

Type 8742 / 8746

Mass Flow Meter or Mass Flow Controller, with ATEX approval
Massendurchflussmesser oder Massendurchflussregler mit ATEX-Zulassung
Débitmètre massique ou régulateur de débit massique, avec certification ATEX



Additional Instructions

Zusatzanleitung

Instructions supplémentaires



We reserve the right to make technical changes without notice.
Technische Änderungen vorbehalten.
Sous réserve de modifications techniques.

© Bürkert SAS 2016

Operating Instructions 1604/00_EU-ml_00567738 / Original DE

1. ADDITIONAL INSTRUCTIONS.....	2
1.1. Definition of terms / abbreviation.....	2
2. SYMBOLS.....	2
3. INTENDED USE.....	3
3.1. Identification (variable key PX03)	3
4. PARTICULAR SAFETY INSTRUCTIONS.....	4
4.1. Particular conditions	5
4.2. Instructions for use in Ex. areas	5
4.2.1. Safety instructions	5
4.2.2. Adhesive label for Ex. areas.....	5
4.2.3. Ambient temperature and temperature class in the Ex. area	6
4.2.4. IP code in Ex. areas	6
4.2.5. Media in the Ex. area	6
4.2.6. Cleaning in the Ex. area.....	6
4.2.7. Tightening torque of the M12 sealing cap	6
4.3. Ex. certification.....	6

1 ADDITIONAL INSTRUCTIONS

The additional instructions for the use in potentially explosive environments describe the entire life cycle of the device. Keep these instructions in a location which is easily accessible to every user and make these instructions available to every new owner of the device.

Important safety information.

Read the additional instructions carefully and thoroughly. Study in particular the chapters entitled *Particular safety instructions* and *Authorized use*.

- ▶ The additional instructions must be read and understood.

The additional instructions describe safety instructions and information for the use in a potentially explosive environment.

All other descriptions and instructions can be found in the Operating Instructions of the device for the type 8742 or the type 8746.

 The Operating Instructions can be found on the Internet at: www.buerkert.com

1.1 Definition of terms / abbreviation

In these instructions, the term "device" always refers to the Mass Flowmeter (MFM) or the Mass Flow Controller (MFC) type 8742 or type 8746.

 In these instructions, the abbreviation "Ex" always refers to "potentially explosive".

2 SYMBOLS

The following symbols are used in these instructions.

 **DANGER!**

Warns of an immediate danger.

- ▶ Failure to observe the warning will result in a fatal or serious injury.

 **WARNING!**

Warns of a potentially dangerous situation.

- ▶ Failure to observe the warning may result in a serious or fatal injury.

 **CAUTION!**

Warns of a possible danger.

- ▶ Failure to observe this warning may result in a moderate or minor injury.

NOTE!

Warns of material damage.

 Important advice and recommendations.

 Refers to information in these instructions or in other documentation.

- ▶ Designates instructions for risk prevention.
- Designates a procedure which you must carry out.

3 INTENDED USE

Incorrect use of the Mass Flowmeter (MFM) or the Mass Flow Controller (MFC) type 8742 or type 8746 can be dangerous to people, nearby equipment and the environment.

MFM type 8742/8746 is used exclusively to measure the mass flow of clean dry gases.

MFC type 8742/8746 is used exclusively to control the mass flow of clean dry gases.

- ▶ The device was designed for the use in explosion group II 3G Ex nA IIC T* Gc X and in explosion group II 3D Ex tc IIIC T***°C Dc X (see the information given on the certification sticker and in chap. 4.2.3 Ambient temperature and temperature class in the Ex. area).
- ▶ Observe the admissible data, the operating conditions and conditions of use specified in the contract documents, in the Operating Instructions and on the name plate of the type 8742 or the type 8746.
- ▶ Use the device only in conjunction with third-party instruments and components recommended and authorized by Bürkert.
- ▶ Correct transportation, storage and installation, as well as careful use and maintenance are essential for reliable and faultless operation.
- ▶ Use the device as intended.

