Dräger

ST-1094-2008

Dräger Gas Detection

Dräger: Technology for Life®

Inside front cover BLANK

Dräger Gas Detection

TABLE OF CONTENTS

The Dräger X-am 1700/2000 are a new generation of personal gas detectors.

DRÄGER X-AM 1700/2000

The Dräger X-am 1700/2000 are a new generation of personal gas detectors which have been specially designed for personal monitoring. These gas detectors reliably measure combustible gases and vapors, as well as O_2, CO and H_2S. Their ergonomic design, mobile phone dimensions and light weight make them the perfect companion in your daily work. Reliable measurement technology, long sensor life and easy operation guarantee maximum safety at an extremely low cost of ownership.

ST-7452-2005

Dräger X-am 2000: The ideal 4-gas detector for industrial shutdowns.

The instrument's light weight and mobile phone size — unique in today's market — guarantees users a high level of comfort and convenience. By design, the instruments are easy to use, thanks to the practical two button control panel and easy to understand display icons.

The Dräger X-am 2000 is available in 1 to 4 gas configurations with a 1000 hour data logger. This monitor is not life limited and has user replaceable sensors, unmatched for a monitor of this type. The optional T4 NiMH battery pack will be covered by a two-year warranty.

The Dräger X-am 1700 is a dedicated 4 gas detector but with a limited 2 year life. An event logger with a 65,000 event capacity is standard. This monitor is suited for personal monitoring applications where minimal maintenance resources are available.

The new bump-test station will allow for complete function tests in about 20 seconds. Automatic recognition of the monitor starts the process as soon as the monitor is placed in the cradle. The monitor can also be configured to automatically perform a complete calibration when placed in the test station. Records of the tests are stored in the instrument's data or event logger.

The Dräger E-Cal automatic test, calibration, and documentation system is also an ideal complement to the instrument, saving time and minimizing the workload.

For improved safety when facing unknown gas hazards the catalytic EX sensor, calibrated to methane, responds quickly to explosive gases. It also offers a high level of sensitivity to combustible organic vapors, thus providing dependable warnings in the event of explosive hazards.

Dräger-Sensors® stand for innovative technology at the highest level. These Dräger X-am monitors feature the latest series of powerful electrochemical Dräger-Sensors® from the miniaturize XXS generation.

The Dräger X-am 1700/2000 monitors are tough: water and dust resistant to IP 67, the instruments remain fully functional and ready for use even after being dropped in water. The integrated rubber protection and shock-proof sensors ensure additional resistance to impact and vibration. These Dräger monitors also have certified protection against electromagnetic and RFI interference.


ST-7317-2005


ST-7202-2005

TECHNICAL DATA

Gases Detected	Combustible Gases, O_2, CO and H_2S.
Size	1.85 x 5.08 x 1.22 inch (7 x 129 x 31 mm)
Weight	7.8 oz (220 g)
Approvals	ATEX: II 2G EEx ia d IIC T4/T3 - I M2 EEx ia d I
	UL: Cl. I Div. 1 Group A,B,C,D - Cl. II E,F,G T.-Code T4/T3
	CSA: Cl. I Div. 1 Group A,B,C,D T.-Code T4/T3
	IECEx: Ex ia d I/IIC T4/T3
	CE-mark: Electromagnetic compatibility (directive 89/336/EEC)
	MSHA: X-am 2000 permissible gas detector

DRÄGER XAM 2000/1700 ORDER INFORMATION


ST-1774-2005

Dräger X-am 1700: 4-gas detector for two years of personal air monitoring.


ST-7461-2005

Dräger X-am 2000: Robust 1- to 4-gas detector for personal monitoring.

Dräger X-am 2000 Monitor - unlimited life with data logger - 3 Year Warranty	
Dräger X-am 2000 EX, O_2, CO, H_2S w/ alkaline battery pack	83 18 910
Dräger X-am 2000 EX, O_2, H_2S w/ alkaline battery pack	83 18 890
Dräger X-am 2000 EX, O_2, CO w/ alkaline battery pack	83 18 880
Dräger X-am 2000 EX, O_2, H_2S	83 18 698
Dräger X-am 2000 EX, O_2, CO	83 18 697
Dräger X-am 2000 EX, CO, H_2S	83 18 696
Dräger X-am 2000 EX, CO w/ alkaline battery pack	83 18 790
Dräger X-am 2000 EX, H_2S w/ alkaline battery pack	83 18 780
Dräger X-am 2000 EX, O_2 w/ alkaline battery pack	83 18 770
Dräger X-am 2000 EX w/ alkaline battery pack	83 18 750

X-am 1700 Monitor - 2 year life with event logger	
X-am 1700 EX, O_2, CO, H_2S w/ alkaline battery pack	83 18 730

Accessories	
NiMH battery pack T4	83 18 704
NiMH battery pack T4 with charger module and power pack	83 18 785
Alkaline battery pack T3/T4 (without alkaline batteries)	83 18 703
Alkaline battery for alkaline power supply 8318703 (2 required)	45 43 708
Dräger Bump Test Station for X-am 1700/2000	83 19 131
Mixed gas cylinder, 2.5 vol.-% CH_4, 100 ppm CO; 25 ppm H2S, 17 vol.-% O_2	45 94 655
Deluxe Instrument Case	83 18 755

Dräger X-am 5000

DRÄGER X-AM 5000

The smallest gas detection instrument for up to 5 gases. The Dräger X-am 5000 belongs to a new generation of gas detectors, developed especially for personal monitoring applications. This 1 to 5-gas detector reliably measures combustible gases and vapors as well as oxygen and harmful concentrations of CO, H_2S, CO_2, Cl_2, HCN, NH_3, NO_2, PH_3, SO_2 and organic vapors.

A variety of special calibrations for the catalytic Ex sensor allow the Dräger X-am 5000 even more sensitivity when detecting specific combustible gases and vapors. Equipped with durable DrägerSensors® XXS sensor technology, the Dräger X-am 5000 offers maximum security and extremely low operational costs. The longevity of the catalytic sensor and five year expected lifetime of the oxygen sensor are unique in the market.

Dräger X-am 5000's ergonomic mobile phone design and light weight make it comfortable for users to carry. It is water and dust-resistant according to IP 67. The integrated rubber protection and shock-proof sensors ensure additional resistance to impact and vibration. Moreover, the Dräger X-am 5000 is insensitive to electromagnetic interference.

The two button control panel and easy to follow menu system allow for intuitive use. It is easy to exchange, upgrade or calibrate the sensors to other gases. The ability to customize the Dräger X-am 5000's sensors makes more applications possible, including rental equipment.

The innovative catalytic Ex sensor, with full range functionality, measures 0-100 % LEL and 0-100 Vol.- % methane concentration. The calibration concept simplifies a calibration to vapors. When set for maximum sensitivity, the detector is even more reliable to warn about unknown hazards.

TECHNICAL DATA

Dimensions (W x H x D)	47 x 129 x 31 mm, (1.85" x 5.08" x 1.22")	
Weight	Approximately 220 g, (7.8 oz.)	
Ambient conditions	Temperature	-20 to +50 °C, -4 to +122 °F
	Pressure	700 to 1300 mbar, 20.7 to 38.4 inch Hg
	Humidity	10 to 95% RH
Alarms	Visual	180°
	Audible	Multi-tone >90 dB at 30 cm, 1 ft.
	Vibration	
Battery options	Alkaline, rechargeable NiMH cells for alkaline pack, T4 battery pack	
Operating times	> 12 hours, with pulsed mode > 40 hours	
Charging times	< 4 hours	
Data logger	Can be read out via infrared approx. 1000 hours with 5 gases and a recording interval of 1 reading per minute.	
Pump operation	Maximum hose length 20 M, 65.6 ft.; 30 hours with 3 "AA" alkaline	
Approvals	ATEX	I M1 Ex ia I II 1G Ex ia IIC T3 I M2 Ex d ia I II 2G Ex d ia IIC T4/T3
	UL	Class I & II, Div. 1 Group A, B, C, D, E, F, G T.-Code T4/T3
	CSA	Class I, Div. I Group A, B, C, D, T-Code T4/T3
	MSHA	Pending
	IECEx	Ex ia I Ex ia IIC T3 Ex d ia I Ex d ia IIC T4/T3
	CE mark	Electromagnetic compatibility (directive 89/336/EWG)
	RoHS	Directive 2002/95/EC

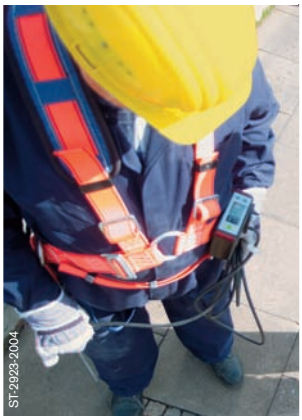
ORDER INFORMATION

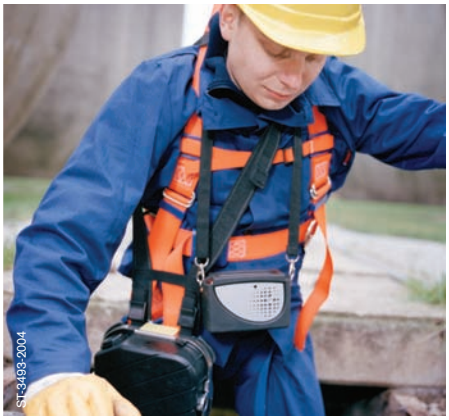
CONTACT CUSTOMER SERVICE FOR KIT CONFIGURATIONS (1-800-858-1737)

Description	Order No.
Dräger X-am 5000, basic instrument without power supply unit, with data logger, with manufacturer's and calibration certificates. Order battery and sensors separately. Contact Dräger for additional sensors for the X-am 5000.	83 20 000
Alkaline power supply with AA batteries (2 required)	83 18 703
Rechargeable NiMH power supply unit T4	45 43 708

Additional power supply units	
Battery charging set, consisting of: NiMH power supply unit T4 with charger module and connection cable (for worldwide use) for one charger module	83 18 785
Alkaline batteries (2 pc.) for alkaline power supply	83 18 708
NiMH batteries T3 for power supply unit 83 18 703, external charging (2 pc. necessary)	83 19 426

Innovative Measuring
for combustible gases





Dräger X-am 3000

The Dräger X-am 3000 Monitor is a small and innovative measuring device for Combustible Gases, O_2, CO and H_2S in industrial gas detection applications. Go about your job confidently knowing that the Dräger X-am 3000 will measure and alert you to dangerous gases and vapors.

The most convenient feature of the Dräger X-am 3000 is the optional built-in remote sample pump. Everything is in one package for your confined space applications. Simply attach the pump adapter and hose and you're ready to measure gases in a confined space. Additionally, the small profile of the Dräger X-am 3000 makes it easy to take into a confined space or wear on one's body all day.

The Dräger X-am 3000 is very easy to use. The large display continuously displays the level of gas measured. The three large buttons on the front of the unit turn it ON and OFF, acknowledge alarms, and access frequently required features such as fresh-air calibration. Additional functions and features are accessed through plain text password-protected menus.

Distinctive alarms means that you will always know when a hazardous level of gas is present. The two high intensity visual red alarm lights, a loud audible alarm and a standard vibrating alarm demand attention, even in high noise areas. Different alarm cadences distinguish between pre and main alarms. The large easy-to-read display quickly indicates the gases measured, their concentrations, and other relevant data to the user. An optional internal datalogger records all of the gas measurements and events for documentation purposes.

The Dräger X-am 3000 may be small in size, but it is designed for use in the most demanding industrial environments. The rugged polymer housing is resistant to many corrosive chemicals as well as the bumps and drops that one may encounter in confined space entry or an industrial environment. All joints and openings are sealed or have gaskets to prevent the ingress of dirt or water. If required, an optional rubber boot provides additional protection to the Dräger X-am 3000.

With the convenient internal sampling pump, the Dräger X-am 3000 is very well suited for confined space entry applications such as those found in the water/waste water industry, petrochemical plants and other applications.

ST-127-2004

TECHNICAL DATA

Gases Detected	Combustible Gases, O_2, CO and H_2S.
Size	3.5 x 5.5 x 2.1 inch (89 x 140 x 55 mm)
Weight	19.4 oz. (550 g)
Approvals	UL: Class I, Division 1, Groups A-D, T4 CSA: Class I, Division 1, Groups A-D, T4 MSHA: permissible gas detector ATEX: EEx iad IIC T4 (-25 to + 55°C)

DRÄGER X-AM 3000 ORDER INFORMATION

The following part numbers include: Instrument w/pump, noted sensors, NiMH battery, battery charger, service tool, calibration and pump adapters, 10ft. tubing, water-stop filter, calibration gas cylinder, regulator, rubber boot, and carry case.

Dräger X-am 3000 LEL, O_2, CO, H_2S Confined Space Kit	45 43 721
Dräger X-am 3000 LEL, O_2, H_2S Confined Space Kit	45 43 720
Dräger X-am 3000 LEL, O_2, CO Confined Space Kit	45 43 719
Dräger X-am 3000 LEL, O_2 Confined Space Kit	45 43 740

The following part numbers include: Instrument, noted sensors, NiMH battery, battery charger, service tool, calibration adapter and instruction manuals. Pump units include pump adapter, 10ft. tubing and water-stop filter.

Dräger X-am 3000 LEL, O_2, CO & H_2S with internal pump	45 43 718
Dräger X-am 3000 LEL, O_2 & H_2S with internal pump	45 43 717
Dräger X-am 3000 LEL, O_2 & CO with internal pump	45 43 716
Dräger X-am 3000 LEL, O_2 with internal pump	45 43 739
Dräger X-am 3000 LEL, O_2, CO, & H_2S	45 43 715
Dräger X-am 3000 LEL, O_2 & H_2S	45 43 714
Dräger X-am 3000 LEL, O_2 & CO	45 43 713
Dräger X-am 3000 LEL, O_2	45 43 738

Accessories

Alkaline Battery Pack	45 43 583
Internal Datalogger	45 43 625
MSHA Approved Update	45 43 745
Protective Rubber Boot	45 43 619
Leather Carrying Case	45 43 618
Nylon Carrying Case	45 43 617

X-am 3000 is available for rental.


ST-2642-2003


ST-2660-2003


ST-2770-2003

Multiple gas measurement capabilities in one compact package.

DRÄGER X-AM 7000

The Dräger X-am 7000 Monitor combines electrochemical (EC), catalytic oxidation (CAT), photo ionization (PID) and infrared (IR) sensing technology for a total of up to 5 sensors. You can choose from over 25 different electrochemical Dräger-Sensors®, 2 different catalytic sensors, a PID Sensor and 3 different IR sensors.

The Dräger X-am 7000 is the smallest gas monitor in the world that can utilize all of these technologies in one compact package. The multiple gas measurement and internal pump capabilities make this unit an ideal choice for confined space entry applications like those found in refineries, chemical plants, utility passage ways, and paper mills.

