

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 F: 781-762-9375 www.fmapprovals.com



CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

P2.2 AMEX (P/N 4271XXXX99), P2.4 AMEX (P/N 4272XXXX99), P2.5 AMEX (P/N 4278XXXX99), P2.82 AMEX (P/N 4273XXXX99) and P2.84 AMEX (P/N 4274XXXX99) Rated 115V/230V AC, 50/60Hz, 1.7A/0.89A. Sample Gas Pumps.

NI / I / 2 / BCD / T3, T4 Ta = -20 °C to +50 °C

x = denote power supply, position of pump head, material of pump head and material of valves.

For ordinary locations:

P2.3 (P/N 4256XXXX99), P2.4 (P/N 4257XXXX99), P2.5 (P/N 4258XXXX99), P2.83 (P/N 4263XXXX99), P2.84 (P/N 4264XXXX99) Rated 115VAC, 50/60Hz, 1.7A and P4.3 (P/N 4280XXXX99), P4.83 (P/N 4281XXXX99) Rated 115VAC, 50/60Hz, 1.7A. Sample Gas Pumps.

x = denote power supply, position of pump head, material of pump head, material of valves and accessories (only P4.XX)

Equipment Ratings:

Nonincendive electric apparatus for use in Class I, II, Division 2, Groups A, B, C & D indoor hazardous (Classified) locations and for use in ordinary Locations

FM Approved for:

Bühler Technologies GmbH
Ratingen D-40880 Germany



This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3611	2004
Class 3810	2005

Original Project ID: 3038101

Approval Granted: May 24, 2010

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
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FM Approvals LLC

J. E. Marquardt
Group Manager, Electrical

24 May 2010
Date



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NI / I / 2 / BCD / T3, T4 Ta = -20 °C to +50 °C

x = denote power supply, position of pump head, material of pump head and material of valves.

Equipment Ratings:

Nonincendive electric apparatus for use in Class I, II, Division 2, Groups B, C & D indoor hazardous (Classified) locations and for use in ordinary Locations

FM Approved for:

Bühler Technologies GmbH
Ratingen D-40880 Germany

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	2011
Class 3611	2004
Class 3810	2005

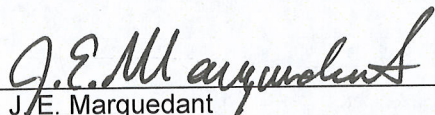
Original Project ID: 3038101

Approval Granted: 24 May 2010

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
120709	July 29, 2012		

FM Approvals LLC


J.E. Marquedant
Group Manager, Electrical

24 July 2012
Date

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM21US0082X
3. **Equipment:** Model P2.2 AMEX, P2.4 AMEX, P2.5 AMEX, P2.82 AMEX and P2.84 AMEX Sample Gas Pumps
(Type Reference and Name)
4. **Name of Listing Company:** Bühler Technologies GmbH
5. **Address of Listing Company:** Harkortstrasse 29
Ratingen
D-40880
Germany
6. The examination and test results are recorded in confidential report number:

3038101 dated 24th May 2010
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3611:2021, FM Class 3810:2005
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

24 September 2021
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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SCHEDULE



US Certificate of Conformity No: FM21US0082X

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. Equipment Ratings:

Nonincendive for Class I, Division 2, Groups B, C, D T3/T3C, Ta = -20°C to +40°C, hazardous (classified) locations. Refer to manual BX420003 for relationship between temperature class, ambient temperature and process temperature.

11. The marking of the equipment shall include:

Cl. I, Div. 2, Gps. B, C, D. T3/T3C

Temp. max.: see manual BX420003

12. **Description of Equipment:**

General – The sample pumps move sample gases from stacks to an analyzer. A sample pump consists of a motor and a pump head, which can be split by an intermediate flange with variable versions.

Construction – The sample pumps are of painted metal construction. The motors for the pumps provide a terminal box with an opening suitable for a ½" NPT conduit hub.

Ratings – The pumps operate at 115 Vac, 1.5 to 1.6 A, or 230 Vac, 0.7 to 0.8 A, depending upon model type. The pumps are rated for an ambient temperature range of -20°C to +40°C.

Model types – Approved model number variants are as defined below. Refer to Installation and Operation Instructions document BE420003 for further details concerning model types.

