Dräger E-Cal –
Optimal Instrument Management

ST-1002002

Automatic Test and Calibration Station for Portable Gas Detection Instruments

Dräger has been manufacturing numerous portable detection instruments for several decades. These instruments are used to monitor breathing air at the workplace. Employee safety is priority number one but the reliability of the detection instruments has to be ensured at all times. This means that optimal protection also includes testing, maintenance, and management of the safety equipment.

Dräger E-Cal perfects this instrument management. The automatic test and calibration station reliably checks and calibrates all portable Dräger gas detection instruments. Dräger E-Cal was developed to minimize time, cost, and documentation expenditures. It is the most progressive and economic form of instrument management available today.

Dräger E-Cal is based on the CC Vision E-Cal software and sets new standards for the instrument management of the future. This flexible system offers many benefits to large scale and industrial users as well as those maintaining smaller instrument bleets. Just a few calibrations and tests a year and this system yields significant cost savings.

Dräger E-Cal can be operated with standard gases as well as mixed gases. Using mixed gases maximizes the efficiency of the station because up to ten instruments and four different sensor types can be calibrated simultaneously.

Pac III

MiniWarn

Multiwarn II

Dräger E-Cal – The new instrument management standard:

- Automatically calibrates and checks up to 10 instruments simultaneously.
- Controls up to twelve different gases.
- Maximum efficiency and functionality.
- Automatic data management.
- Modern and modular design.
- Automatically reads instrument datalogger.
- Automatically charges instruments.

Modular System Offers Increased Functionality

The components of the E-Cal station are compact, ergonomic, and functional. The clear and well-arranged components ensure ease of use. The station can be installed in any workshop or at any other location without any problems due to its small size. The system can be operated with a regular PC. The supplementary modular system consists of three components:

MasterStation
The MasterStation is the control center of the system. It supports up to ten instrument modules and twelve different gases at once. The MasterStation is computer controlled and ensures that any testing and calibration is carried out fast, efficient, and with the utmost degree of accuracy. The control center can communicate bidirectional and simultaneously supports different instrument types. This means the number of configuration possibilities is almost infinite.

CC Vision E-Cal
Every MasterStation features the software CC Vision E-Cal. In addition to communication and the standard CC Vision functions, the program also offers an automatic execution of the entire testing and calibration procedures as well as the configuration of up to ten instruments at once. This control software also manages instrument documentation, provides a calibration history, and reads the data memory of the connected instruments. CC Vision E-Cal is compatible with commonly used PCs.

Instrument Module
The instrument module establishes the communication between the detection instrument and the MasterStation/PC. It automatically detects when an instrument has been put in and reports this event to the control software. The instrument module controls the gas supply so that an adequate gas flow to the instrument is always ensured. The result of the test or calibration is displayed as well. Moreover, the instrument module can also be used in combination with the regular instrument wall plug and charger to recharge the unit.

Purge Module
An optional purge module is available in addition to the three basic components. This special module ensures the active and defined suctioning of the exhaust gases from the E-Cal station. Furthermore, it enables exhaust gases to be simultaneously vented to the outside over distances exceeding the length of the exhaust hose that is supplied as a standard.

Reliable and convincing Technology

ST-103-2002

ST-102-2002

Scalability
Thanks to its scalability, the E-Cal station can be customized to meet any requirements. The modular structure ensures easy expansion and rapid redesign. Every instrument module can thus be operated manually and independent of the MasterStation and utilized as an economic alternative for simple instrument bump tests. An optional adapter allows for the direct control of an individual instrument module via the PC.

When equipped with all available options, the Dräger E-Cal station can handle easily any conceivable task requiring the professional and fully automatic testing and calibration of up to ten instruments at once.

Functionality
With Dräger E-Cal, all procedures can be set up efficiently and according to need. Daily routine tasks such as testing instruments before use can now be preprogrammed so that instruments not passing the test are automatically calibrated. A fully equipped station can address instruments separately, e.g., to subject them to an individual diagnosis or to set up a special configuration.

The Dräger E-Cal system also reads the respective instrument memory and visualizes this data with the help of the GasVision software. The user-friendly structure of the online help answers any possible questions and makes sure that even complex problems are solved easily.

Dräger E-Cal offers practical advantages concerning logistics as well: Gas cylinders supplying the station can be located at a distance of up to 10 meters. The use of “on demand” regulators even eliminates opening and closing the gas cylinders when turning the station on or off – the stations works fully automatically down to the smallest detail.

