



Operating Manual

Breathing and draining device Version MC95A





Dear customer,

we have made up this operating manual in such a way that all necessary information about the product can be found and understood quickly and easily.

Should you still have any question, please do not hesitate to contact **M&C** directly or go through your appointed dealer. Respective contact addresses are to be found in the annexe to this operating manual.

Please also contact our homepage www.mc-techgroup.com for further information about our products. There, you can read or download the data sheets and operating manuals of all **M&C** products as well as further information in German, English and French.

This Operating Manual does not claim completeness and may be subject to technical modifications.

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1 GENERAL INFORMATION

The product described in this operating manual has been examined before delivery and left our works in perfect condition related to safety regulations. In order to keep this condition and to guarantee a safe operation, it is important to heed the notes and prescriptions made in this operating manual. Furthermore, attention must be paid to appropriate transportation, correct storage, as well as professional installation and maintenance work.

All necessary information a skilled staff will need for appropriate use of this product are given in this operating manual.

2 DECLARATION OF CONFORMITY



The product described in this operating manual complies with the following EC directives:

ATEX-Directive

The product described in this manual is produced in accordance with the EC directive for devices and protection systems for appropriate use in hazardous areas 94/9/EG appendix II.

EMV-Instruction

The requirements of the EC directive 89/336/EWG "Electromagnetic compatibility" are met.

Low Voltage Directive

The requirement of the EC directive 72/23/EWG "Low Voltage Directive" are met.

The compliance with this EC directive has been examined according to DIN EN 61010 (corresponds to IEC 61010).

Declaration of conformity

The EU Declaration of conformity can be downloaded from the **M&C** homepage or directly requested from **M&C**.

3 ELECTRICAL STANDARDS

The breathing and draining device MC95A corresponds to the safety requirements of the European standards **EN 50014 EN 50018** for use in hazardous areas **Group II Category 2G**. Attention must be paid to the Certificate of Conformity **KEMA 03ATEX2114U** (see appendix).

4 SAFETY INSTRUCTIONS

Please note the following basic safety procedures when using this equipment:

Read these operating instructions carefully before start-up and use of the equipment! The information and warnings given in these operating instructions must be heeded.

Attention must be paid to the requirements of the certificate of conformity (see appendix): 02 ATEX 1040X.

Work on electrical equipment is only to be carried out by trained specialists as per the regulations currently in force.

Attention must be paid to the requirements of **VDE 0100** when setting high-power electrical units with nominal voltages of up to 1000V, together with the associated standards and stipulations.

For use in hazardous area observe the relevant national and international instructions and regulations.

Check the details on the type plate to ensure that the equipment is connected up to the correct mains voltage.

Protection against touching dangerously high electrical voltages. Before opening the equipment, it must be switched and hold no voltages. This also applies to any external control circuits that are connected.

The equipment is only to be set within the permitted range of temperatures and pressures.

Check that the location is weather-protected. It should not be subjected to either direct rain or moisture.

Installation, maintenance, monitoring and any repairs may only be done by authorised personnel with respect to the relevant stipulations.



5 INFORMATION AND SAFETY INSTRUCTIONS FOR USING THE BREATHING AND DRAINING DEVICE IN HAZARDOUS AREAS

The breathing and draining device MC95 is suitable for use in hazardous area **Group II Category 2G** according to **KEMA 03ATEX2114U**.

Installation and operating of the breathing and draining device has to be done according to the conditions fixed in the Ex-Certificate (see appendix). Only in this case, the reliability of operation in hazardous areas can be guaranteed.

Every change of the standard configuration with parts which are not specified or approved by M&C as well as repair and service with not specified parts means a loss of the Ex-certificate.

In case of doubt, please turn directly to **M&C** respectively to your **M&C** franchised dealer.

6 WARRANTY

If the equipment fails, please contact **M&C** directly or else go through your **M&C** authorised dealer. We offer a one year warranty as of the day of delivery as per our normal terms and conditions of sale, and assuming technically correct operation of the unit. Consumables are hereby excluded. The terms of the warranty cover repair at the factory at no cost or the replacement at no cost of the equipment free ex user location. Reshipments must be send in a sufficient and proper protective packaging.