The Dräger X-am 7000 Monitor has many "strengths". The strong internal pump can draw gases from well over 150 ft. (45 m). This is useful for deep ship holds, large storage silos or reaction towers in refineries. The integrated rubber boot and strong advanced polymer enclosure of the Dräger X-am 7000 withstands the toughest industrial environments, providing good resistance against dust, RFI interference, rain, and extreme temperatures. Loud audible and bright visual alarms warn the user that hazardous levels of gas are present. The standard NiMH battery pack will last well in excess of an 8-hour shift and the optional high capacity battery will allow operation times of greater than 20 hours.

Another strength of the Dräger X-am 7000 is the optional IR Sensor. The infrared combustible gas (IR-Ex) sensor measures a wide range of hydrocarbons. However, unlike catalytic sensors, the IR sensor will measure hydrocarbons in inert backgrounds (without oxygen). The IR-Ex is very good at measuring heavier hydrocarbons (like turpentine, kerosene and jet fuels) from ppm to %LEL levels. Gases that poison catalytic sensors such as H_2S, halogenated hydrocarbons, and silicones have no effect on the IR-Ex Sensor making it ideal for industries that make or use these types of compounds. Gases like methane and propane can be measured in ppm, %LEL, and %Vol. measurement ranges (with the same instrument), which make the X-am 7000 well suited for the natural gas industry.

The IR-CO_2 sensor makes the X-am 7000 the ideal choice for breweries, carbonated beverage bottlers, and bulk gas handlers who need to measure Carbon Dioxide. The IR-CO_2 sensor detects from low ppm levels to %Vol. concentrations of CO_2.

The smart PID sensor measuring a wide range of VOC's up to 5,000 ppm, depending on the gas selected. The Dräger X-am 7000 has 20 compounds pre-programmed in its library and 3 user programmable entries available. This sensor is well suited for confined space entry, area monitoring and HazMat applications.

ST-9382-2007

TECHNICAL DATA

Smart PID Sensors	VOC's
Smart EC Sensors	O_2, H_2S, CO, CL_2, NH_3, NO_2, SO_2, HCN, CO_2, NO, H_2, H_2S-HC, CO-HC, PH_3-HC, H_2-HC, ClO_2, Organic Vapors, Hydrides, Amines, Mercaptans and Combustible Gases (Ex)
Smart IR Sensors	Combustible Gases (Ex) or Carbon Dioxide (CO_2)
Smart CAT Sensors	Standard 100 %LEL Combustible Gas or 100% Vol. CH_4
Size	5.9 x 5.5 x 2.9 inch (150 x 140 x 75 mm)
Weight	2.4 lbs. (1.09 kg) with standard battery
Approvals	UL: Class I, Division 1, Groups A-D, T4 CSA: Class I, Division 1, Groups A-D, T4 ATEX: II2G EEx ia d IIC T4 M2 ia d I

DRÄGER X-AM 7000 ORDER INFORMATION

The following Kits include the Dräger X-am 7000 Monitor with Internal Pump, integrated rubber boot, carrying strap, standard NiMH battery pack, noted sensors (with 5 year warranty), single-unit battery charger system, calibration adapter, pump adapter with water stop filter, and instruction manuals.

Dräger X-am 7000 Ex / O_2	45 52 916
Dräger X-am 7000 Ex / O_2 / CO	45 52 917
Dräger X-am 7000 Ex / O_2 / H_2S	45 52 198
Dräger X-am 7000 Ex / O_2 / CO / H_2S	45 52 199
Dräger X-am 7000 IR-CO_2	45 52 204
Dräger X-am 7000 IR-CO_2 / O_2	45 52 205
Dräger X-am 7000 IR-Ex / O_2	45 52 200
Dräger X-am 7000 IR-Ex / O_2 / CO / H_2S	45 52 203
Dräger X-am 7000 with datalogger, PID only	45 52 300
Dräger X-am 7000 with datalogger, PID EX	45 52 301
Dräger X-am 7000 with datalogger, PID, EX, O_2	45 52 302
Dräger X-am 7000 with datalogger, PID, EX, O_2, CO	45 52 303
Dräger X-am 7000 with datalogger, PID, EX, O_2, CO, H_2S	45 52 304

For other sensor selections, see pages 19-20.

Accessories

Leather Carrying Case	83 17 683
Nylon Transport Case	83 17 684

Dräger X-am 7000 is available for rental.

Dräger MiniWarn Monitor multiple gas-measuring device.

DRÄGER MINIWARN MONITOR

The Dräger MiniWarn Monitor is a multiple gas-measuring device that is well suited to a wide variety of industrial gas detection applications. The flexibility of the Dräger MiniWarn product line allows every user to optimally configure an instrument to meet their needs. Choose from over 25 different plug-and-play Dräger-Sensors®, 3 interchangeable battery packs, and a wide variety of options and accessories to meet your exact gas monitoring requirements.

The most important feature of the Dräger MiniWarn is ease-of-operation. The three buttons on the front of the unit turn it ON and OFF, acknowledge alarms, and access frequently required features such as battery levels and fresh-air calibration. All other functions and features are accessed through plain text password-protected menus.

The small profile of the Dräger MiniWarn (even when equipped with its external 30 ft draw sample pump) makes it easy to take into a confined space or wear on one's body all day. The rugged polymer housing is lighter than metal and resists dirt and liquids as well as many corrosive chemicals that one may encounter in an industrial environment. All joints and openings are sealed or have gaskets to prevent the ingress of dirt or water.

The 360° visual red alarm light and loud audible alarm provide an attention getting warning when gas concentrations have reached hazardous levels. The large easy-to-read display quickly indicates the gases, their concentrations, and other relevant data to the user.

Confined space entry is the most popular application for the Dräger MiniWarn monitor such as those occurring in the utilities, petrochemical plants, and underground mines. Such applications are especially convenient with Dräger MiniWarn's easily attached and compact motorized remote sample draw pump.

ST-2428-2003

TECHNICAL DATA

Sensors Accepted	H_2S, CO, O_2, CL_2, NO_2, SO_2, NH_3, HCN, CO_2, NO, H_2, H_2S-HC, CO-HC, PH_3-HC, H_2-HC, ClO_2, Organic Vapors, Hydrides, Amines, Mercaptans and Combustible Gas (Ex)
Size	3.1 x 5.6 x 2.3 inch (78 x 143 x 58 mm)
Weight	15.8 oz. (450 g) with NiCd battery
Approvals	UL: Class I & II, Division 1, Groups A-G, T4 CSA: Class I & II, Division 1, Groups A-G, T4 MSHA: Permissible Gas Detector ATEX: EEx ia d IIC T4

DRÄGER MINIWARN ORDER INFORMATION

The following Dräger MiniWarn Kits include the Dräger MiniWarn Monitor with NiCd battery pack, noted sensors, single-unit battery charger system, calibration adapter, and instruction manuals.

Features XS Sensors with 3 year Warranty	
Dräger MiniWarn Ex/O_2	45 52 693
Dräger MiniWarn Ex/O_2/H_2S	45 52 692
Dräger MiniWarn Ex/O_2/CO	45 52 691
Dräger MiniWarn Ex/O_2/CO/H_2S	45 52 690

Features XS-R Sensors with 5 year Warranty	
Dräger MiniWarn Ex/O_2	45 52 752
Dräger MiniWarn Ex/O_2 /H_2S	45 52 754
Dräger MiniWarn Ex/O_2/CO	45 52 753
Dräger MiniWarn Ex/O_2/CO/H_2S	45 52 755

For other sensor selections, see pages 19-20.

Accessories	
Remote Sample Pump	64 08 112
Leather Carrying Case	64 08 134
Nylon Carrying Case	45 52 746
Pelican® Transport Case	45 23 069
Alkaline Battery Pack	64 08 116
Nylon Transport Case	45 94 631

ST-558-2007

Nylon Transport Case

ST-9366-2007

Nylon Carrying Case

ST-389-2007

Remote Sampling Pump

Shown Actual Size

ST-5021-2004

The innovative single gas instrument with reliable monitoring of ambient air.

DRÄGER PAC 3000/5000/7000 MONITOR

The Dräger Pac 3000 and 5000 Monitors are 2-Year maintenance-free gas detection and measuring devices for Hydrogen Sulfide (H_2S), Carbon Monoxide (CO) or Oxygen (O_2). The small size makes it very comfortable and easy to wear on a belt, lapel, or breast pocket all day. The Dräger Pac 5000 monitor is equipped with a continuous concentration display. The Dräger Pac 3000 shows only the gas formula until the measured value exceeds the alarm points. The Dräger Pac 7000 offers more features and capabilities.

The Dräger Pac 3000 and 5000 Monitors are 2-Year maintenance-free gas detection and measuring devices for Hydrogen Sulfide (H_2S), Carbon Monoxide (CO) or Oxygen (O_2). The small size makes it very comfortable and easy to wear on a belt, lapel, or breast pocket all day. The Dräger Pac 5000 monitor is equipped with a continuous concentration display. The Dräger Pac 3000 shows only the gas formula until the measured value exceeds the alarm points. The Dräger Pac 7000 offers more features and capabilities.

A unique feature of the Dräger Pac 3000 and 5000 is the Bump Test Mode. When activated, it requires the user to bump test the monitor by exposing it to gas. In the Dräger Pac 5000, the test is internally recorded for documentation purposes. The Bump Test Mode can be activated from the instrument's key pad or programmed with PC based software to occur at regular user-defined intervals.

The robust, rubber-coated, weather-proof, polymer housing withstands the use and abuse expected in demanding industrial applications. The instrument operates with only two buttons making it extremely simple and easy to use. A loud audible alarm, two bright visual alarms and a strong vibrating alarm alert the user to hazardous concentrations of gas. Two levels of alarm indicate increasing concentrations. The Dräger Pac 5000 is equipped with an event logger that will store up to 60 alarm activations and other events which can be retrieved with Dräger software.

Applications for the Dräger Pac 3000 and 5000 Monitors include the protection of workers and contractors at oil and gas extraction sites, petrochemical plants, steel mills, and mines. The maintenance free design and simple operation is also popular for fire departments and utilities doing CO home inspections.

The Dräger Pac 7000 offers the same great monitoring capability as the other Pac units with the added features of on-board calibration and real time datalogging. The Dräger Pac 7000 sensors have a 2-year warranty, and are expected to operate more than 3 years. The sensor is field replaceable by the user. The Dräger Pac 7000 will show TWA, STEL and MAX values at the touch of a button and measure CO to 2000 ppm. The unit will operate 5-10 months 24/7 using a replaceable Lithium alkaline battery. All of this in the same compact, light weight package as the rest of the Dräger Pac family.

TECHNICAL DATA

Gases Measured	H_2S, CO, O_2 & other toxics
Size	2.5 x 3.3 x 1.0 inch (64 x 84 x 25 mm)
Weight	3.8 oz. (106 g)
Operational Life	2 years
Approvals	UL / ULc: Class I, Division 1, Groups A-G T4 MSHA: Permissible gas detector ATEX: I/II 1/2G EEx ia I/IIC, T4

DRÄGER X-AM PAC 3000/5000/7000 MONITOR ORDER INFORMATION

Dräger Pac 3000 CO	0-500 ppm	45 43 840
Dräger Pac 3000 H_2S	0-100 ppm	45 43 841
Dräger Pac 3000 O_2	0-25 %Vol.	45 43 842
Dräger Pac 5000 CO	0-500 ppm	45 43 846
Dräger Pac 5000 H_2S	0-100 ppm	45 43 847
Dräger Pac 5000 O_2	0-25 %Vol.	45 43 848
Dräger Pac 7000 CO	0-1999 ppm	83 18 970
Dräger Pac 7000 H_2S	0-100 ppm	83 18 971
Dräger Pac 7000 O_2	0-25 %Vol.	83 18 972
Dräger Pac 7000 CO_2	0-5 %Vol.	83 18 975
Dräger Pac 7000 CL_2	0-20 ppm	83 18 978
Dräger Pac 7000 HCN	0-50 ppm	83 18 973
Dräger Pac 7000 NH_3	0-300 ppm	83 18 979
Dräger Pac 7000 NO_2	0-50 ppm	83 18 977
Dräger Pac 7000 PH_3	0-20 ppm	83 18 974
Dräger Pac 7000 SO_2	0-100 ppm	83 18 976
Dräger Pac 7000 H_2S-LC	0-100.0 ppm	83 21 004
Dräger Pac 7000 SO_2	0-200 ppm	83 21 006
Dräger Pac 7000 SO_2	0-200 ppm	83 21 007

Accessories

“Smart” Bump Test Station	83 19 559
Printer Set for 8319559 Bump Test Station	83 21 010
Bump Test Station	83 17 410
Leather Carrying Case	45 43 836
Interface Cradle with cable & software	83 18 587

Dräger Pac 3000 and Dräger Pac 5000 are available for rental.

Accurate, quick, reliable detection.

DRÄGER PAC 3500/5500 MONITORS (Available Fall 2009)

Accurate and easy to use, the Dräger Pac® 3500 and the Dräger Pac® 5500 are ideal for industrial personal monitoring applications. Providing quick detection of carbon monoxide, hydrogen sulfide or oxygen, these robust single gas detectors are made specifically to fit industrial safety requirements. The small, ergonomic Dräger Pac® 3500 has a lifetime of 2 years, while the Dräger Pac® 5500 has no lifetime limitation.

D-537-2009

D-10149-2009

SMALL AND ROBUST HOUSING

Small in size and light in weight, the Dräger Pac® 3500 and the Dräger Pac® 5500 were developed with the needs of industrial users and applications in mind. The instruments provide easy, single-handed operation, even when wearing gloves, and is designed to withstand the toughest environments. The impact-resistant rubber housing is impervious to corrosive chemicals and meets the requirements of IP65 to ensure operation even when sprayed with water.

SAFETY FIRST

To ensure continuous operation even when the unit is in a shirt pocket, the instrument's sensor has been carefully positioned to allow gas intake from both the top and the front of the device.

MINIATURE SENSOR TECHNOLOGY

The latest miniature Dräger XXS sensor technology has been incorporated into both the Dräger Pac® 3500 and the Dräger Pac® 5500. Dräger XXS sensors have been specifically developed for use in personal monitoring and handheld applications. These innovative sensors, which offer a long, expected life span from 5 to 8 years, combine high performance with a fast reaction time of just ten seconds.

HIGHLY VISIBLE DISPLAY

The large display, easily seen at a glance, shows both the gas concentration and the measurement unit. Alternatively, the instrument can be configured to show only the gas detected. The concentration is displayed only when the set alarm level has been exceeded. Language-free to avoid any misunderstanding, the continuous numeric display can also be back-lit to improve readability in darker environments.

WARNINGS AND ALARMS

In addition to a vibrating alarm, these instruments emit an audible, multi-tone signal and a clear, 360° visual alarm via bright, flashing LEDs at the top and base of the instrument. The alarm threshold levels can be individually adjusted to comply with company policy or other standards using Dräger software.

EVENT LOGGER

These monitors are complete with an infrared interface and are able to store up to 60 events with dates and times. They can be easily linked to a PC via a connecting cradle. This means that significant events such as switching on or off, gas and battery alarms, error codes, configuration changes, fresh air calibrations and bump tests can be downloaded, printed and stored centrally for future reference or reporting purposes.

