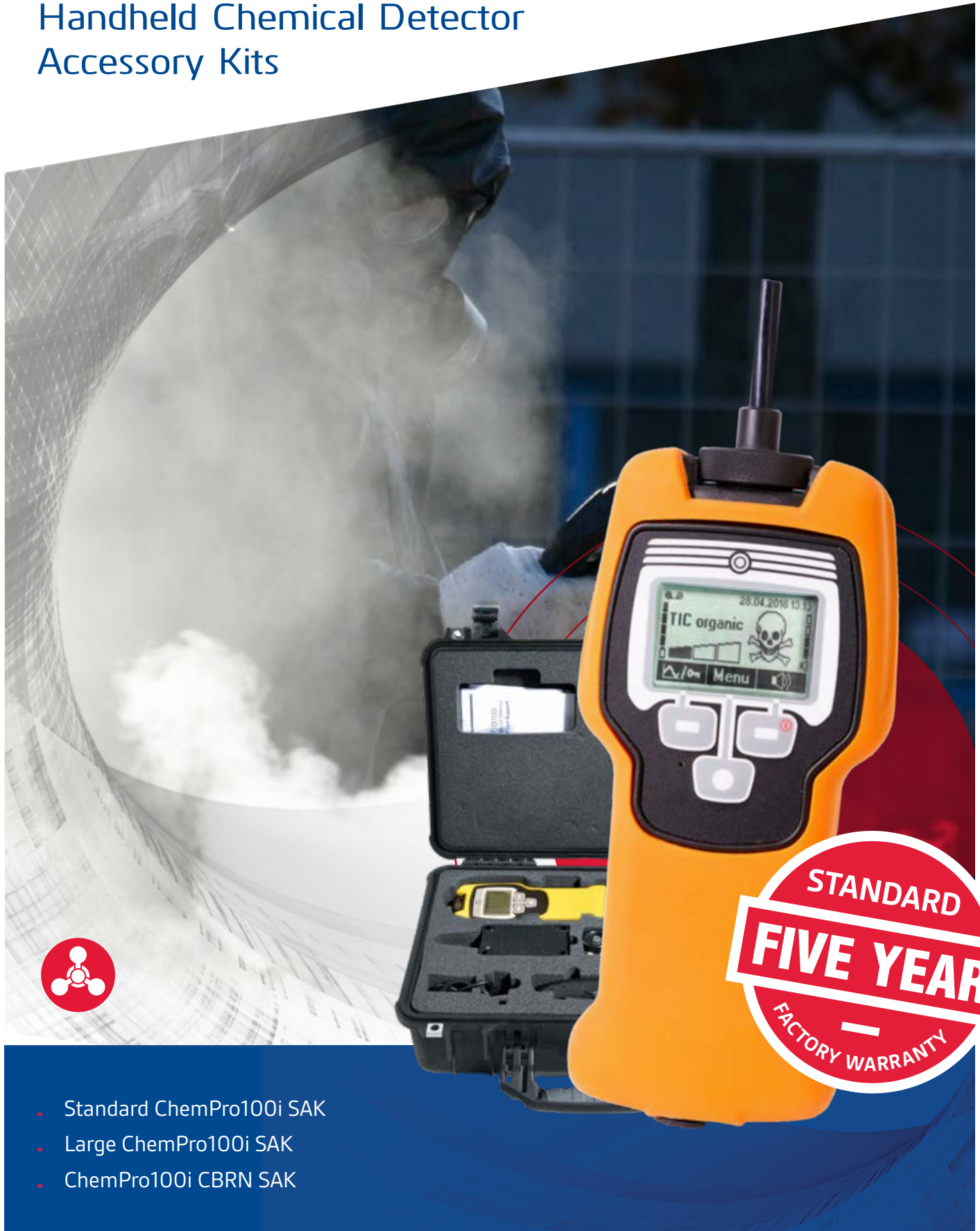# ChemPro100i

Handheld Chemical Detector
Accessory Kits

STANDARD
FIVE YEAR
FACTORY WARRANTY

- Standard ChemPro100i SAK
- Large ChemPro100i SAK
- ChemPro100i CBRN SAK

Environics

WE SENSE & DETECT FOR A **SAFER WORLD**

ChemPro100i

Handheld Chemical Detector

The ChemPro100i is a handheld detector for field detection and classification of Chemical Warfare Agents (CWAs) and selected Toxic Industrial Chemicals (TICs). It provides industry-leading sensitivity and false alarm rejection in the most user friendly and low-maintenance package in its class.

