X Purge System Certificates

ML499

PART A

Important Note
Refer to the system manual for applicable certificates.

CONTENTS

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1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 01ATEX1295X** Issue: **16**

4 Equipment: **MiniPurge Purge Controller**

5 Applicant: **EXPO Technologies Limited**

6 Address: Unit 2
The Summit
Hanworth Road
Sunbury on Thames
Surrey TW16 5DB
UK

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 IEC 60079-0:2018/AC:2020. EN 60079-2:2014 EN 60079-11:2012

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:

Refer to the schedule for marking

Project Number 80041857

Signed: J A May

Title: Director of Operations

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 01ATEX1295X**
Issue 16

13 **DESCRIPTION OF EQUIPMENT**

Standard versions:

II 2(2) GD
Ex [pxb] IIC T6 Gb
Ex [pxb] IIIC T85°C Db
(Ta –20°C to +55°C)

II 2(2) GD
Ex [pyb] IIC T6 Gb
Ex [pyb] IIIC T85°C Db
(Ta –20°C to +55°C)

II 2(3) GD
Ex [pzc] IIC T6 Gb
Ex [pzc] IIIC T85°C Db
(Ta –20°C to +55°C)

Standard/ET/ES versions:

II 2(2) GD
Ex [pxb] ia IIC T5 Gb
Ex [pxb] ia IIIC T100°C Db
(Ta –20°C to +55°C)

Low temperature versions:

II 2(2) G
Ex [pxb] db e IIC T3 Gb
Ex [pxb] db e IIC T4 Gb
(Ta –60°C to +55°C)

Low temperature/ET/ES versions

II 2(2) G
Ex [pxb] db e ia IIC T3 Gb
Ex [pxb] db e ia IIC T4 Gb
(Ta –60°C to +55°C)

High temperature versions – H6:

II 2(2) G
Ex [pxb] IIC T4 Gb
(Ta –20°C to +60°C)
[Purge air temp. up to +60°C]

High temperature/ET/ES versions – H6

II 2(2) G
Ex [pxb] ia IIC T4 Gb
(Ta –20°C to +60°C)
[Purge air temp. up to +60°C]

High temperature versions – H7:

II 2(2) G
Ex [pxb] IIC T4 Gb
(Ta –20°C to +60°C)
[Purge air temp. up to +70°C]

High temperature/ET/ES versions – H7

II 2(2) G
Ex [pxb] ia IIC T4 Gb
(Ta –20°C to +60°C)
[Purge air temp. up to +70°C]

Combined Versions

Low temp. with High temp. H6

II 2(2) G
Ex [pxb] db e IIC T3 or T4 Gb
(Ta –60°C to +60°C)
[Purge air temp. up to +60°C]

Low temp. with High temp. H6 and Et/ES

II 2(2) G
Ex [pxb] db e ia IIC T3 or T4 Gb
(Ta –60°C to +60°C)
[Purge air temp. up to +60°C]

Low temp. with High temp. H7

II 2(2) G
Ex [pxb] db e IIC T3 or T4 Gb
(Ta –60°C to +60°C)
[Purge air temp. up to +70°C]

Low temp. with High temp. H7 and Et/ES

II 2(2) G
Ex [pxb] db e ia IIC T3 or T4 Gb
(Ta –60°C to +60°C)
[Purge air temp. up to +70°C]

Standard versions LD:

II 2(2) G
Ex [pxb] IIC T4 Gb
(Ta –20°C to +55°C)

II 2(2) G
Ex [pyb] IIC T4 Gb
(Ta –20°C to +55°C)

II 2(3) G
Ex [pzc] IIC T4 Gb
(Ta –20°C to +60°C)

Standard ET/ES/LD Versions

II 2(2) G
Ex [pxb] ia IIC T3 or T4 Gb
(Ta –20°C to +55°C)

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The Purge Controllers are pneumatically operated devices, which are intended to provide a given flow rate of purging gas for a predetermined time to unspecified Ex p protected electrical equipment. The MiniPurge Control Units provide one of the following four methods of purge operation.

LC-Leakage compensation only after initial high purge
CF-Continuous flow (same flow rate during and after purging)
CF2-Two flow CF system with initial high purge rate only at one orifice
CFHP-Continuous (lower) flow after initial high purge
DP – Dust Protection (for pressurization only)

The MiniPurge control unit may be supplied within a heated enclosure to permit the use of the system within an ambient temperature down to -60°C.

Relief Valve - The MiniPurge controller is supplied with an optional overpressure relief valve, which is to be fitted to the Ex p protected apparatus to prevent an internal overpressure above the maximum overpressure rating of the apparatus. There are 14 models of relief valve; the designation of each relief valve refers to its nominal bore in mm, as follows:

RLV3, RLV6, RLV9, RLV12, RLV19, RLV25, RLV26, RLV52, RLV36, RLV75, RLV104, RLV125, RLV150 and RLV200.

The outlet of each relief valve is fitted with a spark arrestor, of which there are four optional types:

- Metal foam
- Tortuous path with at least 4 x 90°or 2 x 180° bends
- Multi-layer stainless steel mesh
- Knitted mesh

Outlet Orifice - Three types of orifice are used:

- Threaded Orifices e.g. ¼" NPT or 2" BSP with a built in spark arrester. These are selected to maintain a desired back pressure within the Ex p protected apparatus when used with the Continuous Flow options. The designation of each outlet orifice indicates the nominal inlet diameter. The designations are as follows: SA3, SA6, SA9, SA12, SA19, SA25, SA32, SA38 and SA50.
- Plain holes in the Relief Valve disk, sized according to the flow rate required.
- Replaceable orifice type SAU**.

High Pressure Sensor for CF Systems (HP code) - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the controller resets cutting the power to the enclosure. On detecting the overpressure an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

High Pressure Sensor for LC Systems (HP code) - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the purge gas flow is isolated from the pressurised enclosure. The valve isolates both the leakage compensation and the purge streams. On detecting the overpressure, an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

Pneumatically Operated Outlet Valve - The pneumatically operated outlet valve is used to positively open or close the outlet of the purged enclosure by means of a spring return pneumatic cylinder. Systems fitted with the Pneumatically Operated Outlet Valve will carry the option OV.

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Model Number Designation for ATEX approved MiniPurge systems

a	Size or Capacity
1	MiniPurge with Purge Flow Capacity up to 225 Nl/min.
2	MiniPurge with Purge Flow Capacity up to 450 Nl/min.
3	MiniPurge with Purge Flow Capacity up to 900 Nl/min.
4	MiniPurge with Purge Flow Capacity up to 2000 Nl/min.
5	MiniPurge with Purge Flow Capacity up to 6000 Nl/min.
6	MiniPurge with Purge Flow Capacity up to 8000 Nl/min.
7	MiniPurge with Purge Flow Capacity above 8000 Nl/min.
b	Pressurization Type
X	X Pressurization
Y	Y Pressurization
Z	Z Pressurization
cc	Action after initial purging
LC	Leakage Compensation only after initial High Purge
CF	Continuous Flow (same flow rate during and after purging)
CF2	Two Flow CF system with initial High Purge rate but only one orifice
CFHP	Continuous (lower) Flow after initial High Purge
DP	Dust Protection (pressurization only)
mm	Material of the Control Unit Enclosure
al	Aluminium alloy
cs	Mild steel, painted
ss	Stainless steel
bp	Back Plate only
co	Chassis only
pm	Panel mounting
nm	Non-Metallic
Option codes (Added only if used)	
AA	Active Alarm output fitted.
AC	Alarm cancellation circuit.
AO	"Alarm Only" Action on Pressure or Flow Failure.
AS	Alarm "Action on Pressure or Flow failure", Selector valve.
CS	Containment System Monitor.
DS	Door switch Power Interlock fitted.
DT	Delayed Trip after Pressure or Flow failure.
ES	Electronic Timer with EPPS
ET	Electronic Timer (not EPPS option)
FM	Flow Meter(s) fitted.
H6	High Temperature Tamb -20°C to +60°C, Air Supply Max Temp +60°C.
H7	High Temperature Tamb -20°C to +60°C, Air Supply Max Temp +70°C.
HP	System LC or CF with High Pressure Sensor
IS	Internal Switches suitable for Ex i circuits.
LS	Local Sensing.
LD	LED Option
LT	Low Temperature.
MO	Manual Override fitted.
MT	Mechanical Timer.
OA	On/Off switch controlling Protective gas and logic supply.
OB	On/Off switch controlling logic supply only.
OC	On/Off switch controlling Protective gas supply only.
OS	Outlet (Orifice) Selector valve.
OV	Outlet valve, pneumatically operated.
PA	"Ex" switch(es) built-in, with/without "Ex" junction box.
PC	PE Pressure Control Leakage Compensation Valve (CLAPS System.)
PO	Pneumatic Output signals for Power and Alarm control.
SP	Secondary Pressurization supply options.
SS	Separate Supply for Protective gas and Logic air.
TW	Twin (or more) outputs for two or more separate pressurized enclosures purged in paralle
DXXX	Special design for specific flow rates, or other non-certification related options.

Model Number:
1 X LC cs DS SS AA MO FM OA TW
Key:
a b cc mm Example option codes

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 01ATEX1295X**
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Variation 1 This variation introduced the following changes:

i. The purge controller to be fitted inside an additional, heated, stainless steel enclosure that allows it to be used down to -50°C.