DRÄGER X-AM PAC® 3500/5500 MONITOR ORDER INFORMATION

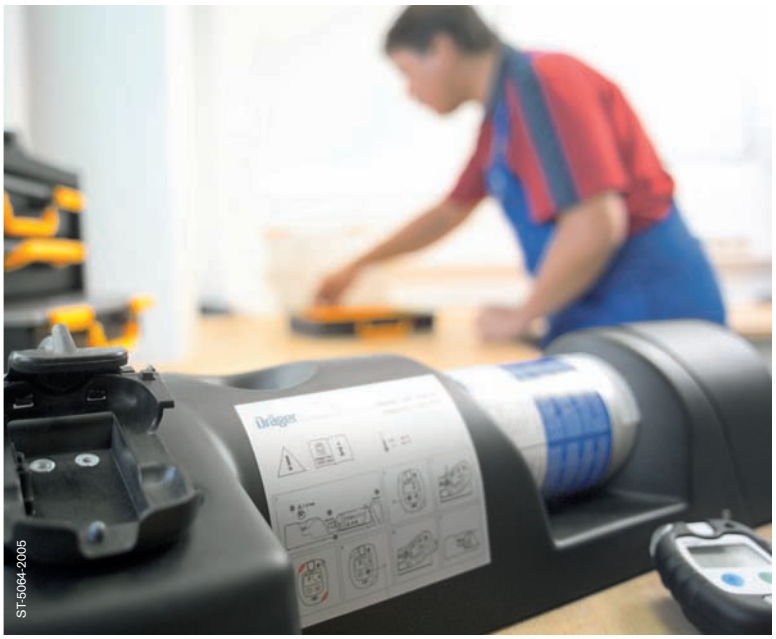
Description	Measuring Range	Default Alarm Threshold A1/A2	Resolution Time	Response Code	Order
Dräger Pac® 3500 CO	0 – 500 ppm	35/50	1 ppm	15 sec.	45 43 957
Dräger Pac® 3500 H_2S	0 – 100 ppm	10/15	0.1 ppm	15 sec.	45 43 958
Dräger Pac® 3500 O_2	0 – 25 Vol.-%	19.5/23	0.1 Vol.-%	10 sec.	45 43 959
Dräger Pac® 5500 CO	0 – 500 ppm	35/50	1 ppm	15 sec.	45 43 960
Dräger Pac® 5500 H_2S	0 – 100 ppm	10/15	0.1 ppm	15 sec.	45 43 961
Dräger Pac® 5500 O_2	0 – 25 Vol.-%	19.5/23	0.1 Vol.-%	10 sec.	45 43 962

Accessories	
Leather carrying case	45 43 822
High visibility yellow overlay for H_2S instruments	83 20 978
High visibility blue overlay for O_2 instruments	83 20 977

Communication Accessories	
Dräger CC-Vision®	64 08 515
Communication Module, complete with USB cable and Dräger Pac Vision® software	83 18 587

Calibration Accessories	
Calibration adapter	83 18 588
Dräger Pac Module for Dräger E-Cal calibration system	83 18 589
Dräger Bump Test Station for Dräger Pac® 3500/5500, not including gas cylinder	83 17 410
Dräger Bump Test Station for Dräger Pac® 3500/5500 The station for use with Dräger Mobile Printer, not including gas cylinder	83 19 559
Printer Set for Dräger Bump Test Station Consisting of: Dräger Mobile Printer, single charger, rechargeable NiMH batteries, USB connection cable, positioning aid, Dräger CC-Vision®	83 21 010

Replacement Parts	
Lithium battery	45 43 808
Water and dust filter	45 43 836



Delivering the most in a single gas monitor

ST-9367-2007

Shown Actual Size

DRÄGER PAC III MONITOR

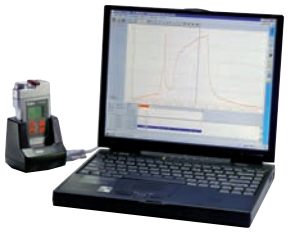
The Dräger Pac III delivers the most value of any single gas monitor available. The most sensors available, the loudest audible alarm, the brightest visual alarm, the largest Display, and the easiest to use all in one small package.

The size and design make the Dräger Pac III very comfortable and it is easily worn on a belt, lapel, or shirt pocket all day. The robust, chrome-plated polymer housing withstands the use and abuse expected in a wide variety of industrial applications, while providing unsurpassed RFI protection.

A loud audible alarm and bright visual alarm alert the user to hazardous levels of gas. Two levels of alarm indicate action levels at increasing concentrations. The concentration of gas is displayed on the LCD readout. This instrument is operated with only three buttons making it extremely simple and easy to use.

Dräger offers 34 different intelligent electrochemical sensors for the Dräger Pac III. The Standard and Hygiene instrument versions will accept any of these sensors and they can be interchanged as your requirements change. All Dräger-Sensors® provide fast and accurate response to the targeted gases and vapors.

Applications for the Dräger Pac III Monitor include the protection of workers and contractors at chemical plants, oil platforms, steel mills, mines and almost any other industrial or working environment.



Computer Download Kit

TECHNICAL DATA

Sensors Accepted:	H_2S, CO, O_2, CL_2, NO_2, SO_2, NH_3, HCN, NO, CO_2, HF/HCL, H_2, H_2O_2, N_2H_4, H_2S-HC, CO-HC, PH_3-HC, H_2-HC, ClO_2, Organic Vapors, Hydrides, Amines, and Odor
Size	2.6 x 4.3 x 1.3 inch (67 x 116 x 32 mm)
Weight	7.0 oz. (200 g)
Approvals	UL: Classes I & II, Division 1, Groups A-G, T6 CSA: Class I, Division 1, Groups A-D, T6 MSHA: Permissible Gas Detector ATEX: EEx ia IIC T4/T6

Leather Carrying Case

ORDER INFORMATION

The Dräger Pac III Standard and Hygiene will accept any of the Dräger-Sensors® listed above. Versions shown below come standard with a 9-Volt alkaline battery pack, sensors must be ordered separately. See pages 19-20.

Dräger Pac III Standard	45 30 010
Dräger Pac III Hygiene (with datalogger)	45 30 011
Dräger Pac III Hygiene Kit (with download kit)	45 30 311

Accessories

Leather Carrying Case	45 30 286
Nylon Transport Case	45 94 631
Pelican Transport Case	40 56 442
Computer Download Kit (hardware and software)	45 30 312

Pac III is available for rental.

ST-378-2007

ELECTROCHEMICAL (EC) SENSORS

The sensor is the heart of any gas detection instrument. Dräger is one of the few manufacturers of gas detection instruments who also make their own sensors and we have more experience with this technology than anyone else. Over many years, Dräger-Sensors® have proven themselves, even under the most difficult conditions. Our latest generation of sensors, the Extra Stability (XS), provide outstanding performance in a wide range of industrial applications.


ST-1960-2005

Dräger-Sensor® XXS


ST-557-2007

Dräger-Sensor® XS-R


ST-15-0003

Dräger-Sensor® XS-2

DRÄGER-SENSOR® XS-R

The XS-R sensors offer the longest warranties and require the least maintenance of any sensor in the industry. The Dräger-Sensors® XS-R for CO, H_2S and O_2 are covered by an unequalled 5-Year Warranty! Yes, even our O_2 sensor continuously detects oxygen for a period of 5 years! This is far better than what other manufacturers can offer. Calibration is only required on a yearly basis which greatly reduces down time and maintenance costs. The XS-R series offers the best cost of ownership through their unsurpassed stability and longevity.

DRÄGER-SENSOR® XS

There are 34 different XS sensors currently available that will measure over 50 different toxic gases and vapors. This is possible through our patented three-electrode sensor technology and internal filter media that maximizes response to the gas of concern while greatly reducing responses to other gases that may be present. The superior stability and accuracy of Dräger-Sensors® is especially evident on the reactive gas and exotic gas sensors where longer lives and less frequent calibration is required. The large selection of Dräger-Sensors® allows you to meet a wider range of gas detection applications with your Pac III, MiniWarn or X-am 7000 Monitors. The CO, H_2S and O_2 version of the Dräger-Sensors® XS are provided with a long 3-year warranty.

DRÄGER-SENSOR® XS-2

Our XS-2 Sensors offer the same advanced technology of the other Dräger-Sensors® in a value priced package. Available for CO, H_2S and O_2, these sensors come with a standard 2-year warranty. Even this series of Dräger-Sensors® offers superior performance and stability over other sensor brands.

DRÄGER-SENSOR® XXS FEATURES

- The longest warranties offered by any manufacturer
- Fast and accurate response to changing gas concentrations
- Extra stability sensors that drift less and require less frequent calibration
- Superior operating temperature range (-40 to +105 °F / -40 to +40 °C) and stability due to an internal thermal compensating device
- A wide operating pressure range (20.7 to 38.4 in Hg /700 to 1300 mbar) due to a unique mechanical design of the sensor
- The ability to withstand and recover from high concentration exposures
- Calibration intervals of 6-12 months
- Dräger-Sensor® XXS combines “New Sensor Technology” from the Dräger Pac 7000 with “Dräger Sensor Technology” from the Dräger X-am 5000

DRÄGER XS TOXIC GAS AND VAPOR SENSOR SELECTION

The following table contains measurable gases, the corresponding sensor, the measuring range, and display resolution or display value.

Gas	Sensor	Range	Part No.	Resolution
Acetaldehyde	OV (XS)	0-200 ppm	68 09 115	1 ppm
Acrylonitrile	OV-A (XS)	0-100 ppm	68 09 522	0.1 ppm
Ammonia	NH_3 (XS)	0-200 ppm	68 09 145	1 ppm
Arsine	Hydride (XS)	0-10.0 ppm	68 09 135	0.01 ppm
Bromine	CL_2 (XS)	0-20.0 ppm	68 09 165	0.01 ppm
Butadiene	OV (XS)	0-100 ppm	68 09 115	1 ppm
Butyl Mercaptan	Odorant (XS)	0-40.0 ppm	68 09 200	0.1 ppm
Carbon Dioxide	CO_2 (XS)	0-5.0 %Vol.	68 09 175	0.1 %Vol.
Carbon Monoxide {2-year warranty}	CO (XS2)	0-2000 ppm	68 10 365	1 ppm
Carbon Monoxide {3-year warranty}	CO (XS)	0-2000 ppm	68 09 105	1 ppm
Carbon Monoxide {5-year warranty}	CO (XS-R)	0-2000 ppm	68 10 258	1 ppm
Carbon Monoxide (High Concentration)	CO-HC (XS)	0-10,000 ppm	68 09 120	1 ppm
Chlorine	CL_2 (XS)	0-20.0 ppm	68 09 165	0.01 ppm
Chlorine Dioxide	ClO_2 (XS)	0-20.0 ppm	68 11 360	0.01 ppm
Diborane	Hydride (XS)	0-1.00 ppm	68 09 135	0.01 ppm
Diethylamine	Amine (XS)	0-100 ppm	68 09 545	1 ppm
Diethyl Ether	OV (XS)	0-200 ppm	68 09 522	1 ppm
Dimethylamine	Amine (XS)	0-100 ppm	68 09 545	1 ppm
Dimethyl Sulfide	Odorant (XS)	0-40.0 ppm	68 09 200	0.1 ppm
Dimethyl Disulfide	Odorant (XS)	0-40.0 ppm	68 09 200	0.1 ppm
Ethanol	OV (XS)	0-300 ppm	68 09 115	1 ppm
Ethyl Mercaptan	Odorant (XS)	0-40.0 ppm	68 09 200	0.1 ppm
Ethylene	OV (XS)	0-100 ppm	68 09 115	1 ppm
Ethylene Oxide	OV (XS)	0-200 ppm	68 09 115	1 ppm
Formaldehyde	OV (XS)	0-200 ppm	68 09 115	1 ppm
Fluorine	CL_2 (XS)	0-20.0 ppm	68 09 165	0.01 ppm
Germane	Hydride (XS)	0-20.0 ppm	68 09 135	0.01 ppm
Hydrazine (Pac III only)	Hydrazine (XS)	0-3.00 ppm	68 09 190	0.01 ppm
Hydrazine “D” (Pac III only)	N_2H_4-D	0-3.00 ppm	68 10 295	0.01 ppm
Hydrogen	H_2 (XS)	0-2000 ppm	68 09 185	1 ppm
Hydrogen 4.0 %Vol.	H_2-HC (XS)	0-4.0 %Vol.	68 11 365	0.1 %Vol.
Hydrogen Chloride (Pac III only)	HF/HCl (XS)	0-30.0 ppm	68 09 140	0.1 ppm
Hydrogen Cyanide	HCN (XS)	0-50.0 ppm	68 09 150	0.1 ppm
Hydrogen Fluoride (Pac III only)	HF/HCl (XS)	0-30.0 ppm	68 09 140	0.1 ppm
Hydrogen Peroxide (Pac III only)	H_2O_2 (XS)	0-20.0 ppm	68 09 170	0.1 ppm
Hydrogen Selenide	Hydride (XS)	0-1.00 ppm	68 09 135	0.01 ppm
Hydrogen Sulfide {2-year warranty}	H_2S (XS2)	0-100 ppm	68 10 370	1 ppm
Hydrogen Sulfide {3-year warranty}	H_2S (XS)	0-100 ppm	68 09 110	1 ppm
Hydrogen Sulfide {5-year warranty}	H_2S (XS-R)	0-100 ppm	68 10 260	1 ppm
Hydrogen Sulfide (High Concentration)	H_2S-HC (XS)	0-1000 ppm	68 09 180	1 ppm
Hydrogen Sulfide (Sensitivity Revised)	H_2S (XS2-SR)	0-100 ppm	68 10 575	1 ppm
Iso-Propyl Alcohol	OV (XS)	0-300 ppm	68 09 115	1 ppm
Methanol	OV (XS)	0-200 ppm	68 09 115	1 ppm
Methyl Amine	Amine (XS)	0-100 ppm	68 09 545	1 ppm
Methyl Mercaptan	Odorant (XS)	0-40.0 ppm	68 09 200	0.1 ppm
Nitric Oxide	NO (XS)	0-100 ppm	68 09 125	1 ppm
Nitrogen Dioxide	NO_2 (XS)	0-50.0 ppm	68 09 155	0.1 ppm
Oxygen 100% Vol.	O_2-100%	0-100 %Vol.	68 09 550	0.1 %Vol.
Oxygen {2-year warranty}	O_2 (XS2)	0-25.0 %Vol.	68 10 375	0.1 %Vol.
Oxygen {3-year warranty}	O_2 (XS)	0-25.0 %Vol.	68 09 130	0.1 %Vol.
Oxygen {5-year warranty}	O_2(XS-R)	0-25.0 %Vol.	68 09 130	0.1 %Vol.
Phosgene	$COCl_2$	0-3.00 ppm	68 08 582	0.01 ppm
Phosphine	Hydride (XS)	0-10.0 ppm	68 09 135	0.01 ppm
Phosphine (High Concentration)	PH_3-HC (XS)	0-1000 ppm	68 09 535	1 ppm
Propylene	OV (XS)	0-100 ppm	68 09 115	1 ppm
Propylene Oxide	OV (XS)	0-200 ppm	68 09 115	0.1 ppm
Silane	Hydride (XS)	0-10.0 ppm	68 09 135	0.01 ppm
Styrene	OV-A (XS)	0-100 ppm	68 09 522	1 ppm
Sulfur Dioxide	SO_2 (XS)	0-50.0 ppm	68 09 160	0.01 ppm
*Tetrahydrothiophene	Odorant (XS)	0-40.0 ppm	68 09 200	0.1 ppm
Triethylamine	Amine (XS)	0-100 ppm	68 09 545	1 ppm
Vinyl Acetate	OV (XS)	0-100 ppm	68 09 115	1 ppm
Vinyl Chloride	OV (XS)	0-100 ppm	68 09 115	1 ppm

Fast response, long life and high accuracy.

