

MODEL 700

Mass Flow Calibrator



Generates precise calibration gases for Ozone, NO, NO₂, CO, HC, H₂S, SO₂

Full compatibility with APICOM Remote Interface

Non-volatile program memory

Powerful bi-directional RS-232 communication capability

12 independent timers for sequences

Nested (up to 5 levels) sequences

Software linearization of Mass Flow controllers

4 calibration gas ports configurable for single or multi-blend gases

Glass GPT (Gas Phase Titration) chamber

Permeation oven available for SO₂, NO₂, or H₂S perm tube

Ozone generator and photometer allows use as primary or transfer standard

The Model 700 is a microprocessor based calibrator for precision gas analyzers. Using a combination of highly accurate mass flow controllers and compressed sources of standard gases, calibration standards are provided for multipoint span and zero checks. Up to 4 gas sources may be used.

In addition, the Model 700 can be equipped with a permeation oven for generating calibration standards from permeation tubes. There is also an optional built-in ozone calibrator with a programmable ozone generator for an accurate, dependable source of ozone. An optional photometer allows even more precise ozone values. The ozone generator also supports the GPT reaction to allow NO₂ calibration.

A multi-point linearization curve of the ozone generator is stored in the microprocessor to assure precise control. To ensure even more accurate NO₂ output, the calibrator with photometer option measures the ozone concentration prior to doing a GPT. The set up of sequences is extremely simple, and intuitive. As many as 50 independent calibration sequences may be programmed into the M700, covering time periods up to one year. These sequences may be actuated manually, automatically or by a remote signal. The sequences may be uploaded remotely, including remote editing! All programs are maintained in non-volatile memory.

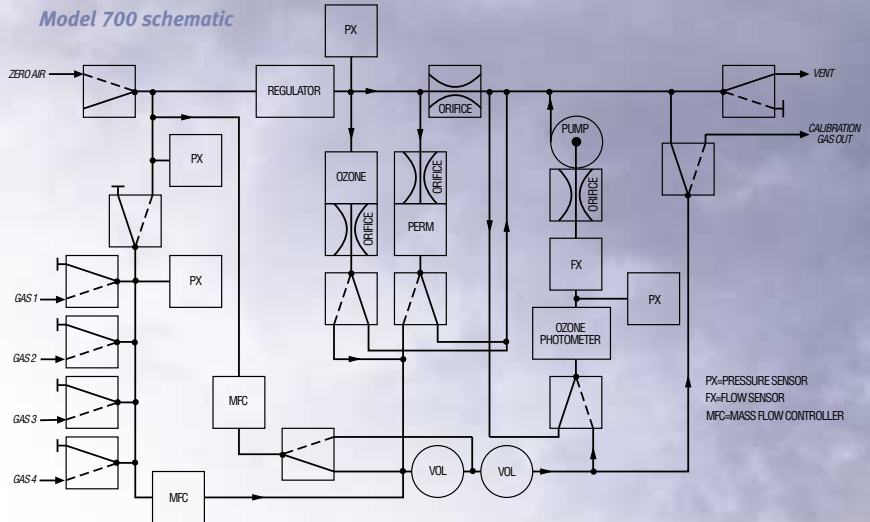
The M700 design emphasizes fast response, repeatability, overall accuracy and ease of operation. It may be combined with the Model 701 Zero Air Generator to provide the ultimate in easy to use, precise calibration for your gas analyzers.

MODEL 700



Mass Flow Calibrator

Model 700 schematic



SPECIFICATIONS

Dilution System:

Flow Measurement Accuracy: ± 1% full scale
 Repeatability of Flow Control: ± 0.2% full scale
 Linearity of Flow Measurements: ± 0.5% full scale
 Flow Range of Dilution Air: 0 to 10 SLM
 Optional Ranges: 0 to 20 SLM, 0 to 5 SLM
 Flow Range of Cylinder Gases: 0 to 100 cc/min.
 Optional ranges: 0 to 50 cc/min., 0 to 200 cc/min.

Zero Air requirements:
 10 SLM @ 30 psi
 Optional: 20 SLM @ 30 psi
 Calibration Gas Input Ports: 4 (configurable)
 Diluent Gas Input Ports: 1
 Response Time: 60 seconds (98%)

Ozone Generator Module:

Maximum Output: 6 ppm LPM
 Minimum Output: 100 ppb LPM
 Response Time: 180 sec. (98%)
 Optical Feedback: Standard
 Stability (7 days): 1% with photometer option
 3% without photometer option
 Linearity: 1% with photometer option
 3% without photometer option

UV Photometer Option:

Full Scale Range: 100 ppb to 10 ppm, user selectable
 Precision: 1.0 ppb
 Linearity: 1.0% of reading

Rise/Fall Time: < 20 seconds (Photometer response)
 Response Time (95%): 180 seconds (System response)
 Zero Drift: < 1.0 ppb/7 days
 Span Drift: < 1.0%/day, < 2%/7 days

Physical Specifications:

Test Channel Analog: ± 100 mV 1, 5, 10 volts
 Digital control outputs: 12 opto-isolated
 Digital control inputs: 12 opto-isolated
 Digital status outputs: 12 opto-isolated
 Temperature Range: 5-40°C
 Input Pressure: 20-40 psig required
 Weight: 60 lbs (27 kg)
 Dimensions (HxWxD): 7" (178 mm) x 17" (432 mm) x 24" (609 mm)
 Operating Altitude: 10,000 ft Maximum
 Power Requirements: 100V 50/60 Hz, 115V 60 Hz, 220V 50/60 Hz, 230V 50 Hz, 240V/50 Hz, 250 Watts
 Approvals: CE

HOW TO ORDER

Model 700 Mass Flow Calibrator includes:

- 4 calibration gas inlet ports, 1 diluent gas inlet port
- Readout and control by front panel or RS-232 port
- Specify voltage / frequency:
 - 100V / 50 Hz
 - 100V 60 Hz
 - 220V / 50 Hz
 - 115V / 60 Hz
 - 230V / 50 Hz
 - 220V / 60 Hz
 - 240V / 50 Hz

Additional Options:

- UV Photometric Module
- Gas phase titration and O₃ generator with mixing chamber
- Single permeation tube oven
- NO₂, 0.4 ppm @ 2.5 LPM perm tube
- SO₂, 0.4 ppm @ 2.5 LPM perm tube
- Automatic leak check, overpressure sensor and auto shutdown
- Source mass flow controller ranges (50cc/200cc/min)

- Dilution mass flow controller ranges (5/20/LPM)
- Multi-drop serial interface

Accessories:

- RS-232 cable
- Expendables kit
- Spare parts kit

Note: For an excellent source of diluent air, we recommend the API Model 701 Zero Air System

For more information on API's family of monitoring instrumentation products, call us or visit our website at www.advpol.com