IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx SIR 07.0014X**

Status: **Current**

Issue No: 6

Date of Issue: 2019-11-26

Certificate history:

Issue 5 (2017-12-07)
Issue 4 (2011-04-07)
Issue 3 (2011-01-24)
Issue 2 (2010-09-10)
Issue 1 (2008-10-17)
Issue 0 (2007-04-05)

Applicant: **Trimec Industries Pty Ltd**
12/7-11 Parraweena Road
Caringbah, NSW 2229
Australia

Equipment: **Series of Enclosures (See Annexe for models)**

Optional accessory:

Type of Protection: **Flameproof**

Marking: **Stainelss Steel Version Only**
Ex db I Mb

Ex db IIB T6.....T3 Gb
Refer to the Specific Conditions for Process and Ambient Temperature

Approved for issue on behalf of the IECEx Certification Body: **Neil Jones**

Position: **Certification Manager**

Signature: (for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 07.0014X**

Date of issue: 2019-11-26 Issue No: 6

Manufacturer: **Trimec Industries Pty Ltd**
12/7-11 Parraweena Road
Caringbah, NSW 2229
Australia

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/SIR/ExTR07.0017/00
GB/SIR/ExTR08.0127/00
GB/SIR/ExTR10.0210/00
GB/SIR/ExTR10.0310/01
GB/SIR/ExTR17.0247/00
GB/SIR/ExTR19.0290/00

Quality Assessment Report:

AU/TSA/QAR06.0006/09

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The MP, MG and OM Series of Enclosures are intended for use as part of a pulse flowmeter and consists a cover and number of different sized enclosures. The enclosure can be made of either aluminium or stainless steel and has two separate chambers. The lower chamber is non-flameproof and is attached to a suitable non-certified manifold. The upper flameproof chamber contains a printed circuit board and connection terminals.
The MP and MG Series Enclosures comprises a flameproof cover which forms a cylindrical joint with the body and provides a threaded entry for external connection with either M20 or ½" NPT threads. The body houses electronic equipment and is completely sealed from the process fluid.
The OM Series Enclosures comprises a blank flameproof cover, which forms a cylindrical joint with the body. A separate entrance provides a threaded entry for external connection with either M20 or ½" NPT threads. Again the body houses electronic equipment and is completely sealed from the process fluid.

Refer to the Annexe for the full list of current models

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The maximum diametric clearance of the cylindrical joint between the cover and body is 0.15mm.
2. Enclosure securing fasteners shall be property class A2-70.
3. The temperature of the process fluid shall be limited according to the following table:

Process Temperature Limitations	
Marking	Process Temperature Range
Ex db I Mb	-10°C ≤ Ta ≤ +150°C
Ex db IIB T6 Gb	-40°C ≤ Ta ≤ +70°C
Ex db IIB T5 Gb	-40°C ≤ Ta ≤ +85°C
Ex db IIB T4 Gb	-40°C ≤ Ta ≤ +120°C
Ex db IIB T3 Gb	-10°C ≤ Ta ≤ +150°C

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

This issue, issue 6, recognises the following changes; refer to the certificate annexe to view a comprehensive history:

1. The Applicant and Manufactures address was changed from Trimec Industries PTY Ltd, 1/16 Atkinson Road, Taren Point, NSW 2229, Australia, to Trimec Industries PTY Ltd, 12/7-11 Parraweena Road, Caringbah, NSW 2229, Australia.

Annex:

IECEx SIR 07.0014X Issue 6 Annexe.pdf

Full list of Models

Model	Material	Threaded Entry
AIM002, AIM004, AIM006, AIM008, AIM015, AIM025	Aluminium or Stainless Steel	M20 or ½" NPT
MG002, MG004, MG006, MG008, MG015, MG025, MG040, MG050, MG080, MG080E, MG100	Aluminium or Stainless Steel	M20 or ½" NPT
MG002H, MG004H, MG006H, MG008H, MG015H, MG025H, MG040H, MG050H	Stainless Steel	M20 or ½" NPT
OM002, OM004, OM006, OM008, OM015, OM025. OM040, OM050, OM050E, OM080, OM080E, OM100, OM100E	Aluminium or Stainless Steel	M20 or ½" NPT
OM002H, OM004H, OM006H, OM008H, OM015H, OM025H, OM040H, OM050H	Stainless Steel	M20 or ½" NPT
UHP004, UHP006, UHP008, UHP015	Stainless Steel	M20 or ½" NPT

Full Certificate Change History

Issue 1 - this Issue introduced the following changes:

1 Larger fixing screws were allowed to be used in the meter cap to the manifold of the MG004, MG006 and MG008 enclosures; these types are designated the MG004HP, MG006HP and MG008HP enclosures.

2 The through holes in the MG015, MG025 and MG040 were increased in number, in addition, the size of the holes in the MG015 and MG040 was increased, these types are designated the MG015HP, MG025HP and MG040HP enclosures.

3 Minor profile changes were recognised.

Issue 2 – this Issue introduced the following changes:

1 The introduction of the MP, MG and OM series of enclosures for use with group I applications, the marking of the equipment to include:
Ex d I Mb

2 The recognition of a change in the applicant's address from Northumberland Road, Caringbah to Atkinson Road, Taren Point.

Issue 3 – this Issue introduced the following changes:

1 The introduction of the "TG" Series of Enclosures. These are based on the MG series, the only difference is the shape of the measuring manifold and measuring element that the Ex d chamber is attached to.

2 The introduction of the "EX50" Series. This is a standalone enclosure used to house a PCB assembly fitted with terminal blocks, so that it can be electrically connected to the turbine flow meters and to other products via suitable Ex d I Mb or Ex d IIB certified conduit. The design is based on the existing MG and OM series enclosures

3 The recognition of other model type references that are based on existing designs, the complete range is now defined in the Equipment Description.

4 The existing drawings were reviewed and some minor drawing modifications were recognised, however, the majority of documents were removed and new drawings were introduced; therefore, the latest, rationalised drawing list replaces all previous versions.