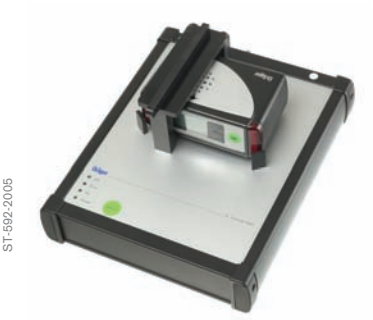
DRÄGER XS TOXIC GAS AND VAPOR SENSOR SELECTION

Gas	Sensor	Range	Part No.	Resolution	Pac 35/5500	Pac 7000	X-am 2000	X-am 5000
1-Chloro-2,3-epoxypropane	OV	0-100	68 11 530	1 ppm		X		X
Acetaldehyde	OV-A	0-200	68 11 535	1 ppm		X		X
Acrylonitrile	OV-A	0-100	68 11 535	1 ppm		X		X
Ammonia	NH_3	0-300	68 10 888	1 ppm		X		X
Arsine	PH_3	0-20	68 10 886	0.01 ppm		X		X
Bromine	Cl_2	0-20	68 10 890	0.1 ppm		X		X
Butadiene	OV	0-100	68 11 530	1 ppm		X		X
Carbon Dioxide	CO_2	0-5.0% Vol.	68 10 889	0.1% Vol.		X		X
Carbon Monoxide	CO	0-2,000	68 10 882	2 ppm	X	X	X	X
Carbon Monoxide	CO/H_2S	0-2,000	68 11 410	2 ppm				X
Carbon Monoxide	CO-HC	0-10,000	68 12 010	5 ppm				X
Carbon Monoxide (hydrogen compensated)	CO-H_2	0-2,000	68 11 950	2 ppm				X
Chlorine	Cl_2	0-20	68 10 890	0.1 ppm		X		X
Chlorine Dioxide	Cl_2	0-20	68 10 890	0.1 ppm		X		X
Diborane	PH_3	0-20	68 10 886	0.01 ppm		X		X
Diethyl Ether	OV-A	0-200	68 11 535	1 ppm		X		X
Ethanol	OV-A	0-300	68 11 535	2 ppm		X		X
Ethine	OV-A	0-100	68 11 535	1 ppm		X		X
Ethylene	OV	0-100	68 11 530	0.5 ppm		X		X
Ethylene Oxide	OV	0-200	68 11 530	0.5 ppm		X		X
Ethylene Oxide	OV-A	0-200	68 11 535	1 ppm		X		X
Fluorine	Cl_2	0-20	68 10 890	0.1 ppm		X		X
Formaldehyde	OV	0-100	68 11 530	2 ppm		X		X
Hydrogen Cyanide	HCN	0-50	68 10 887	0.1 ppm		X		X
Hydrogen Sulfide	CO/H_2S	0-200	68 11 410	1 ppm		X		X
Hydrogen Sulfide	H_2S	0-100	68 10 883	1 ppm	X	X	X	X
Hydrogen Sulfide	H_2S-HC	0-1,000	68 12 015	2 ppm				X
Hydrogen Sulfide	H_2S-LC	0-100	68 11 525	0.1 ppm		X		X
Isobutene	OV-A	0-300	68 11 535	2 ppm		X		X
Isopropanol	OV	0-300	68 11 530	2 ppm		X		X
Methanol	OV	0-200	68 11 530	0.5 ppm		X		X
Methyl Methacrylate	OV	0-100	68 11 530	1 ppm		X		X
Nitrogen Dioxide	$N0_2$	0-50	68 10 884	0.1 ppm		X		X
Oxygen	O_2	0-30.0% Vol.	68 10 881	0.1% Vol.	X	X	X	X
Phosphine	PH_3	0-20	68 10 886	0.01 ppm		X		X
Phosphine	PH_3-HC	0-1,000	68 12 020	1 ppm				X
Propene	OV	0-100	68 11 530	2 ppm		X		X
Propylene Oxide	OV	0-200	68 11 530	0.5 ppm		X		X
Silane	PH_3	0-20	68 10 886	0.01 ppm		X		X
Styrene	OV	0-100	68 11 530	1 ppm		X		X
Sulfur Dioxide	SO_2	0-100	68 10 885	0.1 ppm		X		X
Tetrahydrofuran	OV	0-200	68 11 530	1 ppm		X		X
Vinyl Acetate	OV-A	0-100	68 11 535	1 ppm		X		X
Vinyl Chloride	OV	0-100	68 11 530	0.5 ppm		X		X

Easy Calibration
while saving time and money.


ST-95-2002


ST-94-2002


ST-592-2005

DRÄGER E-CAL SYSTEMS

The Dräger E-Cal system makes calibrating your Dräger gas detection instruments easy while saving time and money. The Dräger E-Cal system automatically calibrates up to 10 gas monitors and documents the entire process making it ideal for ISO-9001 compliance.

The Dräger E-Cal Station also bump tests, downloads stored information, charges the instrument, and changes instrument configurations with the included CC-Vision® software. This computer control ensures that the calibration is done properly every time according to Dräger's exacting specifications. The Dräger E-Cal system supports different calibration gases, even mixed gases and many non-standard gases. You can start with as little as a single drop-in instrument module and expand as your needs grow. Instrument modules can work alone as remote bump test or calibration modules using the adapter. The Dräger E-Cal system makes use of "parallel" processing to simultaneously process instruments yielding significant savings in gas, time, and money.

THE DRÄGER E-CAL SYSTEM FEATURES

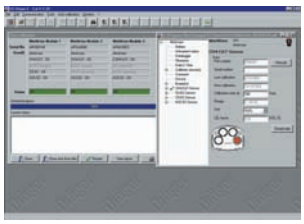
- Simultaneous automatic calibration of up to 10 instruments at once saving time and money.
- Automatic bump testing, calibration, documentation, datalogging, and charging at each station.
- CC-Vision® Software provides state-of-the-art asset management and complete ISO-9001 compliance for your instrument program.
- The Dräger E-Cal System is closed and self-purging allowing operation without an expensive fume-hood. With optional purge module you can exhaust gas more than 75 feet away.
- Modules can function independently with or without a PC as "bump" stations or as mixed gas autocal stations for smaller users.
- Compatible with Dräger instruments.


ST-104-2002


ST-101-2002

TECHNICAL DATA

Dimensions	
Master Station (L x W x H)	12.3 x 12.1 x 2.5 in (295 x 290 x 60 mm)
Dräger MiniWarn Module (L x W x H)	12.3 x 5.6 x 2.5 in (295 x 135 x 60 mm)
Dräger Pac III Module (L x W x H)	12.3 x 5.6 x 2.5 in (295 x 135 x 60 mm)
Dräger Pac X000 Module (L x W x H)	12.3 x 10.0 x 2.5 in (295 x 240 x 60 mm)
Dräger X-am 1/2/5000 Module (L x W x H)	12.3 x 5.6 x 2.5 in (295 x 135 x 60 mm)
Dräger X-am 3000 Module (L x W x H)	12.3 x 10.0 x 2.5 in (295 x 240 x 60 mm)
Dräger X-am 7000 Module (L x W x H)	12.3 x 10.0 x 2.5 in (295 x 240 x 60 mm)


ST-9236-2007

Computer Requirements	
Computer System	IBM Compatible PC
Processor	Pentium I or faster
Available RAM	Minimum 16 MBytes
Operating System	Window 2000, Windows XP, Window Vista
Connections	1 available USB port with appropriate adapters, or combination

DRÄGER E-CAL SYSTEMS ORDER INFORMATION

Master Station 2 USB (with inputs for 2 gas bottles)	83 19 452
Master Station 12 USB (with inputs for up to 12 gas bottles)	83 19 412
Master Station 6 USB (with inputs for up to 6 gas bottles)	83 194 56
Module Adapter USB (for single instrument module)	83 19 409
Dräger MiniWarn E-Cal Module	83 16 552
Dräger Pac III E-Cal Module	83 16 554
Dräger Pac X000 Module	83 18 589
Dräger X-am 1/2/5000 E-Cal Module	83 18 754
Dräger X-am 3000 E-Cal Module	83 17 719
Dräger X-am 7000 E-Cal Module	83 17 705

Dräger's Full Range of Calibration Gases

ST-9370-2007

All gas detection sensors require periodic calibration or bump testing. Dräger offers a full range of calibration gas mixtures in various concentrations and related supplies.

TOXIC GASES

The following gases are most commonly requested and recommended calibration gases for TWA measurements. Other gases and concentrations are available, contact Dräger for the full selection of calibration gases.

Chemical	Concentration	Cylinder	Part No.
Ammonia (NH_3)	50 ppm in N_2	58L/500 psi	45 94 957
Carbon Dioxide (CO_2)	2.5 %Vol. in Air	103L/1000 psi	45 95 193
Carbon Monoxide (CO)	50 ppm in Air	103L/1000 psi	45 02 153
Chlorine (CL_2)	5 ppm in N_2	58L/500 psi	45 94 964
Ethylene (for OV Sensor)	100 ppm in Air	103L/1000 psi	45 94 645
Hydrogen Chloride (HCL)	10 ppm in N_2	58L/500 psi	45 94 658
Hydrogen Cyanide (HCN)	10 ppm in N_2	58L/500 psi	45 94 962
Hydrogen Sulfide(H_2S)	25 ppm in N_2	58L/500 psi	45 02 155
Nitric Oxide (NO)	25 ppm in N_2	58L/500 psi	45 52 020
Nitrogen Dioxide (NO_2)	10 ppm in N_2	58L/500 psi	45 94 977
Phosphine (PH_3)	0.5 ppm in N_2	58L/500 psi	45 97 057
Sulfur Dioxide (SO_2)	10 ppm in N_2	58L/500 psi	45 97 050

COMBUSTIBLE GASES

Chemical	Concentration	Cylinder	Part No.
Hydrogen	50 %LEL (2.0 %Vol.) in Air	103L/1000 psi	45 94 627
Methane (CH_4)	50 %LEL (2.5 %Vol.) in Air	103L/1000 psi	45 57 019
Methane (CH_4)	40 %Vol. in N_2	34L/500 psi	45 94 625
Pentane	50 %LEL (0.75 %Vol.) in Air	80L/750 psi	45 10 057
Propane	35 %LEL (0.75 %Vol.) in Air	58L/500 psi	45 94 624

MULTI-COMPONENT CALIBRATION GASES

Chemical/Concentration	Cylinder	Part No.
Methane 50 %LEL / CO, 100 ppm / H_2S 25 ppm / O_2, 17% / bal N_2	58L/500 psi	45 94 655
Methane 50 %LEL / CO, 100 ppm / H_2S 25 ppm / in Air	58L/500 psi	45 94 943
Methane 50 %LEL / CO, 100 ppm / in Air	103L/1000 psi	45 94 945
Pentane 30 %LEL / CO, 100 ppm / H_2S 25 ppm / Air	58L/500 psi	45 94 944
Pentane 30 %LEL / CO, 100 ppm / O_2, 17% / bal N_2	103L/1000 psi	45 94 947

CYLINDER REGULATORS

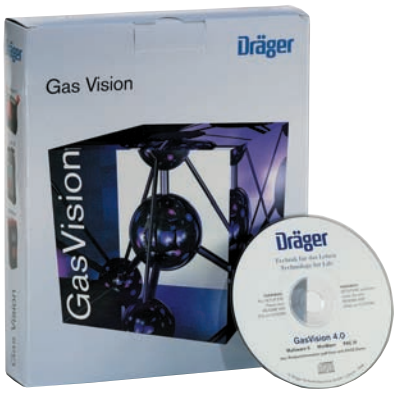
Chemical/Concentration	Max. Pressure	Part No.
Standard Regulator, suitable for most calibration gases	1000 psi	45 57 020
Trigger Control Regulator, allows both calibration and bump testing	1000 psi	45 94 640
Demand Valve Regulator, for use with sampling pumps	1000 psi	45 95 641
Reactive Gas Regulator, for use with NH_3 Gas	500 psi	45 94 952

BUMP TEST GASES (CYLINDER REGULATOR NOT REQUIRED)

Chemical/Concentration	Cylinder	Part No.
Hydrogen Sulfide (H_2S)/ 25 ppm in N_2	11L/155 psi	45 94 634
Carbon Monoxide (CO)/ 100 ppm in Air	11L/155 psi	45 95 632
Methane (CH_4)/ 50 %LEL in Air	11L/155 psi	45 94 633
Methane, 50 %LEL / CO, 100 ppm / 17% O_2 / bal N_2	11L/155 psi	45 94 635
Methane, 50 %LEL / CO, 100 ppm / H_2S, 25 ppm / 17% O_2 / bal N_2	11L/155 psi	45 94 636

Calibrate, configure and document

ST-9371-2007



ST-9234-2007

DRÄGER SOFTWARE

GAS-VISION®

Document gas and vapor exposures measured with Dräger instruments equipped with internal data loggers. Quickly and easily determine TWA and STEL exposures. Create graphs and spreadsheets from this data for documentation and reporting purposes with included graphical and tabular report generators. Dräger Gas-Vision® is also a complete management tool that will manage the stored exposure data for you. Search previous reports by date, gas measured, or person monitored and get only the information you need including serial numbers and sensor calibration dates for the monitors used.

