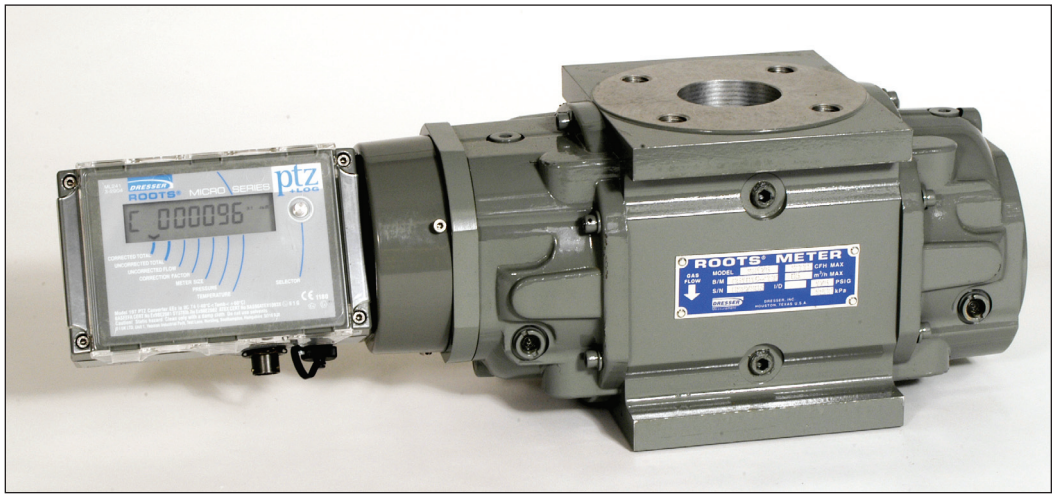
ROOTS® Micro Corrector – Model IMC/W2

The most capable integral gas volume corrector ever developed for rotary meters

Available in PTZ+ log, P+ log, and T+ log versions



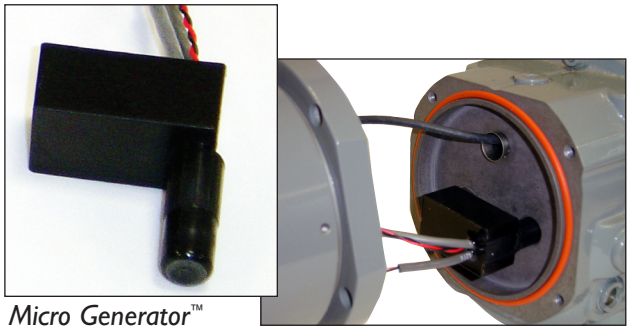
ROOTS® Meter with IMC/W2 , Model, PTZ + Log

This second generation Micro Corrector has the enhancements customers have been asking for. Using the proven IMC/W 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/W.

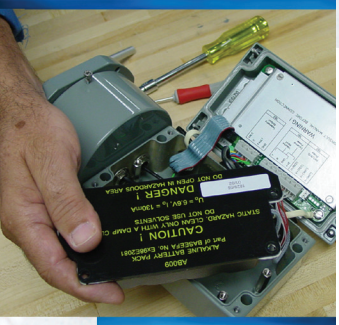
The ROOTS Micro Corrector, model IMC/W2, functions as a compact integral component of the rotary meter, rather than being an adaptation of a product that cannot take full advantage of the integration of meter and corrector. It's the only integral corrector rated for Division 1 hazardous locations.

Features include:

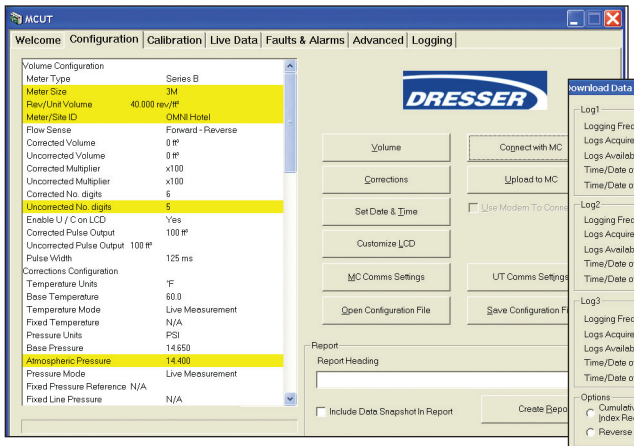
- **Rotating Index** makes meter reading easy.
- **Rapidly Updating Flow Rate Display** aids meter differential testing in the field.
- **Fast Prove Mode** reduces meter and corrector test times by as much as 90%.
- **User Selectable Trim Table** improves meter low flow accuracy allowing the IMC/W2 to pay for itself.
- **Optional Patented Micro Generator™** extends the interval between battery changes.



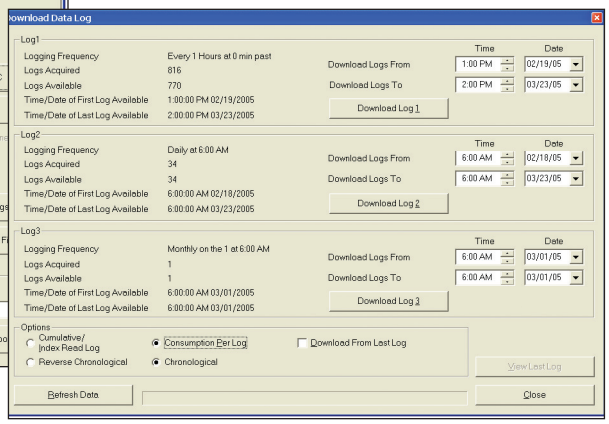
Micro Generator™



- **Auto-Ranging Pressure Transducer** eliminates the need to stock correctors with different transducer ranges
- **Simple User Terminal Software** allows for easy configuration, calibration, and data downloads



