MODEL 401

Photometric Ozone Calibrator

- **Primary or transfer standard for calibration of Ozone Analyzers**
- **Output concentrations from 50 ppb to 1 ppm**
- **Ability to set concentration directly in ppb**
- **Flow adjustable from 2 LPM to 5 LPM**
- **Automatic program modes: Zero/Span; Zero/2 Span Points; Zero/5 Span Points**
- **UV Lamp Feedback modes: current control; reference detector control; photometer control**
- **Multitasking microprocessor controlled**
- **Internal pumps**
- **Powerful bi-directional RS-232 communications**
- **Temperature & pressure compensation**
- **Built in self checks and diagnostics**
- **Non-volatile program memory**

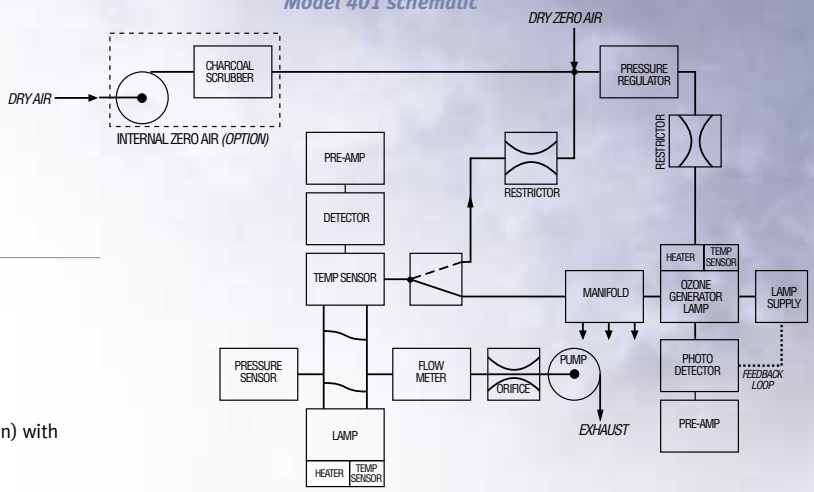
The Model 401 is a microprocessor controlled UV photometer for use as a primary or transfer standard for calibration of Ozone analyzers. The Model 401 can deliver concentrations from 50 ppb to 1 ppm at flows from 2 LPM to 5 LPM. The calibrator has two major components; the ozone generating device, and the photometer. The ozone generator is a flow controlled zero air supply passing by a UV lamp. Flow rate and lamp intensity are adjusted to deliver a specified ozone concentration by volume. The temperature- and pressure-compensated photometer (identical to the one used in the Model 400A Ozone analyzer) measures the output of the generator.

Photometer output provides feedback control of the UV lamp intensity, assuring stable ozone output. A variety of automatic calibration routines can be programmed. For example, one program could generate a zero reading followed by a series of span values, while another could cycle between zero and span. Model 401 has many other versatile features, including a choice of operation from the manual keyboard, via external contact closure, remotely with RS-232, or automatically once per day on a timed basis. The diagnostics capability is the most advanced in the industry. Critical parameters are continually monitored and alarmed when out of normal. The Model 401 is versatile, simple to operate and easy to keep operational.

MODEL 401

Photometric Ozone Calibrator

Model 401 schematic



SPECIFICATIONS

Ozone Generator

Flow rate:	2 to 5 LPM adjustable
Maximum Concentration:	1.0 ppm at 5 LPM
Minimum Concentration:	50 ppb at 2 LPM
Concentration Stability:	±2 ppb (at 400 ppb concentration) with bench feedback

Photometer

Ranges:	100 ppb to 10 ppm, user selectable
Zero Noise:	0.3 ppb (RMS)
Span Noise:	‹ 0.5% of reading (RMS) above 100 ppb
Lower Detectable Limit (LDL):	0.6 ppb
Zero Drift:	‹ 1.0 ppb/7 days
Span Drift:	‹ 1.0%/day, ‹2%/7 days
Lag Time:	‹ 10 seconds
Rise/fall Time:	‹ 20 seconds to 95%
Linearity:	1% of reading
Precision:	1.0 ppb

Bench Flow Rate:	800 cc/min±10%
Operating Temperature Range:	5 to 40ºC

Physical Specifications

Dimensions (HxWxD):	7” (178 mm) x 17” (432 mm)x 24” (609 mm)
Weight:	60 lbs (27 kg)
Power:	100V 50/60 Hz, 115V 60 Hz, 220V 50/60 Hz, 230V 50 Hz, 240V/50 Hz, 250 Watts
Analog Outputs:	10V, 5V, 1V, 100 mV
Approvals:	CE and others

HOW TO ORDER

Model 401 Photometric Ozone Calibrator
Includes:

- Digital status
- Internal pumps for photometer and internal zero air
- Bi-directional RS-232
- Convenient carrying handle

Specify voltage/frequency:

- ☐ 100V/50hz
- ☐ 100V/60hz
- ☐ 220V/50hz
- ☐ 115V/60hz
- ☐ 230V/50hz (CE)
- ☐ 220V/60hz
- ☐ 240V/50hz

Additional options:

- ☐ Rack Mount (19”) with chassis slides
- ☐ Rack Mount only
- ☐ Multi-drop RS-232 connection
- ☐ Dryer cartridge for internal zero air pump

Accessories:

- ☐ RS-232 Cable
- ☐ Expendables Kit
- ☐ Recommended spare Parts Kit

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

API ADVANCED POLLUTION INSTRUMENTATION, INC.

Advanced Pollution Instrumentation, Inc.
6565 Nancy Ridge Drive
San Diego, CA 92121-2251
858-657-9800 Fax 858-657-9816
Email sales@advpol.com