5 The recognition of additional model type references to the existing range of enclosures.

Issue 4 – this Issue introduced the following change:

1 Re-issued to allow ExTR GB/SIR/ExTR10.0310/00 to be replaced by GB/SIR/ExTR10.0310/01

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Hawarden, CH5 3US, United Kingdom
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Web: www.csagroupuk.org

Issue 5 – this Issue introduced the following changes:

1 Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2004 and IEC 60079-1:2003 were replaced by IEC 60079-0:2011 and IEC 60079-1:2014. The markings were updated accordingly to recognise the new standards.

2 The removal of TG, MP and EX50 Models and associated drawings as listed below.

Model	Material	Threaded Entry
MP15	Aluminium or Stainless Steel	M20 or ½" NPT
MP25	Aluminium or Stainless Steel	M20 or ½" NPT
MP40	Aluminium or Stainless Steel	M20 or ½" NPT
MP50	Aluminium or Stainless Steel	M20 or ½" NPT
TG025	Aluminium or Stainless Steel	M20 or ½" NPT
TG040	Aluminium or Stainless Steel	M20 or ½" NPT
TG050	Aluminium or Stainless Steel	M20 or ½" NPT
TG080	Aluminium or Stainless Steel	M20 or ½" NPT
TG100	Aluminium or Stainless Steel	M20 or ½" NPT
TG150	Aluminium or Stainless Steel	M20 or ½" NPT

Model	Material	Thread Conduit Out	Thread Conduit In
EX50	Aluminium or Stainless Steel	M20 or ½" NPT	M20 x 1.5 Or ½" NPT Or ¾" NPT Or ¾" BSPP (G Series)

3 The introduction of OM-H & UHP models as listed below.

Model	Material	Threaded Entry
OM002H	Stainless Steel	M20 or ½" NPT
OM004H	Stainless Steel	M20 or ½" NPT
OM006H	Stainless Steel	M20 or ½" NPT
OM008H	Stainless Steel	M20 or ½" NPT
OM015H	Stainless Steel	M20 or ½" NPT
OM025H	Stainless Steel	M20 or ½" NPT
OM040H	Stainless Steel	M20 or ½" NPT
OM050H	Stainless Steel	M20 or ½" NPT

Model	Material	Threaded Entry
UHP004	Stainless Steel	M20 or ½" NPT
UHP006	Stainless Steel	M20 or ½" NPT
UHP008	Stainless Steel	M20 or ½" NPT
UHP015	Stainless Steel	M20 or ½" NPT

4 Various administrative drawing changes.

5 Addition of drawings 1315043 & 1315044.

6 The introduction of a Specific Condition of Use recognising the addition of T5 and T3 temperature classes.

7 Modifications to the earthing points on enclosures.

8 Modified flamepath lengths to include chamfers.

9 Change in the ambient temperature from -20°C to +120°C to -40°C to +150°C.

10 The addition of an interlock device.

11 Recognition that the equipment was independently tested to IP66 which was added to the marking.

Issue 6 – this Issue introduced the following changes:

1 The Applicant and Manufactures address was changed from Trimec Industries PTY Ltd, 1/16 Atkinson Road, Taren Point, NSW 2229, Australia, to Trimec Industries PTY Ltd, 12/7-11 Parraweena Road, Caringbah, NSW 2229, Australia.

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Email: ukinfo@csagroup.org
Web: www.csagroupuk.org

1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 05ATEX1296X** Issue: **10**

4 Equipment: **Series of Enclosures (See Section 13 for available models)**

5 Applicant: **Trimec Industries Pty Limited**

6 Address: 12/7-11 Parraweena Road
Caringbah
NSW 2229
Australia

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 the confidential reports listed in Section 14.2.

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

EN 60079-0:2012 (+A11:2013) EN 60079-1:2014

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

Stainless Steel Models Only

I M2 or II 2 G
Ex db I Mb Ex db IIB T6...T3 Gb
Refer to Specific Conditions of Use for Process Fluid temperatures

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Project Number 80021503

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 05ATEX1296X**
Issue 10

13 **DESCRIPTION OF EQUIPMENT**

The "MP" Series of Enclosures are intended for use as part of a Multipulse PD Flowmeter and consists of a common cover and up to four different sized bodies. The enclosure can be made of either aluminium or stainless steel and has two separate chambers. The lower chamber is non-flameproof and is attached to a suitable non-certified manifold. The upper flameproof chamber contains a printed circuit board and connection terminals. The flameproof cover forms a cylindrical joint with the body. Cable entry is by means of a threaded entry with either M20 or ½" NPT threads for the fitting of a suitably certified cable entry device. The flameproof enclosure houses electronic equipment and is completely sealed from the process fluid.

There are four different models in the series and all utilise the same pr iple of semi-rotary piston displacement to measure flow. The electronic compartment in the body is the same for all models, as is the cover. The table below summarises the models, material and cable entry options:

Model	Material	Threaded Entry
MP15	Aluminium or Stainless Steel	M20 or ½" NPT
MP25	Aluminium or Stainless Steel	M20 or ½" NPT
MP40	Aluminium or Stainless Steel	M20 or ½" NPT
MP50	Aluminium or Stainless Steel	M20 or ½" NPT

Variation 1

This variation recognised the following change:

i. The introduction of the following new models into the "MP" Series of Enclosures:
MPG025A Aluminium Enclosure
MPG025S Stainless Steel Enclosure
(These new models are almost identical to the previously certified "MP" Enclosures and use the same top cover and have either an M20 or ½" NPT threaded cable entry, however, the MPG025A and MPG025S Enclosures use oval gear positive displacement to measure flow.)