CC-VISION®

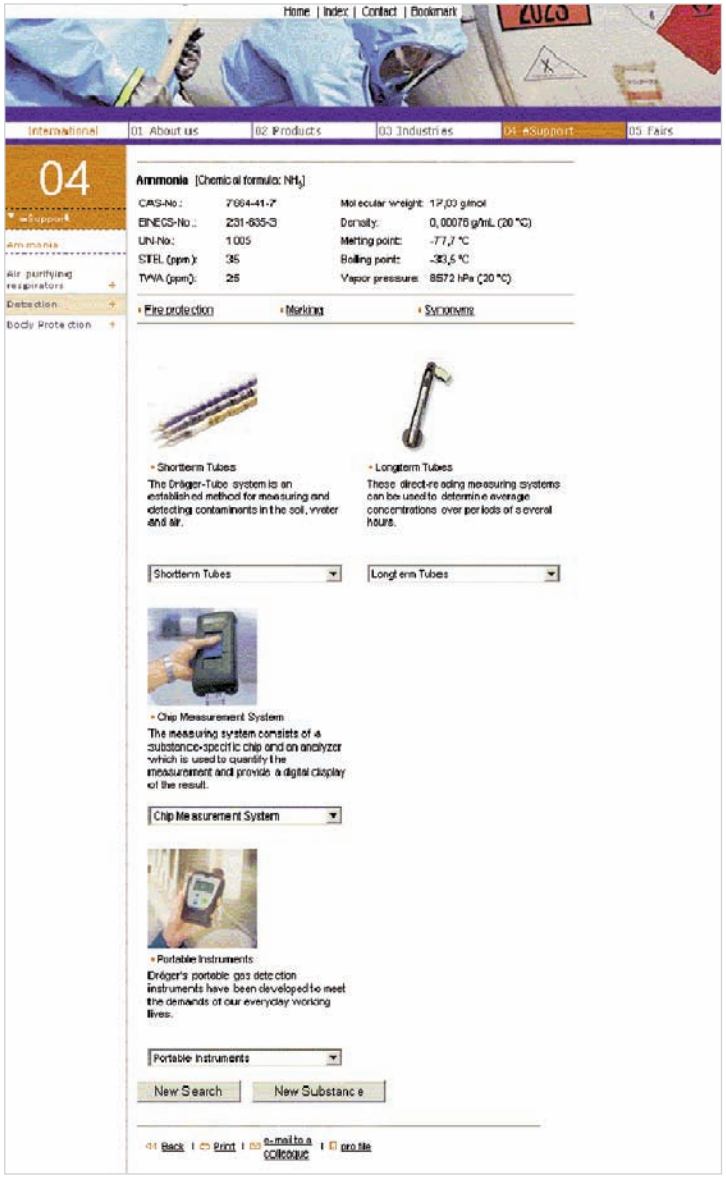
Calibrate, configure, and document all maintenance of your Dräger instruments with Dräger CC-Vision® Software. A complete maintenance record can be automatically created and stored when calibrating your Dräger monitor with CC-Vision®.

CC-Vision® speeds up your maintenance while drastically reducing the amount of paperwork. This tool is ideal for ISO 9001 or similar quality documentation. All serial numbers, installed sensors, and configurations are automatically stored with CC-Vision's® on-board report generation and management system. CC-Vision® also allows the point-and-click setup of your instruments via a "Browser"–type interface, including alarm levels, menus, and sensor status. Training technicians and users is made much easier and requires less use of complicated written manuals. Save certain configurations to a disk and later download them to your instrument for rapid configuration. CC-Vision® also makes possible the new tamper-proof "end-user" no features mode for more reliable field operations.

DRÄGER SOFTWARE ORDER INFORMATION

Gas-Vision® (exposure documentation)	83 14 034
CC-Vision® (calibrate and configure, single unit version)	64 08 515

Dräger Support Materials



ST-354-2007

GAS DETECTION SELECTION GUIDE

This booklet lists the most common industrial chemicals and whether there is a Dräger-Tube®, Dräger CMS-Chip, and/or Dräger-Sensor® available for detecting this substance. The Selection Guide also includes a list of the Dräger Detection products available with measuring ranges and order information. Contact our Customer Service Department for a free copy of this valuable field guide for health and safety professionals.

DRÄGER-TUBE®/DRÄGER CMS HANDBOOK

Everything you wanted to know about Dräger-Tubes® and Dräger-CMS Chips in one book. Measurement Data, Operating Conditions, Reaction Principles, Cross Sensitivity, Range Extension information, and full color graphics of the tubes are is given in one handy to use format. The new 15th edition Tube Handbook also contains general detector tube and chemical information and is a good reference source for any health and safety professional.

VOICE® ON DRÄGER.COM

Determine the best Dräger detection tool for your application with VOICE® software. Search from over 1600 different substances by chemical name, chemical formulas, trade names, CAS Numbers, UN/DOT Numbers, and other synonyms. Once the chemical is located, VOICE will tell you what Dräger devices are available for measurement. Electronic Instruction Sheets for all Dräger-Tubes® are included.

DRÄGER SOFTWARE ORDER INFORMATION

Dräger-Tube®/CMS Handbook (15th edition)	90 92 086
Dräger-Sensor® Handbook CD (1st edition)	45 95 444

Dräger Training Software

Even though Dräger equipment is simple to operate, the new equipment must be understood by all who use them. To make your job easier, Dräger Safety has created training tools in MS Power Point to aid in the implementation of your new equipment. These programs contain operating training modules, a competency test, helpful maintenance tips, and a guide to accessories and options.

ST-9271-2007

ST-9372-2007

COMPUTER BASED TRAINING (CBT) PROGRAMS

Computer Based Training programs identify the monitor components, alarm signals and display icons. When it comes to operating the monitor, the CBT contains a "virtual instrument" that mimics the exact operation of the gas detector. This is supplemented with video clips that will guide you through performing all of the operator functions of the monitor. At the end of the training course there is a competency test. If a satisfactory grade is not achieved, the program will take the user back through the CBT course. When a passing grade is achieved, a certificate is printed. Training records can be reviewed and are able to be exported to a database for documentation of the training.

DRÄGER-TRAINING

Let our experienced and knowledgeable trainers teach your staff. We provide basic operation training, service and maintenance levels for your technicians and application safety courses like confined space entry or emergency response.

Call Dräger-Service for more information.

DRÄGER TRAINING SOFTWARE ORDER INFORMATION

Dräger-Tube®/accuro® Pump Training CD	40 56 835
Dräger CMS Operator Training CD	40 56 637
Dräger Civil Defense Simultest Operator Training CD	40 55 666
Dräger Haz-Mat Simultest Operator Training CD	40 56 561
Dräger Pac III Operator Training CD	45 30 369
Dräger MiniWarn Operator Training CD	45 52 761
Dräger Multiwarn II Operator Training CD	45 23 075
Dräger X-am 3000 Operator Training CD	45 43 701
Dräger X-am 7000 Operator Training CD	45 52 286

COMPUTER BASED TRAINING PROGRAMS ORDER INFORMATION

Dräger MiniWarn Computer Based Training CD	45 52 773

Dräger Multi-PID 2+, the next generation of reliable photoionization detection.

DRÄGER MULTI-PID 2+

The Dräger Multi-PID 2+ is the next generation of reliable photoionization detection for volatile organic compounds (VOCs). Its innovative PID technology combines high sensitivity and robustness with suitability for various applications like soil, water or jar head space screening, leak detection and confined space measurements.

Dräger Multi-PID 2+: Ideal for detecting VOCs at very low levels.

WIDE MEASURING RANGE

Equipped with a standard 10.6 eV UV-lamp the Dräger Multi-PID 2+ covers a measuring range from 0 to 2,000 ppm. An optional dilution probe extends the measuring range up to 20,000 ppm.

EXTENSIVE GAS LIBRARY

The built-in gas library holds up to 70 substances. Another 60 substances are identified and can be substituted in the library. For additional, customer specific compounds the response factor can be quantified by Dräger's application laboratory.

LARGE DISPLAY

The backlit display with its large font is easy to read. All information is displayed on one screen. The language setting of the display and menu structure can be selected between English, German, French and Spanish.

EASY TO USE

The new ergonomic design makes the Dräger Multi-PID 2+ easy to operate, even when wearing heavy duty gloves. The three button menu navigation makes the use of the instrument very simple.

VARIOUS WARNING FUNCTIONS

The Dräger Multi-PID 2+ is equipped with a loud audible alarm and a LED to warn if dangerous levels (e.g. peak, STEL or TWA) of substances are reached. Additionally, a pump and flow alarm are integrated in the instrument.

DEDICATED CALIBRATION KEY

Immediate access to the calibration functions is realized with a dedicated calibration key. This allows the user to perform a calibration without entering the password protected main menu.

BUILT-IN DATALOGGER

An internal datalogger is included in the instrument. The software package "GasVision®" allows the easy evaluation of the measured data. The datalogging feature allows the operator to record 15,000 sampling points which can be downloaded to a PC.

SEVERAL CHARGER OPTIONS

The off-line charger can charge a second battery pack independent of the Dräger Multi-PID 2+. Furthermore, the unit can be charged via a 12V vehicle adapter.

WORLDWIDE APPROVALS

Dräger Multi-PID 2+ can be used worldwide with these approvals: ATEX, ENTELA NRTL and CE-mark.

TECHNICAL DATA

Photoionization Monitor for detecting volatile organic compounds in ambient air		
Size (H x W x D, max.)	9” x 4.25” x 3”, width at handle 2.6” 230 x 110 x 80 mm, width at handle 67 mm;	
Weight	1.9 pounds, 860 g	
Ambient conditions	Temperature	+ 32 to + 105 °F, 0 to + 40 °C
	Humidity	0 to 95 %RH, not condensing
Typical battery life	NiCd	8 hours, rechargeable battery
Audible alarm		≥ 95 dB (A) at a distance of 30 cm; 1ft.
Approvals	ATEX	II 2G EEx ibo IIC T4; 0 ≤ Ta ≤ + 40 °C
	ENTELA NRTL	Class I, Div 1, Group A, B, C, D T4
	CE-mark	electromagnetic compatibility (directive 89/336/EEC)

ORDER INFORMATION

Dräger Multi-PID 2+*	83 18 310
Dräger Multi-PID 2+ Kit*	45 21 101
Charger USA, 110 V AC	64 05 428
Carrying Case	45 11 310
Calibration Gas (100 ppm isobutylene)	45 94 642
Calibration Gas Regulator	45 94 641
Computer Cable Kit	83 17 667
Spare Battery Pack	83 17 670
11.7 eV Detector Lamp	64 05 423
12 V DC Car Adapter	83 18 317
Benzene Pre-Tube	81 03 511
Pre-Tube Holder	83 19 093
Benzene Prefilter Tube, 10/box	81 03 511
Humility Prefilter Tube, 10/box	81 03 531

* Each instrument includes: 10.6 eV detector lamp, rechargeable battery, 17 cm (6.7”) reinforced Teflon sample probe, wrist strap, multi-tool for lamp changing, user’s manual, laminated user reference card, water/particle filters (10 pcs.)

** Kit includes: Dräger Multi-PID 2+ Analyzer (8318310) and Charger (6405428)

Accurate gas measurements made easier

ST-9317-2007

DRÄGER CMS ANALYZER

Accurate gas measurements are made easier with the Dräger-CMS®. This new generation spot-check detection device is literally as easy as 1-2-3 to operate. Simply insert one of the over 50 chemical specific CMS Chips and follow the instructions on the display as to when to move the slide switch. TWA levels are typically analyzed in 1-2 minutes. Upon completion of this process, the concentration is indicated on the LCD display. Every Chip uses the exact same procedure so training is minimal.

The system is based on Dräger's 70+ years of dry chemical reaction technology used in Dräger-Tubes®, however, the Dräger CMS includes a mass flow controller to take a precise air sample and the color change is measured with a photo-optical system eliminating any human subjectivity. Accuracies of +/- 4 to 10% of measured values are achieved for most gases and vapors.

Dräger CMS does not require gas calibration. All measurement and calibration information is stored on a bar code on the CMS Chip. An electronic leak check is performed before each measurement so you are assured of accurate indications every time. Operating on 4 "AA" cells, the Dräger CMS will deliver about 100 measurements per battery change. An optional remote sampling system makes the Dräger CMS an ideal choice for confined space entry applications.

The on-board data-recorder stores up to 50 measurements with the gas/concentration and date/time. The recorder can be set up to record manually or automatically, and previous measurements can be called up on demand.

The Dräger CMS is currently used extensively in the petrochemical, transportation, and utilities industries as well as the fire service and government regulatory agencies. Popular applications include TWA screening, confined space entry and emergency response.


ST-241-99


ST-9373-2007


ST-520-2007

Emergency Response Kit


ST-9319-207

Remote Sampling with Probe

TECHNICAL DATA

Size	4.1 x 8.5 x 2.5 inch (105 x 215 x 65 mm)
Weight	25.6 oz. (730 g)
Approvals	UL: Class I, Division 1, Groups A-D, T4 CSA: Class I, Division 1, Groups A-D, T4 MSHA: Permissible Gas Detector ATEX: EEx ibo IIC T4

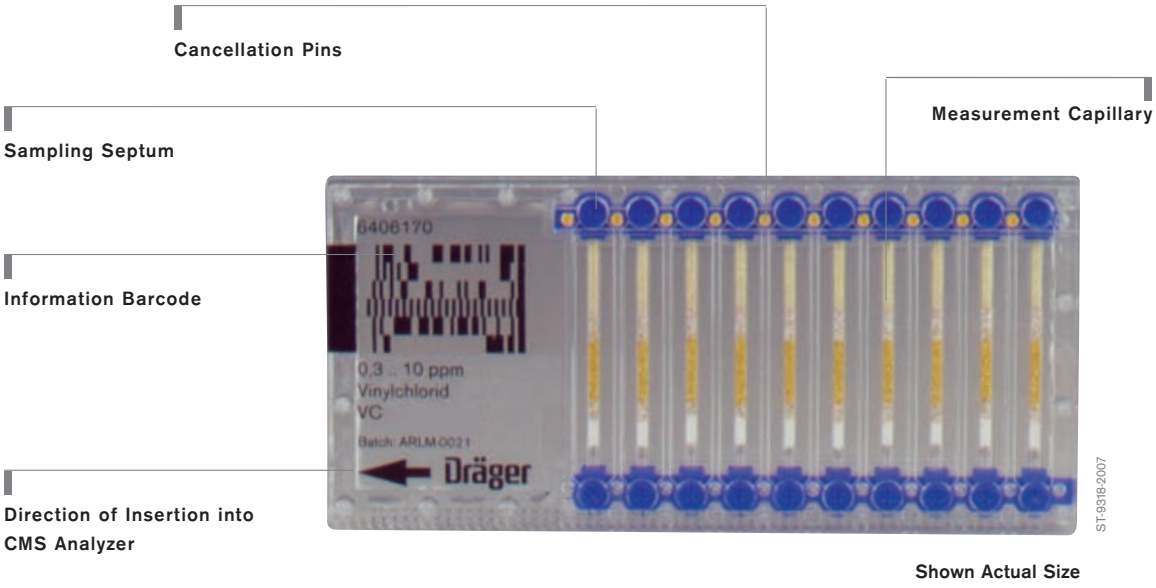
DRÄGER CMS ORDER INFORMATION

Dräger CMS Analyzer	64 05 300
Dräger CMS Analyzer with Remote Sample Pump	83 17 700
Dräger CMS Emergency Response Kit	40 55 711
Dräger CMS Indoor Air Quality Kit	40 56 455

Accessories

Remote Sample Pump	64 05 060
Telescopic Probe	83 16 530
Sampling Hose, 10 m with Adapter & Float Probe (use only with 8317700)	83 17 613
Nylon Transport Case	45 94 631

Dräger CMS is available for rental.



