

## CHLORTEST

Operating instructions



Read the operating manual!

The user is responsible for installation and operation related mistakes!



## Table of Contents

<b>1</b>	<b>Notes for the Reader</b> .....	4
1.1	General non-discrimination .....	4
1.2	Explanation of the signal words .....	4
1.3	Explanation of the warning signs .....	4
1.4	Identification of warnings .....	4
<b>2</b>	<b>Safety</b> .....	4
2.1	General warnings .....	4
2.2	Information about chlorine .....	4
<b>3</b>	<b>Product description</b> .....	5
<b>4</b>	<b>Operation</b> .....	5
4.1	Start-up .....	5
4.2	Normal mode .....	5
4.3	Unusual operation .....	5
<b>5</b>	<b>Service life of the cell</b> .....	6
<b>6</b>	<b>Maintenance</b> .....	6
<b>7</b>	<b>EU Declaration of Conformity</b> .....	7

# 1 Notes for the Reader

This operating manual contains information and behaviour rules for the safe and designated operation of the device.

Observe the following principles:

- Read the entire operating manual prior to starting-up the device.
- ensure that everyone who works with or on the device has read the operating manual and follows it.
- Maintain the operating manual throughout the service life of the device.
- Pass the operating manual on to any subsequent owner of the device.

## 1.1 General non-discrimination

In this operating manual, only the male gender is used where grammar allows gender allocation. The purpose of this is to make the text easy to read. Men and women are always referred to equally. We would like to ask female readers for understanding of this text simplification.

## 1.2 Explanation of the signal words

Different signal words in combination with warning signs are used in this operating manual. Signal words illustrate the gravity of possible injuries if the risk is ignored:

Signal word	Meaning
DANGER	Refers to imminent danger. Ignoring this sign may lead to death or the most serious injuries.
WARNING	Refers to a potentially hazardous situation. Failure to follow this instruction may lead to death or severe injuries.
CAUTION	Refers to a potentially hazardous situation. Failure to follow this instruction may lead to minor injury or damage to property.
NOTE	Refers to a danger which, if ignored, may lead to risk to the machine and its function.

Table 1: Explanation of the signal words

## 1.3 Explanation of the warning signs

Warning signs represent the type and source of a danger:

Warning sign	Type of danger
	General danger zone
	Danger of damage to machine or functional influences

Table 2: Explanation of the warning signs

## 1.4 Identification of warnings

Warnings are intended to help you recognise risks and avoid negative consequences.

This is how warnings are identified:

Warning sign	SIGNAL WORD
<b>Description of danger.</b>	
Consequences if ignored.	
⇒ The arrow signals a safety precaution to be taken to eliminate the danger.	

# 2 Safety

## 2.1 General warnings

	NOTE
<b>Faulty inspection</b>	
This device generates test gas for poison gas detectors. Make sure that you have read and understood the operating manual before start-up. Incorrect operation of the device can result in an incorrect test of the detection system.	
⇒ Comply with the instructions and information of this operating manual	

## 2.2 Information about chlorine

Chlorine is a hazardous substance. The chemical element chlorine is a greenish-yellow, toxic gas with a pungent odour, which can be detected in the air at concentrations below 1 ppm (= 1 ml/m<sup>3</sup>).

Chlorine is 2.5 times heavier than air and accumulates at ground level.

Chlorine is extremely toxic for water organisms. The reason for the toxicity of chlorine is its extraordinary reactivity. It reacts with animal and vegetable tissue and thus destroys it.

Air with a chlorine gas content of 0.5 - 1% leads to a quick death in mammals and humans, as it attacks the respiratory tract and the pulmonary alveolus (formation of hydrogen chloride or hydrochloride acid).

### 3 Product description

CHLORTEST is a small, portable, battery-operated electrochemical gas generator with which to perform a function test for poisonous gases in sensors and alarm systems. CHLORTEST is designed to sound an alarm within 30 seconds of having detected gas. CHLORTEST uses the following components to generate a calibrating gas / air mixture:

#### An internal micro-pump

A small air pump sucks in ambient air which is mixed with electrochemically-generated gas.

#### Electrochemical gas generator cell

The electrochemical gas generator cell contains an electrolytic solution and (depending on the gas to be produced) inert electrodes or melting electrodes. The gas is generated in the solution, dispensed ready-for-use from the cell and led to the detection system.

#### AA - Alkaline batteries

A set with two completely charged AA alkaline batteries is sufficient for c. 10-12 operating hours. To change the batteries, open the battery cover using your fingernails or a small, flat object. Do not use any metal objects (e.g. a screwdriver) objects to change the batteries. Using a metal object to change the battery can cause the Pico fuse to blow; the device cannot be switched on.



#### NOTE

##### Re-chargeable batteries

Re-chargeable batteries provide considerable fewer operating hours and discharge themselves during device storage. The use of re-chargeable batteries will result in termination of the CSA license.

⇒ Do not use any re-chargeable batteries.

#### Circuit board with microprocessor

When switching on, the microprocessor checks the remaining service life of the cell. It monitors the service life of the batteries and issues a signal if the battery level is low or the cell has been exhausted. The circuit board is fixed directly to the underside of the housing and is connected with the battery terminals via soldered connections. Should the circuit board suffer damage or become inoperable, replace it as a part of the housing, but do not disconnect it from its terminals.