42aabcdef9000. Sample Gas Pumps, where:

aa = Base model: 71, 72, 73, 74, where:

71 = P2.2 AMEX

72 = P2.4 AMEX

73 = P2.82 AMEX

74 = P2.84 AMEX

b = Motor voltage: 7, 8

c = Pump head position: 1, 2

d = Pump head material: 1, 2, 3, 4

e = Valve material: 1, 2

f = Screw-in connections: 9, 1, 2, 3, 5

13. **Specific Conditions of Use:**

It is the responsibility of the installer to ensure that the combination of ambient temperature and process heating does not exceed the maximum specified ambient temperature rating of 40 °C at the motor.

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SCHEDULE



US Certificate of Conformity No: FM21US0082X

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
24 th May 2010	Original Issue.
24 th July 2012	<u>Supplement 1:</u> Report Reference: 120709 dated 24 th July 2012. Description of the Change: Update FM Class 3600 to 2011 edition. Correct error in gas Group designation in Certificate. Relocate ordinary location certificate information to separate ordinary location certificate.
24 th September 2021	<u>Supplement 2:</u> Report Reference: RR228650 dated 24 th September 2021. Description of the Change: New motor supplier. Revise ambient temperature range. Update standards FM Class 3611 from 2004 to 2021 and FM Class 3600 from 2011 to 2018. Apply specific condition of use relating to process and ambient temperatures. Re-create certificate in new format. Apply corrections to and reformat Certificate and Approval Guide listing.

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CERTIFICATE OF CONFORMITY



1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS

2. **Certificate No:** FM21US0082X
3. **Equipment:** Model P2.2 AMEX, P2.4 AMEX, P2.5 AMEX, P2.82 AMEX and P2.84 AMEX Sample Gas Pumps
(Type Reference and Name)
4. **Name of Listing Company:** Bühler Technologies GmbH
5. **Address of Listing Company:** Harkortstraße 29, Ratingen D-40880, Germany

6. The examination and test results are recorded in confidential report number:

3038101 dated 24th May 2010

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM 3600:2022, FM 3611:2021, FM 3810:2005

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. **Equipment Ratings:**

See Annex

11. The marking of the equipment shall include:

See Annex

12. **Description of Equipment:**

See Annex

13. **Specific Conditions of Use:**

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

19 April 2024

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM21US0082X



See Annex

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19 April 2024	<u>Supplement 3:</u> Report Reference: RR240898 dated 19 April 2024. Description of the Change(s): Introduction of two new options H2 and O2 and update of user manual to include this option. Update of FM3600 to revision 2022.

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F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM21US0082X



ANNEX

42aabcdef9000

Equipment Ratings:

Nonincendive for Class I, Division 2, Groups B, C, D T3/T3C, Ta = -20°C to +40°C, hazardous (classified) locations. Refer to manual BX420003 for relationship between temperature class, ambient temperature and process temperature.

Markings:

Cl. I, Div. 2, Gps. B, C, D. T3/T3C
Temp. max.: see manual BX420003

Description of Equipment:

General – The sample pumps move sample gases from stacks to an analyzer. A sample pump consists of a motor and a pump head, which can be split by an intermediate flange with variable versions.

Construction – The sample pumps are of painted metal construction. The motors for the pumps provide a terminal box with an opening suitable for a ½" NPT conduit hub.

Ratings – The pumps operate at 115 Vac, 1.5 to 1.6 A, or 230 Vac, 0.7 to 0.8 A, depending upon model type. The pumps are rated for an ambient temperature range of -20°C to +40°C.

Refer to Installation and Operation Instructions document BE420003 for further details concerning model types.

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72 = P2.4 AMEX

73 = P2.82 AMEX

74 = P2.84 AMEX

b = Motor voltage: 7, 8

c = Pump head position: 1, 2

d = Pump head material: 1, 2, 3, 4

e = Valve material: 1, 2

f = Screw-in connections: 9, 1, 2, 3, 5.

Specific Conditions of Use:

It is the responsibility of the installer to ensure that the combination of ambient temperature and process heating does not exceed the maximum specified ambient temperature rating of 40 °C at the motor.

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SCHEDULE

US Certificate Of Conformity No: FM21US0082X



42aabcdef9000gg

Equipment Ratings:

Nonincendive for Class I, Division 2, Groups B, C, D T3/T3C, Ta = -20°C to +40°C, hazardous (classified) locations. Refer to manual BX420003 for relationship between temperature class, ambient temperature and process temperature.

Markings:

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Temp. max.: see manual BX420003

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b = Motor voltage: 7, 8

c = Pump head position: 1, 2

d = Pump head material: 1, 2, 3, 4

e = Valve material: 1, 2

f = Screw-in connections: 9, 1, 2, 3, 5

g = Options H2, O2.

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