DS-VAC-CMC-eng
May, 2018

Data Sheet

# CMC Series

Vacuum

*CMC Series*

## Capacitance Manometers

## Overview

Used as the vacuum capacitance manometer of choice for thin-film processes, the Brooks® CMC Series Capacitance Manometers provide accurate total pressure measurement independent of gas composition.

The CMC Series delivers exceptional performance over a wide range of operating temperatures, making it an alternative choice to larger premium performance unheated gauges. The CMC is 40% smaller in size than traditional unheated Capacitance Manometers.

Ideal for Aggressive Applications
The all welded design and Inconel® wetted surfaces ensures reliable operation in even the most aggressive processes. The combination of precision components and a wide temperature compensated operating range allows the CMC to deliver best in class zero and span temperature coefficients for optimum measurement stability.

Available for Typical Process Ranges
The CMC Series is available in full scale ranges from 1000 Torr to 10 Torr and is an ideal upgrade for small form-factor Capacitance Manometers and an economical alternative to full sized unheated Capacitance Manometers.

## Features

- 40% smaller than traditional unheated Capacitance Manometers, the CMC Series delivers similar performance in a space saving, economic package
- The optional high accuracy calibration matches the accuray of more costly premium unheated manometers
- The robust all welded construction ensures optimum measurement repeatability compared to other designs that are prone to error inducing internal stresses that cause unpredictable variations in pressure measurement



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# Product Specifications

*CMC Series Specifications*

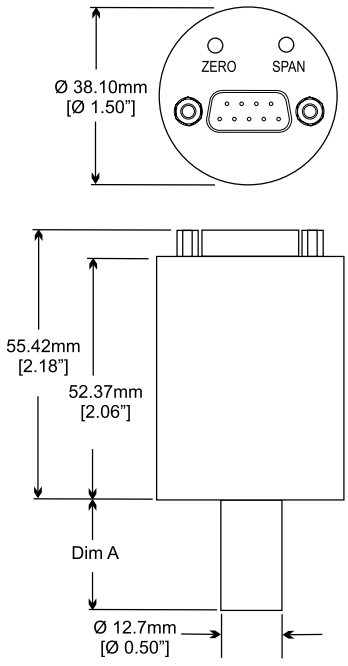
| Performance | CMC |
|---|---|
| **Full Scale Ranges** | 10, 20 50, 100, 500 and 1000 Torr |
| **Accuracy[1]** | Type A = 0.25% of reading; Type B = 0.5% of reading |
| **Resolution[2]** | Infinite, limited by output noise (≤0.0006% F.S.) |
| **Temp. Effect on Zero** | 0.005% F.S. / °C |
| **Temp. Effect on Span** | 0.027% F.S. / °C |
| **Response Time** | 20 msec |
| **Operating Temperature** | 0 to 80°C |
| **Compensated Temperature** | 0 to 50°C |
| **Mechanical** | |
| **Exposed Materials[2]** | Inconel® |
| **Over-Pressure Limit** | 45 psia |
| **Weight** | 0.3 lbs. (137 grams) |
| **Electrical** | |
| **Input Power** | +12 to 30 Vdc |
| **Output Signal** | 0-10 Vdc (<10K Ω load) |
| **Power Consumption** | <200 mW |
| **Electrical Connectors** | 15-pin D sub on 6" cable |
| | 9-pin D sub |
| | 5-pin terminal strip |
| **Certifications** | |
| **Electromagnetic Compatibility** | Fully CE certified to EMC Directive 89/336/EEC |
| **RoHs** | Compliant |

*Notes:*

*1. RSS-Including hysterisis, linearity and non-repeatability.*

*2. Wetted material is for 1/2" tube stub option, other flanges and fitting will add stainless steel.*

*Dimension Drawing - CMC Series*




| Fitting Type | Code | Dim. A |
|---|---|---|
| 0.5" O.D. Tube | 0 | 25.4mm [0.99"] |
| KF-16 Flange | 2 | 28.96mm [1.14"] |
| 8 VCR Female | 4 | 44.07mm [1.735"] |

# Model Code

| Code Description | | Code Option | Option Description |
|---|---|---|---|
| **I.** | Base Model Number | **CMCA** | Compact Capacitance Manometer |
| **II.** | Full Scale Range | **T11** | 10 Torr |
| | | **T12** | 20 Torr |
| | | **T15** | 50 Torr |
| | | **T21** | 100 Torr |
| | | **T31** | 1000 Torr |
| | | **C11** | 10 mbar* |
| | | **C12** | 20 mbar |
| | | **C21** | 100 mbar |
| | | **C31** | 1000 mbar |
| | | **P11** | 1.333 kPa |
| | | **P21** | 13.33 kPa |
| | | **P31** | 133.3 kPa |
| **III.** | Electrical Connector | **1** | 9-pin sub D, 0-10 Vdc |
| | | **2** | 5-pin terminal strip, 0-10 Vdc |
| | | **3** | 15-pin sub D, 0-10 Vdc on 6″ cable |
| **IV.** | Fitting** | **0** | 1/2″ tube stub |
| | | **1** | KF10 |
| | | **2** | KF16 |
| | | **4** | 8VCR® F |
| | | **R** | 4VCR® F |
| **V.** | Accuracy | **A** | ± 0.25% of reading accuracy |
| | | **B** | ± 0.5% of reading accuracy |
| **VI.** | Compliance | **R** | RoHs Compliant |

* Available with "B" Code (.5% of reading) only.

**Other flanges and fitting options available upon request, contact Brooks technical support.

**Sample Standard Model Code**

| I | II | III | IV | V | VI |
|---|---|---|---|---|---|
| CMCA | T11 | 1 | R | A | R |

## Brooks Service and Support

Brooks is committed to assuring all of our customers receive the ideal flow solution for their application, along with outstanding service and support to back it up. We operate first class repair facilities located around the world to provide rapid response and support. Each location utilizes primary standard calibration equipment to ensure accuracy and reliability for repairs and recalibration and is certified by our local Weights and Measures Authorities and traceable to the relevant International Standards.

*Visit www.BrooksInstrument.com to locate the service location nearest to you.*

### START-UP SERVICE AND IN-SITU CALIBRATION

Brooks Instrument can provide start-up service prior to operation when required. For some process applications, where ISO-9001 Quality Certification is important, it is mandatory to verify and/or (re)calibrate the products periodically. In many cases this service can be provided under in-situ conditions, and the results will be traceable to the relevant international quality standards.

### SEMINARS AND TRAINING

Brooks Instrument can provide customer seminars and dedicated training to engineers, end users, and maintenance persons.

*Please contact your nearest sales representative for more details.*

Due to Brooks Instrument's commitment to continuous improvement of our products, all specifications are subject to change without notice.



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