#### Feeder hose

The device is supplied via a 1.5 m hose fitted with a bayonet connection. This hose leads the generated gas directly to the gas sensor.

### 4 Operation



Before commencing the sensor test, inform the connected points to prevent unnecessary notification of the rescue services.

#### 4.1 Start-up

Press the I/O button to switch it on. The green LED will illuminate. The device generates gas. The air pump will start after c. 30 seconds and will blow the gas through the hose to the sensor. The test gas is available for c. 30 seconds.

The air pump will then purge the device and will switch off after 120 seconds. When the unit has entered the purge cycle, both red and green lights will alternate indicating that the instrument is purging and will shut down.

The device can be used again immediately after the green LED has extinguished.

#### 4.2 Normal mode

The device is designed to work for c. 120 seconds per function test. Every cell can be used for up to 350 tests. The CHLORTEST generates gas until the battery has discharged or the cell is exhausted. Should one of these states be reached, a red LED illuminates to signal an unusual state (see the following section "unusual operation").

The test gas is led to the sensor with via the hose. Point the hose end directly towards the sensor.

Ensure that the test gas has sufficient contact with the sensor.

#### 4.3 Unusual operation

If either the batteries or the generator cell has become exhausted or the generator cell has been removed from the CHLORTEST, the device enters "unusual operating state" and the red LED will illuminate.

The red LED begins to flash if the battery state is low. If the battery level is low when being switched on, the red LED will flash for c. 30 seconds; then the device switches off. A low battery state after start-up causes the red LED to flash; the device will remain in operation for c. 30 seconds before it is switched off. Use two new high-performance AA alkaline batteries.

The red LED will illuminate continuously to indicate that the cell has become exhausted or has been removed. If the cell should be exhausted when the device is switched on, the red LED will flash for c. 30 seconds. The device will then switch off. A low battery state after start-up causes the red LED to flash; the device will remain in operation for c. 30 seconds before it is switched off.

Remove the cell if it is exhausted and replace it with a new generator cell. The section regarding the service life of the cell provides instructions for changing the generator cell. Should the cell not have been exhausted, the problem could lie with a faulty electrical connection between the cell and device. Remove the cell and check the cells protruding from the cell and the bushings on the cell chamber. Remove any residues and/or any corrosion and check the cell again. Should the pins or bushings suffer damage or become irreparable, replace the cell chamber and/or the cell.

## 5 Service life of the cell

The generator cell is exhausted during normal operation. All cells are designed for max. 350 tests. Once a cell has been exhausted, it can be replaced with a new cell. Stored in their containers and in a cool, damp location, the replacement cells can be stored for a number of years.

To replace the generator cell in the device, first remove the device cap. Pull out the generator cell upwards from the cell chamber. When removing the generator cell from the cell chamber, do not twist or turn it; this could damage the cell pin or the connector of the cell chamber. The replacement cell is fitted in reverse sequence. When replacing the cell, work carefully to ensure that the electrode pins are correctly aligned with the corresponding bushing. If the respective components are not aligned correctly, do not press the cell into the cell chamber with force; this could damage the pins, thereby rendering the cell and/or device unfit for use.



The generator cell is a wear part! The manufacturer guarantees it for 1 year or 350 tests depending on which event occurs earlier.

## 6 Maintenance

### ON/OFF switch

The ON/OFF switch is fitted with the universal symbol I/O and is actuated via the transparent display. It is a physical switch mounted on the circuit board. The transparent display must be replaced if it suffers damage. Should the switch develop a fault, it must be repaired or replaced as a part of the circuit board.



### CAUTION

#### Danger of injury!

Both the electrochemical cell and the alkaline batteries used in the CHLORTEST device contain corrosive chemicals. Although we do not expect the chemicals in the cell or the alkaline batteries to leak during normal operation, should you decide to put the device into storage for longer than a week before its next use, we recommend that you remove both the cell and battery from the device.

⇒ Remove the batteries if the device is not to be used for longer than a week.



### NOTE

#### Avoid incorrect disposal

The generator cells contain very small quantities of an acid solution and must be disposed of in accordance with local regulations. Further information is available from the manufacturer.

⇒ Dispose of exhausted generator cells as special waste; do not place it in the domestic waste.

## 7 EU Declaration of Conformity



**(DE) EU-Konformitätserklärung**

Hiermit erklären wir, dass das nachfolgend bezeichnete Gerät aufgrund seiner Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der aufgeführten EG-Richtlinien entspricht. Bei einer nicht mit uns abgestimmten Änderung am Gerät verliert diese Erklärung ihre Gültigkeit.

**(EN) EU Declaration of Conformity**

We hereby certify that the device described in the following complies with the relevant fundamental safety and sanitary requirements and the listed EC regulations due to the concept and design of the version sold by us.

If the device is modified without our consent, this declaration loses its validity.

**Bezeichnung des Gerätes:**

Chlorgas-Generator

**Description of the unit:**

Chlorine gas generator

**Typ:**

CHLORTEST

**Type:**

**EU-Richtlinien:**

Elektromagnetische Verträglichkeit / Electromagnetic compatibility (2014/30/EU)

**EU directives:**

**Harmonisierte Normen:**

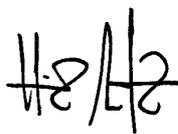
DIN EN 61000-6-1:2007-10, DIN EN 61326-1:2013-7

**Harmonized standards:**

**Dokumentationsbevollmächtigter:**

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