Variation 2

This variation recognised the following changes:

i. The effective thread depth of the conduit entry was reduced from 20.5 mm to 16 mm for both the aluminium and stainless steel cover in both M20 and ½" NPT versions.
ii. The introduction of minor drawing changes in the two, common, PCB schematics, the use of an alternative reed switch in the MP series PCB schematic was allowed; these changes do not alter the original flameproof assessment.
iii. The ambient temperature for the temperature class T6 was raised from +60°C to +70°C.
iv. The method of mounting the PCB was modified on the MP15, MP25, MP40 and MP50 versions; this change does not alter the operating pr iples of the flameproof chamber.
v. The Model MPG025, as detailed Variation 1 was re-designated the MG025, additional models are also added to this range, the table below summarises the models, material and cable entry options:

Model	Material	Threaded Entry
MG004	Aluminium or Stainless Steel	M20 or ½" NPT
MG006	Aluminium or Stainless Steel	M20 or ½" NPT
MG008	Aluminium or Stainless Steel	M20 or ½" NPT
MG015	Aluminium or Stainless Steel	M20 or ½" NPT
MG025	Aluminium or Stainless Steel	M20 or ½" NPT

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 05ATEX1296X**
Issue 10

Model	Material	Threaded Entry
MG040	Aluminium or Stainless Steel	M20 or ½" NPT
MG050	Aluminium or Stainless Steel	M20 or ½" NPT
MG080	Aluminium or Stainless Steel	M20 or ½" NPT
MG080H	Aluminium or Stainless Steel	M20 or ½" NPT
MG100	Aluminium or Stainless Steel	M20 or ½" NPT

vi. The introduction of the "OM" Series of Enclosures, these are based on the Model MG025, the cover of which has been modified to remove the conduit entry, the conduit entry now being included in the enclosure base, the table below summarises the models, material and cable entry options:

Model	Material	Threaded Entry
OM015	Aluminium or Stainless Steel	M20 or ½" NPT
OM025	Aluminium or Stainless Steel	M20 or ½" NPT
OM040	Aluminium or Stainless Steel	M20 or ½" NPT
OM050	Aluminium or Stainless Steel	M20 or ½" NPT
OM080	Aluminium or Stainless Steel	M20 or ½" NPT
OM080H	Aluminium or Stainless Steel	M20 or ½" NPT
OM100	Aluminium or Stainless Steel	M20 or ½" NPT

Variation 3

This variation recognised the following changes:

i. Larger fixing screws were allowed to be used in the meter cap to the manifold of the MG004, MG006 and MG008 enclosures; these types are designated the MG004HP, MG006HP and MG008HP enclosures.
ii. The through holes in the MG015, MG025 and MG040 were reased in number, in addition, the size of the holes in the MG015 and MG040 was reased, these types are designated the MG015HP, MG025HP and MG040HP enclosures.
iii. Minor profile changes were recognised.

Variation 4 - This variation introduced the following change:

i. The introduction of the MP, MG and OM series enclosures for use within group I applications. The marking of the equipment to include:

I M2
Ex d I Mb

ii. The recognition of a change in the applicant's address from Northumberland Road Caringbah to Atkinson Road Taren Point.

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EU-TYPE EXAMINATION CERTIFICATE **Sira 05ATEX1296X**
Issue 10

Variation 5 - This variation introduced the following changes:

i. The introduction of the "TG" Series of Enclosures. These are based on the MG series, the only difference is the shape of the measuring manifold and measuring element that the Ex d chamber is attached to, the table below summarises the models, material and cable entry options:

Model	Material	Threaded Entry
TG025	Aluminium or Stainless Steel	M20 or ½" NPT
TG040	Aluminium or Stainless Steel	M20 or ½" NPT
TG050	Aluminium or Stainless Steel	M20 or ½" NPT
TG080	Aluminium or Stainless Steel	M20 or ½" NPT
TG100	Aluminium or Stainless Steel	M20 or ½" NPT
TG150	Aluminium or Stainless Steel	M20 or ½" NPT

ii. The introduction of the "EX50" Series. This is a standalone enclosure used to house a PCB assembly fitted with terminal blocks, so that it can be electrically connected to the turbine flow meters and to other products via suitable Ex d I Mb or Ex d IIB certified conduit. The design is based on the existing MG and OM series enclosures, the table below summarises the models, material and cable entry options:

Model	Material	Thread Conduit Out	Thread Conduit In
EX50	Aluminium or Stainless Steel	M20 x 1.5 or 1/2" NPT	M20 x 1.5 or 1/2" NPT or 3/4" NPT or 3/4" BSPP (G Series)

iii. The recognition of other model type references that are based on existing designs, the complete range is as follows:

Model	Material
AIM002, AIM004, AIM006, AIM008, AIM015, AIM025	Aluminium or Stainless Steel
EX50	Aluminium or Stainless Steel
MG002, MG004, MG006, MG008, MG015, MG025, MG040, MG050, MG080, MG080E, MG100	Aluminium or Stainless Steel
MG002H, MG004H, MG006H, MG008H, MG015H, MG025H, MG040H, MG050H	Stainless Steel
MP15, MP25, MP40, MP50	Aluminium or Stainless Steel
OM002, OM004, OM006, OM008, OM015, OM025. OM040, OM050, OM050E, OM080, OM080E, OM100, OM100E	Aluminium or Stainless Steel
TG025, TG040, TG050, TG080, TG100, TG150	Aluminium or Stainless Steel

iv. The existing drawings were reviewed and some minor drawing modifications were recognised, however, the majority of documents were removed and new drawings were introduced; therefore, the latest, rationalised drawing list replaces all previous versions.

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EU-TYPE EXAMINATION CERTIFICATE **Sira 05ATEX1296X**
Issue 10

Variation 6 - This variation introduced the following changes:

i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2004 and EN 60079-1:2004 were replaced by EN 60079-0:2012+A11:2013 and EN 60079-1:2014. The markings were updated accordingly to recognise the new standards.

ii. The removal of TG, MP and EX50 Models and associated drawings as listed below.

