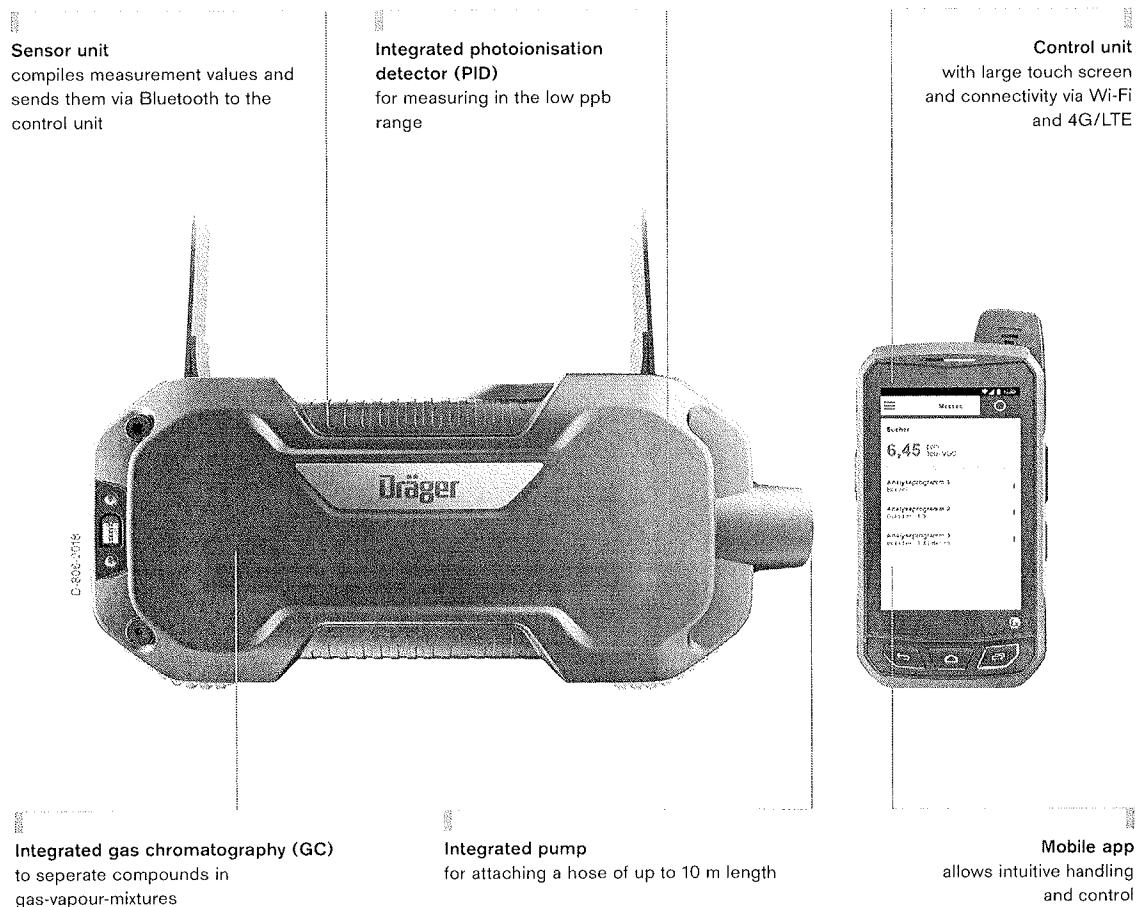


EXHIBIT A

Dräger X-pid® 9000/9500 Multi-Gas Detection

The selective PID gas measurement device is ideal for users who frequently test for hazardous toxic substances. Benzene, butadiene and other volatile organic compounds (VOCs) are carcinogenic even in the smallest concentrations. Selective measurement is necessary because other gases and vapours are often also present. The gas measurement device allows for short test times and laboratory-quality results.



Benefits

Two modes for an efficient measurement strategy

"Seeker" mode is a broadband measurement for pre-testing and localising measurement points. It allows continuous, direct-reading measurement of the total concentration of all VOCs present. "Seeker" mode is similar to using a single-PID gas measurement device.

"Analysis" mode allows selective measurement for monitoring specific toxic compounds. Pre-defined target compounds can be precisely measured in seconds. "Analysis" mode is similar to gas chromatography analyses conducted in the laboratory.

