


CHLORALERT™ CHLORINE DETECTOR

The Series 17CA1000 **CHLORALERT** is a low cost, simply operated device designed to detect and provide a warning of the presence of chlorine gas in air. The unit is suitable for use in any location where chlorine is manufactured, used or stored, provided the **CHLORALERT** is protected from rain, snow, sleet and subzero temperatures. The detector may be mounted remotely with up to 25 feet of sample pipe or located within the chlorine area. The detector contains a local alarm light and electrical contacts for the actuation of external alarm devices in the event chlorine is sensed.

 Factory Mutual has approved the **CHLORALERT** as a low concentration chlorine detector.

Design Features

- **Simple to Operate** — Self-contained test switch permits functional check of circuitry.
- **Low maintenance** — Under normal operation unit needs cleaning once a year.* No reagent bottles to refill. Plug in alarm relay.
- **Sensitive** — Will sense and alarm at chlorine levels below the threshold of smell to conform to the OSHA Short Term Exposure Limit of 1 ppm.
- **Adaptable** — Small, lightweight unit is easily wall mounted where space is available.
- **Convenient** — Self-contained sampling system permits unit to be mounted remotely, even out of doors when protected from inclement or subzero weather, with sample pipe run to chlorine area.

*8 months if continuously operated at maximum temperature of 50°C (122°F).

Engineering Specifications

Detection Level: Fixed at 1 ppm chlorine by volume (3 mg/m³)

Materials of Construction

Housing: ABS and polycarbonate plastic

Cell: ABS plastic

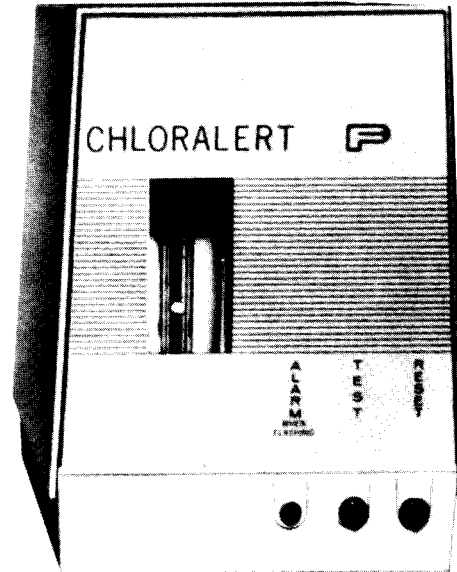
Electrodes: Platinum

Electrical Connection: 3/4-inch NPTI for electrical conduit on bottom of unit.

Electrolyte: Unit supplied with a bottle of premixed electrolyte (5 year supply under normal conditions).

Electrical Requirements: 120, 220/240V ac ±10% 50/60 Hz, 1 ph.

Power Consumption: 20 W



Relay Contacts: DPDT relay, contacts rated 10A resistive; 120, 220/240V ac

Weight: 5 lbs. (2.3 kg) Sample Tubing Kit adds 8 lbs. (3.6 kg)

Mounting: Wall

Dimensions:

8-1/2" h × 6-3/8" w × 9-1/4" d
(216 mm × 162 mm × 235 mm)

Sampling Rate: 2 std ft³/min (0.057 m³/min) nominal

Cell Response Time: Instantaneous electrochemical reaction at electrodes.

Ambient Temperature: -18 to 50°C (0 - 122°F)

Sample Inlet Connection: 1-inch NPTI on bottom of unit.

NOTE: Since chlorine is heavier than air, the unit or the end of the sample line should be located no more than 6-inches (152 mm) above the floor. If desired, the detector may be mounted at a convenient height and location with 1-inch PVC pipe or 1-inch flexible tubing [25 feet (7.6 m) maximum] run from the unit to the sample point.