Model	Material	Threaded Entry
MP15	Aluminium or Stainless Steel	M20 or ½" NPT
MP25	Aluminium or Stainless Steel	M20 or ½" NPT
MP40	Aluminium or Stainless Steel	M20 or ½" NPT
MP50	Aluminium or Stainless Steel	M20 or ½" NPT
TG025	Aluminium or Stainless Steel	M20 or ½" NPT
TG040	Aluminium or Stainless Steel	M20 or ½" NPT
TG050	Aluminium or Stainless Steel	M20 or ½" NPT
TG080	Aluminium or Stainless Steel	M20 or ½" NPT
TG100	Aluminium or Stainless Steel	M20 or ½" NPT
TG150	Aluminium or Stainless Steel	M20 or ½" NPT

Model	Material	Thread Conduit Out	Thread Conduit In
EX50	Aluminium or Stainless Steel	M20 or ½" NPT	M20 x 1.5 Or ½" NPT Or ¾" NPT Or ¾" BSPP (G Series)

iii. The introduction of OM-H & UHP models as listed below.

Model	Material	Threaded Entry
OM002H	Stainless Steel	M20 or ½" NPT
OM004H	Stainless Steel	M20 or ½" NPT
OM006H	Stainless Steel	M20 or ½" NPT
OM008H	Stainless Steel	M20 or ½" NPT
OM015H	Stainless Steel	M20 or ½" NPT
OM025H	Stainless Steel	M20 or ½" NPT
OM040H	Stainless Steel	M20 or ½" NPT
OM050H	Stainless Steel	M20 or ½" NPT

Model	Material	Threaded Entry
UHP004	Stainless Steel	M20 or ½" NPT
UHP006	Stainless Steel	M20 or ½" NPT
UHP008	Stainless Steel	M20 or ½" NPT
UHP015	Stainless Steel	M20 or ½" NPT

iv. Various administrative drawing changes.

v. Addition of drawings 1315043 & 1315044.

vi. The introduction of a Specific Condition of Use recognising the addition of T5 and T3 temperature classes.

vii. Modifications to the earthing points on enclosures.

viii. Modified flamepath lengths to include chamfers.

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ix. Change in the ambient temperature from -20ºC to +120ºC to -40ºC to +150ºC.
x. The addition of an interlock device.
xi. Recognition that the equipment was independently tested to IP66 which was added to the marking.

Variation 7

This variation recognised the following change:

i. The Applicants address was changed from Trimec Industries PTY Ltd, 1/16 Atkinson Road, Taren Point, NSW 2229, Australia, to Trimec Industries PTY Ltd, 12/7-11 Parraweena Road, Caringbah, NSW 2229, Australia.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	8 March 2006	R51F12898A	The release of prime certificate.
1	28 April 2006	R51F12898B	Re-issued to correct the certificate schedule and to permit report number R51F12898B to replace report number R51F12898A.
2	28 April 2006	R52A14891A	The introduction of Variation 1.
3	29 March 2007	R52A15751B	This Issue covers the following changes: • All previously issued certification were rationalised into a single certificate Issue 3, Issues 0 to 2 referenced above are only intended to reflect the history of the previous certification and have not been issued as actual documents. The introduction of Variation 2.
4	7 October 2008	R59M18810A	The introduction of Variation 3.
5	8 September 2010	R22339A/00	The introduction of Variation 4.
6	15 December 2010	R23242A/00	The introduction of Variation 5.
7	04 April 2011	R23242A/01	Reissued to allow Sira R23242A/01 to replace R23242A/00
8	07 December 2017	R70133327A	This Issue covers the following changes: • EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. *(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)* • The introduction of Variation 6

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EU-TYPE EXAMINATION CERTIFICATE

Sira 05ATEX1296X
Issue 10

Issue	Date	Report number	Comment
9	15 October 2019	0654	• Transfer of certificate Sira 05ATEX1296X from Sira Certification Service to CSA Group Netherlands B.V.
10	26 November 2019	R80021503A	The introduction of Variation 7.

15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

15.1 The maximum diametric clearance of the cylindrical joint between the cover and the body is 0.15mm.

15.2 Enclosure securing fasteners shall be property class A2-70.

15.3 The temperature of the process fluid shall be limited according to the following table:

Process Temperature Limitations	
Marking	Process Temperature Range
Ex db I Mb	-10°C ≤ Ta ≤ +150°C
Ex db IIB T6 Gb	-40°C ≤ Ta ≤ +70°C
Ex db IIB T5 Gb	-40°C ≤ Ta ≤ +85°C
Ex db IIB T4 Gb	-40°C ≤ Ta ≤ +120°C
Ex db IIB T3 Gb	-10°C ≤ Ta ≤ +150°C

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

CSA Group Netherlands B.V.
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Certificate Annexe

Certificate Number: **Sira 05ATEX1296X**

Equipment: **Series of Enclosures (See section 13 for available models)**

Applicant: **Trimec Industries Pty Limited**

Issues 0 to 5 (Drawings rationalised and superseded by issue 6)

Issue 6

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
13-02-248-EX	1 to 3	01	02 Dec 10	Ex d Typical Component Requirements
1306001-EX	1 of 1	05	02 Dec 10	MP Series Terminal Cover SS M20
13-06-003-EX	1 of 1	05	02 Dec 10	MP Series Terminal Cover AL M20
13-06-006-EX	1 to 2	05	14 Dec 10	MP Series Terminal Cover AL 0.5in NPT
13-06-008-EX	1 of 1	05	06 Apr 11	MP Series Cover SS 0.5in NPT Conduit Entry
13-06-020-EX	1 of 1	03	21 Feb 11	OM Series Terminal Cover AL
13-06-030-EX	1 of 1	02	21 Feb 11	OM Cover SS
13-12-052-EX	1 of 1	-	02 Dec 10	Ex d Typical PCB Assembly
13-15-001-EX	1 of 1	07	04 Jan 11	TRIMEC Customer Label
13-15-083-EX	1 of 1	02	02 Dec 10	TRIMEC Ex-d Group I Label
14-02-148-EX	1 to 3	-	02 Dec 10	MP Series Ex d Requirements
14-02-149-EX	1 to 3	-	02 Dec 10	OM Series Ex d Requirements
14-02-150-EX	1 to 3	-	02 Dec 10	MG-TG Series Ex d Requirements
14-02-151-EX	1 to 3	-	02 Dec 10	MG High Pressure Series Ex d Requirements
14-02-152-EX	1 to 4	01	19 Jan 11	EX50 Enclosure Ex d Requirements
14-02-154-EX	1 to 4	01	19 Jan 11	EX50 Enclosure Ex d Requirements
1315049-EX	1 of 1	08	04 Jan 11	TRIMEC Ex-d ATEX - IEC Label