Up to 90% time savings

The Dräger X-pid 9000/9500 requires no preparation and is ready to use after a brief start-up phase. Selective measurement in "Analysis" mode takes only a few seconds. A benzene measurement starts with the push of a button and is completed in only 30 seconds. After another 60 seconds, the device is ready to measure for benzene again. Compared with other detection systems, the Dräger X-pid 9000/9500 saves considerable time and enables further monitoring to be undertaken. Simultaneous measurement of other compounds, like benzene and butadiene, further reduces testing times.

Cost savings

Because no consumables are used to take measurements, operating costs can be reduced. For users with high measurement needs, the Dräger X-pid 9000/9500 quickly pays for itself. For example, it requires no pre-tubes, also making it easier to use and preventing user errors. On the basis of 200 measurements per year, the Dräger X-pid 9000/9500 is generally more cost-effective than comparable measurement systems.

High selectivity for greater safety

The selective measurement mode "Analysis" relies on technology which separates individual compounds present in mixed gases. This makes it possible to conduct a compound-specific measurement for benzene, even if other VOCs like toluene and xylene are also present in high concentrations. Cross-sensitivities for benzene are reduced to a minimum. This reduces the number of false-positive measurement results and false alarms.

Reliable performance under tough conditions

The influence on measurement results by environmental factors like variable ambient temperature or high humidity are reduced to a minimum. The sensor unit maintains a constant temperature above the ambient air temperature and separates water vapour from the target compounds. This ensures reliable measurements under tough environmental conditions.

Benefits

Low detection limits

Concentrations of toxic compounds in the air at work sites must not exceed threshold limit values. Mandatory time-weighted averages in the low ppb to ppm range need to be performed for carcinogenic vapours like benzene. The Dräger X-pid 9000/9500 is optimised for measuring in this concentration range and detects benzene starting at 50 ppb.

Intuitive handling with mobile app

The sensor unit is controlled and the measurement data processing is conducted by a mobile app installed on an explosion-proof smartphone (delivery includes both). The large touch screen and familiar user interface elements are easy to use. This makes the sophisticated technology accessible to a broad group of users. No prior knowledge or extensive training is required.

Laboratory-quality measurement results

The gas measurement device is based on gas chromatography (GC) and photoionisation detection (PID) technologies. These technologies, used widely in laboratories, have a high acceptability due to their excellent analytical performance. The Dräger X-pid 9000/9500 brings these technologies directly to the hazardous area of any production site.