7 USED TERMS AND SIGNAL INDICATIONS



DANGER!

This means that death, severe physical injuries and/or important material damages **will occur** in case the respective safety measures are not fulfilled.



WARNING!

This means that death, severe physical injuries and/or important material damages **may occur** in case the respective safety measures are not fulfilled.



CARE!

This means that minor physical injuries **may occur** in case the respective safety measures are not fulfilled.

CARE!

Without the warning triangle means that a material damage may occur in case the respective safety measures are not met.

ATTENTION!

This means that an unintentional situation or an unintentional status may occur in case the respective note is not respected.



NOTE!

These are important information about the product or parts of the operating manual which require user's attention.

SKILLED STAFF

These are persons with necessary qualification who are familiar with installation, use and maintenance of the product.



NOTE!

These are important information about the product or parts of the instruction manual referring to operating in hazardous areas.

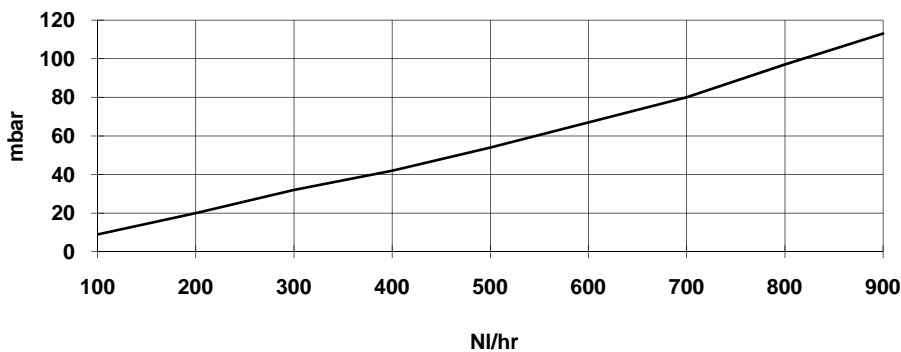
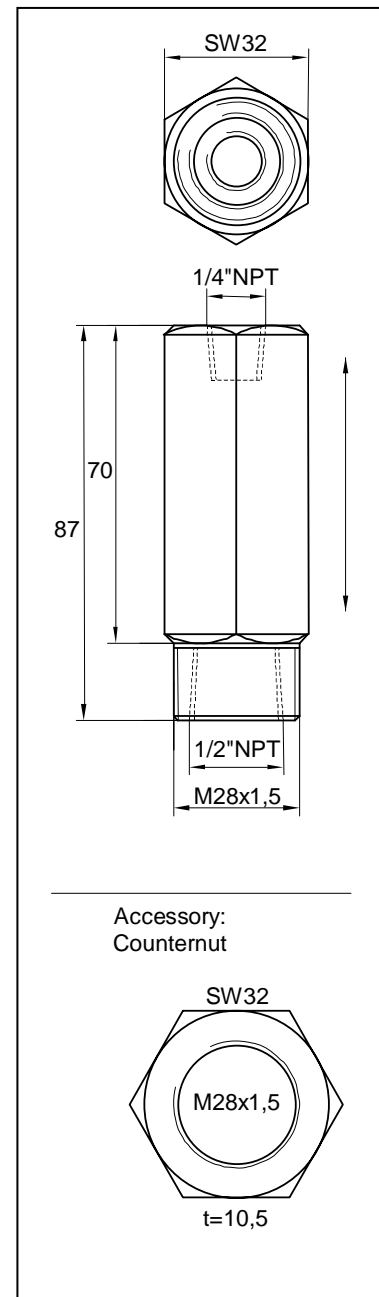
8 INTRODUCTION

The breathing and draining device MC95A contains permeable elements which are able to resist the pressure occurring in case of explosion inside the housing they are fixed to. They prevent a percussion of fire from inside to an explosive atmosphere outside the housing.

Furthermore, the breathing and draining device MC95A resists the dynamic stresses of explosions inside the housing without being deformed or damaged so that the type of protection is not impaired. It is, however, not provided to be subject to slow combustion on its surfaces.