Issue 7

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
13-02-248- ex	1 to 3	01	02 Dec 10	Ex d Typical Component Requirements
1306001-EX	1 of 1	05	02 Dec 10	MP Series Terminal Cover SS M20
13-06-003-EX	1 of 1	05	02 Dec 10	MP Series Terminal Cover AL M20
13-06-006-EX	1 to 2	05	14 Dec 10	MP Series Terminal Cover AL 0.5in NPT
13-06-008-EX	1 of 1	05	06 Apr 11	MP Series Cover SS 0.5in NPT Conduit Entry
13-06-020-EX	1 of 1	03	21 Feb 11	OM Series Terminal Cover AL
13-06-030-EX	1 of 1	02	21 Feb 11	OM Cover SS Machine Detail
13-12-052-EX	1 of 1	-	02 Dec 10	Ex d Typical PCB Assembly
13-15-001-EX	1 of 1	07	04 Jan 11	TRIMEC Customer Label
13-15-083-EX	1 of 1	02	02 Dec 10	TRIMEC Ex-d Group I Label
14-02-148-EX	1 to 3	-	02 Dec 10	MP Series Ex d Requirements
14-02-149-EX	1 to 3	-	02 Dec 10	OM Series Ex d Requirements
14-02-150-EX	1 to 3	-	02 Dec 10	MG-TG Series Ex d Requirements
14-02-151-EX	1 to 3	01	02 Dec 10	MG High Pressure Series Ex d Requirements
1315049-EX	1 of 1	08	04 Jan 11	TRIMEC Ex-d ATEX - IEC Label
14-02-154-EX	1 to 4	01	19 Jan 11	EX50 Enclosure Ex d Requirements

Issue 8

Drawing	Sheets	Rev	Date (Sira stamp)	Title
1302248-EX	1 to 3	05	02 Nov 17	Exd Typical Component Requirements
1306001-EX	1 of 1	08	17 Oct 17	M20 SS TERMINAL COVER

CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands

Certificate Annexe

Certificate Number: **Sira 05ATEX1296X**

Equipment: **Series of Enclosures (See section 13 for available models)**

Applicant: **Trimec Industries Pty Limited**

Drawing	Sheets	Rev	Date (Sira stamp)	Title
1306008-EX	1 to 2	07	17 Oct 17	NPT SS TERMINAL COVER
1306030-EX	1 of 1	04	17 Oct 17	OM SERIES TERMINAL COVER SS
130805133-EX	1 of 1	01	19 Sep 17	NMI Screw Spacer
130805135-EX	1 of 1	0	19 Sep 17	EXd NMI Cap Screw
1312052-EX	1 of 1	01	19 Sep 17	Exd Typical PCB Assembly
1315001-EX	1 to 3	08	19 Sep 17	Product Data-Plate
1315043-EX	1 of 1	0	19 Sep 17	M20 Ex d COVER LABEL
1315044-EX	1 of 1	0	19 Sep 17	NPT Ex d COVER LABEL
1315049-EX	1 of 1	10	19 Sep 17	Trimec EXd Group 2 Label - SS
1315083-EX	1 of 1	04	19 Sep 17	Trimec EXd Group 1 Label - SS
1315164-EX	1 of 1	01	19 Sep 17	Trimec EXd Group 2 Label - AL
1402149-EX	1 to 5	04	19 Oct 17	OM Series Exd Requirements
1402150-EX	1 to 4	04	17 Oct 17	MG Series Exd Requirements
1402151-EX	1 to 4	04	17 Oct 17	High Pressure Series Exd Requirements
1402212-EX	1 to 4	02	17 Oct 17	UHP Series Exd Requirements

Issue 9 - No new drawings were introduced.

Issue 10

Drawing	Sheets	Rev	Date (Sira stamp)	Title
1315049-EX	1 of 1	12	12 Nov 19	Trimec EXd Group 2 Label - SS
1315083-EX	1 of 1	06	12 Nov 19	Trimec EXd Group 1 Label - SS
1315164-EX	1 of 1	03	12 Nov 19	Trimec EXd Group 2 Label - AL

CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands

ANZEx

Australian/New Zealand Certification Scheme
for Explosion Protected Equipment

Certificate of Conformity

Ex EQUIPMENT

Certificate No.: **ANZEx 11.3015X**	*Current Issue:* 1	*Date of Issue:* 2019-08-30

Applicant: **Trimec Industries Pty Ltd**
12 / 7-11 Parraweena Road,
Caringbah NSW 2229
AUSTRALIA

Equipment: MG, OM and UHP Series of Enclosures

Type of Explosion Protection: Flameproof 'd'

Explosion Protection Marking:
Ex db I Mb (stainless steel only)
Ex db IIB T6 …T3 Gb
(refer to Specific Condition of Use for process and ambient temperature ranges)

ANZEx 11.3015X

This certificate is granted subject to the conditions as set out in Standards Australia/Standards New Zealand Miscellaneous Publication ***MP87.1***

Signed for and on behalf of issuing body

Name & Position Ujen Singh – Quality & Certification Manager

This certificate is not transferable and remains the property of the issuing body.
The status of this certificate can be confirmed through the database located at www.anzex.com.au

Certificate issued by:

TestSafe Australia
919 Londonderry Road, Londonderry NSW 2753 Australia

Certificate of Conformity
Ex EQUIPMENT

Certificate No.: **ANZEx 11.3015X**	*Current Issue:* 1	*Date of Issue:* 2019-08-30

Manufacturer: **Trimec Industries Pty Ltd**
12 / 7-11 Parraweena Road,
Caringbah NSW 2229.
AUSTRALIA

Additional Manufacturing Location(s): None

STANDARDS:

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0:2011 Ed 6	Explosive atmospheres – Part 0: Equipment – General requirements
IEC 60079-1:2014 Ed 7	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures “d”

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

The equipment listed has successfully met the examination and test requirements as recorded in:

Test Report Nos. & Issuing Bodies associated with all issues of the certificate:	GB/SIR/ExTR07.0017/00, GB/SIR/ExTR08.0127/00, GB/SIR/ExTR10.0210/00, GB/SIR/ExTR10.0310/01, GB/SIR/ExTR17.0247/00 – Sira
Quality Assessment Report No. & Issuing Body:	AU/TSA/QAR06.006/09 – TestSafe Australia
File Reference:	2019/008545 2011/017910

Certificate of Conformity
Ex EQUIPMENT

Certificate No.: **ANZEx 11.3015X**	*Current Issue:* 1	*Date of Issue:* 2019-08-30

Schedule

Equipment Description:

The MG and OM Series of Enclosures are intended for use as part of a pulse flowmeter and consists a cover and number of different sized enclosures. The enclosure can be made of either aluminium or stainless steel and has two separate chambers. The lower chamber is non-flameproof and is attached to a suitable non-certified manifold. The upper flameproof chamber contains a printed circuit board and connection terminals.

The MG Series Enclosures comprise a flameproof cover which forms a cylindrical joint with the body and provides a threaded entry for external connection with either M20 or ½" NPT threads. The body houses electronic equipment and is completely sealed from the process fluid.

The OM Series Enclosures comprises a blank flameproof cover, which forms a cylindrical joint with the body. A separate entrance provides a threaded entry for external connection with either M20 or ½" NPT threads. Again the body houses electronic equipment and is completely sealed from the process fluid.

The equipment is to be supplied with Operation Manual, document No. 1314009.

Model	**Material**
MG002, MG004, MG006, MG008, MG015, MG025, MG040, MG050, MG080, MG080E, MG100	Aluminium or Stainless Steel
MG002H, MG004H, MG006H, MG008H, MG015H, MG025H, MG040H, MG050H	Stainless Steel
OM002, OM004, OM006, OM008, OM015, OM025. OM040, OM050, OM050E, OM080, OM080E, OM100, OM100E	Aluminium or Stainless Steel
OM002H, OM004H, OM006H, OM008H, OM015H, OM025H, OM040H, OM050H	Stainless Steel
UHP004, UHP006, UHP008, UHP015	Stainless Steel

Certificate of Conformity
Ex EQUIPMENT

Certificate No.:	ANZEx 11.3015X	Current Issue: 1	Date of Issue: 2019-08-30

Variations Permitted by this Issue:

- Upgrade standards editions to IEC60079-0:2011 and IEC60079-1:2014, were AS/NZS60079-0:2005 and AS/NZS60079-1:2005, respectively.
- Removal of AIM, TG, MP and EX Models and associated drawings listed below.

Model	Material
AIM002, AIM004, AIM006, AIM008, AIM015, AIM025	Aluminium or Stainless Steel
EX50	Aluminium or Stainless Steel
MP15, MP25, MP40, MP50	Aluminium or Stainless Steel
TG025, TG040, TG050, TG080, TG100, TG150	Aluminium or Stainless Steel

- Introduction of UHP models as listed below. The flameproof enclosure part of the 'UHP' series body is almost identical to that of the MH-H series enclosure with the exceptions of the shape of the electronics slots, a slight chamfer of the external edges and a 5 mm increase in height. The manufacturer specified that the internal volume of the UHP series approximately 4 mL less than the equivalent MG-H series due to the base thickness. The UHP series meter cap is the same as the MG-H series and the flamepath positions and lengths are unchanged.

Model	Material
UHP004, UHP006, UHP008, UHP015	Stainless Steel

- Various administrative drawing changes.
- Addition of drawings 130805133-EX, 130805135-EX, 1315043-EX, 1315044-EX and 1402212-EX.
- The introduction of a Specific Condition of Use recognising the addition of T5 and T3 temperature classes.
- Modifications to the earthing points on enclosures.
- Modified flamepath lengths to include chamfers.
- Change in the ambient temperature from -20 °C to +120 °C to -40 °C to +150 °C.
- The addition of an interlock device.
- Recognition that the equipment was independently tested to IP66 which was added to the marking.
- Change of manufacturer's location, previously 1/16 Atkinson Road, Taren Point, NSW 2229.
- The Condition of Manufacture for Routine Test related to the Ex50 was removed.

Electrical Ratings/Parameters

Um = 28 VDC.
Im = 100 mA.

Certificate of Conformity
Ex EQUIPMENT

Certificate No.: **ANZEx 11.3015X**	*Current Issue:* 1	*Date of Issue:* 2019-08-30

Specific Conditions of Use:

1. It is a specific condition of use that the maximum diametric clearance of the cylindrical joint between the cover and body is 0.15 mm.
2. It is a specific condition of use that fasteners used to secure the enclosure shall be property class A2-70.
3. It is a specific condition of use that the temperature of the process fluid shall be limited according to the following table:

Marking	Process (liquid) and Ambient Temperature Range
• Ex db I Mb	-10 °C ≤ Ta ≤ +150 °C
• Ex db IIB T6 Gb	-40 °C ≤ Ta ≤ +70 °C
• Ex db IIB T5 Gb	-40 °C ≤ Ta ≤ +85 °C
• Ex db IIB T4 Gb	-40 °C ≤ Ta ≤ +120 °C
• Ex db IIB T3 Gb	-10 °C ≤ Ta ≤ +130 °C

Additional Information:

None.