Data Management
Together with the search function, the CC Vision E-Cal data management offers many different evaluations and classifications, for example: instrument owner, which instruments are to be calibrated when, or the calibration history of individual instruments. An additionally printed log facilitates the data documentation.

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Technical Data

Dimensions	
MasterStation (B x T x H)	29 x 29,5 x 6 cm
Miniwarn Module (B x T x H)	13,5 x 29,5 x 6 cm
PAC III Module (B x T x H)	13,5 x 29,5 x 6 cm
Multiwarn II Module (B x T x H)	24 x 29,5 x 6 cm
Power supply	100 - 240 VAC
CE Certification	Electromagnetic compatibility (Directive 89/336/EEC)
Calibration gases	CO, H_2S, O_2, CH_4, CO_2, C_3H_8, SO_2, NO, NO_2, HCN, NH_3, PH_3
Instrument Software Requirements	
MiniWarn	≥ 2.06
Multiwarn II	≥ 6.00
PAC III	≥ 3.3
System Requirements	IBM compatible PC Windows 95, 98, NT, 2000 or XP Two available COM ports

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Ordering Information

MasterStation 12, (for up to 12 gases) Incl. CC Vision E-Cal, power supply	83 16 912
MasterStation 6, (for up to 6 gases) Incl. CC Vision E-Cal, power supply	83 16 906
MiniWarn Module Incl. necessary accessories	83 16 552
MultiWarn II Module Incl. necessary accessories	83 16 553
PAC III Module Incl. necessary accessories	83 16 554
Accessories	
Purge Module Incl. necessary accessories	83 16 560
Calibration gases (disposable cylinders)	

Standard gases

Gas	Conzentration in Luft		Content	Order No.
Ammonia	NH_3	100 ppm	34 L	68 10 387
Methane	CH_4	40 % LEL	58 L	68 10 389
Propane	C_3H_8	40 % LEL	58 L	68 10 390
Carbon dioxide	CO_2	2.5 vol.%	58 L	68 10 391
Carbon monoxide	CO	100 ppm	58 L	68 10 392
Hydrogen sulfide	H_2S	20 ppm	58 L	68 10 393
Nitrogen	N_2	99.999 vol.	58 L	68 10 394
Hydrogen	H_2	50 % LEL	34 L	68 10 388
Mixed gases (58 L content):				
CO H_2S CH_4 O_2		50 ppm 20 ppm 2.5 vol.% 21 vol.%		68 10 395
CO_2 H_2S CH_4 O_2		2 vol.% 20 ppm 2.5 vol.% 21 vol.%		68 10 396
Other gases				19 63 384
“On demand” regulator for gases listed above				83 16 556

Adapter Modul adapter	83 16 555
Hoses Viton hose, solvent resistant	12 03 150
Plug-in power packs	
MiniWarn	83 15 705
MultiWarn II	83 15 706
PAC III	83 15 635

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DrägerService
Dräger equipment must always be fully operational and safe. DrägerService offers a regular inspection service and is quickly available in the event of malfunction. Your equipment will be repaired and back in operation as quickly as possible. DrägerService facilitates the vital flow of information between client and manufacturer.

Dräger Expertise
Since 1889, Dräger has had an outstanding reputation for solving problems in the field of human breathing. Dräger has been deeply involved in the handling of gases, in particular hazard protection and the saving of life in medical and industrial emergencies. Many of the company's 9400 employees are active in research and innovation to ensure that the latest techniques and scientific advances are fully tested before their inclusion in new equipment.

Dräger Worldwide
The Dräger sales and service organisation is spread throughout the world. It comprises more than 25 subsidiaries and associated companies to ensure that Dräger is always within easy reach of its clients and in close contact with all important markets. Dräger's ever increasing market share demonstrates the company's international competitiveness and strength.

Dräger has subsidiaries in the following countries: Australia, Austria, Belgium, Bulgaria, Canada, China, Croatia, Czech Republic, Denmark, France, Great Britain, Hungary, Indonesia, Italy, Japan, the Netherlands, Norway, Romania, Singapore, Slovenia, Slowakia, South Africa, Spain, Sweden, Switzerland, Thailand, Yugoslavia, USA. Additionally, Dräger is widely represented in Central and South America, Africa, the Middle East, the Far East and Eastern Europe.

Quality and Environmental Management
Our mission includes the continuous improvement of our Quality and Environmental Management Systems in accordance with ISO 9001 and ISO 14001.

90 44 617 / PB / 052 / M-LSL-DD / Market communications ST / Printed in Germany / chlorinefree – ecological / Subject to modifications!