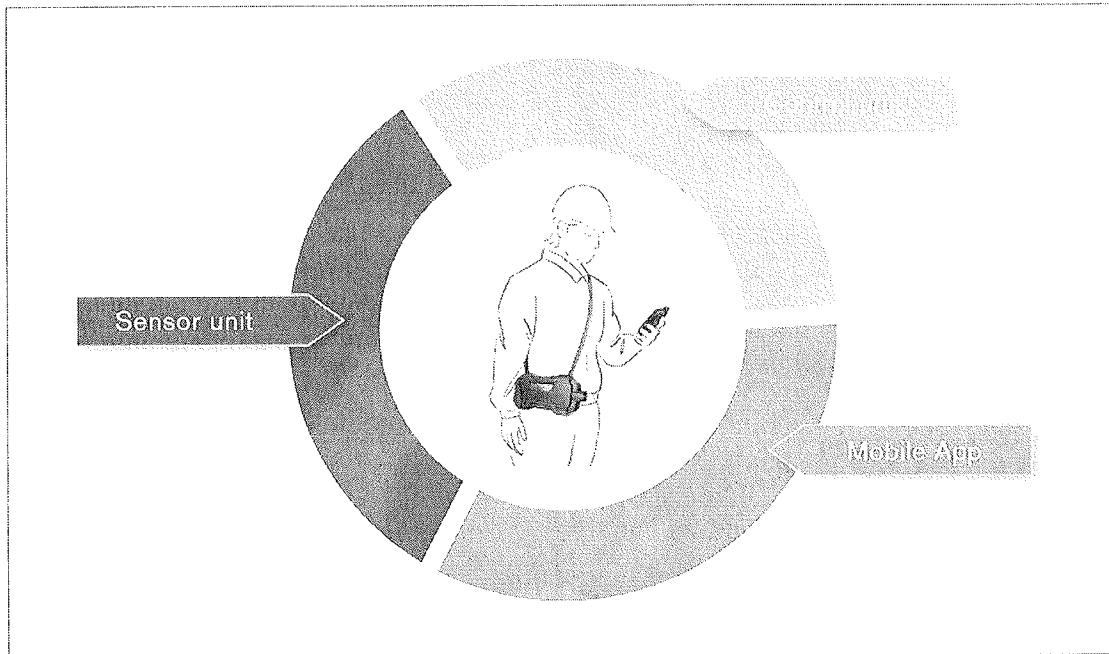
Simple functional test and calibration

The functional test with the test gas isobutylene and toluene is done in just two minutes and the Dräger X-pid 9000/9500 is ready to use. During the test the user is guided through the user interface step-by-step. The calibration is completed within about four minutes.

Two product models for different requirements

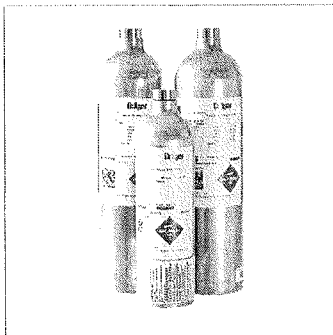
There are two models of the product: the 9000 and 9500. The Dräger X-pid 9000 covers the target compounds benzene and butadiene. The Dräger X-pid 9500 offers the possibility of combining more than 23 target compounds into individual analysis programmes and thus expanding its application range. This means, you can independently expand the target substance database for the Dräger X-pid 9500.

Innovative operating design



The Dräger X-pid® 9000/9500 consists of three elements: You control the sensor unit via the control unit and the pre-installed mobile app. The sensor unit can be worn around the neck, keeping one hand free.

Accessories

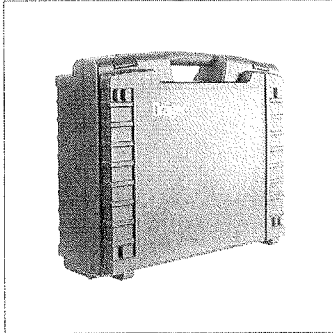


D-04847-2016

Calibration Gas and Accessories

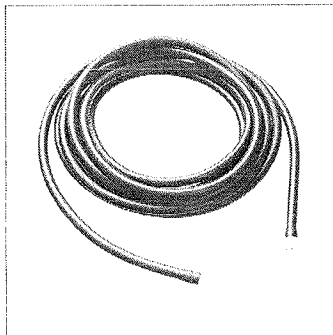
Calibration of equipment will ensure safe operation and functionality of equipment and will also meet with the applicable regulations and codes of practice. Various calibration gas options are easily available.

Accessories



Case with inlay for Dräger X-pid® 9000/9500

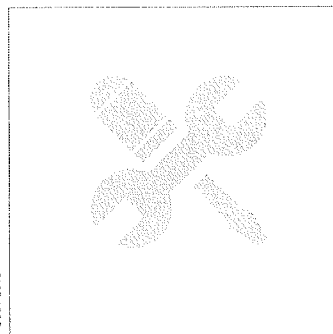
For convenient transport of sensor unit, control unit, calibration gas cylinder, chargers and sampling accessories.



Sampling probes and hoses

Selection of sampling accessories for various applications.

Services



Product Service

Our product service department supports you with a range of service packages – in our shops or on site in your plant. Care, servicing and maintenance are key factors when it comes to safety. Diligent maintenance and care is also absolutely necessary from an economics perspective. Preventive checks, service procedures and original replacement parts make your investment last longer.

Technical Data

The technical specifications refer exclusively to the Dräger X-pid® 9000/9500 sensor unit.