The heater (500 W maximum) is manufactured by Intertec-Hess GmbH and coded Ex d m IIC T3 (max) under PTB 02ATEX1041X. If the outer enclosure is reduced in size the power of the heater may be reduced in proportion to the reduction in surface area. Other alternative heaters may be used as a replacement if they are suitably certified, carry the same or greater ambient temperature range, occupy the same or smaller physical space, have the same certification code and have the same or more restrictive Temperature Class.

The enclosure is made from 1.5mm or 2.5 mm thick stainless or mild steel painted and the lid is made from 1.5 mm thick stainless steel, lined with 38 mm thick insulation, or other materials with equivalent insulating properties. The purge inlet, purge outlet and pressure sensing lines are similarly insulated. The door may optionally be hinged with quick release catches, these will be fitted with a padlock. An enclosure breather tube is fitted to help prevent condensation. A plastic clear viewing window may optionally be fitted to the door.

RTDs are fitted to the air inlet pipe-work and inside the purge controller enclosure.

An Ex e terminal box is provided within the main enclosure for connection of the heater leads. This polyester box is manufactured by Bartec and coded Ex e II T6 under BAS 98ATEX3008X. Other alternative ATEX terminal boxes may be used as a replacement if they are suitably certified, carry the same or greater ambient temperature range, occupy the same or smaller physical space, have the same certification code and have the same Temperature Class.

Any suitably ATEX, Category 2 approved cable gland may be used, if it can be used with the ambient temperature range.

ii. A change of the Applicant's name on the certificate and the substitution of the new name for the old name on the approved label affixed to the purge controllers:

Old Name:	**New name:**
Expo Telektron Safety System Limited	Expo Technologies Limited

Variation 2 This variation introduced the following change:

i. To permit the pressurisation of enclosures for the exclusion of combustible dusts in accordance with IEC61241-4:2001 and modification of the marking to include one of the following:

[Ex pD] II T200°C 21 (Ta = -20°C to +55°C) - (used with the low temperature versions)
[Ex pD] II T85°C 21 (Ta = -20°C to +55°C) - (used with the standard temperature versions)

The ATEX coding is modified to: Ex II 2(2) G D

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Variation 3 This variation introduced the following changes:

i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, the documents originally listed in section 9, EN 50014:1997 (amendments A1 to A2) and EN 50016:1995 were replaced by EN 60079-0:2006, EN 60079-1:2004, EN 61241-0:2006 and EN 61241-1:2006, the markings in section 12 were updated accordingly.
ii. The removal of special conditions for safe use that were not specifically associated with the equipment covered by this certificate.

Variation 4 - This variation introduced the following change:

i. To permit the inclusion of the following coding for the Low Temperature MiniPurge Enclosure:
Ex [p] dem IIC T4
Ex pD II 21 T135°C
(Ta –50°C to +55°C)

Variation 5 - This variation introduced the following changes:

i. The introduction of the /ET version, an alternative to the pneumatic or mechanical timer system, this incorporates an Electronic Timer Module ETM-IS**-*** in the Mini Purge, the certification includes 'ia' marking when the ETM is fitted.
ii. The dust marking was changed to be consistent with the marking for gases and vapours.
iii. The introduction of a high pressure sensor for the LC option.

Variation 6 - This variation introduced the following change:

i. Following appropriate re-assessment to demonstrate compliance with the requirements of the latest EN 60079 series of standards, the documents previously listed in section 9, EN 60079-0: 2006 and EN 60079-2: 2004 were replaced by those currently listed (EN 61241-0: 2006 was removed as this is incorporated into the current version of 60079-0), the markings in section 12 were updated accordingly and a new condition of certification was added.

Variation 7 - This variation introduced the following change:

i. The recognition of the Applicant's address change from Summer Road, Thames Ditton, Surrey KT7 0RH to Unit 2, The Summit, Hanworth Road, Sunbury on Thames, Surrey TW16 5DB.

Variation 8 - This variation introduced the following changes:

i. The inlet air temperature sensing system was changed; as a consequence, a Special Condition For Safe Use was amended.
ii. A Local Sensing (LS) option was introduce.
iii. The RLV configuration was changed to show an optional alternative position of the flow sensing connection.
iv. The recognition of minor drawing modifications; the addition of notes and the clarification of the markings etc., these amendments are administrative that do not affect the aspects of the product that are relevant to explosion safety.
v. The minimum ambient temperature limit for the Low Temperature and Low Temperature/ET versions was lowered from -50°C to -60°C.
vi. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012, EN 60079-2:2007, IEC 61241-4:2001 Edition 1 and EN 61241-4:2006 were replaced by EN 60079-0:2012 and EN 60079-2:2014, the markings in section 12 were updated accordingly.

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EU-TYPE EXAMINATION CERTIFICATE **Sira 01ATEX1295X**
Issue 16

Variation 9 - This variation introduced the following changes:

i. The introduction of the:

- H6 - high temperature variant of the MiniPurge Purge Controller with an ambient temperature range of -20°C to +60°C, and permitting a maximum purge air temperature of 60°C. Optionally this may include an intrinsically safe electronic timer (/ET).

  The MiniPurge and other components are fitted inside the same enclosure which is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet, fitted to the regulator, and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

  The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

  A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

  The optional terminal box (T/B) may be any suitable ATEX certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-20°C to +60°C), with a minimum Temperature Class of T4 (135°C).

- H7 - high temperature variant of the MiniPurge Purge Controller with an ambient temperature range of -20°C to +60°C, and permitting a maximum purge air temperature of 70°C. Optionally this may include an intrinsically safe electronic timer (/ET).

  The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet, fitted to the regulator, and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

  One cooled chamber contains the system control logic circuit, the Vortex Cooler and the logic isolator. The other hot chamber contains all of the purge air flow path parts rated for continuous operation at a minimum of 70°C. The two chambers are thermally insulated from each other.

  The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

  A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

  The optional terminal box (T/B) may be any suitable ATEX certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-20°C to +60°C), with a minimum Temperature Class of T4 (135°C).

Variation 10 - This variation introduced the following changes:

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i. The introduction of the Combined Low Temperature (/LT) and High Temperature (/H6 or /H7) options:

Combined Low Temperature (/LT) and High Temperature (/H6) options – Combination of the previously certified Low temperature and High temperature (H6) versions, with an ambient temperature range of -60°C to +60°C and permitting a maximum purge air temperature of 60°C. Optionally this may include an intrinsically safe electronic timer (/ET).

This version has two separate variants, as detailed below:

The MiniPurge and other components are fitted inside the same enclosure which is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

At the bottom of the enclosure is fitted the heater, which is identical to that used in the Low Temperature version. This will operate at +5°C.

The optional terminal box (T/B) may be any suitable ATEX certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-60°C to +60°C), with a minimum Temperature Class of T4 (135°C).

Combined Low Temperature (/LT) and High Temperature (/H7) options – Combination of the previously certified Low temperature and High temperature (H7) versions, with an ambient temperature range of -60°C to +60°C and permitting a maximum purge air temperature of 70°C. Optionally this may include an intrinsically safe electronic timer (/ET).

The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

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One cooled chamber contains the system control logic circuit, the Vortex Cooler and the logic isolator. The other hot chamber contains all of the purge air flow path parts rated for continuous operation at a minimum of 70°C. The two chambers are thermally insulated from each other.

The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

At the bottom of the enclosure is fitted the heater, which is identical to that used in the Low Temperature version. This will operate at +5°C.

The optional terminal box (T/B) may be any suitable IECEx certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-60°C to +60°C), with a minimum Temperature Class of T4 (135°C).

ii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012 was replaced by EN 60079-0:2012/A11: 2013
iii. To remove IS marking which was incorrectly applied in a previous variation.
iv. To permit the addition of a previously assessed drawing which was not listed in a previous variation.

Variation 11 - This variation introduced the following change:

i. A solenoid in the Expo Technologies Electronic Timer (ET) Module ETM-IS**-*** covered by certificate FM10ATEX0003X was replaced due to obsolescence resulting in a change of the temperature classification. The ET Module ETM-IS**-*** is incorporated in 'ET versions' of the purge controller covered by certificate Sira 01ATEX1295X, as a result of this update, only the temperature class/marking of the 'Standard/ET versions' were affected and were therefore amended as follows, raising T6 to T5 and T95°C to T100°C.

Variation 12 - This variation introduced the following changes:

i. The previous product name was changed from 'Purge Controllers: Sub-MiniPurge, MiniPurge, Super-MiniPurge, Super-MiniPurge 1800/3500/7000/7000X' to 'MiniPurge Purge Controller', resulting in the model designation table being amended in the product description and a Condition of Manufacture being amended.
ii. The (ES) option was introduced. This is the (ET) electronic timer option complete with an Electro Pneumatic Power Supply (EPPS), covered by certificate FM10ATEX0003X, resulting in the model designation table being amended in the product description, to recognise the new (ES) option and amend the (ET) option.
iii. The RLV configuration was changed to show an alternative position of the flow sensing connection.
iv. The main certification coding for the low temperature versions of the mini-purge controller, certified for use in gas atmospheres, were amended with 'd' being replaced with 'db' and 'm' being removed in recognition of the change of heater certification coding introduced in variation 8 of certificate Sira 01ATEX1295X.
v. The withdrawal of the dust certification coding from the main certification coding for the low temperature versions of the mini-purge controller.
vi. The withdrawal of approved drawing SD8196.
vii. To assess and document minor modifications to the drawings in the certification package for this equipment, resulting in the introduction of a Condition of Manufacture.