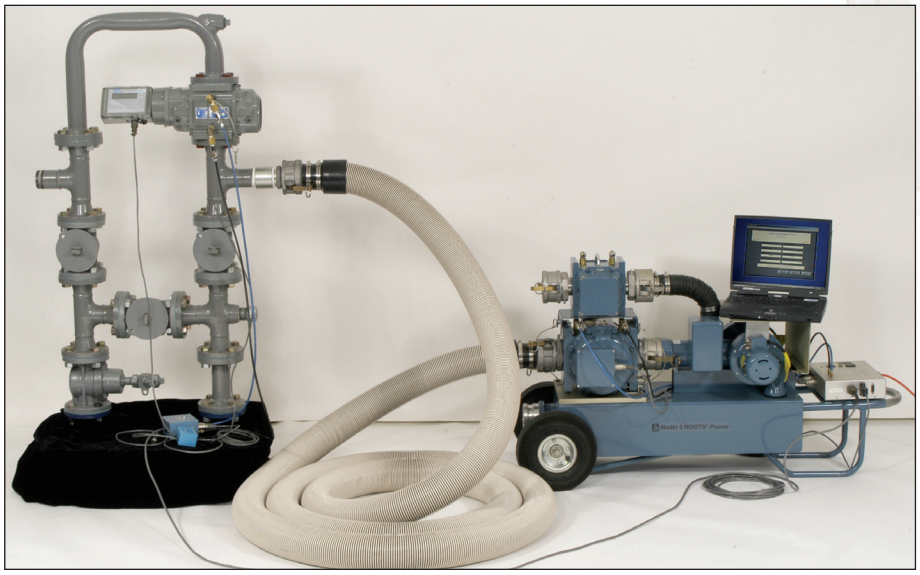
Configuring the IMCW2



Downloading Data Logs

- **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 & 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.
- **Uncorrected Volume Under Fault** register in E²PROM replicates a backup mechanical index.
- **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!



Proving the IMCW2 and Meter

PRODUCT DATA

Specifications

PERFORMANCE

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

Accuracy -40 °F to 140 °F (-40 °C to 60 °C):
Pressure: ±0.25% reading
Temperature: ±0.9 °F (0.5 °C)
IMC/W2-PTZ: ±0.5% corrected volume
IMC/W2-P: ±0.35% corrected volume
IMC/W2-T: ±0.25% corrected volume

Long Term Stability:
Pressure: 0.1% FS/yr non-cumulative
Temperature: 0.3 °F (0.2 °C)/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
Micro Generator™: 7-years nominal
Low Battery Reserve: 2-months minimum

INPUTS:
Volume: High speed Wiegand sensor in meter magnet cup
Pressure: Proprietary semiconductor strain gauge
Temperature: ITS-90 Platinum 100Ω RTD α=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_/> 10MΩ
Isolation: 2,500 Vdc

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

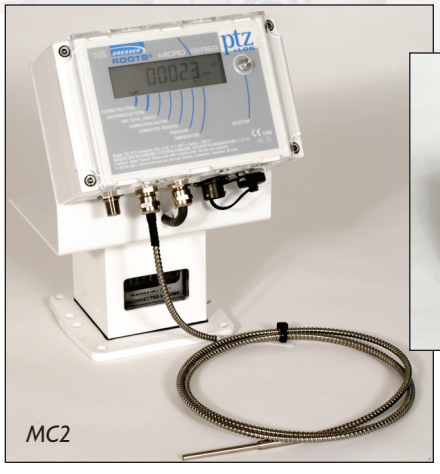
ENCLOSURE:
NEMA 4X (IP66)

DIMENSIONS:
See Dimensional Spec: DS: IMC/W2

INTRINSIC SAFETY (includes Sealed Battery Pack):
Class-I, Division-1, Group D:
CSA Approval No. 1224451
Zone 0: EEX ia IIC T4 Tamb = -40 °C to 60 °C
Class-I, Division-1, Group A, B, C, D:
BAS98ATEX 1083

ELECTROMAGNETIC/RADIO FREQUENCY IMMUNITY:
FCC Class B: Meets EMI/RFI immunity at 10 V/m, 0.1 to 1,000 MHz
EN50081-1 and EN5088-2

Other:
ISO-9001
CE Mark



MC2


IMC/C2

Other Available Micro Corrector Models

Ordering:

The IMC/W2 can be ordered as either:

- An integral part of a new meter.
- As a kit to convert existing ROOTS Series-A (LMMA), Series-B (TQM), or Romet meters.

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/W2 can be ordered with either an external or internal pressure connection.
- Kits for Series-A meters and all 23M and larger meters require external pressure connections.
- Optional piping kits are available for convenient connection of external pressure connections.

For PTZ and T versions:

- All 23M and larger meters require an external temperature probe and thermowell. The probes are available with 5 ft or 10 ft armored cables and in 2 in or 8-1/2 in insertion lengths.
- Thermowells are available in sizes 1/4-NPT x 2, 1-NPT x 2, 1-NPT x 4, and 1-NPT x 6, all dimensions are in inches.

A variety of pulse output connectors are available:

- Up to two metal 6-pin Mil-Spec twist lock connectors (up to one for models with external pressure connection).
- Up to two plastic cable-gland connectors (up to one for models with external pressure connection).
- Conduit fittings and other special connectors are available upon request.

The IMC/W2 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. Adding the optional Micro Generator may extend battery life to 7-years or more.

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.

DRESSER
Roots Meters & Instruments

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