Manufacturer's Documents associated with this Issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
1302248-EX	1 to 3	*Ex d Typical Component Requirements	05	2017-11-02
1306001-EX	1 of 1	*M20 SS Terminal Cover	08	2017-10-17
1306008-EX STH 1 of 1	1 of 1	*NPT SS Terminal Cover	07	2017-10-17
1306008-EX	1	*NPT SS Terminal Cover	07	2017-10-17
1306030-EX	1 of 1	*OM Series Terminal Cover SS	04	2017-10-17
130805133-EX	1 of 1	*NMI Screw Spacer	01	2017-09-19
130805135-EX	1 of 1	*Exd NMI Cap Screw	0	2017-04-12
1312052-EX	1 of 1	*Exd Typical PCB Assembly	01	2017-04-13
1315001-EX	1 to 3	*Product Data-Plate	08	2017-04-15
1315043-EX	1	*M20 Ex d Cover Label	0	2005-08-16
1315044-EX	1	*½" NPT Ex d Cover Label	0	2005-08-16
1315095-EX	1 of 1	*TRIMEC ANZEx Group 1 Label	01	2019-07-04
1315096-EX	1 of 1	*TRIMEC ANZEx Group II Label	01	2019-07-04
1402149-EX	1 to 5	*OM Series Exd Requirements	04	2017-10-17
1402150-EX	1 to 4	*MG Series Exd Requirements	04	2017-10-17

Certificate of Conformity
Ex EQUIPMENT

Certificate No.: **ANZEx 11.3015X**	*Current Issue:* 1	*Date of Issue:* 2019-08-30

Document Number	Pages / Sheets	Document Title	Revision	Date
1402151-EX	1 to 4	*High Pressure Series Exd Requirements	04	2017-10-17
1402212-EX	1 to 4	*UHP Series EXd Requirements	02	2017-10-17

Note: Document Tittle marked with "*" are new or have been changed.

History of Issues and Variations

Issue 0 dated 2011-12-12

Manufacturer's Documents associated with Issue 0:

Document Number	Pages / Sheets	Document Title	Revision	Date
13-02-248	1 to 3	Ex d Typical Component Requirements	01	2010-11-16
1306001-EX	1 of 1	MP Series Cover SS M20 Conduit Entry	05	2010-11-12
13-06-003-EX	1 of 1	MP Series Cover AL M20	05	2010-11-12
13-06-006-EX	1 to 2	MP Series Cover AL 0.5 in NPT	05	2010-11-12
13-06-008-EX	1 of 1	MP Series Cover SS 0.5 in NPT Conduit Entry	05	2010-11-12
13-06-020-EX	1 of 1	OM COVER - EX	03	2010-11-12
13-06-030-EX	1 of 1	OM COVER SS	02	2010-08-25
13-12-052-EX	1 of 1	Ex d Typical PCB Assembly	-	2006-04-04
13-15-001-EX	1 of 1	Customer Label	07	2010-11-12
13-15-095	1 of 1	TRIMEC ANZEx Group I Label	-	2011-12-06
13-15-096	1 of 1	TRIMEC ANZEx Group II Label	-	2011-12-06
14-02-148-EX	1 to 3	MP Series Ex d Requirements	-	2010-08-17
14-12-149-EX	1 to 3	OM Series Ex d Requirements	-	2010-08-17
14-02-150-EX	1 to 3	MG/TG Series Ex d Requirements	-	2010-09-08
14-02-151-EX	1 to 3	High Pressure Series Ex d Requirements	-	2010-09-08
14-02-154	1 to 4	EX50 Enclosure Ex d Requirements	01	2011-01-19

CERTIFICATE OF CONFORMITY

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** **FM19US0028X**
3. **Equipment:** **OM Series Pulse Meters**
   (Type Reference and Name) **Flowmeter**
4. **Name of Listing Company:** **Great Plains Industries Inc**
5. **Address of Listing Company:** **5252 E 36th St N**
   Wichita KS 67220-3205,
   USA
6. The examination and test results are recorded in confidential report number:

   PR449819 dated 22nd March 2019

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

   FM Class 3810:2018, ANSI/ UL 61010: 2015, ANSI/ISA 60079-0:2013, ANSI/UL 60079-1:2015

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:

    Flameproof for Class I, Zone 1, AEx db IIB T4 Gb hazardous (classified) locations, with an ambient temperature rating of -40°C to +120°C.

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

22 March 2019
Date

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

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

SCHEDULE

US Certificate Of Conformity No: FM19US0028X

11. The marking of the equipment shall include:

Class I, Zone 1, AEx db IIB T4 Gb Ta = -40°C to +120°C

12. **Description of Equipment:**

General - The OM Series Pulse Meter is a precise positive displacement flowmeter incorporating a pair of oval geared motors. The meters are capable of measuring the flow of a broad range of clean liquids. The Stainless Steel flowmeters are suited to most liquid products and chemicals; including many water based liquids, acids, bases and salt solutions. The Aluminum flowmeters are suitable for fuels, oils & most non-aggressive lubricating liquids. The Oval Gear flowmeters are available as blind meters with a pulse signal output capable of interfacing to most monitoring and control instrumentation, or the meter can be fitted with instruments such as totalizers, rate totalizers or batch controllers. These instruments also have monitoring and control output options including 4-20mA, scaled pulse, flow-rate alarms and batch control logic (preset metering).

Construction - The OM Series Pulse Meters are available in Stainless Steel or Aluminum enclosure construction and has 2 separate chambers. The maximum free internal volume is 150 cubic cm. The lower chamber is non-flameproof and is attached to a suitable non-certified manifold. The upper chamber contains a printed circuit board and connection terminals. The flameproof cover form a cylindrical joint with the body. Cable entry is by means of a threaded entry with either Metric M20 or ½" NPT for fitting of a suitable certified cable entry device. The flameproof enclosure houses the electronics and is completely sealed form the process fluid.