Variation 13 - This variation introduced the following changes:

i. To recognise a new option code (LD) for addition of LED, resulting in the introduction of a change to the marking, the introduction of a Specific Condition of Use and the introduction of EN 60079-11:2012 assessment standard.

ii. To extend the range of overpressure relief valve (RLV) sizes up to RLV400- and to include all possible RLV sizes, within minimum 25 mm and maximum 400 mm RLV bore size.
iii. To introduce an alternative configuration for the Delay Trip (DT) option.
iv. To introduce an alternative configuration for the leakage compensation system.
v. To update existing condition of use 15.5, to remove the reference to withdrawn standard EN 954-1 that is used as an example and to clarify that the safety related system that protects the low temperature version of the purge controller shall comply with the requirements of ATEX Directive 2014/34/EU.

Variation 14 - This variation introduced the following change:

i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012/A11:2013 was replaced by EN IEC 60079-0:2018/AC:2020.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	3 July 2002	R53A7169A	The release of prime certificate.
1	29 March 2004	R53V11342A	The introduction of Variation 1.
2	30 September 2004	R51A11080A	The introduction of Variation 2.
3	19 September 2006	R51A15629A	The re-issue of Variation 2 to include the changes described in report number R51A15629A.
4	7 June 2007	R51L15966B	This Issue covers the following changes: • All previously issued certification was rationalised into a single certificate, Issue 4, Issues 0 to 3 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format. The introduction of Variation 3.
5	18 February 2009	R51L19695A	The introduction of Variation 4.
6	22 December 2010	R23665A/00	This Issue covers the following changes: • This certificate history was modified to recognise that that Variation 2 was re-issued, subsequent Variations have therefore been re-numbered. The introduction of Variation 5.
7	07 December 2011	R25983A/00	The introduction of Variation 6.
8	05 October 2012	R29097A/00	The introduction of Variation 7.
9	10 July 2015	R70012182A	The introduction of Variation 8.

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 01ATEX1295X**
Issue 16

Issue	Date	Report number	Comment
10	15 June 2016	R70048227A	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 9.
11	25 October 2016	R70086964	The introduction of Variation 10.
12	31 March 2017	R70117326A	The introduction of Variation 11.
13	09 November 2018	R70198821A	The introduction of Variation 12.
14	15 October 2019	0964	Transfer of certificate Sira 01ATEX1295X from Sira Certification Service to CSA Group Netherlands B.V.
15	02 February 2021	R80041858A	The introduction of Variation 13.
16	14 December 2021	R80085353A	The introduction of Variation 14.

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

15.1 When using the AO, AS and DT options, the recommendations for the additional requirements of Ex p apparatus contained within EN 60079-14 shall be applied.

15.2 The installer/user shall ensure that the MiniPurge Control Unit is installed in accordance with the equipment certificate that covers the combination of the pressurised enclosure(s) and MiniPurge Control Unit.

15.3 The values of the safety parameters shall be set in accordance with the equipment certificate that covers the combination of the pressurised enclosure(s) and MiniPurge Control Unit.

15.4 This MiniPurge Control Unit shall be incorporated into equipment and the appropriate Conformity Assessment Procedures applied to the combination as defined by Directive 2014/34/EU. This certificate does not cover the combination.

15.5 The purge controller, low temperature version, shall be protected by a safety related system, complying with the requirements of ATEX Directive 2014/34/EU, that ensures that it cannot be energised if the temperature of the controller logic air or purge controller falls below -20°C. This system shall utilise the RTDs that are fitted to the purge controller to provide the appropriate level of system integrity; note that these RTDs have not been assessed as a safety related device in accordance with EHSR 1.5 of Directive 2014/34/EU.

15.6 Where a Vortex cooler is fitted the hot air outlet pipe shall be kept free from obstructions and blockage.

15.7 The following routine tests are to be carried out:

- The Vortex cooler is functioning correctly (H6, H7 high temperature variants and H6, H7 combination variants only).
- The pneumatic logic isolator is functioning correctly (H6, H7 high temperature variants and H6, H7 combination variants only).

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 01ATEX1295X**
Issue 16

15.8 When using the 'LD' option, the LEDs have the following IS input parameters and it shall be supplied from a suitable intrinsically safe power supply for category 2 (Zone 1) or Category 3 (Zone 2) depending on which zone the purge controller is being installed.

- Ui = 30V, Ii = 100mA, Pi = 1W, Ci = 0 and Li = 0.

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.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 The switches incorporated in the PA option shall be suitably certified for Category 2.

17.4 The following routine tests shall be performed by the manufacturer:

Verification of Minimum Overpressure Cut Off
An overpressure loss shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.
Verification of Purge Failure Protection
A purge failure shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.
Verification of Air Supply Failure Protection
An air supply failure shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.
Verification of Purging Overpressure protection
Where the HP is specified an overpressure shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

17.5 The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of the products.

17.6 The certification code that is appropriate to Purge Controllers Low Temperature and High Temperature H6 or H7 versions shall appear in the product marking applied to outer stainless steel or painted mild steel enclosure.

17.7 The MiniPurge Controller shall not be marked as suitable for use in explosive dust atmospheres when a non-metallic or painted housing is used.

17.8 When the optional electronic timer (FM10ATEX0003X) is fitted the manufacturer shall take into account any certification restrictions or special conditions for safe use that are applicable to the certified device.

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 01ATEX1295X**
Issue 16

17.9 When an Ex d junction box with flange openings is used in the low temperature (LT) versions of the MiniPurge controller, the manufacturer shall ensure that it is installed such that there are no obstructions within 40mm of the Ex d junction box flameproof flanged joints.

17.10 The suitably certified terminal box and heater incorporated into the Low Temperature and the High Temperature H6 or H7 versions shall conform to the latest standards designated under certificate Sira 01ATEX1295X.

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Certificate Annexe

Certificate Number: **Sira 01ATEX1295X**
Equipment: **MiniPurge Purge Controller**
Applicant: **EXPO Technologies Limited**

Issue 0 (The drawings associated with this issue were replaced by those listed in Issue 4)

Number	Sheet	Rev.	Date	Description
SD7281	1 to 4	3	02 Jul 02	MiniPurge ATEX Certification Labelling
SD7282	1 to 2	2	21 May 01	MiniPurge ATEX Certification Type Numbering Scheme
EP/99-2-17	1 of 1	1	21 Sep 00	MiniPurge, Continuous Flow with /HP Sensor –Schematic diagram
EP99-7-7	1 of 1	1	21 Sep 00	RLV, outlet orifice
EP99-7-9	1 of 1	1	21 Sep 00	Outlet Valve Control Circuit Diagram

Issue 1 (The drawings associated with this issue were replaced by those listed in Issue 4)

Number	Sheet	Rev.	Date	Description
SD7448	1 of 1	3	22 March 04	Low Temperature Housing - General Arrangement

Issue 2 (The drawings associated with this issue were replaced by those listed in Issue 4)

Number	Sheet	Rev.	Date	Description
SD7281*	1 to 5	4	17 Dec 03	Certification label
SD7449	1 of 1	1	18 Dec 03	Low temperature housing wiring certification drawing.

* Modified by Sira 30 September 2004

Issue 3 (The drawings associated with this issue were replaced by those listed in Issue 4)

Number	Sheet	Rev.	Date	Description
SD7281	1 to 5	5	30 Aug 06	Certification label

Issue 4

Number	Sheet	Rev.	Date	Description
EP99-3-1	1 of 1	02	15 Mar 07	Minipurge Control Unit – General Assembly
EP99-2-1	1 of 1	03	09 Jul 07	Schematic - Type x Leakage Compensation
EP99-2-3	1 of 1	02	15 Mar 07	Sequence Diagram - Type x Leakage Compensation
EP99-2-2	1 of 1	02	15 Mar 07	Schematic - Type x Continuous Flow
EP99-2-7	1 of 1	02	15 Mar 07	Schematic – Separate Supply and Mechanical Timer
EP99-2-8	1 of 1	02	15 Mar 07	Schematic – Delay Before Trip and On/Off
EP99-2-9	1 of 1	02	15 Mar 07	Schematic – Twin Output and Manual Override
EP99-2-10	1 of 1	03	15 Mar 07	Schematic – Pressure Control Leakage Compensation
EP99-2-11	1 of 1	03	15 Mar 07	Internal "IS" Switches
EP99-2-12	1 of 1	02	15 Mar 07	Schematic – Containment System and Secondary pressurisation
EP99-2-14	1 of 1	02	15 Mar 07	Schematic – Continuous Flow with 2 Flow Rates
EP99-2-17	1 of 1	02	15 Mar 07	Schematic – Continuous Flow with High Pressure
EP99-2-16	1 of 1	02	15 Mar 07	Schematic – Outlet Valve Control
SD7533	1 of 1	01	15 Mar 07	Schematic – Dust Protection
SD7535	1 of 1	01	15 Mar 07	Spark Arrestor
SD7536	1 of 1	01	18 Apr 07	Differential Flow Monitor
SD7538	1 of 1	01	27 Mar 07	Continuous Flow Outlet Orifice
SD7449	1 of 1	02	15 Mar 07	Wiring Diagram – Low temperature
SD7500	1 of 1	01	25 Apr 07	Outlet Orifice Closing Device
SD7448	1 of 1	04	15 Mar 07	Low Temperature Housing
SD7281	1 to 2	06	20 Feb 07	Certification Label Details
SD7282	1 to 2	03	20 Feb 07	MiniPurge Data Sheet

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Certificate Annexe

Certificate Number: **Sira 01ATEX1295X**
Equipment: **MiniPurge Purge Controller**
Applicant: **EXPO Technologies Limited**

