1 TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 94/9/EC**

3 **Type Examination Certificate No:** **FM16ATEX0018X**

4 **Equipment or protective system: (Type Reference and Name)** **P1.3 Sample Gas Pumps**

5 **Name of Applicant:** **Bühler Technologies GmbH**

6 **Address of Applicant:** **Harkortstraße 29**
40880, Ratingen, Germany

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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

3057155 dated 11th April 2016

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2012 +A11:2013 and EN 60079-15:2010

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:

II 3 G Ex nA nC IIC T4…T3 Gc Ta = 0°C to +50°C

cn=Mick Gower, o=FM Approvals, ou, email=mick.gower@fmapprovals.com, c=GB
2016.04.15 14:20:47 +01'00'

Mick Gower
Certification Manager, FM Approvals Ltd.

Issue date: 15th April 2016

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmapprovals.com www.fmapprovals.com

SCHEDULE

to Type Examination Certificate No. FM16ATEX0018X

13 **Description of Equipment or Protective System:**

The P1 sample gas pumps carry gases from various processes to analyzers. The gas circuit typically has additional analysis components such as sample gas probe, filter, flow meter, cooler, etc. The sample gas pump P1 consists of the main components, the pump head and motor. An eccentric converts the rotation of the motor into an up and down motion using a connecting rod, thus producing the pump mechanism. Inside the so-called pump body, above the bellows, which facilitates the pump motion, are inlet and outlet valves. The user connects the gas circuits to the sample gas pump through screw-in connections.

The P1 sample gas pumps are available as 12Vdc, 24Vdc, 115Vac, 60Hz or 230Vac, 50Hz. The 115Vac and 230Vac sample gas pumps are available with or without a cover over the electronics and motor. The 115Vac and 230Vac sample gas pumps have internal self resetting thermal protection built into the motor. The P1.3 sample gas pump is for hazardous locations and the P1.1 sample gas pump is for the US and Canada general pupose non-hazardous locations.
Model Code Structure:
4230abc1def00. P1.3 Sample Gas Pump.
a = Motor voltage: 1, 2, 3 or 4.
b = Pump head position: 1 or 2.
c = Pump head material: 1, 2, 3 or 4.
d = Screw-in connections / pipe fitting: 0, 1, 2, 3, 5 or 6.
e = Mounting accessories: 0, 1 or 2.
f = Housing: 0 or 1

14 **Special Conditions for Safe Use:**

1. The installer shall provide transient over-voltage protection of the supply connections at a voltage not to exceed 140% of the voltage rating of the pump.
2. The apparatus shall be mounted in an enclosure providing a minimum degree of protection of IP54 in accordance with EN 60079-15, and shall be installed within a tool-secured enclosure which meets the requirements of EN 60079-0 and EN 60079-15.
3. To maintain a T4 to T3 temperature class care shall be taken to ensure the enclosure temperature does not exceed 50°C.
4. Temperature class are defined by the following table:

Type of Gas used in Pump	Maximum Gas Temperature	Temperature Class
Non-flammable	70°C	T4
Flammable	50°C	T4
Flammable	70°C	T3

15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 **Test and Assessment Procedure and Conditions:**

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

SCHEDULE

to Type Examination Certificate No. FM16ATEX0018X

17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by FM Approvals Ltd.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
15th April 2016	Original Issue.

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmapprovals.com www.fmapprovals.com

1 TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3 **Type Examination Certificate No:** **FM16ATEX0018X**

4 **Equipment or protective system: (Type Reference and Name)** **P1.3 Sample Gas Pumps**

5 **Name of Applicant:** **Bühler Technologies GmbH**

6 **Address of Applicant:** **Harkortstraße 29**
40880, Ratingen, Germany

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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

3057155 dated 11th April 2016

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2012 +A11:2013 and EN 60079-15:2010

10 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.

11 This Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:

II 3 G Ex nA nC IIC T4…T3 Gc Ta = 0°C to +50°C

cn=Mick Gower, o=FM Approvals, ou, email=mick.gower@fmapprovals.com, c=GB
2016.12.15 11:08:04 Z

Mick Gower
Certification Manager, FM Approvals Ltd.

Issue date: 15th December 2016

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmapprovals.com www.fmapprovals.com

SCHEDULE

to Type Examination Certificate No. FM16ATEX0018X

13 **Description of Equipment or Protective System:**

The P1 sample gas pumps carry gases from various processes to analyzers. The gas circuit typically has additional analysis components such as sample gas probe, filter, flow meter, cooler, etc. The sample gas pump P1 consists of the main components, the pump head and motor. An eccentric converts the rotation of the motor into an up and down motion using a connecting rod, thus producing the pump mechanism. Inside the so-called pump body, above the bellows, which facilitates the pump motion, are inlet and outlet valves. The user connects the gas circuits to the sample gas pump through screw-in connections.

