ROOTS® Micro Corrector, Model IMC/C2
Enhanced, fully integral gas volume corrector with mechanical counter
Available in PTZ + Log, P + Log and T + Log versions

This second generation Micro Corrector has the enhancements customers have been asking for. Using the proven IMC/C platform, features were added that make it the easiest corrector to use. Functions were added that improve low flow measurement, enhance data logging, and lower operations and maintenance costs while retaining the great features introduced in the original IMC/C.

The ROOTS Micro Corrector, model IMC/C2, functions as a compact integral component of the rotary meter, rather than being an adaptation of a product that cannot take full advantage of the integration of meter and corrector. It’s the only integral corrector rated for Division 1 hazardous locations.

Features include:

• **Rapidly Updating Flow Rate Display** aids meter differential testing in the field.

• **Fast Prove Mode** reduces meter and corrector test times by as much as 90%.

• **User Selectable Trim Table** improves low flow meter accuracy allowing the IMC/C2 to pay for itself.

• **Auto-Ranging Pressure Transducer** covers the entire range of the Series B 8C-16M ROOTS® meters and eliminates the need to stock correctors with different transducer ranges.
Simple User Terminal Software allows for easy configuration, calibration and data downloads.

1 to 3 Data Logs provide for years of historical information and are configurable in increments from 1 minute to 1 month.

Audit Log maintains a record of configuration and calibration changes.

Alarms notify the user of over-range conditions for pressure, temperature and flow rate.

Alarm and Fault activity is displayed in the Data Log and Audit Log reports.

E²PROM provides non-volatile storage of recorded data and corrector configuration, regardless of battery condition. This provides another level of data security in addition to the uncorrected mechanical counter.

MS Excel® Formatted Reports allow easy manipulation and sharing of information. These features provide compelling value that can add thousands of dollars annually to the bottom line!
PERFORMANCE

Resolution:
Volume: 0.01 ft³ (0.01 m³)
Pressure: 0.01 psi (1 mbar)
Temperature: 0.1 ºF (0.1 ºC)
Supercompressibility (Fpv²): 0.0001
Correction Factor: 0.00001

Accuracy -40 ºF to 140 ºF
(-40 ºC to 60 ºC):
Pressure: ±0.25% reading
Temperature: ±0.9 ºF (0.5 ºC)
IMC/C2-PTZ: ±0.5% corrected volume
IMC/C2-P: ±0.35% corrected volume
IMC/C2-T: ±0.25% corrected volume

Long Term Stability:
Pressure: 0.1% FS/yr non-cumulative
Temperature: 0.3 ºF (0.2 ºC)/yr non-cumulative

METER TRIM TABLE:
Meter flow correction: 0.3% to 10% Qmax

E²PROM DATA LOG MEMORY:
Time-stamped Entries: up to 3756
(depending on the number of Parameters logged)
Parameters: Corr Vol, Uncor Vol, Fault Vol, P, T, Avg Rate, Peak Rate, Corr Factor

BATTERY:
Sealed Pack: 5-years nominal life
Low Battery Reserve: 2-months minimum

INPUTS:
Volume: High speed Wiegand sensor on volume input board
Pressure: Proprietary semiconductor strain gauge
Temperature: ITS-90 Platinum 100Ω RTD
\( \alpha = 0.00385 \)

LCD DISPLAY:
18 user selectable parameters

PULSE OUTPUTS:
Corrected, Uncorrected, and Alarm & Fault:
Loop Voltage: 5-15 Vdc
Loop Current: 10 mA maximum
Pulse Width: 125, 187, or 312 mS
On/Off Resistance: <10 Ω 10MΩ
Isolation: 2,500 Vdc

ENVIRONMENT:
Operating Temperature: -40 ºF to 140 ºF (-40 ºC to 60 ºC)
Storage Temperature: -58 ºF to 176 ºF (-50 ºC to 80 ºC)
Humidity: Up to 95% sustained outdoor exposure

ENCLOSURE:
NEMA 4X (IP66)

DIMENSIONS:
See Dimensional Spec: DS: IMC/C

INTRINSIC SAFETY (includes Sealed Battery Pack):
Class-I, Division-I, Group D:
Zone 0: EEX ia IIC T4 Tamb = -40 ºC to 60 ºC
Class-I, Division-1, Group A, B, C, D:
BAS98ATEX 1083
Other:
ISO-9001
CE Mark

Other Available Micro Corrector Models
Ordering:
The IMC/C2 can be ordered as either:

- An integral part of a new meter.
- As a kit to convert existing ROOTS Series-B (TQM) meter sizes 8C through 16 M.
- Please specify meter size when ordering either a complete meter or a conversion kit.

For P and PTZ versions:

- One auto-ranging pressure transducer covers applications up through 175 PSI (12 bar). The range is extended up to 232 PSI (16 bar) for equivalent rated meters.
- Both gauge and absolute pressure transducers are available.
- The IMC/C2 can only be ordered with internal pressure and temperature connection.

A variety of pulse output connectors are available:

- One metal 6-pin Mil-Spec twist lock connectors.
- One plastic cable-gland connectors.

The IMC/C2 will be shipped with a factory standard configuration unless the customer specifies otherwise.

A Sealed Battery Pack is included and will provide a nominal 5-years of reliable corrector operation.

New users will want to order the User Terminal Software and one or more communication cables to allow local configuration, calibration, and data retrieval. The cables are available in 6, 25, and 50 ft. lengths. Special cables are available for proving the meter and corrector with the ROOTS® Model-5 Transfer Prover.

**Micro Modem**

- Line-powered, no batteries required. No operation or maintenance costs.
- Plug & Play design, no set up required, reduces installation and start-up costs.
- Fully functional with all Micro Corrector models.
- Supports remote communications for meter reading, data retrieval, and corrector configuration.
- IP66 (NEMA 4X) metal housing.
- Wall mount, pole mount, or back of corrector mounting options.
- Pre-wired connecting cables are available.
- Includes internal intrinsic safety barriers allowing direct connection of the modem in the safe area to a Micro corrector located in a Class 1, Division 1, Group D hazardous area.