Number	Sheet	Rev.	Date	Description
SD7537	1 to 3	01	20 Feb 07	Fault Evaluation
EP99-7-9	1 of 2	02	15 Mar 07	Outlet Valve Circuit N/O
EP99-7-9	2 of 2	01	15 Mar 07	Outlet Control Valve N/C
SD7531	1 of 1	02	09 Jul 07	Schematic – Type Z or Y leakage compensation
SD7532	1 of 1	01	15 Mar 07	Schematic Type Z or Y Continuous Flow
EP99-2-4	1 of 1	02	15 Mar 07	Sequence Diagram – Type X Continuous Flow
EP99-2-5	1 of 1	02	15 Mar 07	Schematic – Alarm only and Alarm Action Selector
EP99-2-6	1 of 1	02	15 Mar 07	Schematic – Door Switch Active Alarm and Alarm Cancel
SD7555	1 to 4	01	05 Jul 07	RLV Configurations
SD7556	1 of 2	01	09 Jul 07	Alternative Z&Y LC System
SD7556	2 of 2	01	09 Jul 07	Alternative Z&Y LC System

Issue 5

Number	Sheets	Rev.	Date (Sira stamp)	Description
SD7281	1 to 2	7	12 Feb 09	Minipurge ATEX/IECEx Certification Label
SD7448	1 of 1	05	12 Feb 09	Minipurge Low temperature Housing

Issue 6

Number	Sheets	Rev.	Date (Sira stamp)	Description
SD7281	1 to 2	8	23 Dec 10	Minipurge ATEX/IECEx Certification Label
SD7282	1 to 2	4	21 Dec 10	MiniPurge Data Sheet
SD7913	1 of 1	2	21 Dec 10	MiniPurge electronic timer
SD7914	1 of 1	2	21 Dec 10	MiniPurge HP sensor

Issue 7

Number	Sheets	Rev.	Date (Sira stamp)	Description
SD7448	1 of 1	6	23 Nov 11	Minipurge Low Temperature Housing
SD7282	1 & 2	5	23 Nov 11	Minipurge Data Sheets
SD7281	1 to 3	9	23 Nov 11	Minipurge ATEX/IECEx Certification Label
SD7533	1 of 1	2	23 Nov 11	Minipurge Dust Protection Schematic

Issue 8

Number	Sheets	Rev.	Date (Sira stamp)	Title
SD7281	1 to 3	10	05 Oct 12	Minipurge Certification Label

Issue 9

Number	Sheets	Rev.	Date (Sira stamp)	Title
SD7448	1 to 3	10	22 Jun 15	Low Temperature Housing
SD7281	1 to 3	11	22 Jun 15	MiniPurge Certification Label
SD7282	1 to 2	6	22 Jun 15	MiniPurge Data Sheets
SD8196	1 to 7	1	22 Jun 15	MiniPurge Manual Extracts
SD7449	1 of 1	8	22 Jun 15	Low Temperature Wiring
SD8158	1 of 1	2	22 Jun 15	Local Sensing Option

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Certificate Annexe

Certificate Number: **Sira 01ATEX1295X**
Equipment: **MiniPurge Purge Controller**
Applicant: **EXPO Technologies Limited**

Issue 10

Drawing	Sheets	Rev.	Date(Sira stamp)	Title
SD7281	1 to 4	12	15 April 16	Minipurge Certification Label
SD8243	1 of 1	1	15 April 16	High Temperature Vortex Cooler & Logic Isolator
SD8244	1 of 1	2	20 April 16	High Temperature 60°C Tamb/Purge Air 60°C Option – H6
SD8245	1 to 2	2	20 April 16	High Temperature 60°C Tamb/Purge Air 70°C Option – H7
SD8251	1 to 8	1	20 April 16	MiniPurge Manual Extracts

Issue 11

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
SD7282	1 to 2	8	20 Sep 16	MiniPurge Data Sheet
SD7281	1 to 5	13	16 Sep 16	Minipurge Certification Label
SD8244	1 of 1	3	16 Sep 16	High Temperature 60°C Tamb/Purge Air 60°C Option – H6
SD8245	1 to 2	3	16 Sep 16	High Temperature 60°C Tamb/Purge Air 70°C Option – H7
SD8251	1 to 8	2	16 Sep 16	MiniPurge Manual Extracts
SD8259	1 to 3	2	20 Sep 16	Combined Low Temperature (/LT) and High Temperature (/H6)
SD8258	1 to 2	1	16 Sep 16	Combined Low Temperature (/LT) and High Temperature (/H7)

Issue 12

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
SD7281	1 to 5	14	28 Feb 17	Minipurge Certification Label
SD8251	1 to 8	3	28 Feb 17	Minipurge Manual Extracts

Issue 13

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
EP99-2-11	1 of 1	4	04 Oct 18	Internal switches
EP99-7-9	1 to 2	3	04 Oct 18	Outlet Valve Circuit N/O
SD7281	1 to 6	15	04 Oct 18	Minipurge Certification Label
SD7282	1 to 3	9	04 Oct 18	Minipurge Data Sheet
SD7448	1 of 3	12	04 Oct 18	Low Temperature Housing
SD7449	1 of 1	9	04 Oct 18	Low Temperature Wiring
SD7555	1 to 5	4	04 Oct 18	RLV Configurations
SD8251	1 to 10	4	04 Oct 18	Minipurge Manual Extracts
SD8329	1 of 1	2	04 Oct 18	Typical Minipurge with Electronic Timer
SD8340	1 of 1	1	04 Oct 18	Typical Earth Stud Assembly

Issue 14. No new drawings were introduced.

Issue 15.

Drawing	Sheets	Rev.	Date (Stamp)	Title
EP99-2-1	1 to 2	04	30 Nov 20	MiniPurge Type 'X' Leakage Compensation
EP99-2-8	1 to 2	04	30 Nov 20	Delay Before Trip "DT" and On/Off Controls
SD7281	1 to 7	16	24 Nov 20	Minipurge ATEX/IECEx Certification Label
SD7282	1 to 3	10	30 Nov 20	Minipurge Data Sheet
SD7537	1 to 4	2	30 Nov 20	Fault Evaluation
SD7555	1 to 5	08	17 Dec 20	RLV Configurations

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Certificate Annexe

Certificate Number: **Sira 01ATEX1295X**

Equipment: **MiniPurge Purge Controller**

Applicant: **EXPO Technologies Limited**

Drawing	Sheets	Rev.	Date (Stamp)	Title
SD7913	1 to 2	04	30 Nov 20	Electronic Timer
SD8251	1 to 10	5	24 Nov 20	MiniPurge Manual Extracts
SD8422	1 to 3	02	24 Nov 20	Minpurge LD option
SD8424	1 of 1	2	24 Nov 20	Minipurge LD option – BOM

Issue 16. No new drawings were introduced.

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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 07.0027X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 13	Issue 12 (2021-02-02) Issue 11 (2018-11-09) Issue 10 (2017-03-31) Issue 9 (2016-10-25) Issue 8 (2016-06-15) Issue 7 (2015-07-22) Issue 6 (2012-11-27) Issue 5 (2012-10-23) Issue 4 (2011-12-09) Issue 3 (2011-03-09)
Date of Issue:	2021-12-14		
Applicant:	**EXPO Technologies Ltd** Unit 2, The Summit Hanworth Road Sunbury on Thames Surrey TW16 5DB **United Kingdom**		
Equipment:	**MiniPurge Purge Controller**		
Optional accessory:			
Type of Protection:	**Pressurised**		
Marking:	Refer to the Annexe		

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.
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Certificate issued by:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom

IECEx Certificate of Conformity

Certificate No.:	**IECEx SIR 07.0027X**	Page 2 of 4
Date of issue:	2021-12-14	Issue No: 13

Manufacturer:
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Additional manufacturing locations:

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Qingdao Expo Mechanical and Electrical Technologies Ltd
329 Huashan Er Lu, Jimo City
Qingdao, Shandong Province 266200
China

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 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-2:2014-07 Edition:6	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p"

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/CSAE/ExTR21.0187/00
GB/SIR/ExTR07.0046/00
GB/SIR/ExTR09.0021/00
GB/SIR/ExTR11.0003/00
GB/SIR/ExTR11.0304/00
GB/SIR/ExTR12.0251/01
GB/SIR/ExTR15.0200/00
GB/SIR/ExTR16.0114/00
GB/SIR/ExTR16.0243/00
GB/SIR/ExTR17.0049/00
GB/SIR/ExTR18.0198/00
GB/SIR/ExTR21.0003/00

Quality Assessment Report:

GB/SIR/QAR07.0012/17

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IECEx Certificate of Conformity

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

The Purge Controllers are pneumatically operated devices, which are intended to provide a given flow rate of purging gas for a predetermined time to unspecified Ex p protected electrical equipment. The MiniPurge Control Units provide one of the following four methods of purge operation.

- LC-Leakage compensation only after initial high purge
- CF-Continuous flow (same flow rate during and after purging)
- CF2-Two flow CF system with initial high purge rate only at one orifice
- CFHP-Continuous (lower) flow after initial high purge
- DP – Dust Protection (for pressurization only)

The MiniPurge control unit may be supplied within a heated enclosure to permit the use of the system within an ambient temperature down to -60°C.