The P1 sample gas pumps are available as 12Vdc, 24Vdc, 115Vac, 60Hz or 230Vac, 50Hz. The 115Vac and 230Vac sample gas pumps are available with or without a cover over the electronics and motor. The 115Vac and 230Vac sample gas pumps have internal self resetting thermal protection built into the motor.

Model Code Structure:
4230abc1def00. P1.3 Sample Gas Pump.
a = Motor voltage: 1, 2, 3 or 4.
b = Pump head position: 1 or 2.
c = Pump head material: 1, 2, 3 or 4.
d = Screw-in connections / pipe fitting: 0, 1, 2, 3, 5 or 6.
e = Mounting accessories: 0, 1 or 2.
f = Housing: 0 or 1

14 **Specific Conditions of Use:**

1. The installer shall provide transient over-voltage protection of the supply connections at a voltage not to exceed 140% of the voltage rating of the pump.
2. The apparatus shall be mounted in an enclosure providing a minimum degree of protection of IP54 in accordance with EN 60079-15, and shall be installed within a tool-secured enclosure which meets the requirements of EN 60079-0 and EN 60079-15.
3. To maintain a T4 to T3 temperature class care shall be taken to ensure the ambient temperature does not exceed 50°C.
4. Temperature class are defined by the following table:

Type of Gas used in Pump	Maximum Gas Temperature	Temperature Class	
		at installation site	in gas path
Non-Flammable	50°C	T4	––
Non-Flammable	70°C	T3	––
Flammable	50°C	T4	T3

15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmapprovals.com www.fmapprovals.com

SCHEDULE

to Type Examination Certificate No. FM16ATEX0018X

16 **Test and Assessment Procedure and Conditions:**

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by FM Approvals Ltd.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
15th April 2016	Original Issue.
15th December 2016	Supplement 1: Report Reference: – RR207245 dated 9th December 2016 Description of the Change: Temperature Class Table in Specific Conditions of Use and documentation update.

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmapprovals.com www.fmapprovals.com

1 # TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3 **Type Examination Certificate No:** **FM16ATEX0018X**

4 **Equipment or protective system: (Type Reference and Name)** **P1.3 Sample Gas Pumps**

5 **Name of Applicant:** **Bühler Technologies GmbH**

6 **Address of Applicant:** **Harkortstraße 29**
40880, Ratingen, Germany

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Europe Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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

3057155 dated 11th April 2016

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2012+A11:2013 and EN 60079-15:2010

10 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.

11 This Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:

II 3 G Ex nA nC IIC T4…T3 Gc Ta = 0°C to +50°C

Digitally signed by Damien Mc Ardle
DN: cn=Damien Mc Ardle, o=FM Approvals, ou=FM Approvals Europe Ltd, email=damien.mcardle@fmapprovals.com, c=IE
Date: 2019.04.12 13:28:30 +01'00'

Damien Mc Ardle
Certification Manager, FM Approvals Europe Ltd.

Issue date: 12th April 2019

FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440
T: +353 (0) 1761 4200 E-mail: atex@fmapprovals.com www.fmapprovals.com

SCHEDULE

to Type Examination Certificate No. FM16ATEX0018X

13 **Description of Equipment or Protective System:**

The P1 sample gas pumps carry gases from various processes to analyzers. The gas circuit typically has additional analysis components such as sample gas probe, filter, flow meter, cooler, etc. The sample gas pump P1 consists of the main components, the pump head and motor. An eccentric converts the rotation of the motor into an up and down motion using a connecting rod, thus producing the pump mechanism. Inside the so-called pump body, above the bellows, which facilitates the pump motion, are inlet and outlet valves. The user connects the gas circuits to the sample gas pump through screw-in connections.

The P1 sample gas pumps are available as 12Vdc, 24Vdc, 115Vac, 60Hz or 230Vac, 50Hz. The 115Vac and 230Vac sample gas pumps are available with or without a cover over the electronics and motor. The 115Vac and 230Vac sample gas pumps have internal self resetting thermal protection built into the motor.