MODEL NUMBER DESIGNATION

17CA10 00 A

Basic **CHLORALERT** _____

Electrical Requirement _____

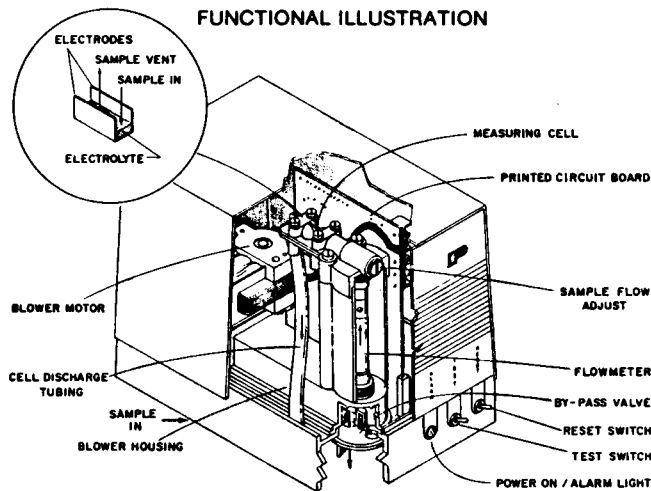
10 - 120V ac, 50/60 Hz

20 - 220/240V ac, 50/60 Hz

Design Level _____

ChlortrolTM

Formerly Fischer & Porter



Operation

The **CHLORALERT** uses glycerin-containing potassium bromide as the electrolyte in the electrode cell. Two platinum electrodes are partially immersed in this electrolyte and have a low voltage impressed across them. An internal blower draws an air sample into the unit where it passes through a flow indicator to permit positive adjustment of sampling rate. From this meter the sample flows to the electrode cell where an amperometric signal is generated by the presence of even minute concentrations of chlorine. This current is sensed by a unique self-contained electronic circuit and is used to trigger the alarm system causing the alarm light to flash and the plug-in relay contacts to change state.

Because of the unique measuring cell design, the wall mountable instrument will alarm within seconds for a 1 ppm chlorine leak, and desensitize equally fast once the leak disappears. Once actuated, the circuitry is specifically designed to demand the alarm be acknowledged with the spring loaded reset switch. If the sample still contains chlorine above the 1 ppm level, the alarm contacts will transfer to their normal (non-alarm) position while the reset switch is depressed and will immediately return to the alarm position when the reset switch is released. The test switch, when depressed together with the reset switch, substitutes a simulated measuring cell current permitting a sample check to be made of the circuit performance.

Optional Equipment

Sample tubing kit — 25 feet (7.6 m) of 1-inch (25.4 mm) ID flexible PVC tubing and adaptor.

Ordering Information

When ordering please specify:

Model Number

Voltage and Frequency

Optional Equipment

Equipment Description

The chlorine detector shall be a Factory Mutual approved wall mounted device suitable for monitoring the air in a chlorine area. It shall include a self-contained sample blower for positive air sampling to avoid chlorine buildup in stagnant areas, and an easy to read flowmeter to indicate the sample is reaching the measuring cell. The unit shall use a glycerin-based electrolyte that shall not require replacement more than once a year under normal operation and be supplied with a 10-year supply of pre-mixed electrolyte. Detectors utilizing water-based electrolytes or one depending on dispersion or convection currents to bring chlorine to the measuring cell are NOT acceptable.

The detector shall contain necessary electronic circuits to trigger an alarm condition when the chlorine concentration in the sample exceeds 1 ppm. The alarm level shall be fixed by design to avoid unauthorized adjustments, that may be harmful to personnel and above the current OSHA limit. The alarm shall be evidenced by a flashing light on the front of the unit and a change in state of the relay contacts for actuation of remote devices. The relay shall be of the plug-in type and shall have double pole, double throw contacts rated at 10 amperes. The detector shall include an alarm reset switch for alarm acknowledgment and a test switch to permit simple checking of the circuits. Detectors utilizing automatic reset are not acceptable because they do not provide a history of leaks and even though the circumstances causing the alarm may be gone, the leak may not.

*The chlorine detector shall be a Fischer & Porter **CHLORALERT**, Series 17CA1000. It shall be supplied complete with all standard accessories.*

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