Instead of conventional chemical warfare the defence and security organizations are facing new threat scenarios. Chemical accidents, terrorism or criminal activities are the actual challenges soldiers and first responders have to prepare for on a daily basis. Today's operating environment requires new versatile response tactics incorporating innovative detection equipment.

KEY FEATURES

- Widest range of detectable chemicals
- Simple maintenance
- Easy to operate
- Versatility (CWA/TIC)
- Minimal false alarm rate
- Radiological and Biological detection with add-on modules

APPLICATIONS

- Locating leaks and faulty containers
- Monitoring of industrial sites
- Chemical safety of harbors and railways
- Customs and border control
- Monitoring of mass events and high security meetings
- Law enforcement agencies
- Battlefield detection and monitoring
- CBRN Reconnaissance and surveillance

Multisensor Detection

The ChemPro100i uses an array of detection technologies to detect, classify and measure chemicals enabling simultaneous detection of the widest range of chemicals. The ChemPro100i is a truly orthogonal detector, it's heart remaining the Environics' unique open-loop Ion Mobility Spectrometry (IMS) sensor. The performance is improved with additional sensors that provide a wider range of detectable TICs and improve false alarm rejection.

Lowest Life-Cycle Costs & Logistics

The ChemPro100i, unlike traditional closed-loop IMS, doesn´t use consumable sieve packs or dopants. This substantially reduces the cost of ownership as well as the logistics burden when compared to other chemical detectors. With the ChemPro100i you won´t be left in the middle of an incident with a CWA/TIC detector that doesn´t work.

Easier to Use than a Mobile Phone

The ChemPro100i features an intuitive, graphical user interface with large menu buttons which are easy to use even when wearing protective equipment with heavy gloves. Interchangeable Li-Ion batteries can be quickly swapped out with a 6-AA battery pack without the use of any tools.

Accessory Kits

When getting ready for a mission it is vital that all the equipment is at hand immediately, and stored in proper conditions. The integrity of the device and it's accessories can not be compromised during transportation or because of different weather conditions.

The ChemPro100i Standard Accessory Kits are the answer to this problem. The Kits house the device and a variety of accessories depending on the level of the kit. Every item is easily accessible and protected from every element that you may encounter when moving to and on the field.

The ChemPro100i is delivered in a rugged transit case containing all accessories required for basic operation of the device. This case has a pressure equalizing valve below the handle enabling it to balance the differences in pressure inside and outside the case. The valve will automatically equalize air pressure following transportation. Two heavy latches hold the case closed and the it also has a feature to enable it to be secured with a lock and a key, if neccessary.

ChemPro100i

Content of the Standard Accessory Kits

The ChemPro100i together with its Accessory Kit can be purchased in three different versions, differing in both case size, and sets of accessories provided.

Standard ChemPro100i SAK

- Standard Accessories Kit
- Items for basic usage of the device

Large ChemPro100i SAK

- Same items included in the Standard SAK
- Larger case
- Allows the accommodation of more equipment

ChemPro100i CBRN SAK

- Most comprehensive set
- Complete ChemPro100i CBRN Concept
- Includes all the standard items
- Includes a ChemPro Reader Module for the ENVI Assay System Biodefence tests
- Includes ChemPro100i Radiation Detector Module
- Includes ChemPro100 Earphone
- Enables full usage of all of the device's advanced capabilities

Large ChemPro100i SAK

Standard ChemPro100i SAK

Battery

Mains Power Supply

Sensor Test Tube

Carrying Pouch

Filter Set

Reader Module

Battery Pack

Radiation Detector Module

Battery Charger

Earphone

ChemPro100i CBRN SAK

Accessories Kits— Content Detailed Description

Standard ChemPro100i SAK

1. ChemPro100i Chemical Detector
2. Transit Case
3. User Manual
4. Quick Reference Guide
5. Mains Power Supply
6. Field Monitoring Cap (incl. inlet tube set)
7. Li-ion Battery or Alkaline Battery Pack
8. Filter Set (incl. 3 filters)
9. Test Tube
10. Carrying Pouch

Large ChemPro100i SAK

1. ChemPro100i Chemical Detector
2. Transit Case
3. User Manual
4. Quick Reference Guide
5. Mains Power Supply
6. Field Monitoring Cap (incl. inlet tube set)
7. Li-ion Battery or Alkaline Battery Pack
8. Filter Set (incl. 3 filters)
9. Test Tube
10. Carrying Pouch
11. Empty space to accomodate items