Shown Actual Size

Dräger CMS - accurate, versatile, easy to use for chemical specific measurements.

DRÄGER CMS® CHIP

The Dräger CMS Chip consists of 10 measurement capillaries filled with substance-specific reagent systems. The gas type, part number and batch number are printed on the chip. A printed barcode on the chip, read by the analyzer optics, contains information about gas type, measuring range and measuring time required for completing the measurement. Each chip is calibrated during manufacturing and is valid for two years.

The chemical specific Chip and the advanced electronics of the Analyzer make the Dräger CMS one of the most accurate gas and vapor measurement tools available. The pre-calibrated Chip means no gas calibration type maintenance is required. The Analyzer eliminates all interpretation or usage errors that may be associated with other methods. The mass flow pump system ensures that the exact amount of sample is taken and the opto-electronics make precise measurements of the chemical reaction.

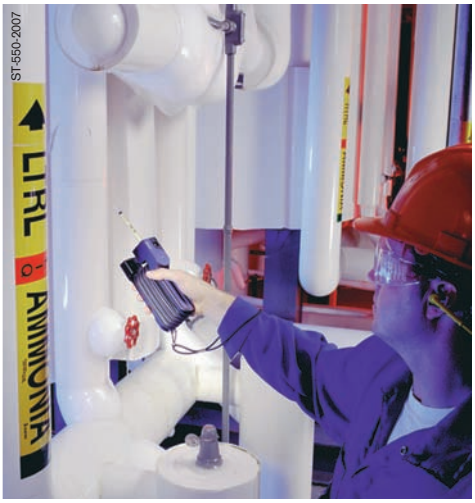
CHEMICAL SPECIFIC MEASUREMENTS

When you need to know exactly what is there, Dräger CMS is the tool to provide those answers. The chemistry is chosen to provide the best results possible. The capillaries of several chips have multiple layers (Yes, even in something that small!) to help reduce cross sensitivity to derive a specific measurement of the targeted chemical.

DRÄGER CMS® CHIP SELECTION

DRÄGER-CMS® CHIP	MEASURING RANGE	PART NO.
Acetic Acid	2.0-50.0 ppm	64 06 330
Acetone	40.0-600 ppm	64 06 470
Ammonia	0.20-5.0 ppm	64 06 550
Ammonia	2.0-50.0 ppm	64 06 130
Ammonia	10.0-150 ppm	64 06 020
Ammonia	100-2000 ppm	64 06 570
Benzene	50-2500 ppb	64 06 600
Benzene	0.20-10.0 ppm	64 06 030
Benzene	0.50-10.0 ppm	64 06 160
Benzene	10.0-250 ppm	64 06 280
Butadiene	1.0-25.0 ppm	64 06 460
Carbon Dioxide	200-3,000 ppm	64 06 190
Carbon Dioxide	1,000-25,000 ppm	64 06 070
Carbon Dioxide	1.0-20.0 Vol%	64 06 210
Carbon Monoxide	5.0-150 ppm	64 06 080
Chlorine	0.20-10.0 ppm	64 06 010
Ethanol	100.0-2,500 ppm	64 06 370
Ethylene Oxide	0.40-5.0 ppm	64 06 580
Formaldehyde	0.20-5.0 ppm	64 06 540
Hydrochloric Acid	1.0-25.0 ppm	64 06 090
Hydrochloric Acid	20.0-500 ppm	64 06 140
Hydrocyanic Acid	2.0-50.0 ppm	64 06 100
Hydrogen Peroxide	0.20-2.0 ppm	64 06 440
Hydrogen Sulfide	0.20-5.0 ppm	64 06 520
Hydrogen Sulfide	2.0-50.0 ppm	64 06 050
Hydrogen Sulfide	20.0-500 ppm	64 06 150
Hydrogen Sulfide	100-2,500 ppm	64 06 220
Iso-Propanol	40.0-1,000 ppm	64 06 390

DRÄGER-CMS® CHIP	MEASURING RANGE	PART NO.
Mercaptan	0.25-6.0 ppm	64 06 360
Methanol	20.0-500 ppm	64 06 380
Methylene Chloride	20.0-400 ppm	64 06 530
Methyl Tertiary Butyl Ether (MTBE)	10.0-200 ppm	64 06 510
Nitrogen Dioxide	0.50-25.0 ppm	64 06 120
Nitrous Gases ($NO+NO_2$)	0.50-15.0 ppm	64 06 060
Nitrous Gases ($NO+NO_2$)	10.0-200 ppm	64 06 240
Oxygen	1.0-30.0 Vol%	64 06 490
Ozone	25-1,000 ppb	64 06 430
Perchloroethylene	5.0-500 ppm	64 06 040
Petroleum Hydrocarbons	20.0-500 ppm	64 06 200
Petroleum Hydrocarbons	100-3,000 ppm	64 06 270
Phosgene	0.05-2.0 ppm	64 06 340
Phosphine	0.10-2.50 ppm	64 06 400
Phosphine	1.0-25.0 ppm	64 06 410
Phosphine	20.0-500 ppm	64 06 420
Phosphine	200-5,000 ppm	64 06 500
Propane	100-2,000 ppm	64 06 310
Styrene	2.0-40.0 ppm	64 06 560
Sulfur Dioxide	0.40-10.0 ppm	64 06 110
Sulfur Dioxide	5.0-150 ppm	64 06 180
Toluene	10.0-300 ppm	64 06 250
Training Chip	N/A	64 06 290
Trichloroethylene	5.0-100 ppm	64 06 320
Vinyl Chloride	0.30-10.0 ppm	64 06 170
Vinyl Chloride	10.0-250 ppm	64 06 230
Water Vapor	0.40-10.0 mg/L	64 06 450
Xylene	10.0-300 ppm	64 06 260



Dräger's leading edge technology puts us on the forefront of colorimetric detector tubes.

DRÄGER ACCURO® PUMP

The world has relied on Dräger-Tubes® more than any other gas and vapor measurement device to tell them when the air is safe to breathe, to identify an unknown hazard, or to check on process gases. For more than 70 years, Dräger has been the leader in detector tube technology with more accurate measurements, a wider range of gases and vapors measured, more designs of tubes and more accessories to meet specific gas and vapor measurement applications.

Though many Dräger-Tubes® require more than one pump stroke, the sampling time is usually faster than competitive one-stroke tubes. Not only do you get the benefit of quicker analysis, the larger sample volume provides statistically better accuracy. Once the sample is taken, the larger diameter Dräger-Tubes® and well-spaced graduation marks enable distinct and decisive measurement readings.

Reagents used in the Dräger-Tubes® are chosen to provide not only the most accurate, but also the most specific results. The use of chemical pre-layers on many tubes (like benzene) removes potentially interfering gases (e.g. aromatic hydrocarbons) so you only measure the targeted chemical, getting only the results you want.

The cornerstone of the Dräger-Tube® system is the accuro® Pump. It draws a calibrated 100 ml sample of air through the Dräger-Tube® with each stroke. The one-handed operation is simple and allows you to reach places that a piston pump cannot go. A built-in stroke counter tells you exactly how many strokes have been taken. The visual end-of-stroke indicator signifies the completion of each pump stroke.

DRÄGER ACCURO® 2000 PUMP

The measuring ranges of various Dräger-Tubes® can be extended to lower levels if additional pump strokes are taken. The Dräger accuro® 2000 Pump is an electronic pump utilizing the Dräger accuro® hand pump that can be set to take up to 199 pump strokes. It is powered with a rechargeable battery that permits up to 500 strokes on a full charge.

DRÄGER QUANTIMETER® 1000 PUMP

The Dräger Quantimeter 1000 is a rugged electronic pump that can be used with Dräger-Tubes®. It can be set to take up to 199 pump strokes for making measurements of very low gas concentrations. The rechargeable battery will provide up to 1000 pump strokes on a fully charged battery.


ST-9374-2007

DRÄGER ACCURO® PUMP ORDER INFORMATION

Dräger accuro® Pump	64 00 000
Soft-Sided accuro® Pump Kit	40 53 473
Hard-Sided accuro® Pump Kit	40 56 443
Extension Hose, 3 meter	64 00 077
Extension Hose, 10 meter	64 00 078
Extension Hose, 15 meter	64 00 079
Tube Warmer	83 16 130
Hot Air Probe	CH 00 213
Tube Opener 7000	64 01 200

accuro® Pump, accuro® 2000 Pump and Quantimeter® 1000 Pump are available for rental.

DRÄGER ACCURO® 2000 PUMP TECHNICAL DATA

Size	3.5 x 7.5 x 10.5 in (89 x 191 x 267 mm)
Weight	5.3 lbs (2.41 kg)

DRÄGER ACCURO® 2000 PUMP ORDER INFORMATION

Dräger accuro® 2000 Pump Kit	45 00 200
Dräger accuro® Pump (required)	64 00 000

accuro® Pump, accuro® 2000 Pump and Quantimeter® 1000 Pump are available for rental.

DRÄGER QUANTIMETER® 1000 PUMP TECHNICAL DATA

Size	2.5 x 6.5 x 7.5 in (63 x 165 x 191 mm)
Weight	4.3 lbs (1.95 kg)

DRÄGER QUANTIMETER® 1000 PUMP ORDER INFORMATION

Dräger Quantimeter® 1000	45 00 231
Charger (required)	83 16 992
Charger Adapter	83 18 257

accuro® Pump, accuro® 2000 Pump and Quantimeter® 1000 Pump are available for rental.


ST-9375-2007

ST-9376-2007

Soft & Hard Sided accuro® Pump Kits


ST-9377-2007

accuro® 2000 Pump


ST-7317-2005

Quantimeter® 1000 Pump

WHAT IS THE DRÄGER-TUBE® SYSTEM?

Dräger-Tubes® are glass vials filled with a chemical reagent that reacts to a specific chemical or family of chemicals. A calibrated 100 ml sample of air is drawn through the tube with the Dräger accuro® bellows pump. If the targeted chemical(s) is present the reagent in the tube changes color and the length of the color change typically indicates the measured concentration. The Dräger-Tubes® System is the world's most popular form of gas detection.

DRÄGER SHORT-TERM DETECTION TUBES

Dräger-Tube®	Measuring Range	Part No.
Acetaldehyde 100/a	100-1,000 ppm	67 26 665
Acetic Acid 5/a	5-80 ppm	67 22 101
Acetone 40/a	40-800 ppm	81 03 381
Acetone 100/b	100-12,000 ppm	CH 22 901
Acid Test	Qualitative	81 01 121
Acrylonitrile 0.5/a (5)	0.5-20 ppm	67 28 591
Air Current Tube Kit		40 54 388
Air Current Tubes		CH 25 301
Alcohol 25/a	50-4,000 ppm Isopropanol 25-5,000 ppm Methanol	81 01 631
Alcohol 100/a	100-3,000 ppm	CH 29 701
Amine Test	Qualitative	81 01 061
Ammonia 0.25/a	0.25-3 ppm	81 01 711
Ammonia 2/a	2-30 ppm	67 33 231
Ammonia 5/b	2.5-100 ppm	81 01 941
Ammonia 5/a	**5-700 ppm**	**CH 20 501**
Ammonia 0.5%/a	0.05-10 Vol.%	CH 31 901
Aniline 0.5/a	0.5-10 ppm	67 33 171
Aniline 5/a	1-20 ppm	CH 20 401
Arsine 0.05/a	0.05-60 ppm	CH 25 001
Benzene 0.5/a	0.5-10 ppm	67 28 561
Benzene 0.5/c (5) specific	0.5-10 ppm	81 01 841
Benzene 2/a (5)	2-60 ppm	81 01 231
Benzene 5/b	5-50 ppm	67 28 071
Benzene 15/a	15-420 ppm	81 01 741
Carbon Dioxide 100/a	100-3,000 ppm	81 01 811
Carbon Dioxide 0.1%/a	**0.1-6 Vol.%**	**CH 23 501**
Carbon Dioxide 0.5%/a	0.5-10 Vol.%	CH 31 401
Carbon Dioxide 1%/a	1-20 Vol.%	CH 25 101
Carbon Dioxide 5%/A	5-60 Vol.%	CH 20 301
Carbon Disulfide 3/a	3-95 ppm	81 01 891
Carbon Disulfide 30/a	32-3,200 ppm	CH 23 201
Carbon Monoxide 2/a	2-300 ppm	67 33 051
Carbon Monoxide 5/c	**5-700 ppm**	**CH 25 601**
Carbon Monoxide 8/a (only for CO in H_2)	8-150 ppm	CH 19 701
Carbon Monoxide 10/b	10-3,000 ppm	CH 20 601
Carbon Monoxide 10/d	10-3,000 ppm	81 03 321
Carbon Monoxide 0.3%/b	0.3-7 Vol.%	CH 29 901
Carbon Pretubes		CH 24 101
Carbon Tetrachloride 0.1/a	0.1-5 ppm	81 03 501
Carbon Tetrachloride 1/a (5)	1-15 ppm	81 01 021
Carbon Tetrachloride 5/c	5-50 ppm	CH 27 401
Chlorine 0.2/a	0.2-30 ppm	CH 24 301
Chlorine 0.3/b	0.3-10 ppm	67 28 411
Chlorine 50/a	50-500 ppm	CH 20 701
Chlorine Dioxide 0.025/a	0.025-3 ppm	81 03 491

Dräger-Tube®	Measuring Range	Part No.
Chlorobenzene 5/a (5)	5-200 ppm	67 28 761
Chloroform 2/a (5)	2-10 ppm	67 28 861
Chloroformates 0.2/b	0.2-10 ppm	67 18 601
Chloropicrin 0.1/a	0.1-2 ppm	81 03 421
Chloroprene 5/a	5-60 ppm	67 18 901
Chromic Acid 0.1/a (9)	0.1-0.5 mg/m³	67 28 681
Cyanide 2/a	2-15 mg/m³	67 28 791
Cyanogen Chloride 0.25/a	0.25-5 ppm	CH 19 801
Cyclohexane 100/a	100-1,500 ppm	67 25 201
Cyclohexylamine 2/a	2-30 ppm	67 28 931
Dichloropropene 0.1/a	0.1-10 ppm	81 03 551
Diesel Fuel	25-200 mg/m³	81 03 475
Diethyl Ether 100/a	100-4,000 ppm	67 30 501
Dimethyl Formamide 10/b	10-40 ppm	67 18 501
Dimethyl Sulfate 0.005/c (9)	0.005-0.05 ppm	67 18 701
Dimethyl Sulfide 1/a (5)	1-15 ppm	67 28 451
Epichlorohydrin 5/c	5-80 ppm	67 28 111
Ethyl Acetate 200/a	200-3,000 ppm	CH 20 201
Ethyl Benzene 30/a	30-600 ppm	67 28 381
Ethylene 0.1/a (5)	0.2-5 ppm	81 01 331
Ethylene 50/a	50-2,500 ppm	67 28 051
Ethylene Glycol 10 (5)	10-180 mg/m³	81 01 351
Ethylene Oxide 1/a (5)	1-15 ppm	67 28 961
Ethylene Oxide 25/a	25-500 ppm	67 28 241
Ethyl Formate 20/a	20-500 ppm	81 03 541
Ethyl Glycol Acetate 50/a	50-700 ppm	67 26 801
Fluorine 0.1/a	0.1-2 ppm	81 01 491
Formaldehyde 0.2/a	0.2-5 ppm	67 33 081
Formaldehyde Activation tube (for use only in conjunction with 0.2/a tube)	extend to 0.04 ppm	81 01 141
Formaldehyde 2/a	2-40 ppm	81 01 751
Formic Acid 1/a	1-15 ppm	67 22 701
Halogenated Hydrocarbons 100/a	100-2,800 ppm	81 01 601
Hexane 100/a	50-3,000 ppm	67 28 391
Hydrazine 0.01/a	0.01-6 ppm	81 03 351
Hydrazine 0.25/a	0.1-10 ppm	CH 31 801
Hydrocarbons 0.1%/c	0.1-1.3 Vol. %	81 03 571
Hydrocarbons 2/a	2-24 mg/l	81 03 581
Hydrochloric Acid 0.2/a	0.2-20 ppm	81 03 481
Hydrochloric Acid 1/a	1-10 ppm	CH 29 501
Hydrochloric Acid 50/a	50-5,000 ppm	67 28 181
Hydrochloric Acid/Nitric Acid 1/a 1-15 ppm (HNO_3)	1-10 ppm (HCL)	81 01 681
Hydrocyanic Acid 2/a	2-150 ppm	CH 25 701
Hydrogen 0.2%/a	0.2-2 Vol. %	81 01 511