Ratings - The OM Series Pulse Meters operate at 28 Vdc, 100 mA max current. The OM Series Pulse Meters are rated for use in an ambient temperature range of -40°C to +120°C.

OMabcd2fgFP, Pulse Meter
a = Size: 004 (1/8"), 006 (1/4"), 008 (3/8"), 015 (1/2"), 025 (1"), 040 (1.5"), 050 (2"), 080 (3"), 100 (4").
b = Body Material: A (aluminum), E (extended flow aluminum, 3" and 4" sizes only), S (stainless steel).
c = Rotor Material/ Bearing Type: 00 (PPS), 10 (Keishi Cut PPS), 41 (Aluminum / Carbon Steel), 51 (Stainless Steel/ Carbon Ceramic), 61 (Keishi Cut Aluminum / Carbon Steel), 71 (Keishi Cut Stainless Steel, Carbon Ceramic)
d = O-ring Material: 1 (Viton), 2 (EPDM), 3 (Teflon encapsulated Viton), 4 (Nitrile)
2 = Temperature Limits: 2 (-40C to +120C)
f = Process Connections: 0 (No Fittings), 1 (BSPP), 2 (NPT), 3 (Tri-clamp), 4 (ANSI-150 Flange), 5 (ANSI-300 Flange), 6 (PN16 DIN Flanged)
g = Electrical Entry: 1 (M20 x 1.5mm), 2 (1/2" NPT)

13. **Specific Conditions of Use:**

1. The flamepaths of the equipment are not intended to be repaired. Contact manufacturer for flamepath joint specifications required for repair.

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

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

SCHEDULE

US Certificate Of Conformity No: FM19US0028X

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
22nd March 2019	Original Issue.

CERTIFICATE OF CONFORMITY

1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**
2. **Certificate No:** **FM19CA0015X**
3. **Equipment:** **OM Series Pulse Meters**
   (Type Reference and Name) **Flowmeter**
4. **Name of Listing Company:** **Great Plains Industries Inc**
5. **Address of Listing Company:** **5252 E 36th St N**
   Wichita KS 67220-3205,
   USA
6. The examination and test results are recorded in confidential report number:
   PR449819 dated 22nd March 2019
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   CAN/CSA-C22.2 No. 60079-0:2015, CAN/CSA-C22.2 No. 60079-1:2016,
   CAN/CSA-C22.2 No. 61010-1:2012
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:

    Flameproof for Ex db IIB T4 Gb hazardous (classified) locations, with an ambient temperature rating of -40°C to +120°C.

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

26 February 2021
Date

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

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

SCHEDULE

Canadian Certificate Of Conformity No: FM19CA0015X

11. The marking of the equipment shall include:

    Ex db IIB T4 Gb Ta = -40°C to +120°C

12. **Description of Equipment:**

    General - The OM Series Pulse Meter is a precise positive displacement flowmeter incorporating a pair of oval geared motors. The meters are capable of measuring the flow of a broad range of clean liquids. The Stainless Steel flowmeters are suited to most liquid products and chemicals; including many water based liquids, acids, bases and salt solutions. The Aluminum flowmeters are suitable for fuels, oils & most non-aggressive lubricating liquids. The Oval Gear flowmeters are available as blind meters with a pulse signal output capable of interfacing to most monitoring and control instrumentation, or the meter can be fitted with instruments such as totalizers, rate totalizers or batch controllers. These instruments also have monitoring and control output options including 4-20mA, scaled pulse, flow-rate alarms and batch control logic (preset metering).

    Construction - The OM Series Pulse Meters are available in Stainless Steel or Aluminum enclosure construction and has 2 separate chambers. The maximum free internal volume is 150 cubic cm. The lower chamber is non-flameproof and is attached to a suitable non-certified manifold. The upper chamber contains a printed circuit board and connection terminals. The flameproof cover form a cylindrical joint with the body. Cable entry is by means of a threaded entry with either Metric M20 or ½" NPT for fitting of a suitable certified cable entry device. The Metric entry is fitted with a certified NPT adapter for use in Canada. The flameproof enclosure houses the electronics and is completely sealed form the process fluid.

    Ratings - The OM Series Pulse Meters operate at 28 Vdc, 100 mA max current. The OM Series Pulse Meters are rated for use in an ambient temperature range of -40°C to +120°C.

    OMabcd2fgFP, Pulse Meter
    a = Size: 004 (1/8"), 006 (1/4"), 008 (3/8"), 015 (1/2"), 025 (1"), 040 (1.5"), 050 (2"), 080 (3"), 100 (4").
    b = Body Material: A (aluminum), E (extended flow aluminum, 3" and 4" sizes only), S (stainless steel).
    c = Rotor Material/ Bearing Type: 00 (PPS), 10 (Keishi Cut PPS), 41 (Aluminum / Carbon Steel), 51 (Stainless Steel/ Carbon Ceramic), 61 (Keishi Cut Aluminum / Carbon Steel), 71 (Keishi Cut Stainless Steel, Carbon Ceramic)
    d = O-ring Material: 1 (Viton), 2 (EPDM), 3 (Teflon encapsulated Viton), 4 (Nitrile)
    2 = Temperature Limits: 2 (-40C to +120C)
    f = Process Connections: 0 (No Fittings), 1 (BSPP), 2 (NPT), 3 (Tri-clamp), 4 (ANSI-150 Flange), 5 (ANSI-300 Flange), 6 (PN16 DIN Flanged)
    g = Electrical Entry: 1 (M20 x 1.5mm), 2 (1/2" NPT)

13. **Specific Conditions of Use:**

    1. The flamepaths of the equipment are not intended to be repaired. Contact manufacturer for flamepath joint specifications required for repair.

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

    This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

SCHEDULE

Canadian Certificate Of Conformity No: FM19CA0015X

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
22nd March 2019	Original Issue.
26th February 2021	Supplement 1: Report Reference: RR226729 dated 26th February 2021. Description of the Change: Removed “Class I, Zone 1” from product markings, label, and Approval Guide.