200AS/200N\*
  - Features a 6" (152 mm) indicator with a built-in adjustable pulsation dampener for direct control of response time.
  - Note: For NACE applications, M200N uses a M199N DPU. See DPU Bulletin #21700.

## Ordering Information

When ordering, specify the following items:

- Quantity
- Model number
- Housing pressure rating (SWP)
- Housing material
- Bellows material
- Material contacting bellows
- Differential pressure range
- Type of scale (uniform, square root)
- Color of scale and lettering
- Mounting (pipe, wall, flush panel)

## Specifications

- M199 DPU housings (material/SWP)
  - Forged steel: 2500, 4500 and 6000 psi (172, 310 and 414 bar)
  - 316 SST: 1000, 3000 and 6000 psi (69, 207 and 414 bar)
  - Aluminum: 1000 psi (69 bar)
  - Bellows material: 316 SST and Inconel \*
  - Differential pressure ranges: 0 to 10 inches wc to 100 psid (25 mbar to 6.9 bar)
- 200A/200AS Indicator
  - Accuracy (differential pressure range):  
10 inches wc to 349 inches wc  $\pm 0.5\%$  FS (25 mbar to 867 mbar  $\pm 0.5\%$  FS)  
350 inches wc up to 100 psid  $\pm 0.75\%$  FS (869 mbar to 6.9 bar  $\pm 0.75\%$  FS)
  - Repeatability: 0.25%
  - Temperature limits: -40° F to 180° F (-40° C to 82° C)

## Weights (Includes DPU)

	Forged Steel			Forged SST	
	2500	4500	6000	1000	3000
IND Model 199					
Approximate Gross Weight	46	47	49	37	47
Material/Safe Working Pressure (psi)	(21)	(21)	(22)	(17)	(21)

\* Note: NACE Model (M200N) weight is the same as M200A.