Number in parenthesis indicates tests per box.
Bold font indicates SEI Certification

Dräger-Tube®	Measuring Range	Part No.
Hydrogen Fluoride 0.5/a	0.5-90 ppm	81 03 251
Hydrogen Peroxide 0.1/a	0.1-3 ppm	81 01 041
Hydrogen Sulfide 0.2/a	0.2-5 ppm	81 01 461
Hydrogen Sulfide 0.2/b	0.2-6 ppm	81 01 991
Hydrogen Sulfide 0.5/a	0.5-15 ppm	67 28 041
Hydrogen Sulfide 1/d	**1-200 ppm**	**81 01 831**
Hydrogen Sulfide 2/a	2-200 ppm	67 28 821
Hydrogen Sulfide 2/b	1-60 ppm	81 01 961
Hydrogen Sulfide 5/b	5-600 ppm	CH 29 801
Hydrogen Sulfide 100/a	100-2,000 ppm	CH 29 101
Hydrogen Sulfide 0.2%/A	0.2-7 Vol. %	CH 28 101
Hydrogen Sulfide 2%/a	2-40 Vol. %	81 01 211
Hydrogen Sulfide + Sulfur Dioxide 0.2%/A	0.02-7 Vol. %	CH 28 201
Iodine 0.1/a	0.1-6 ppm	81 03 521
Mercaptan 0.1/a	0.1-2.5 ppm	81 03 281
Mercaptan 0.5/a	0.5-5 ppm	67 28 981
Mercaptan 20/a	20-100 ppm	81 01 871
Mercury Vapor 0.1/b	0.05-2 mg/m³	CH 23 101
Methyl Acrylate 5/a	5-200 ppm	67 28 161
Methyl Bromide 0.2/a	0.2-8 ppm	81 03 391
Methyl Bromide 0.5/a	0.5-30 ppm	81 01 671
Methyl Bromide 5/b	5-50 ppm	CH 27 301
Methylisothiocyanate 0.1/a	0.1-6 ppm	81 03 485
Methylene Chloride 20/a	20-200 ppm	81 03 591
Natural Gas Test (Methane)(5)	Qualitative	CH 20 001
Nickel Tetracarbonyl 0.1/a (9)	0.1-1 ppm	CH 19 501
Nitric Acid 1/a	1-50 ppm	67 28 311
Nitrogen Dioxide 0.5/c	**0.5-25 ppm**	**CH 30 001**
Nitrogen Dioxide 2/c	2-100 ppm	67 19 101
Nitrous Fumes 0.5/a	0.5-10 ppm	CH 29 401
Nitrous Fumes 2/a	2-100 ppm	CH 31 001
Nitrous Fumes 20/a	20-500 ppm	67 24 001
Nitrous Fumes 50/a	50-2,000 ppm	81 01 921
Nitrous Fumes 100/c	100-5,000 ppm	CH 27 701
Oil Mist 1/a	1-10 mg/m³	67 33 031
Olefins 0.05%/a	0.06-3.2 Vol.% Propylene 0.04-2.4 Vol.% Butylene	CH 31 201
Organic Arsenic Compounds and Arsine	3 mg org. arsenic/m³	CH 26 303
Organic Basic Nitrogen Compounds	1 mg/m³	CH 25 903
Oxygen 5%/C	5-23 Vol. %	81 03 261
Ozone 0.05/b	0.05-1.4 ppm	67 33 181
Ozone 10/a	10-300 ppm	CH 21 001
Pentane 100/a	100-1,500 ppm	67 24 701
Perchloroethylene 0.1/a	0.1-4 ppm	81 01 551

Dräger-Tube®	Measuring Range	Part No.
Perchloroethylene 2/a	2-300 ppm	81 01 501
Perchloroethylene 10/b	10-500 ppm	CH 30 701
Petroleum Hydrocarbons 10/a	10-300 ppm (n-Octane)	81 01 691
Petroleum Hydrocarbons 100/a	100-2,500 ppm (n-Octane)	67 30 201
Phenol 1/b	1-20 ppm	81 01 641
Phosgene 0.02/a	0.02-1 ppm	81 01 521
Phosgene 0.25/c	0.25-15 ppm	CH 28 301
Phosphine 0.01/a	0.01-1 ppm	81 01 611
Phosphine 0.1/a	0.1-4 ppm	CH 31 101
Phosphine 0.1/b in acetylene	0.1-15 ppm	81 03 341
Phosphine 1/a	1-100 ppm	81 01 801
Phosphine 25/a	25-10,000 ppm	81 01 621
Phosphine 50/a	15-1,000 ppm	CH 21 201
Phosphoric Acid Esters 0.05/a Dimethyldichlorovinylphosphate)	0.05 ppm	67 28 461
Polytest	Qualitative	CH 28 401
Pyridine 5/A	5 ppm	67 28 651
Styrene 10/a	10-200 ppm	67 23 301
Styrene 10/b	10-250 ppm	67 33 141
Styrene 50/a	50-400 ppm	CH 27 601
Sulfur Dioxide 0.1/a	0.1-3 ppm	67 27 101
Sulfur Dioxide 0.5/a	0.5-25 ppm	67 28 491
Sulfur Dioxide 1/a	1-25 ppm	CH 31 701
Sulfur Dioxide 20/a	20-2,000 ppm	CH 24 201
Sulfur Dioxide 50/b	50-8,000 ppm	81 01 531
Sulfuric Acid 1/a (9)	1-5 mg/m³	67 28 781
Sulfuryl Fluoride 1/a (5)	1-5 ppm	81 03 471
Tetrahydrothiophene 1/b (5)	1-10 ppm	81 01 341
Thioether	1 mg/m³	CH 25 803
Toluene 5/b	5-300 ppm	81 01 661
Toluene 50a	50-400 ppm	81 01 701
Toluene 100/a	100-1,800 ppm	81 01 731
Toluene Diisocyanate 0.02/A (9)	0.02-0.2 ppm	67 24 501
Trichloroethane 50/d (5)	50-600 ppm	CH 21 101
Trichloroethylene 2/a	2-250 ppm	67 28 541
Trichloroethylene 50/a	50-2,000 ppm	81 01 701
Triethylamine 5/a	5-60 ppm	67 18 401
Vinyl Chloride 0.5/b	0.5-30 ppm	81 01 721
Vinyl Chloride 100/a	100-3,000 ppm	CH 19 601
Water Vapor 0.1/a	0.05-1 mg/L	81 01 321
Water Vapor 1/b	1-40 mg/L	81 01 781
Water Vapor 3/a	3-60 lbs/mcf	81 03 031
Xylene 10/a	10-400 ppm	67 33 161

Consult the VOICE® Hazardous Substances Database for detection options on over 1700 chemicals. Access VOICE® at www.dräger.com

Dräger Emergency Response Kits

DRÄGER CMS EMERGENCY RESPONSE KIT

Put the simplicity of the Dräger CMS to work for you in your emergency response procedures. The Dräger CMS Emergency Response Kit contains the Dräger CMS Analyzer, the appropriate accessories, and a selection of 10 different Chips for response to HazMat or other situations.

Put the capability of several gas detection monitors in your hands without all of the worries. The Dräger CMS is as easy to use as 1-2-3, all Dräger Chips use the exact same procedure. The Chips never need calibration, and the Analyzer does not require battery charging. All of the needed accessories are placed in one rugged carrying case, ready to go at a moments notice.

Use our standard selection of Chips, or create your own Emergency Response Kit selecting from the over 50 CMS Chips currently available.

GASES MEASURED

Ammonia, Carbon Dioxide, Carbon Monoxide, Chlorine, Hydrochloric Acid, Hydrogen Sulfide, Nitrous Gases, Perchloroethylene, Petroleum Hydrocarbons, and Toluene.

DRÄGER CMS EMERGENCY RESPONSE KIT ORDER INFORMATION

Dräger CMS Emergency Response Kit	40 55 711
Dräger CMS Emergency Response Kit (without Chips)	40 55 976

DRÄGER HAZMAT SIMULTEST KIT

Designed primarily for the municipal fire service and other emergency responders, this kit quickly identifies and quantifies a wide range of chemical substances in less than 5 minutes using the Dräger Simultest Sets. The Dräger HazMat Simultest Kit includes three Simultest Sets for measuring 15 different Organic and Inorganic chemicals and/or chemical families. Broad scale measurement and identification is as easy as using Set I, II and III.

The Dräger HazMat Simultest Kit comes complete with a Dräger accuro® Pump, 10 Simultest Sets, Test Set Adapter and Tube Openers, full color laminated instruction sheets, and an Air Current Kit together in a rugged Pelican® case.

GASES MEASURED

Acid Gases, Basic Gases, Carbon Monoxide, Hydrocyanic Acid, Nitrous Gases, Phosphine, Chlorine, Hydrogen Sulfide, Phosgene, Sulfur Dioxide, Aliphatics, Aromatics, Alcohols, Ketones and Chlorinated Hydrocarbons

DRÄGER SIMULTEST KIT ORDER INFORMATION

Dräger HazMat Simultest Kit	40 56 098
Dräger HazMat Simultest Kit (without Dräger accuro® Pump)	40 56 447
Dräger Simultaneous Test Set I (Inorganic Gases)	81 01 735
Dräger Simultaneous Test Set II (Inorganic Gases)	81 01 736
Dräger Simultaneous Test Set III (Organic Vapors)	81 01 770

DRÄGER CLAN LAB SIMULTEST KIT

The illegal manufacture of methamphetamine is a serious problem in North America. Dräger has developed a Simultest Set with detector tubes that quickly confirm the presence of chemicals commonly associated with three principal methods of methamphetamine production. This allows law enforcement and first responder personnel to make fast decisions on the need for respiratory protection.

The Dräger Clan Lab Simultest Kit includes the accuro® Pump, Test Set Adapter and Opener, quick reference laminated instruction sheet and 5 Clan Lab Simultest Sets in a Pelican Case.

GASES MEASURED

Ammonia, Hydrochloric Acid, Iodine, Phosgene and Phosphine

DRÄGER CLAN LAB SIMULTEST KIT ORDER INFORMATION

Dräger Clan Lab Simultest Kit	40 56 562
Dräger Clan Lab Simultaneous Test Set	81 03 310

CIVIL DEFENSE SIMULTEST (CDS) KIT

Are you prepared to respond to a terrorist attack involving the use of chemical weapons? In today's world, immediate and accurate detection of toxic chemicals is crucial. The Dräger CDS Kit uses specially developed Dräger-Tubes® (the same tubes used by NATO forces) in a quick and easy to use kit. Two Civil Defense Simultest Sets measure a wide range of chemical substances including nerve, blood, lung, and blister agents.

Dräger-Tubes® have been proven by Aberdeen Proving Grounds to be more accurate, more specific and more reliable than PID and FID devices in detecting chemical warfare agents. The CDS Kit requires no calibration, no battery charges or changes, and is extremely simple to use.

GASES MEASURED

Chlorine, Hydrocyanic Acid, Phosgene, Cyanogen Chloride, Organic Arsenic Compounds and Arsine (e.g. Lewisite), Nerve Agents (G agents and VX) and Blister Agents (Mustard and other Organic Basic Nitrogen Compounds).

DRÄGER CIVIL DEFENSE SIMULTEST KIT ORDER INFORMATION

Dräger Civil Defense Simultest Kit (w/ accuro® Pump)	6400 565S
Dräger Civil Defense Simultest Kit (w/ Quantimeter®)	40 56 570
Dräger Civil Defense/HazMat Simultest Kit (w/ accuro® Pump)	40 56 665
Dräger Civil Defense/HazMat Simultest Kit (w/ Quantimeter®)	40 56 528
Dräger Civil Defense Simultest, Set I	81 03 140
Dräger Civil Defense Simultest, Set V	81 03 200
Training Set for Civil Defense Simultest Set I	81 03 230
Training Set for Civil Defense Simultest Set V	81 03 240

CMS Emergency Response Kit

HazMat Simultest Kit

Clan Lab Simultest Kit

Civil Defense Simultest (CDS) Kit with Quantimeter

Biological Agent Detection
Breathing Air Quality

DRÄGER BIO-AGENT TEST

The Dräger Bio-Agent Test product line is a series of easy-to-use, rapid immunological tests to detect biological agents and toxins. Each assay comes in a sealed package that includes everything needed to complete the simple test that does not require any type of additional reader device. The tests are very specific to the target substances resulting in no false positives or negatives (hook effect). High concentrations can be detected in as little as 3 minutes.

Individual tests are available for anthrax, ricin, botulinum toxin, Y. pestis (plague) and staphylococcal enterotoxin B (SEB) and there is a simultaneous test, the Bio-Agent Simultest 5, that tests for all 5 substances at the same time. Demonstration and Training Sets are available for both the single and simultaneous tests.

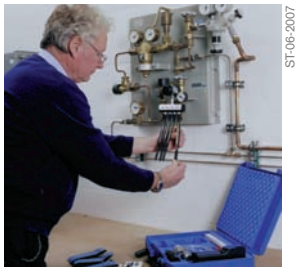
DRÄGER BIO-AGENT TEST ORDER INFORMATION

Bio-Agent Simultest 5, pkg. of 10	81 03 482
Bio-Agent Training Set 5A, pkg. of 10	81 03 496
Bio-Agent Demonstration Set 5A, pkg. of 5	81 03 498

DRÄGER AEROTEST KITS

Dräger-Tubes® are widely used to measure the quality of compressed breathing air, the purity of medical gases, contaminants in process gases, and impurities in technical gases. The Aerotest Kits facilitate these types of measurements by conditioning the pressurized sample to a level at which the Dräger-Tubes® can accurately operate.