Dimensions (W x H x D)		Ca. 132 x 281 x 56 mm
Weight		Ca. 880 g (2 lb)
Ambient conditions in operation	Temperature	-10 to +35 °C
	Pressure	700 to 1,300 mbar
	Relative humidity	10% to 95% RH
Protection class		IP54
Start-up phase		Ca. 10 min
		can be increased at low ambient temperatures
Operating times		Typically 8 h, reduces with lower ambient temperatures
Approvals	ATEX	II 1G Ex ia IIC T4 Ga
	IECEX	Ex ia IIC T4 Ga
	cCSAus	Class I, Div. 1 Group A, B, C & D T4, Ex ia Class I, Zone 0, A/Ex ia IIC T4 Ga
	CE Marking	RED (Directive 2014/53/EU)
		ATEX (Directive 2014/34/EU)

List of Dräger X-pid® 9000/9500 target compounds for "Analysis" mode

The Dräger X-pid® 9000 is limited to the target compounds benzene and 1,3-butadiene. For the Dräger X-pid® 9500 the following target compounds are qualified.

Compounds	CAS number
Acrolein	107-02-8
Benzene	71-43-2
Butadiene, 1,3-	106-99-0
Butanone, 2-	78-93-3
Butyl acrylate	141-32-2
Chlorobenzene	108-90-7
Dichloroethene, 1,1-	75-35-4
Dichloroethene, cis-1,2-	156-59-2
Dichloroethene, trans-1,2-	156-60-5
Epichlorohydrin	106-89-8
Ethyl acetate	141-78-6
Ethyl acrylate	140-88-5
Ethylbenzene	100-41-4
Ethylene oxide	75-21-8
Hexane, n-	110-54-3
Isobutylene	115-11-7
Methyl acrylate	96-33-3
Methyl bromide	74-83-9
Phosphine	7803-51-2
Propylene oxide	75-56-9
Styrene	100-42-5
Tetrachloroethylene	127-18-4
Tetrahydrofuran	109-99-9
Toluene	108-88-3

Technical Data

Trichloroethylene	79-01-6
Vinyl chloride	75-01-4
Xylene, m-	108-38-3
Xylene, o-	95-47-6
Xylene, p-	106-42-3

Ordering Information

Description	Order number
Dräger X-pid® 9000 with sensor unit, control unit with pre-installed mobile app, power supplies, charging cables, test gas adapter and dust and water filter	68 51 847
Dräger X-pid® 9500 with sensor unit, control unit with pre-installed mobile app, power supplies, charging cables, test gas adapter and dust and water filter	68 51 848
Dräger X-pid® 9500 AUS/SGP with sensor unit, control unit with pre-installed mobile app, power supplies, charging cables, test gas adapter and dust and water filter	68 50 014
Dräger X-pid® 9500 CAN with sensor unit, control unit with pre-installed mobile app, power supplies, charging cables, test gas adapter and dust and water filter	68 50 015
Upgrade Dräger X-pid® mobile app from version 9000 to version 9500	68 51 849
Test and calibration gas 58 l	68 14 046
Isobutylene 10 ppm, Toluene 10 ppm	
Test gas 58 l	68 14 050
Benzene 5 ppm	
Control valve basic 0.5 LPM; fits to 58 l Test gas cylinder	68 10 397
Dräger X-pid® 9000/9500 test gas adapter	68 51 850
Case for Dräger X-pid® 9000/9500	68 51 851
Sampling hose Tygon with inlined PTFE hose Length (3 m); OD: 8 mm; ID: 4.8 mm; WD: 1.6 mm	83 26 980
Sampling hose Tygon with inlined PTFE hose Length (15 m); OD: 8 mm; ID: 4.8 mm; WD: 1.6 mm	45 94 679
Sampling hose FKM (solvent resistant) OD: 6.4 mm; ID: 3.2 mm; WD: 1,6 mm	83 25 837
Dust and water filter with hose adapter	83 19 364
Dust and water filter w/o hose adapter	83 19 359
Telescopic probe ES 150 Length up to 150 cm with FKM sampling hose extension	83 16 533
Bar probe 90 Length: 90 cm with FKM sampling hose extension	83 16 532
Float probe without hose	68 02 337

Notes

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servicioalcliente@draeger.com

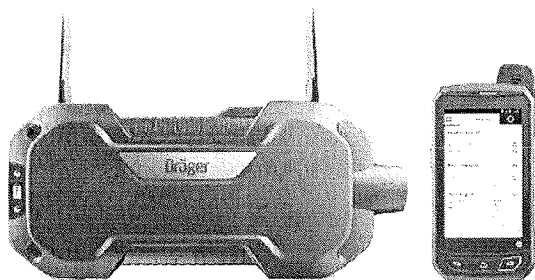
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Dräger X-pid® 8500



The selective PID gas measurement device is ideal for users who frequently test for hazardous toxic substances. Benzene, butadiene and other volatile organic compounds (VOCs) are carcinogenic even in the smallest concentrations. Selective measurement is necessary because other gases and vapors are often also present. The Dräger X-pid® 8500 allows for short test times and laboratory-quality results.