3.1 Identification (variable key PX03)

The identification (variable key PX03) is on the name plate of the device.

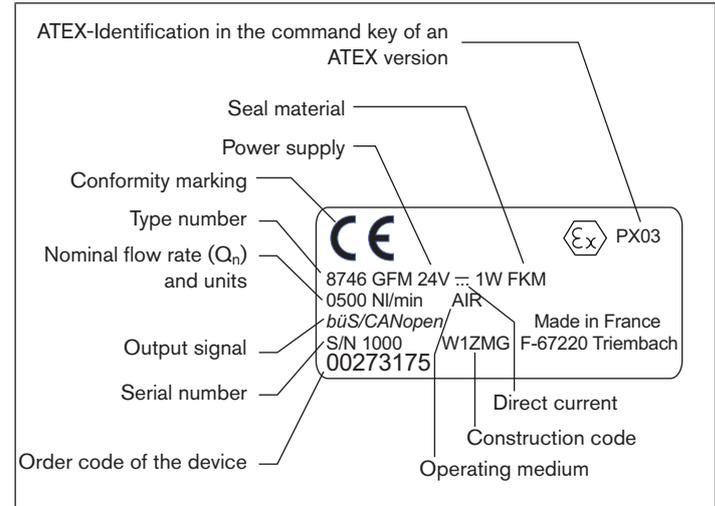


Bild 1: Example of a name plate

4 PARTICULAR SAFETY INSTRUCTIONS



DANGER!

Risk of explosion when removing the female connector.

- ▶ After wiring of the device, screw the impact protection cover to protect the M12 female connector from disconnection without tools.
- ▶ Before removing the female connector disconnect the power supply.

Risk of explosion when opening the device.

- ▶ Only open the blind plug if no Ex. atmosphere is present.
- ▶ No Ex. atmosphere must be present when setting the type of field bus or replacing the configuration memory.
- ▶ Before commissioning tighten the mounting screws to protect the shock protection cover against removal without tools.

Risk of explosion due to electrostatic discharge.

In the event of a sudden discharge, electrostatically charged devices or persons present a risk of explosion in the Ex. area.

- ▶ Take appropriate measures to ensure that there can be no electrostatic charging in the Ex. area.
- ▶ Only clean the surface of the devices by gently wiping with a damp or anti-static cloth.



DANGER!

To prevent the risk of explosion, observe not only the safety instructions in the Operating Instructions for operation in the Ex. area, but also the following:

- ▶ Observe information on temperature class, ambient temperature, protection rating, torque and voltage.
- ▶ Do not use devices in areas where there is gas or dust with a lower ignition temperature than indicated on the label for Ex. area.
- ▶ Installation, operation and maintenance must be performed by qualified technicians only.
- ▶ Observe the applicable safety regulations (also national safety regulations) as well as the general rules of technology for construction and operation.
- ▶ Do not repair the device yourself, but replace it with an equivalent device.
- ▶ The device must only be repaired by the manufacturer.
- ▶ Do not expose the device to any mechanical and/or thermal loads which will exceed the limits given in the Operating Instructions.
- ▶ Use only cables which have been approved for the respective application area and which have been connected according to the related mounting instructions.
- ▶ The IP protection rating is only guaranteed if a round connector compliant with IEC 61076-2-101 or the provided M12 sealing cap is used.
- ▶ In an Ex. atmosphere, the M12 fixed connector must be equipped with a female connector compliant with IEC 61076-2-101, overmolded with plastic, or with the provided M12 sealing cap.



DANGER!

- ▶ The mechanical strength is only guaranteed if the shock protection cover is mounted and securely tightened with the fastening screws.
- ▶ Use adequate measures to prevent transient overvoltages greater than 40% of the rated voltage.