The Dräger Aerotest Kits are designed to measure the quality of breathing air. The kits come complete with Dräger-Tubes® for measuring CO, CO_2, oil and water vapor. The low-pressure (Alpha) version may be plugged directly into compressed airlines, while the high-pressure (HP) version can be connected directly to SCBA cylinders or compressors. The Dräger Multi-Test is designed for medical gases and can measure up to seven different substances simultaneously; CO, CO_2, H_2O, Oil, SO_2, H_2S, and NOx.



DRÄGER AEROTEST KITS ORDER INFORMATION

Aerotest Simultan Alpha (< 175 psi)	40 56 747
Aerotest Simultan HP (< 4500 psi)	40 55 986
Aerotest Multi-Test (< 75 psi)	40 56 181

Dräger TWA Measurements

DIFFUSION (PASSIVE SAMPLING) TUBES

Get on-site measurements of 8-hour exposures with the Dräger Diffusion Tubes. This gas and vapor measurement technique provides a quick, simple, and on-site means to determine employee exposures.

Unlike Short-Term detector tubes that require a pump for operation, Dräger Diffusion Tubes rely on natural movement of the gases and vapors to enter the tube and cause a color change. Simply read the indication on the graduated scale (ppm x hours) and divide by the amount of hours the Dräger Diffusion Tube has been in use for a TWA measurement. No waiting, no analysis fees, no laboratory services, no turn-around time; just on the spot measurement. The Dräger Tube Holder allows you to place the Dräger Diffusion Tube in the breathing zone of the people being monitored or in the suspected areas.

Diffusion (Passive Sampling) Tubes

ORDER INFORMATION

DrägerTube®	Range in Absolute Units	Part No.
Acetic Acid 10/a-D	10 - 200 ppm x h	81 01 071
Ammonia 20/a-D	20 - 1,500 ppm x h	81 01 301
Butadiene 10/a-D	10 - 300 ppm x h	81 01 161
Carbon Dioxide 500/a-D	500 - 20,000 ppm x h	81 01 381
Carbon Dioxide 1%/a-D	1 - 30 Vol.% x h	81 01 051
Carbon Monoxide 50/a-D	50 - 600 ppm x h	67 33 191
Ethanol 1000/a-D	1,000 - 25,000 ppm x h	81 01 151
Hydrochloric Acid 10/a-D	10 - 200 ppm x h	67 33 111
Hydrocyanic Acid 20/a-D	20 - 200 ppm x h	67 33 221
Hydrogen Sulfide 10/a-D	10 - 300 ppm x h	67 33 091
Nitrogen Dioxide 10/a-D	10 - 200 ppm x h	81 01 111
Perchloroethylene 200/a-D	200 - 1,500 ppm x h	81 01 401
Sulfur Dioxide 5/a-D	5 - 150 ppm x h	81 01 091
Toluene 100/a-D	100 - 3,000 ppm x h	81 01 421
Trichloroethylene 200/a-D	200 - 1,000 ppm x h	81 01 441
Diffusion Tube Holder (Pkg 3)		67 33 014

BIO-CHECK F BADGES

The Bio-Check F detects formaldehyde in the range of 0.02 to 0.7 ppm without mechanical or electronic devices. An enzyme reaction changes the color of the indication layer and is evaluated by a color comparison chart that is included with the badge. The determination of indoor air exposure levels can be accomplished in only two hours. The Bio-Check is small enough to be worn on a person's lapel, or set in a room of concern for measurement of formaldehyde at these very low levels.

DRÄGER SOFTWARE ORDER INFORMATION

Bio-Check F Badge	64 00 235

Bio-Check F Badges

Air Current Measurement

DRÄGER FLOW-CHECK

Air current directions and flow rates are very important to gas detection. The visible plume of non-toxic, non-reactive smoke generated by the Dräger Flow-Check allows you to actually see the direction, dispersion, and relative speed of the air currents in an area. Knowing how the air is moving, you are better prepared to accurately measure gases. This smoke can also be used to detect air leaks around doorways or other fixtures.

Dräger Flow-Check is also popular for checking the effectiveness of ventilation ducts, pressurized rooms, fume hoods, vapor extractors and other air movement equipment. These functions assist those in the HVAC, hospital laboratory, and manufacturing industry sectors.

TECHNICAL DATA

Size	Approx 11.8 x 7.9 x 2.8 in., (300 x 200 x 70 mm)
Weight	17.6 oz. (500 g)

DRÄGER FLOW-CHECK ORDER INFORMATION

Dräger Flow Check Device	64 00 761
Battery Charger, 110 VAC, Required for operation	83 16 993
Replacement Smoke Ampoules (3/pkg)	64 00 812

DRÄGER SMOKE TUBES

Dräger Smoke Tubes have been very popular in the HVAC and mining industries for many years. The reagent inside the smoke tube produces a visible aerosol plume when in contact with atmospheric humidity. A simple squeeze bulb pushes air through the tube to propel the smoke into the ambient air. Even the most gentle air currents are made visible.

DRÄGER SMOKE TUBES SAMPLE KIT INFORMATION

Air Current Tube Kit	40 54 388
Smoke Tubes	CH 25 301

Training and Support
for your Dräger protection and detection equipment.

DrägerService

Let DrägerService provide expert care for your respiratory protection equipment. Dräger has strategically located Service Centers across North America in Pittsburgh PA, Los Angeles CA, Houston TX, Mississauga ON, Sudbury ON, Montreal PQ, Edmonton AB, and Queretaro, Mexico. Services are available at these locations or on-site.

DrägerService supports with a full range of technical services including gas calibration, maintenance, upgrades and repairs. Services can be arranged on an as needed basis, or through maintenance agreements and service contracts. Our all-encompassing Total Care Packages provide all services, including loaner units when needed.

DRÄGER TRAINING

The best safety equipment is only as good as the knowledge of those who use it. Let Dräger train your staff on the proper use and maintenance of all of our products. We offer both operator and technician level courses at our service facilities or at your site. Students are provided with the appropriate training materials such as posters, videos, CDs, books and/or schematics depending on the training given. All courses are available with certification.

DRÄGER RENTAL

For many applications and situations, purchasing gas detection or respiratory protection equipment may not be the most efficient or cost-effective solution. The complete range of Dräger products are available for rental. We offer competitive pricing; convenient daily, weekly or monthly terms; expertly maintained equipment; and Rent-to-Own options.

DRÄGER SUPPORT

Our worldwide experience obtained from many different industries, applications, and environmental conditions are available to all Dräger customers. The Technical Services staff in Pittsburgh can assist you through the challenges and questions you may encounter in your application and recommend the proper equipment for the job at hand.

Breathing Gas Systems

This division of Dräger provides several diverse products and tailor made systems related to respiratory protection equipment.

DRÄGER BREATHING AIR COMPRESSORS

Fill your SCBA cylinders with our breathing air compressor systems. We offer a range of solutions from portable units to complete fill stations including high-pressure compressors, fragmentation shields, cascade cylinder banks, and control panels. Our 7 cfm and 10 cfm portable compressors are especially popular with small fire stations and dive centers. Our gas and diesel engine models offer air filling capabilities where access to an electrical power supply is limited.

DRÄGER VEHICLE FILTER SYSTEMS

The Dräger vehicle filtration system will protect its occupants from the outside atmosphere by filtering the air and maintaining a positive pressure inside the passenger cabin. Where the Dräger C420 PAPR respirators provide respiratory protection to a single individual, our Vehicle Filter Systems protect up to several occupants inside vehicle. The air systems afford maximum protection for vehicle operators by being independent of the ambient air. Our vehicle filter systems provide protection against wide range of contaminants from toxic to chemical warfare substances.

DRÄGER TRAINING GALLERIES

Dräger training systems provide ideal conditions for breathing apparatus users to experience physical and mental stress common to emergency situations in controlled environment.

Dräger training galleries can be supplied as fixed or mobile systems and incorporate obstacles and distracting effects such as smoke, noise and lights. The gallery is set up on a grid system and can be easily reconfigured so the training course is different each time. A control section allows constant monitoring of the trainees' via video cameras and intercom systems.

Dräger Flash Over Training containers allow fire fighters to experience the power of an actual flash over under controlled circumstances.

ST-6831-2006

Respiratory Protection

DRÄGER X-PLORE® 1300

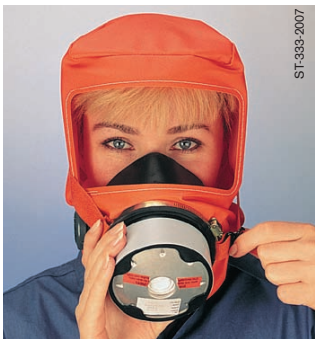
The Dräger X-plore® Series of filtering facepiece respirators sets the standard for comfort and adjustability. The unique tension adjuster allows a wearer to fine-tune the non-irritating fabric head strap to a proper fit. In addition, the strap provides a drop-down feature to comfortably hang around the neck when not needed. The Dräger X-plore® facepiece respirator is available in two sizes, with a strong plastic-coated nose clip and internal ribbing to prevent collapsing, making them the most ergonomically designed filtering facepiece respirators on the market.

DRÄGER X-PLORE® MASKS AND FILTERS

The new Dräger X-plore® Series masks set a new benchmark in fit and comfort in respiratory protection. The innovative X-guided strap system secures the mask evenly over the face providing an excellent fit while remaining very comfortable. Three sizes (S, M, L) of masks and a flexible nose seal ensure a proper fit for every type of face. The Dräger X-plore® comes in economical use (3300) and premium (3500) half-mask styles. The full face (5500) mask provides a higher level protection when needed. To meet a wide range of industrial applications, Dräger offers a full line of NIOSH approved cartridges and filters with their exclusive two-point bayonet connector.

DRÄGER PARAT C

The Dräger Parat C fire/smoke escape hood offers a minimum of 15 minutes of protection against potential hazards found in fires, such a carbon monoxide, toxic gases and smoke particulates. The flame retardant hood is an easy to see orange color that has been flame flash tested at 1200 °F. It can be worn by people with facial hair, glasses, long hair, and has even been tested on children. The Parat C has a shelf life of 12 years, providing that the filter is replaced after 6 years. In addition, the Parat C offers documented protection against H_2S. This hood is approved to the European Standard EN403:2004.



DRÄGER INDUSTRIAL SUPPLIED AIR RESPIRATORS

Hard work in an industrial environment requires rugged and reliable equipment. The Dräger line of supplied air respirators confidently meets this challenge. Our modular airline respirator systems are based on the Dräger Panorama Nova mask that provides superior fit and comfort. The Type C Dräger SAR and constant flow Dräger PentAir® respirators are for working extended periods in non-IDLH environments. The PAS Colt, Supplied Airline Respirator (Combination Pressure Demand, Type "C") with a 5 or 10-minute self-contained air cylinder for emergency use, is NIOSH approved for entry and escape, and may be used in the supplied air mode up to 300 feet or 12 hose length sections from the air source, whichever is greater.

DRÄGER FIRE FIGHTING BREATHING APPARATUS

As the world's largest SCBA manufacturer, we design SCBAs to withstand the most demanding circumstances while delivering the most safety and comfort. Ergonomic back plates and fully adjustable harness system, allow the Dräger AirBoss® Evolution Plus and Dräger AirBoss® PSS-100 Plus to provide exceptional safety, maneuverability, and comfort for fire fighters. The Dräger AirBoss® SCBA Series has been approved to the most challenging standards in the world, NFPA 1981-2007 edition. Available in both one piece, Evolution backplate as well as the PSS 100 multi-position backplate, the series utilizes the well proven AirBoss® pneumatic system. With direct input from fire fighters we developed the Dräger PSS 7000, the only SCBA designed to meet NFPA 1981-2007 edition standards - the world's toughest SCBA standards.

DRÄGER BG-4 CLOSED CIRCUIT BREATHING APPARATUS (CCBA)

The Dräger BG-4 is a NIOSH & MSHA Approved Closed Circuit Breathing Apparatus provides superior respiratory protection in IDLH environments for up to 4 hours! Conventional SCBA's are limited to just one hour or less and do not provide the extended time that is required in critical operations like: search and rescue, hazardous materials clean-up, domestic preparedness, or mine and tunnel rescue. The low profile of the Dräger BG-4 makes it easy to use under protective clothing. Every Dräger BG-4 is equipped with the Sentinel, which is an electronic alarm; test and pressure display module that provides continuous information to the user.

HEADQUARTERS:
Dräger Safety AG & Co. KGaA
Revalstrasse 1
23560 Lübeck, Germany

www.draeger.com

SUBSIDIARIES:

AUSTRALIA
Draeger Safety Pacific Pty. Ltd.
Axxess Corporate Park
Unit 99, 45 Gilby Road
Mt. Waverley. Vic 3149
Tel +61 3 92 65 50 00
Fax +61 3 92 65 50 95

CANADA
Draeger Canada Ltd.
7555 Danbro Crescent
Mississauga, Ontario L5N 6P9
Tel +1 905 821 89 88
Fax +1 905 821 25 65

P. R. CHINA
Beijing Fortune Draeger Safety
Equipment Co., Ltd.
A22 Yu An Rd, B Area,
Tianzhu Airport Industrial Zone,
Shunyi District, Beijing 101300
Tel +86 10 80 49 80 00
Fax +86 10 80 49 80 05

FRANCE
Dräger Safety France SAS
3c route de la Fédération, BP 80141
67025 Strasbourg Cedex 1
Tel +33 3 88 40 59 29
Fax +33 3 88 40 76 67

MEXICO
Draeger Safety S.A. de C.V.
Av. Peñuelas No. 5
Bodega No. 37
Fraccionamiento Industrial
San Pedrito
Querétaro, Qro México
Tel +52 442 246-1113
Fax +52 442 246-1114

NETHERLANDS
Dräger Safety Nederland B.V.
Edisonstraat 53
2700 AH Zoetermeer
Tel +31 79 344 46 66
Fax +31 79 344 47 90

REP. OF SOUTH AFRICA
Dräger South Africa (Pty) Ltd.
P.O. Box 68601
Bryanston 2021
Tel +27 11 465 99 59
Fax +27 11 465 69 53

SINGAPORE
Draeger Safety Asia Pte Ltd
67 Ayer Rajah Crescent #06-03
Singapore 139950
Tel +65 68 72 92 88
Fax +65 65 12 19 08

SPAIN
Draeger Safety Hispania S.A.
Calle Xaudaró 5
28034 Madrid
Tel +34 91 728 34 00
Fax +34 91 729 48 99

UNITED KINGDOM
Draeger Safety UK Ltd.
Blyth Riverside Business Park
Blyth, Northumberland NE24 4RG
Tel +44 1670 352-891
Fax +44 1670 356-266

USA
Draeger Safety, Inc.
101 Technology Drive
Pittsburgh, PA 15275
Tel +1 412 787 83 83
Fax +1 412 787 22 07

4071 | PI | E | 07.09-13 | Marketing Communications | Printed in USA | Subject to modifications |