[Request information](#)

Benefits

Integrated techniques bring gas detection to a new level

The Dräger X-pid 8500 allows selective measurement for monitoring specific compounds. Pre-defined target compounds can be accurately measured in seconds. The Dräger X-pid 8500 analyzer is a streamlined version of gas chromatography analyses conducted in the laboratory. But it builds on that as the user now can easily take the analysis to the field where intrinsic safety certifications may be required.

Time savings of up to 90%

The Dräger X-pid 8500 requires no preparation and is ready to use after a brief start-up phase. Selective measurement takes only a few seconds. A benzene measurement starts with the push of a button and is completed in only 30 seconds. After another 60 seconds, the device is ready to measure for benzene again. Compared with other detection systems, the Dräger X-pid 8500 saves considerable time and enables further monitoring to be undertaken. Simultaneous measurement of other compounds further reduces testing times.

Cost savings



Because no consumables are used to take measurements, operating costs can be reduced. For users with high measurement needs, the Dräger X-pid 8500 quickly pays for itself. For example, it requires no pre-tubes, also making it easier to use and helps prevent user errors. On the basis of about 200 measurements per year, the Dräger X-pid 8500 is generally more cost-effective than comparable yet more cumbersome measurement systems.

High selectivity for greater safety

The X-pid 8500 relies on technology which separates individual compounds present in mixed gases. This makes it possible to conduct a compound-specific measurement for benzene, even if other VOCs like toluene and xylene are also present in high concentrations. Cross-sensitivities for benzene are reduced to a minimum. This reduces the number of false-positive measurement results and false alarms.

Reliable performance under tough conditions

The influence on measurement results by environmental factors like variable ambient temperature or high humidity are reduced to a minimum. The sensor unit maintains a constant temperature above the ambient air temperature and separates water vapor from the target compounds. This ensures reliable measurements under tough environmental conditions.

Low detection limits

Concentrations of toxic compounds in the air at work sites must not exceed threshold limit values. Mandatory time-weighted averages in the low ppb to ppm range need to be performed for carcinogenic vapors like benzene. The Dräger X-pid 8500 is optimized for measuring in this concentration range and detects benzene concentrations as low as 50 ppb.

Intuitive handling with mobile app

The sensor unit is controlled and the measurement data processing is conducted by a mobile app installed on an explosion-proof smartphone. The large touch screen and familiar user interface are easy to use. This makes the sophisticated technology accessible to a broad group of users. No prior knowledge or extensive training is required.

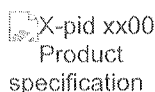
Laboratory-quality measurement results

The gas measurement device is based on gas chromatography (GC) and photoionization detection (PID) technologies. These technologies, used widely in laboratories, have a high acceptability due to their excellent analytical performance. The Dräger X-pid 8500 brings these technologies directly to the hazardous area of any production site.

Simple functional test and easy calibration

The functional test with isobutylene and toluene test gases is done in just two minutes and the Dräger X-pid 8500 is ready to use. During the functional test the user is guided through the user interface step-by-step. Only if the functional test fails, a calibration with the same test gas standard will be required, which will be completed in about four minutes.

Product Information



X-pid xx00 Product specification

Literature



Product Information: X-pid 8500

The selective PID gas measurement device is ideal for users who frequently test for hazardous toxic substances. Benzene, butadiene and other volatile organic compounds (VOCs) are carcinogenic even in the smallest concentrations. Selective measurement is necessary because other gases and vapors are often also present. The Dräger X-pid® 8500 allows for short test times and laboratory-quality results.