4.1 Particular conditions

Observe the special ambient temperatures for use in Ex. areas. See chap. 4.2.3

4.2 Instructions for use in Ex. areas

4.2.1 Safety instructions

Use in an Ex. area (Gas) 2 gives rise to:



DANGER!

Risk of explosion in Ex. areas due to sudden discharge of electrostatically charged devices or persons.

- ▶ Take appropriate measures to ensure that there can be no electrostatic charging in the Ex. area.
- ▶ Only clean the surface of the devices by gently wiping with a damp or anti-static cloth.

4.2.2 Adhesive label for Ex. areas

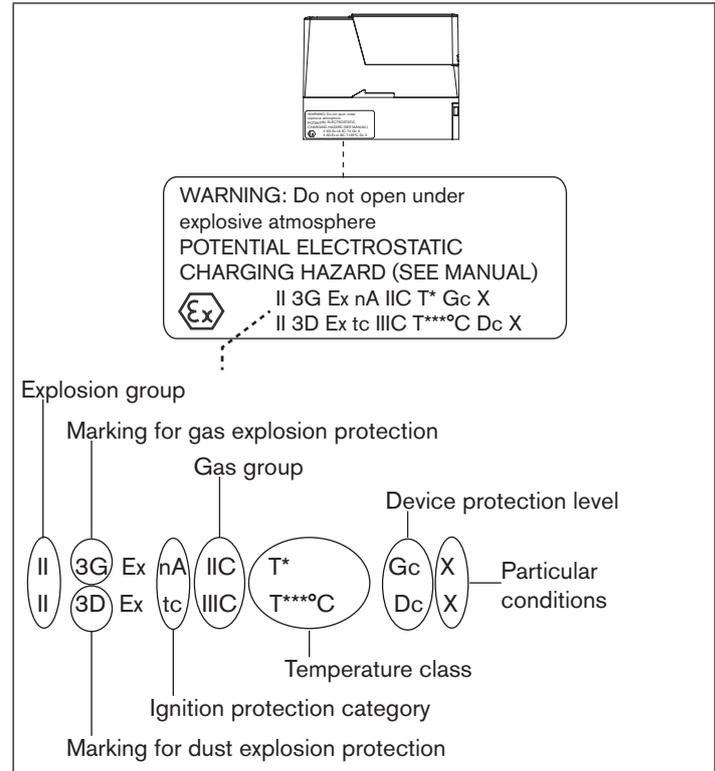


Bild 2: Adhesive label for Ex. areas

4.2.3 Ambient temperature and temperature class in the Ex. area

Type of the device	Ambient temperature range
Type 8742 with valve type 2871	-10 °C...+50 °C

Tab. 1: Ambient temperature range for devices with device protection level T3 / 160 °C

Type of the device	Ambient temperature range
Type 8742 without a valve	-10 °C...+50 °C
Type 8742 with valve type 2873	-10 °C...+45 °C
Type 8742 with valve type 2875	-10 °C...+50 °C
Type 8746 without a valve	-10 °C...+50 °C
Type 8746 with valve type 2873	-10 °C...+45 °C
Type 8746 with valve type 2875	-10 °C...+50 °C
Type 8746 with valve type 2836	-10 °C...+50 °C

Tab. 2: Ambient temperature range for devices with device protection level T4 / 135 °C

4.2.4 IP code in Ex. areas

Type 8742 Ex and Type 8746 Ex: IP65

4.2.5 Media in the Ex. area

 The use of potentially explosive media can result in an additional risk of explosion.

4.2.6 Cleaning in the Ex. area

 Check that cleaning agent have approval for use in explosive atmospheres.

4.2.7 Tightening torque of the M12 sealing cap

 When screwing on the M12 sealing cap again, apply a tightening torque 0.4 N•m (0.29 lbf•ft).

4.3 Ex. certification

The Ex. certification is only valid if the Bürkert device is used as described in these additional instructions.

If unauthorized changes are made to the device, the Ex. certification becomes invalid.

www.burkert.com