ChemPro100i CBRN SAK

1. ChemPro100i Chemical Detector
2. Transit Case
3. Quick Reference Guide
4. User Manual
5. Mains power Supply
6. Field Monitoring Cap
7. Li-ion Battery
8. Alkaline Battery Pack
9. Filter Set (incl. 3 filters)
10. Test Tube
11. Carrying Pouch
12. Battery Charger
13. ChemPro100 Earphone
14. ChemPro100 Radiation Detector Module
15. ChemPro Reader Module
16. Environics USB Cable (optional)
17. Power/Data Adapter (optional)

Add–on Modules

The ChemPro100i capabilities can be easily expanded to a full CBRN detection system by utilizing unique cost effective external add-on modules. All add-on modules are plug 'n play connect to the ChemPro100i and the User Interface menu is automatically updated with new features. All add-on modules draw power from the ChemPro100i battery – no additional batteries or chargers are needed.

ChemPro100 Radiation Detector Module

- Detects Gamma and X-ray radiation from 50 keV to 1.3 MeV
- Dose rate measurement range from 0.04 μSv/h to 100 mSv/h
- Simultaneous C/B-detection with one system

ChemPro100 Earphone

- For covert operations where silence is vital
- When connected to ChemPro100i, all audible information is heard through the Earphone and not the ChemPro100i

ChemPro Bio Reader Module

- Biological detection by automated reading of ENVI Assay system rapid tests
- Available rapid tests include Ricin toxin, Botulinum toxin, SEB, POX, Anthrax, Yersinia pestis (plague) and Fransicella tularensis (tularemia)
- Read Test Result: < 10 sec/test, Run Test: 15 or 20 min/test
- Simultaneous C/B-detection with one system

Technical Data

Size	Approx. 230 x 101 x 57 mm (9"L x 4"W x 2"H)
Weight	Approx. 880 g (31 oz.) (w/Li-Ion battery)
Sensors	Orthogonal detection using: • Open-loop (aspirated) IMS cell • Multiple semiconductor sensors • Temperature, humidity, pressure and mass flow sensors
Detection Libraries	Chemical Warfare Agent/CWA (std) Optional libraries available
Battery	Easily interchangeable Li-Ion rechargeable and alkaline (6xAA) packs
Operating Hours	Approx. 8 hours continuous use on rechargeable Li-Ion Up to 12 hours continuous use on AA-batteries
Battery Recharge Time	Approx. 5 hours using the standard power supplies Unit will run and charge simultaneously
Power	110 – 250 VAC, 50 – 60 Hz ChemPro100 Mains Power Supply (standard) 9.5 – 32 VDC ChemPro100 Vehicle Power Supply (optional)
User interface	Graphical LCD display with white backlight and 3 operation keys
Sampling	1,3 LPM internal pump with continuous airflow
Calibration	No calibration is required, but a simple confidence check is recommended before use
Alarm Modes	Audible (adjustable up to 85dB) and visual alarms
Temperature (Operating)	-30 °C to 55 °C (-22 °F -131 °F) up to 80 °C (175 °F) temporarily
Temperature (Storage)	-40°C to 71 °C (-40 °F -160 °F)
Humidity	0-95% non-condensing

Dust & Water Resistance	IP67: Dust tight (resists blowing sand MILSTD-810F) and protected against water immersion when inlet is closed
Shock & Vibration Resistance	High impact composite case passes vibration & drop tests (MIL-STD-810E)
EMI/RFI Interference	Highly resistant to electromagnetic & radio interference and doesn't generate disturbing electromagnetic interference
Other Features	RS-232 / USB communication port User adjustable data logging. Optional User Interface Program needed for downloading the data to a computer.
Warranty	1-year standard warranty 2, 3, 4 and 5 year warranties available

Optional Accessories

Radiation Detector Module

Size	Approx. 103 x 74 x 43 mm (4"L x 3"W x 2"H)
Weight	Approx. 150g (5 oz.)
Detected Radiation	Gamma and X-ray radiation
Dose Rate	0.04 µSv/h to 100 mSv/h
Energy Range	From 50 keV to 1.3 MeV
Response Time	Fast mode 2,5 seconds Normal mode 3 min. at ambient radiation levels

ChemPro Reader Module

Size	Approx. 120 x 55 x 60 mm (5"L x 2"W x 2"H)
Weight	Approx. 245g (9 oz.)
Memory	100 test results
Reading modes	Read test results: 10 sec. response time Run test: 15-20 min. response time

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