Model Code Structure:
4230abc1def00. P1.3 Sample Gas Pump.
a = Motor voltage: 1, 2, 3 or 4.
b = Pump head position: 1 or 2.
c = Pump head material: 1, 2, 3 or 4.
d = Screw-in connections / pipe fitting: 0, 1, 2, 3, 5 or 6.
e = Mounting accessories: 0, 1 or 2.
f = Housing: 0 or 1

14 **Specific Conditions of Use:**

1. The installer shall provide transient over-voltage protection of the supply connections at a voltage not to exceed 140% of the voltage rating of the pump.
2. The apparatus shall be mounted in an enclosure providing a minimum degree of protection of IP54 in accordance with EN 60079-15, and shall be installed within a tool-secured enclosure which meets the requirements of EN 60079-0 and EN 60079-15.
3. To maintain a T4 to T3 temperature class care shall be taken to ensure the ambient temperature does not exceed 50°C.
4. Temperature class are defined by the following table:

Type of Gas used in Pump	Maximum Gas Temperature	Temperature Class	
		at installation site	in gas path
Non-Flammable	50°C	T4	---
Non-Flammable	70°C	T3	---
Flammable	50°C	T4	T3

15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

SCHEDULE

to Type Examination Certificate No. FM16ATEX0018X

16 **Test and Assessment Procedure and Conditions:**

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by FM Approvals Europe Ltd.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	**Description**
15th April 2016	Original Issue.
15th December 2016	Supplement 1: Report Reference: – RR207245 dated 09th December 2016 Description of the Change: Temperature Class Table in Specific Conditions of Use and documentation update.
12th April 2019	Supplement 2: Description of the Change: Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809.

FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440
T: +353 (0) 1761 4200 E-mail: atex@fmapprovals.com www.fmapprovals.com

1 # TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3 **Type Examination Certificate No:** **FM16ATEX0018X**

4 **Equipment or protective system: (Type Reference and Name)** **P1.3 Sample Gas Pumps**

5 **Name of Applicant:** **Bühler Technologies GmbH**

6 **Address of Applicant:** **Harkortstraße 29**
40880, Ratingen, Germany

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Europe Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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

3057155 dated 11th April 2016

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2012+A11:2013 and EN 60079-15:2010

10 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.

11 This Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:

II 3 G Ex nA nC IIC T4…T3 Gc Ta = 0ºC to +50ºC

Digitally signed by Richard Zammitt
DN: cn=Richard Zammitt, o, ou=FM Approvals Europe Limited, email=richard.zammitt@fmapprovals.com, c=IE

Richard Zammitt
Certification Manager, FM Approvals Europe Ltd.

Issue date: 07th April 2020

FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440
T: +353 (0) 1761 4200 E-mail: atex@fmapprovals.com www.fmapprovals.com

SCHEDULE

to Type Examination Certificate No. FM16ATEX0018X

13 **Description of Equipment or Protective System:**

The P1 sample gas pumps carry gases from various processes to analyzers. The gas circuit typically has additional analysis components such as sample gas probe, filter, flow meter, cooler, etc. The sample gas pump P1 consists of the main components, the pump head and motor. An eccentric converts the rotation of the motor into an up and down motion using a connecting rod, thus producing the pump mechanism. Inside the so-called pump body, above the bellows, which facilitates the pump motion, are inlet and outlet valves. The user connects the gas circuits to the sample gas pump through screw-in connections.

The P1 sample gas pumps are available as 12Vdc, 24Vdc, 115Vac, 60Hz or 230Vac, 50Hz. The 115Vac and 230Vac sample gas pumps have internal self resetting thermal protection built into the motor.

Model Code Structure:
4230abc1def00. P1.3 Sample Gas Pump.
a = Motor voltage: 1, 2, 3 or 4.
b = Pump head position: 1 or 2.
c = Pump head material: 1, 2, 3 or 4.
d = Screw-in connections / pipe fitting: 0, 1, 2, 3, 5 or 6.
e = Mounting accessories: 0, 1 or 2.
f = Housing: 0 or 1

14 **Specific Conditions of Use:**

1. The installer shall provide transient over-voltage protection of the supply connections at a voltage not to exceed 140% of the voltage rating of the pump.
2. The apparatus shall be mounted in an enclosure providing a minimum degree of protection of IP54 in accordance with EN 60079-15, and shall be installed within a tool-secured enclosure which meets the requirements of EN 60079-0 and EN 60079-15.
3. To maintain a T4 to T3 temperature class care shall be taken to ensure the ambient temperature does not exceed 50°C.
4. Temperature class are defined by the following table:

Type of Gas used in Pump	Maximum Gas Temperature	Temperature Class	
		at installation site	in gas path
Non-Flammable	50°C	T4	---
Non-Flammable	70°C	T3	---
Flammable	50°C	T4	T3

15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

SCHEDULE

to Type Examination Certificate No. FM16ATEX0018X

16 **Test and Assessment Procedure and Conditions:**

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by FM Approvals Europe Ltd.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
15th April 2016	Original Issue.
15th December 2016	Supplement 1: Report Reference: – RR207245 dated 09th December 2016. Description of the Change: Temperature Class Table in Specific Conditions of Use and documentation update.
12th April 2019	Supplement 2: Description of the Change: Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809.
07th April 2020	Supplement 3: Report Reference: – PR455937 dated 02nd April 2020. Description of the Change: Add option for gas pump cover DC motors.

1. TYPE EXAMINATION CERTIFICATE

2. **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3. **Type Examination Certificate No:** **FM16ATEX0018X**

4. **Equipment or protective system: (Type Reference and Name)** **P1.3 Sample Gas Pumps**

5. **Name of Applicant:** **Bühler Technologies GmbH**

6. **Address of Applicant** **Harkortstraße 29, Ratingen D-40880, Germany**

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8. FM Approvals Europe Ltd, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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

   3057155 dated 11th April 2016

9. Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

   EN IEC 60079-0:2018, EN 60079-15:2010

10. 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.

11. This Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include:

    II 3 G Ex nA nC IIC T4...T3 Gc Ta = 0ºC to +50ºC

13. **Description of Equipment or Protective System:**

Certificate issued by:

Richard Zammitt
Dublin, Ireland
2024.3.0

Certification Manager, FM Approvals Europe Ltd.

Date 06 November 2024

FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440
T: +353 (0) 1761 4200 E-mail: atex@fmapprovals.com www.fmapprovals.com

The P1 sample gas pumps carry gases from various processes to analyzers. The gas circuit typically has additional analysis components such as sample gas probe, filter, flow meter, cooler, etc. The sample gas pump P1 consists of the main components, the pump head and motor. An eccentric converts the rotation of the motor into an up and down motion using a connecting rod, thus producing the pump mechanism. Inside the so-called pump body, above the bellows, which facilitates the pump motion, are inlet and outlet valves. The user connects the gas circuits to the sample gas pump through screw-in connections.

The P1 sample gas pumps are available as 12Vdc, 24Vdc, 115Vac, 60Hz or 230Vac, 50Hz.
The 115Vac and 230Vac sample gas pumps have internal self resetting thermal protection built into the motor.

4230abc1def00. P1.3 Sample Gas Pump.
a = Motor voltage: 1, 2, 3 or 4.
b = Pump head position: 1 or 2.
c = Pump head material: 1, 2, 3 or 4.
d = Screw-in connections / pipe fitting: 0, 1, 2, 3, 5 or 6.
e = Mounting accessories: 0, 1 or 2.
f = Housing: 0 or 1

14. **Specific Conditions of Use:**

1. The installer shall provide transient over-voltage protection of the supply connections at a voltage not to exceed 140% of the voltage rating of the pump.
2. The apparatus shall be mounted in an enclosure providing a minimum degree of protection of IP54 in accordance with EN 60079-15, and shall be installed within a tool-secured enclosure which meets the requirements of EN 60079-0 and EN 60079-15.
3. To maintain a T4 to T3 temperature class care shall be taken to ensure the ambient temperature does not exceed 50°C.
4. Temperature class are defined by the following table:

Type of Gas used in Pump	Maximum Gas Temperature	Temperature Class	
		at installation site	in gas path
Non-Flammable	50°C	T4	---
Non-Flammable	70°C	T3	---
Flammable	50°C	T4	T3

15. **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16. **Test and Assessment Procedure and Conditions:**

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

17. **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by FM Approvals Europe Ltd.

18. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
15 April 2016	Original Issue.
15 December 2016	Supplement 1: Report Reference: – RR207245 dated 09th December 2016. Description of the Change: Temperature Class Table in Specific Conditions of Use and documentation update.
12 April 2019	Supplement 2: Description of the Change: Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809.
7 April 2020	Supplement 3: Report Reference: – PR455937 dated 02nd April 2020. Description of the Change: Add option for gas pump cover DC motors.
06 November 2024	Supplement 4: Report Reference: RR243238 dated 05 November 2024. Description of the Change(s): EN IEC 60079-0:2018 updated from EN 60079-0:2012+A11:2023. Documentation updates. Certificate reformatted.