See Annexe for more information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. When using the AO, AS and DT options, the recommendations for the additional requirements of Ex p apparatus contained within IEC 60079-14 shall be applied.
2. The installer/user shall ensure that the MiniPurge Control Unit is installed in accordance with the equipment certificate that covers the combination of the pressurised enclosure(s) and MiniPurge Control Unit.
3. The values of the safety parameters shall be set in accordance with the equipment certificate that covers the combination of the pressurised enclosure(s) and MiniPurge Control Unit.
4. This MiniPurge Control Unit shall be incorporated into equipment and the appropriate Conformity Assessment Procedures applied to the combination. This certificate does not cover the combination.
5. The purge controller, low temperature version, shall be protected by a system that ensures that it cannot be energised if the temperature of the controller logic air or purge controller falls below -20°C. This system shall utilise the RTDs that are fitted to the purge controller to provide the appropriate level of system integrity.
6. Where a Vortex cooler is fitted the hot air outlet pipe shall be kept free from obstructions and blockage.
7. The following routine tests are to be carried out:
   The vortex cooler is functioning correctly. (H6 and H7 options ONLY)
   The pneumatic logic isolator is functioning correctly (H6 and H7 options ONLY)
8. When using the 'LD' option, the LEDs have the following IS input parameters and it shall be supplied from a suitable intrinsically safe power supply for Zone 1 or Zone 2 depending on which zone the purge controller is being installed.
   Ui = 30V, Ii = 100mA, Pi = 1W, Ci = 0 and Li = 0.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This issue, Issue 13, recognises the following change; refer to the certificate annex to view a comprehensive history:

1. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2011 Ed.6 was replaced by EN IEC 60079-0:2017 Ed.7.

Annex:

IECEx SIR 07.0027X annexe Iss 13 .pdf

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Standard versions:

Ex [pxb] IIC T6 Gb Ex [pxb] IIIC T85°C Db (Ta –20°C to +55°C)	Ex [pyb] IIC T6 Gb Ex [pyb] IIIC T85°C Db (Ta –20°C to +55°C)	Ex [pzc] IIC T6 Gb Ex [pzc] IIIC T85°C Db (Ta –20°C to +55°C)
Standard/ET/ES versions: Ex [pxb] ia IIC T5 Gb Ex [pxb] ia IIIC T100°C Db (Ta –20°C to +55°C)	**Low temperature versions:** Ex [pxb] db e IIC T3 Gb Ex [pxb] db e IIC T4 Gb (Ta –60°C to +55°C)	**Low temperature/ET/ES versions** Ex [pxb] db e ia IIC T3 Gb Ex [pxb] db e ia IIC T4 Gb (Ta –60°C to +55°C)

High temperature versions – H6:
Ex [pxb] IIC T4 Gb
(Ta –20°C to +60°C)
[Purge air temp. up to +60°C]

High temperature/ET/ES versions – H6
Ex [pxb] ia IIC T4 Gb
(Ta –20°C to +60°C)
[Purge air temp. up to +60°C]

High temperature versions – H7:
Ex [pxb] IIC T4 Gb
(Ta –20°C to +60°C)
[Purge air temp. up to +70°C]

High temperature/ET/ES versions – H7
Ex [pxb] ia IIC T4 Gb
(Ta –20°C to +60°C)
[Purge air temp. up to +70°C]

Combined Versions

Low temp. with High temp. H6
Ex [pxb] db e IIC T3 or T4 Gb
(Ta –60°C to +60°C)
[Purge air temp. up to +60°C]

Low temp. with High temp. H6 and Et/ES
Ex [pxb] db e ia IIC T3 or T4 Gb
(Ta –60°C to +60°C)
[Purge air temp. up to +60°C]

Low temp. with High temp. H7
Ex [pxb] db e IIC T3 or T4 Gb
(Ta –60°C to +60°C)
[Purge air temp. up to +70°C]

Low temp. with High temp. H7 and Et/ES
Ex [pxb] db e ia IIC T3 or T4 Gb
(Ta –60°C to +60°C)
[Purge air temp. up to +70°C]

Standard versions LD:

Ex [pxb] IIC T4 Gb (Ta –20°C to +55°C)	Ex [pyb] IIC T4 Gb (Ta –20°C to +55°C)	Ex [pzc] IIC T4 Gb (Ta –20°C to +60°C)

Standard ET/ES/LD Versions
Ex [pxb] ia IIC T3 or T4 Gb
(Ta –20°C to +55°C)

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Annexe to: **IECEx SIR 07.0027X Issue 13**
Applicant: **EXPO Technologies Limited**
Apparatus: **Purge Controller**

Model Number:
1 X LC cs DS SS AA MO FM OA TW
Key:
a b cc mm Example option codes

Model Number Designation for IECEx approved MiniPurge systems	
a	Size or Capacity Option codes (Added only if used)
1	MiniPurge with Purge Flow Capacity up to 225 Nl/min.
2	MiniPurge with Purge Flow Capacity up to 450 Nl/min.
3	MiniPurge with Purge Flow Capacity up to 900 Nl/min.
4	MiniPurge with Purge Flow Capacity up to 2000 Nl/min.
5	MiniPurge with Purge Flow Capacity up to 6000 Nl/min.
6	MiniPurge with Purge Flow Capacity up to 8000 Nl/min.
7	MiniPurge with Purge Flow Capacity above 8000 Nl/min.
b	Pressurization Type
X	X Pressurization.
Y	Y Pressurization.
Z	Z Pressurization.
cc	Action after initial purging.
LC	Leakage Compensation only after initial High Purge.
CF	Continuous Flow (same flow rate during and after purging).
CF2	Two Flow CF system with initial High Purge rate but only one orifice.
CFHP	Continuous (lower) Flow after initial High Purge.
DP	Dust Protection (pressurization only).
mm	Material of the Control Unit Enclosure
al	Aluminium alloy
cs	Mild steel, painted
ss	Stainless steel
bp	Back plate only
co	Chassis only
pm	Panel mounting
nm	Non-metallic
Option codes (Added only if used)	
AA	Active Alarm output fitted.
AC	Alarm cancellation circuit.
AO	"Alarm Only" Action on Pressure or Flow Failure.
AS	Alarm "Action on Pressure or Flow failure", Selector valve.
CS	Containment System Monitor.
DS	Door Switch Power Interlock fitted.
DT	Delayed Trip after Pressure or Flow failure.
ES	Electronic Timer with EPPS
ET	Electronic Timer (not EPPS option)
FM	Flow Meter(s) fitted.
H6	High Temperature Tamb -20°C to +60°C, Air Supply Max Temp +60°C.
H7	High Temperature Tamb -20°C to +60°C, Air Supply Max Temp +70°C.
HP	System LC or CF with High Pressure Sensor.
IS	Internal Switches suitable for Ex i circuits.
LS	Local Sensing.
LD	LED Option
LT	Low Temperature.
MO	Manual Override fitted.
MT	Mechanical Purge or Delay timer.
OA	On/Off switch controlling Protective gas and logic supply.
OB	On/Off switch controlling logic supply only.
OC	On/Off switch controlling Protective gas supply only.
OS	Outlet (Orifice) Selector valve.
OV	Outlet valve, pneumatically operated.
PA	"Ex" switch(es) built-in, with/without "Ex" junction box.
PC	PE Pressure Control Leakage Compensation Valve (CLAPS System).
PO	Pneumatic Output signals for Power and Alarm control.
SP	Secondary Pressurization supply options.
SS	Separate Supply for Protective gas and Logic air.
TW	Twin (or more) outputs for two or more separate pressurized enclosures purged in parallel.
DXXX	Special design for specific flow rates, or other non-certification related options.

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Relief Valve - The MiniPurge controller is supplied with an optional overpressure relief valve, which is to be fitted to the Ex p protected apparatus to prevent an internal overpressure above the maximum overpressure rating of the apparatus. There are 14 models of relief valve; the designation of each relief valve refers to its nominal bore in mm, as follows: RLV3, RLV6, RLV9, RLV12, RLV19, RLV25, RLV26, RLV52, RLV36, RLV75, RLV104, RLV125, RLV150 and RLV200.

The outlet of each relief valve is fitted with a spark arrestor, of which there are four optional types:

- Metal foam
- Tortuous path with at least 4 x 90°or 2 x 180° bends
- Multi-layer stainless steel mesh
- Knitted mesh

Outlet Orifice - Three types of orifice are used:

- Threaded Orifices e.g. ¼" NPT or 2" BSP with a built in spark arrester. These are selected to maintain a desired back pressure within the Ex p protected apparatus when used with the Continuous Flow options. The designation of each outlet orifice indicates the nominal inlet diameter. The designations are as follows: SA3, SA6, SA9, SA12, SA19, SA25, SA32, SA38 and SA50.
- Plain holes in the Relief Valve disk, sized according to the flow rate required.
- Replaceable orifice type SAU**.

High Pressure Sensor for CF Systems (HP code) - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the controller resets cutting the power to the enclosure. On detecting the overpressure an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

High Pressure Sensor for LC Systems (HP code) - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the purge gas flow is isolated from the pressurised enclosure. The valve isolates both the leakage compensation and the purge streams. On detecting the overpressure, an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

Pneumatically Operated Outlet Valve - The pneumatically operated outlet valve is used to positively open or close the outlet of the purged enclosure by means of a spring return pneumatic cylinder. Systems fitted with the Pneumatically Operated Outlet Valve will carry the option OV.

Conditions of Manufacture

1 The switches incorporated in the PA option shall be suitably certified for Zone 1.

2 The following routine tests shall be performed by the manufacturer:

Verification of Minimum Overpressure Cut Off
An overpressure loss shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

Verification of Purge Failure Protection
A purge failure shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

Verification of Air Supply Failure Protection
An air supply failure shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

Verification of Purging Overpressure protection
Where the HP is specified an overpressure shall be simulated whilst the MiniPurge Control Unit is cycling, it shall be verified that the controller provides the appropriate output and resets.