9 TECHNICAL DATA

| Technical Data | MC95A EEx |
|---|--|
| Part-No. | 90A5150 |
| Measuring gas connections | 1x 1/2" NPT i, 1x 1/4" NPT i |
| Enclosure thread | M28x1,5 a |
| Operating pressure | max. 100 mbar |
| Temperature of sample gas | -20°C bis +80°C |
| Ambient temperature | -20°C bis +80°C |
| Max. operating pressure | 0,8 -1,1 bar abs |
| For gases out of explosion group IIB suitable for volumes up to | Without limit |
| For gases out of explosion group IIC suitable for volumes up to | 85 dm ³ |
| Stagnant volume | Approx. 2,5 ml |
| Equipment standard | EN 50014, EN 50018 Protection II 2 G EEx d IIB / IIC Test-No. KEMA 03ATEX2114U |
| Weight | 490 g |
| Mounting | Installation, tube, mounting position at will Flow direction independent |
| Material of sample contacting parts | Stainless Steel 1.4401 Optional : Inconel; Hasteloy or Titane |
| Accessories: | Counternut M28x1,5-St, Part-No.: 90A5151 |



Flow in NI/hr air and differential pressure in mbar in case of new breathing and draining devices

10 RECEPTION AND STORAGE

Inspect the merchandise for possible damages on transport and, if necessary, inform your transportation insurer immediately about the damage occurred!

11 INSTALLATION INSTRUCTIONS



NOTE!

The breathing and draining device MC95A is suitable for the use in hazardous areas Group II Category 2. Attention must be paid to the Certificate of Conformity 03ATEX2114U (see appendix)!

In case of installation in EExd housings, the breathing and draining device must be mounted with at least six bearing threads and be insured against distortion.



NOTE!

 **Prevent corrosion because this may impair the Ex protection.**
The gas connections should be executed in stainless steel if possible.

12 WARNING

From time to time, the breathing and draining device should be checked for corrosion and cleanliness.

13 APPENDIX

- EC-Type Examination Certificate KEMA 03ATEX2114 U



For additional manuals and data sheets please look on our home page
www.mc-techgroup.com



(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) Components intended for use in potentially explosive atmospheres - Directive 94/9/EC

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX2114 U**

(4) Components: **Breathing and draining device Type MC95A**

(5) Manufacturer: **M&C Products Analysentechnik GmbH**

(6) Address: **Rehhecke 79, 40885 Ratingen, Germany**

(7) These components and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that these components have been found to comply with the Essential Health and Safety Requirements relating to the design and construction of components intended for use in potentially explosive atmospheres given in Annex II to the directive.

The examination and test results are recorded in confidential report no. 2010185.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014 : 1997

EN 50018 : 2000

(10) The sign "U" placed after the certificate number indicates that this certificate describes components and must not be mistaken for a certificate intended for an equipment or protective system. This EC-Type Examination Certificate may be used as a basis for certification of an equipment or protective system.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified components according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of these components. These are not covered by this certificate.

(12) The marking of the components shall include the following:



II 2 G EEx d IIB / IIC

Arnhem, 15 December 2003
KEMA Quality B.V.

L.M.J. Vries
Certification Manager

* This Certificate may only be reproduced in its entirety and without any change

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ACCREDITED BY THE
DUTCH COUNCIL FOR
ACCREDITATION





SCHEDULE

(13)

(14)

to EC-Type Examination Certificate KEMA 03ATEX2114 U

(15)

Description

Breathing and draining device Type MC95A, for use with enclosures in type of explosion protection EEx d with an internal volume up to 85 dm³ for group IIC and without limitations in volume for group IIB.

Operating temperature range -20°C ... +80°C

Installation instructions

The breathing and draining device MC95A must be installed with a minimum of 6 threads engaged and locked against loosening in a suitable manner.

Routine tests

None.

(16)

Report

KEMA No. 2010185.

(17)

Special conditions for safe use

None.

(18)

Essential Health and Safety Requirements

Covered by the standards listed at (9).

(19)

Test documentation

- | | |
|---|-------------------------|
| 1. Component Certificate KEMA No. Ex-95.D.4287 U with associated test documentation | <u>dated</u> |
| 2. Description (1 page) | 28.05.2003 |
| 3. Drawing no. 2464-4.02.0, rev. b (2 sheets) | 27.05.2003 / 27.10.2003 |