Certificates



ED X-pid approvals

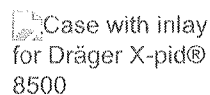
Videos



X-pid 8500 Introduction Video, en-us

The Dräger X-pid® 8500 was designed to detect limit values for carcinogenic substances in low concentrations. The device detects benzene, butadiene and other volatile organic compounds (VOCs) in ambient air. The gas chromatography / PID technology of this new type of gas detector enables a quick and selective measurement with maximum efficiency and laboratory-quality results.

Accessories



Case with inlay for Dräger X-pid® 8500


For convenient transport of sensor unit, control unit, calibration gas cylinder, chargers and sampling accessories.



Sampling probes and hoses


Selection of sampling accessories for various applications.

Instructions for Use

 IFU X-pid 8x00
Sensor Unit
9300019 ME

[IFU X-pid 8x00 Sensor Unit 9300019 ME](#) 

Technical Information / Documentation


 TD X-pid
8500/9000/9500
Technical manual
9033850 en


[TD X-pid 8500/9000/9500 Technical manual 9033850 en](#) 


Contact

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 [E-Mail Us](#)

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EXHIBIT B




Home > Safety

New Dräger X-am® 8000 - Multi-Gas Detector


Clearance measurement, leak search, area monitoring and PID detection was never this easy and convenient: The Dräger X-am® 8000 measures up to seven toxic as well as flammable gases, vapors and oxygen all at once — either in pump or diffusion mode. Innovative signaling design and handy assistant functions ensure complete safety throughout the process. If you need additional information and a deep dive of the low operating costs of the new Dräger X-am® 8000 multi-gas detector, please contact us.

Features and Benefits

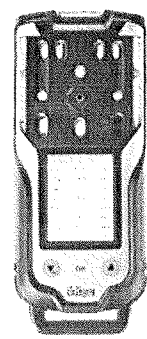
Glowing D-Light indicates: tested and ready for use




Assistants for clearance measurement, leak detection and benzene-specific testing with the PID (pre-tube) ensure easy handling



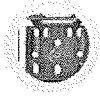
X-am 8000




Switch easily between pump and diffusion mode for flexible use




Five sensor slots used to measure up to 7 gases



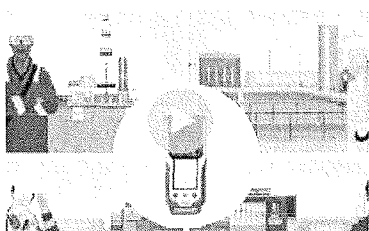
Inductive charging protects against wear and tear



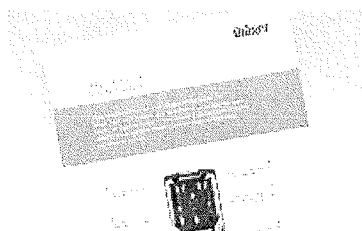
Features	Dräger X-am® 8000
Number of measuring gases	1 to 7
Internal pump, activated with pump adapter	Yes, optional
Inductive charging	Yes
Customer-specific settings when ordering	Yes
Shoulder strap included as standard	Yes
Catalytic bead sensor DrägerSensor CatEx 125 PR	Yes, con. 

Features	Dräger X-am® 8000
Available electrochemical (EC) DrägerSensors: XXS O ₂ , XXS CO LC, XXS H ₂ S LC, XXS NO ₂ , XXS SO ₂	Yes, configurable
Electrochemical (EC) DrägerSensors: other sensors/special gases	Yes, configurable
Infrared (IR) DrägerSensors Dual IR Ex/CO ₂ , IR-Ex, IR-CO ₂	Yes, configurable
Photoionization detector (PID) DrägerSensors: PID HC, PID LC ppb	Yes, configurable
Automatic measurement range switching for the catalytic bead sensor, measuring gas: methane	Yes, configurable
Smart Wizards Assistants: Confined Space, Leak Search, Benzene/Pre-Tube	Yes, only when a pump is ins
Event report (incl. shock detection)	Yes, configurable
Different Gases can be measured:	150 plus +

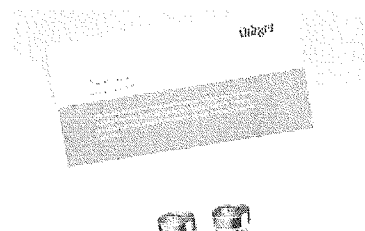
Data and Literature



Dräger X-am® 8000 Video



X-am® 8000 Data Sheet



PID sensors Data Sheet

Contact US

Complete the form below and a representative will contact you shortly.