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Annexe to: **IECEx SIR 07.0027X Issue 13**

Applicant: **EXPO Technologies Limited**

Apparatus: **Purge Controller**

3 The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of the products.

4 The certification code that is appropriate to Purge Controllers Low Temperature and High Temperature H6 or H7 versions shall appear in the product marking applied to outer stainless steel or painted mild steel enclosure.

5 The MiniPurge Controller shall not be marked as suitable for use in explosive dust atmospheres when a non-metallic or painted housing is used.

6 When the optional electronic timer (IECEx FME 10.0001) is fitted the manufacturer shall take into account any certification restrictions or special conditions for safe use that are applicable to the certified device.

7 When an Ex d junction box with flange openings is used in the low temperature (LT) versions of the MiniPurge controller, the manufacturer shall ensure that it is installed such that there are no obstructions within 40mm of the Ex d junction box flameproof flanged joints.

Full certificate change history

Issue 1 – this Issue introduced the following changes:

i. To permit the inclusion of the following codings for the Low Temperature Minipurge Enclosure

Ex [p] dem IIC T4
Ex pD II 21 T135°C
(Ta –50°C to +55°C)

Issue 2 – this Issue introduced the following changes:

i. The introduction of the /ET version, an alternative to the pneumatic or mechanical timer system, this incorporates an Electronic Timer Module ETM-IS**-*** in the Mini Purge, the certification includes 'ia' marking when the ETM is fitted.
ii. The dust marking was changed to be consistent with the marking for gases and vapours.
iii. The introduction of a high pressure sensor for the LC option.

Issue 3 – this Issue introduced the following change:

i. The marking section was amended to add information that had been omitted in error.

Issue 4 – this Issue introduced the following change:

i. Following appropriate re-assessment to demonstrate compliance with the requirements of the latest IEC 60079 series of standards, the documents previously listed IEC 60079-0: 2004 Ed 4.0, and IEC 60079-2: 2001 Ed 4 were replaced by those previously listed (IEC 61241-0: 2004 Ed 1 was removed as this is incorporated into the current version of IEC 60079-0), the markings were updated accordingly and a new condition of certification was added

Issue 5 – this Issue introduced the following changes:

i. The recognition of the Applicant's address change from Summer Road, Thames Ditton, Surrey KT7 0RH to Unit 2, The Summit, Hanworth Road, Sunbury on Thames, Surrey TW16 5DB.

Issue 6 – this Issue introduced the following change:

i. Issued to allow GB/SIR/ExTR12.0251/00 to be replaced by GB/SIR/ExTR12.0251/01

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Issue 7 – this Issue introduced the following changes:

i. The inlet air temperature sensing system was changed; as a consequence, a Special Condition For Safe Use was amended.
ii. A Local Sensing (LS) option was introduced.
iii. The RLV configuration was changed to show an optional alternative position of the flow sensing connection.
iv. The recognition of minor drawing modifications; the addition of notes and the clarification of the markings etc., these amendments are administrative that do not affect the aspects of the product that are relevant to explosion safety.
v. The minimum ambient temperature limit for the Low Temperature and Low Temperature/ET versions was lowered from -50°C to -60°C.
vi. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-2:2007, IEC 61241-4:2001 Edition 1 and EN 61241-4:2006 were replaced by IEC 60079-2:2014 Edition 6, the markings were updated accordingly.

Issue 8 – this Issue introduced the following changes:

i. The introduction of the:

- H6 - high temperature variant of the MiniPurge Purge Controller with an ambient temperature range of -20°C to +60°C, and permitting a maximum purge air temperature of 60°C. Optionally this may include an intrinsically safe electronic timer (/ET).

  The MiniPurge and other components are fitted inside the same enclosure which is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet, fitted to the regulator, and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

  The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

  A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

  The optional terminal box (T/B) may be any suitable IECEx certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-20°C to +60°C), with a minimum Temperature Class of T4 (135°C).

- H7 - high temperature variant of the MiniPurge Purge Controller with an ambient temperature range of -20°C to +60°C, and permitting a maximum purge air temperature of 70°C. Optionally this may include an intrinsically safe electronic timer (/ET).

  The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet, fitted to the regulator, and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

  One cooled chamber contains the system control logic circuit, the Vortex Cooler and the logic isolator. The other hot chamber contains all of the purge air flow path parts rated for continuous operation at a minimum of 70°C. The two chambers are thermally insulated from each other.

  The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

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Apparatus: **Purge Controller**

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

The optional terminal box (T/B) may be any suitable IECEx certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-20°C to +60°C), with a minimum Temperature Class of T4 (135°C).

Issue 9 – this Issue introduced the following changes:

i. The introduction of the Combined Low Temperature (/LT) and High Temperature (/H6 or /H7) options:

Combined Low Temperature (/LT) and High Temperature (/H6) options – Combination of the previously certified Low temperature and High temperature (H6) versions, with an ambient temperature range of -60°C to +60°C and permitting a maximum purge air temperature of 60°C. Optionally this may include an intrinsically safe electronic timer (/ET).

This version has two separate variants, as detailed below:

- The MiniPurge and other components are fitted inside the same enclosure which is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.
- The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

At the bottom of the enclosure is fitted the heater, which is identical to that used in the Low Temperature version. This will operate at +5°C.

The optional terminal box (T/B) may be any suitable ATEX certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-60°C to +60°C), with a minimum Temperature Class of T4 (135°C).

Combined Low Temperature (/LT) and High Temperature (/H7) options – Combination of the previously certified Low temperature and High temperature (H7) versions, with an ambient temperature range of -60°C to +60°C and permitting a maximum purge air temperature of 70°C. Optionally this may include an intrinsically safe electronic timer (/ET).

The MiniPurge and other components are fitted inside an enclosure which is separated into two chambers, this is made from stainless steel or painted (0.2mm maximum thickness) mild steel with a minimum thickness of 1.5mm or 2.5 mm, and earth (ground) terminal compliant with the listed standards, with the Vortex hot air outlet pipe exiting on any face which permits free venting. Also transiting the walls of the enclosure are the main purge air inlet which is fitted to the regulator and outlet entries, the optional pneumatic outputs, and optionally, the terminal box. This terminal box may contain intrinsically safe barriers and/or terminals, with electrical cables entering it via cable glands.

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One cooled chamber contains the system control logic circuit, the Vortex Cooler and the logic isolator. The other hot chamber contains all of the purge air flow path parts rated for continuous operation at a minimum of 70°C. The two chambers are thermally insulated from each other.

The Vortex Cooler is set to operate at +50°C and is used to cool the MiniPurge pneumatic logic controller.

A heat exchanger may optionally be fitted in the vortex cool air pipe supplying the MiniPurge system control unit logic circuit.

At the bottom of the enclosure is fitted the heater, which is identical to that used in the Low Temperature version. This will operate at +5°C.

The optional terminal box (T/B) may be any suitable IECEx certified Ex e or Ex d T/B, which is suitable for the ambient temperature range (-60°C to +60°C), with a minimum Temperature Class of T4 (135°C).

ii. To remove IS marking which was incorrectly applied in a previous variation.

iii. To permit the addition of a previously assessed drawing which was not listed in a previous variation.

Issue 10 – this Issue introduced the following change:

i. A solenoid in the Expo Technologies Electronic Timer (ET) Module ETM-IS**-*** covered by certificate IECEx FME 10.0001X was replaced due to obsolescence resulting in a change of the temperature classification. The ET Module ETM-IS**-*** is incorporated in '/ET versions' of the purge controller covered by certificate IECEx SIR 07.0027X, as a result of this update, only the temperature class/marking of the 'Standard/ET versions' were affected and were therefore amended as follows, raising T6 to T5 and T95°C to T100°C.

Issue 11 – this Issue introduced the following changes:

i. To align the manufacturer's product name between certificates, resulting in the model designation table being amended in the certificate annex and a Condition of Manufacture being amended.
ii. The (ES) option was introduced. This is the (ET) electronic timer option complete with an Electro Pneumatic Power Supply (EPPS), covered by certificate IECEx FME 10.0001X, resulting in the model designation table being amended in the certificate annex, to recognise the new (ES) option and amend the (ET) option. The assessment for the introduction of the (ES) option is against the listed electrical standards. A non-electrical assessment has not been conducted.
iii. The RLV configuration was changed to show an alternative position of the flow sensing connection.
iv. The main certification coding for the low temperature versions of the mini-purge controller, certified for use in gas atmospheres, were amended with 'd' being replaced with 'db' and 'm' being removed in recognition of the change of heater certification coding introduced in Issue 7 of certificate IECEx SIR 07.0027X.
v. The withdrawal of the dust certification coding from the main certification coding for the low temperature versions of the mini-purge controller.
vi. The withdrawal of approved drawing SD8196.
vii. To assess and document minor modifications to the drawings in the certification package for this equipment, resulting in the introduction of a Condition of Manufacture

Issue 12 – this Issue introduced the following changes:

i. To recognise a new option code (LD) for addition of LED, resulting in the introduction of a change to the marking, the introduction of a Specific Condition of Use and the introduction of IEC 60079-11:2011 Edition 6.0 assessment standard.
ii. To extend the range of overpressure relief valve (RLV) sizes up to RLV400 and to include all possible RLV sizes, within minimum 25 mm and maximum 400 mm RLV bore size.
iii. To introduce an alternative configuration for the Delay Trip (DT) option.
iv. To introduce an alternative configuration for the leakage compensation system.

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Annexe to: **IECEx SIR 07.0027X Issue 13**

Applicant: **EXPO Technologies Limited**

Apparatus: **Purge Controller**

v. To record the addition of alternative manufacturing sites as follows:
Expo Technologies, Inc. 9140 Ravenna Road, Unit 3 Twinsburg Ohio OH 44087 United States of America
Qingdao Expo Mechanical and Electrical Technologies Ltd 329 Huashan Er Lu, Jimo City Qingdao, Shandong Province 266200 China

Issue 13 – this Issue introduced the following change:

i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2011 Ed.6 was replaced by EN IEC 60079-0:2017 Ed.7.

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CERTIFICAÇÃO DE PRODUTO
OCP 0004
ACREDITADO DESDE 1993

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Certificado de Conformidade

Certificate of Compliance ♦ Certificado de Conformidad

Certificado N.º: TÜV 12.1462 X *Certificate No. ♦ Certificado N.º:*
Revisão: 06 *Review ♦ Revisión:*
Válido até: 28/09/2024 *Valid until ♦ Válido hasta:*

Emitido em: 27/10/2021 *Issued ♦ Emitido:*

Produto: *Product ♦ Producto:*	**CONTROLADOR DE PURGA MiniPurge**
Solicitante: *Applicant ♦ Solicitante:*	**EXPO TECHNOLOGIES LTD. Unit 2, The Summit – Hanworth Road Sunbury on Thames – Surrey TW16 5DB – UK**
Fabricante: *Manufacturer ♦ Fabricante:*	**EXPO TECHNOLOGIES LTD. Unit 2, The Summit – Hanworth Road Sunbury on Thames – Surrey TW16 5DB – UK**
Fornecedor / Representante Legal: *Supplier / Legal Representative ♦ Proveedor / Representante Legal:*	**Não aplicável.**
Normas Técnicas / Regulamento: *Standards / Regulation ♦ Normas / Reglamento:*	**ABNT NBR IEC 60079-0:2020; ABNT NBR IEC 60079-2:2016; ABNT NBR IEC 60079-11:2013; ABNT NBR IEC 60079-31:2014; ABNT NBR IEC 60529:2017; Portaria INMETRO n° 179 de 18/05/2010.**
Modelo de Certificação: *Certification Model ♦ Modelo de Certificación:*	**Modelo com Avaliação do Sistema de Gestão da Qualidade do Fabricante e Ensaios no Produto, conforme cláusula 6.1 do Regulamento de Avaliação da Conformidade, anexo à Portaria nº 179 do INMETRO, publicada em 18 de maio de 2010.**
Laboratório, N.º do Relatório de Ensaios e Data: *Laboratory, Test Report No. and Date ♦ Laboratorio, N.º del Informe de Prueba y Fecha:*	**SIRA Certification Service. GB/SIR/ExTR07.0046/00 de 08/09/2007; GB/SIR/ExTR09.0021/00 de 12/02/2009; GB/SIR/ExTR11.0003/00 de 12/2010; GB/SIR/ExTR11.0304/00 de 11/2011; GB/SIR/ExTR12.0251/01 de 11/2012; GB/SIR/ExTR15.0200/00 de 07/2015; GB/SIR/ExTR16.0114/00 de 04/2016; GB/SIR/ExTR15.0243/00 de 09/2016; GB/SIR/ExTR17.0049/00 de 03/2017.**
Relatório de Auditoria e Data: *Audit Report and Data ♦ Informe de Auditoría y Fecha:*	**Auditoria realizada em 07/05/2019 – PO-0260-19.**
Notas: *Notes ♦ Anotación:*	**"A validade deste Certificado de Conformidade está atrelada à realização das avaliações de manutenção e tratamento de possíveis não conformidades de acordo com as orientações do OCP previstas no RAC específico. Para verificação da condição atualizada de regularidade deste Certificado de Conformidade deve ser consultado o banco de dados de produtos e serviços certificados do INMETRO". Este certificado está vinculado à proposta 27127343, de 21/09/2021.**

Igor Moreno
Local Field Manager

"Este documento é composto de 08 páginas e é válido quando exibido com todas as suas páginas. Demais informações e notas estão contidas nas páginas subsequentes."

CERTIFICAÇÃO DE PRODUTO
OCP 0004
ACREDITADO DESDE 1993

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Certificado de Conformidade

Certificate of Compliance ♦ Certificado de Conformidad

Certificado N.º: TÜV 12.1462 X
Revisão: 06
Válido até: 28/09/2024
Emitido em: 27/10/2021

Lista de Modelos

Marca *Brand ♦ Marca*	Modelo *Model ♦ Modelo*	Descrição *Description ♦ Descripción*	Código de Barras GTIN *GTIN Barcode ♦ Código de Barras GTIN*
Expo	MiniPurge	Controlador de purga	Não existente

Especificações:

Os controladores de purga modelo MiniPurge são dispositivos pneumáticos, destinados a fornecer uma determinada vazão de gás de purga por um tempo predeterminado para equipamentos elétricos com o tipo de proteção Ex p. Esse controlador de purga possui também uma unidade de interface onde estão instalados os contatos para a verificação do status da pressurização sob a certificação INMETRO nº TÜV 12.1463.
As unidades de controle MiniPurge fornecem um dos seguintes quatro métodos de operação de purga.

LC - Compensação de perda após purga inicial elevada;
CF - Fluxo contínuo (mesma vazão durante e após a purga);
CF2 - Dois sistemas de fluxo CF com uma taxa de purga inicial de alta apenas em um orifício;
CFHP - Fluxo (mais baixo) contínuo após purga inicial elevada.

Válvula de Alivio

O controlador de purga MiniPurge é fornecido com uma válvula de alívio de sobrepressão, para ser instalada no equipamento Ex p para evitar uma sobrepressão interna acima da sobrepressão máxima do equipamento. Os 14 modelos existentes de válvula estão relacionados às suas dimensões nominais em mm, de RLV3 a RLV200.

A saída de cada válvula de alívio é equipada com uma barreira contra centelhas, que existem em quatro tipos opcionais como segue: Espuma metálica formando caminhos tortuosos com curvas de pelo menos 4 x 90° ou 2 x 180°, malha de aço inoxidável com multi-camadas e malha tricotada.

Orifício de saída

Três tipos de orifício são utilizados:

- Orifícios roscados (ex.: ¼" NPT ou 2" BSP) com uma barreira contra centelhas embutida. Estes são selecionados para manter a pressão desejada dentro do equipamento Ex p quando utilizado com as opções de fluxo contínuo. A designação de cada orifício de saída indica o diâmetro nominal de entrada. As denominações são as seguintes: SA3, SA6, SA9, SA12, SA19, SA25, SA32, SA38 e SA50.
- Orifícios planos no disco da válvula de alívio, dimensionados de acordo com a vazão necessária.
- Orifícios substituíveis, tipo SAU **.

Regra de formação do modelo:
Modelo: a b cc / mm / código de opções

a = Tamanho ou Capacidade	Purga típica Taxa de vazão* (Nl/min)	Pressão de alimentação regulada requerida (bar)
1 = Sub-MiniPurge	225	4-8
2 = MiniPurge	450	4-8
3 = Super-MiniPurge	900	4-8
4 = Super-MiniPurge 1800	1800	4-8 (4-16**)
5 = Super-MiniPurge 3500	3500	4-8 (4-16**)
6 = Super-MiniPurge 7000	7000	4-8 (4-16**)
7 = Super-MiniPurge xxxx	(>7000)	4-8 (4-16**)

*Quando a opção "PC" for utilizada, as taxas de vazão serão alteradas de acordo com o projeto específico. Em tais casos, um sufixo adicional DXXX será adicionado para indicar um projeto específico.
** Até 16 bar são aceitos quando um regulador adequado é instalado.

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b = tipo de pressurização
X = Pressurização X
Y = Pressurização Y
Z = Pressurização Z

cc = Ação após purga inicial
LC = Compensação de perda após purga inicial elevada;
CF = Fluxo contínuo (mesma vazão durante e após a purga);
CF2 = Dois sistemas de fluxo CF com uma taxa de purga inicial de alta apenas em um orifício;
CFHP = Fluxo (mais baixo) contínuo após purga inicial elevada;
DP = Proteção contra poeira (somente pressurização).

mm = Material do invólucro da unidade de controle
al = Liga de alumínio
cs = Aço carbono, pintado
ss = Aço inoxidável
bp = Somente placa traseira
co = Somente chassis
pm = Montagem em painel
nm = Não metálico

Código de opções (Adicionado somente se utilizado)