Reason for Inquiry:*
Please Select

First name:*

Last name:*

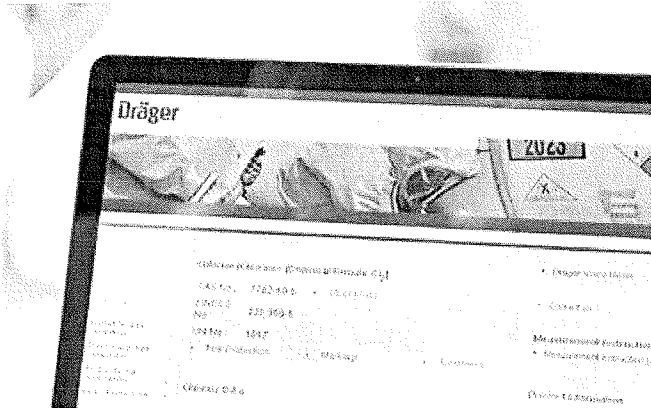
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 Industry*
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- The protection of your data is important to us. You hereby confirm that we may process your data in order to process your request in accordance with the Dräger Privacy Policy.*

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VOICE

Looking for which portable multi-gas detection device detects a specific gas? Review our gas detection hazardous substances database "VOICE", which offers information on more than 1,700 hazardous ...

[Access VOICE now!](#)

How to Videos

Usages and Functions Overview

How to Operate

Detection Alarms

Pump mode

Usage with Assistant Wizards

Configuration of Settings

Portable Gas Detection Bump Test and Calibration System

Automatic bump tests, calibration, reduced test gas consumption, short testing times, and comprehensive documentation come standard in this new device from Dräger, the experts in gas detection.

[Learn more](#)

Gas Detection Portfolio



**Portable Gas
Detection Portfolio**





**Fixed Gas Detection
Portfolio**

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X-AM

Word Mark	X-AM
Goods and Services	IC 009. US 021 023 026 036 038. G & S: Measuring, counting, aligning and calibrating instruments, namely, gas testing instruments. FIRST USE: 20041231. FIRST USE IN COMMERCE: 20041231
Standard Characters Claimed	
Mark Drawing Code	(4) STANDARD CHARACTER MARK
Serial Number	87386982
Filing Date	March 27, 2017
Current Basis	1A;44E
Original Filing Basis	1B;44D
Published for Opposition	January 23, 2018
Registration Number	5504207
Registration Date	June 26, 2018
Owner	(REGISTRANT) Draegerwerk AG & Co. KGaA CORPORATION FED REP GERMANY Moislinger Allee 53-55 23558 Luebeck FED REP GERMANY
Attorney of Record	Amy Wright
Priority Date	November 24, 2016
Type of Mark	TRADEMARK
Register	PRINCIPAL
Live/Dead	LIVE

Dräger X-am[®] 5000

(MQG 0010) / Software 7.n (≥ 7.0)

de	Gebrauchsanweisung ☰ 3	fi	Käyttöohjeet ☰ 99	cs	Návod k použití ☰ 195
en	Instructions for Use ☰ 15	no	Bruksanvisning ☰ 111	bg	Инструкция за употреба ☰ 207
fr	Notice d'utilisation ☰ 27	sv	Bruksanvisning ☰ 123	ro	Instrucțiuni de utilizare ☰ 220
es	Instrucciones de uso ☰ 39	pl	Instrukcja obsługi ☰ 135	hu	Használati útmutató ☰ 232
pt	Instruções de uso ☰ 51	ru	Руководство по эксплуатации ☰ 147	el	Οδηγίων χρήσης ☰ 244
it	Istruzioni per l'uso ☰ 63	hr	Upute za uporabu ☰ 159	tr	Kullanım talimatları ☰ 256
nl	Gebruiksaanwijzing ☰ 75	sl	Navodilo za uporabo ☰ 171	zh	使用说明 ☰ 268
da	Brugsanvisning ☰ 87	sk	Návod na použitie ☰ 183	ko	사용 설명서 ☰ 280