AA = Equipado com saída de alarme ativa	AC = Circuito de cancelamento de alarme
AO = "Somente Alarme" em falha de fluxo ou pressão	AS = "Alarme" falha de fluxo ou pressão, válvula seletora
CS = Monitor do sistema de contenção	DS = Equipado com sensor de intertravamento para abertura da porta
DT = Temporizador de desligamento (Delayed Trip) depois de uma falha de pressão ou fluxo	DXXX = Projeto especial para as taxas de vazão específicas
ET = Temporizador eletrônico	FM = Equipado com medidor(es) de vazão
HP = Fluxo contínuo com sensor de pressão alta	IS = Chaves internas adequadas para circuitos Ex i
MO = Equipado com chave manual de by-pass	MT = Purga mecânica ou temporizador de atraso
AO = Chave liga/desliga controlando o gás de proteção e suprimento de ar da unidade de controle	OB = Chave liga/desliga para controlar o suprimento de ar da unidade de controle
OC = Chave liga/desliga controlando somente o fornecimento de gás de proteção	OS = Saída (Orifício), válvula seletora
OV = Válvula de saída, acionamento pneumático	PA = Switch(es) "Ex" embutido(s), com/sem caixa de ligação "Ex"
PC = Válvula de controle para compensação de perda (CLAPS System.)	PO = Sinais de saída pneumáticos para controle de alimentação e alarme
SP = Pressurização secundária, opções de alimentação	SS = Alimentação separada para o sistema de controle lógico e para gás de proteção do invólucro
TW = Duas (ou mais) saídas para dois ou mais invólucros pressurizados purgados em paralelo	LS = Sensor local para monitoramento de sobrepressão interna, sob a certificação IECEx SIR 06.0109X.
H6 = Indicado para alta temperatura Temperatura do ar de purga: -20 °C ≤ T_a ≤ +60 °C	H7 = Indicado para alta temperatura Temperatura do ar de purga: -20 °C ≤ T_a ≤ +70 °C
LT = Baixa temperatura Temperatura ambiente: -60 °C ≤ T_a ≤ +60 °C	T/B = Caixa de ligação, opcional

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A caixa de ligação opcional (T/B) é adequada tanto para equipamentos Ex e quanto Ex d, para operar em faixa de temperatura ambiente máxima permitida de - 60 °C ≤ T_a ≤ +60 °C, e com classe de temperatura T4 (135 °C).
A combinação de condições de temperatura também é permitida, sendo possível a aplicação em condições de baixa temperatura (/LT) com alta temperatura (/H6 ou /H7), sendo a faixa de temperatura ambiente máxima permitida de
- 60 °C ≤ T_a ≤ +60 °C com temperaturas de ar para purga em 60 °C para /H6 e 70 °C para /H7.

Estas versões combinadas possuem duas variantes distintas, como detalhado abaixo:

- MiniPurge e outros componentes internos dentro do mesmo invólucro, feito de aço inoxidável ou aço carbono pintado, com espessura entre 1,5 mm e 2,5 mm, terminal de aterramento, medidor de vazão tipo Vortex para tubulação de saída do ar quente, que permite livre ventilação. Também é realizada pelas paredes do invólucro principal a entrada de ar para purga, acoplada à um regulador e conexões de saídas, opcionalmente pneumáticas e ou via caixa de ligação. Esta caixa de ligação poderá conter barreias de segurança intrínseca, com certificado INMETRO, e/ou terminais com entradas realizadas via prensa cabos certificados INMETRO e adequados ao tipo de proteção.

Uma câmara de resfriamento contém o sistema de circuito de controle lógico para o resfriador Vortex e um isolador lógico. A outra câmara aquecida contem todos elementos de purga, de acordo com as condições de operação contínua com uma temperatura mínima de 70 °C. As duas câmaras são termicamente isoladas uma da outra.
O resfriador Vortex pode opcionalmente possuir uma alimentação de ar frio para controle de sistema da unidade lógica pneumática do MiniPurge.

Um trocador de calor pode ser opcionalmente instalado no tubo de ar frio do vortex que fornece o controle de sistema da unidade lógica do MiniPurge.

Na base do invólucro existe um aquecedor idêntico ao utilizado na versão para baixa temperatura (/LT). Este aquecedor opera em +5 °C.

Análise e ensaios realizados:

As análises e os ensaios realizados encontram-se no relatório de análise nº CC_121462/06.

Documentação descritiva do produto:

–
- Relatório de ensaios Sira nº GB/SIR/ExTR07.0046/00 de 06/09/2007;
- Relatório de ensaios Sira nº GB/SIR/ExTR09.0021/00 de 12/02/2009;
- Relatório de ensaios Sira nº GB/SIR/ExTR11.0003/00 de 12/2010;
- Relatório de ensaios Sira nº GB/SIR/ExTR11.0304/00 de 11/2011;
- Relatório de ensaios Sira nº GB/SIR/ExTR12.0251/01 de 11/2012;
- Relatório de ensaios Sira nº GB/SIR/ExTR15.0200/00 de 07/2015;
- Relatório de ensaios Sira nº GB/SIR/ExTR16.0114/00 de 04/2016;
- Relatório de ensaios Sira nº GB/SIR/ExTR15.0243/00 de 09/2016;
- Relatório de ensaios Sira nº GB/SIR/ExTR17.0049/00 de 03/2017.

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Documento	Pág.	Descrição	Rev.	Data
EP99-3-1	1	Minipurge Control Unit – GA	2	15/03/2007
EP99-2-1	1	Schematic – Type "X" Leakage Compensation	3	09/07/2007
EP99-2-3	1	Sequence Diagram – MiniP Type X LC systems	2	15/03/2007
EP99-2-2	1	MiniPurge Type "X" Continuous Flow	2	15/03/2007
EP99-2-4	1	Sequence Diagram – MiniP Type X CF systems	2	15/03/2007
EP99-2-5	1	Alarm Only "AO" and Alarm Action Selector "AS"	2	15/03/2007
EP99-2-6	1	Door switch "DS", Active Alarm "AA" and Alarm cancel "AC"	2	15/03/2007
EP99-2-7	1	Separate Supply "SS" and Mech Timer "MT"	2	15/03/2007
EP99-2-8	1	Delay before trip "DT" and On/Off controls	2	15/03/2007
EP99-2-9	1	Twin Output "TW" and Manual Override "MO"	2	15/03/2007
EP99-2-10	1	Pressure Control Leakage Conpensation "PC"	3	15/03/2007
EP99-2-11	1	Internal Ex switches "IS"	3	15/03/2007
EP99-2-12	1	Options "CS" and "SP"	2	15/03/2007
EP99-2-14	1	MiniPurge CF2 and CFHP	2	15/03/2007
EP99-2-16	1	Outlet Selector Valve, Oprtion "OS"	2	15/03/2007
EP99-2-17	1	MiniPurge Continuous Flow with HP sensor	2	15/03/2007
EP99-7-9	1 de 2	Outlet Valve Circuit N/O	2	15/03/2007
EP99-7-9	2 de 2	Outlet Valve Circuit N/C	1	15/03/2007
SD7531	1	MiniPurge type "Z" or "Y" Leakage Compensation	2	09/07/2007
SD7532	1	MiniPurge type "Z" or "Y" Continuous Flow	1	15/03/2007
SD7533	1	MiniPurge, Dust Protection schematic	2	14/11/2011
SD7555	4	RLV Configurations	3	05/07/2007
SD7535	1	Spark arrestor	1	15/03/2007
SD7536	1	Differential Flow Monitor	1	18/04/2007
SD7538	1	CF Outlet Orifice	1	27/03/2007
SD7500	1	Outlet Orifice Closure Device	1	25/04/2007
SD7537	3	MiniPurge Fault Evaluation	1	20/02/2007
SD7556	2	Alternative Z&Y LC system	1	09/07/2007
SD7282	2	MiniPurge data sheet	8	20/09/2016
SD7913	1	MiniPurge electronic timer	2	17/12/2010
SD7914	1	MiniPurge HP sensor	2	14/12/2010
SD7649	3	MiniPurge TUV Certification Label	9	14/10/2017
SD7652	14	MiniPurge Portuguese Handbook Extracts	7	24/01/2018
SD7449	1	System Low Temperature Wiring (typical)	8	22/06/2015
SD7448	3	Low Temperature Housing	10	30/04/2015
SD8158	1	Local Sensing	2	22/06/2015

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Marcação:

O controlador de purga modelo MiniPurge foi aprovado nos ensaios e análise, nos termos das normas adotadas, devendo receber a marcação, levando-se em consideração o item observações.

(versão padronizada)
Ex [pxb] IIC T6 Gb
Ex [pxb] IIIC T85 °C Db
Ex [pyb] IIC T6 Gb
Ex [pyb] IIIC T85 °C Db
Ex [pzc] IIC T6 Gb
Ex [pzc] IIIC T85 °C Db
-20 °C ≤ T_a ≤ +55 °C

(versão /ET - padronizada)
Ex [pxb] ia IIC T5 Gb
Ex [pxb] ia IIIC T100 °C Db
-20 °C ≤ T_a ≤ +55 °C

(versão para baixa temperatura)
Ex [pxb] d e m IIC T3 ou T4 Gb
Ex [pxb] IIIC T200 °C ou T135 °C Db
-60 °C ≤ T_a ≤ +55 °C

(Versão para baixa temperatura - /LT/ET – com temporizador eletrônico)
Ex [pxb] d e m ia IIC T3 ou T4 Gb
Ex [pxb] ia IIIC T200 °C ou T135 °C Db
-60 °C ≤ T_a ≤ +55 °C

(versão para alta temperatura - /H6)
Ex [pxb] IIC T4 Gb
-20 °C ≤ T_a ≤ +60 °C
(temperatura do ar de purga : 60 °C)

(versão /H6 /ET – com Temporizador eletrônico)
Ex [pxb] ia IIC T4 Gb
-20 °C ≤ T_a ≤ +60 °C
(temperatura do ar de purga : 60 °C)

(versão /H7)
Ex [pxb] IIC T4 Gb
-20 °C ≤ T_a ≤ +60 °C
(temperatura do ar de purga : 70 °C)

(versão /H7 /ET – com Temporizador Eletrônico)
Ex [pxb] ia IIC T4 Gb
-20 °C ≤ T_a ≤ +60 °C
(temperatura do ar de purga : 70 °C)

(versão baixa temperatura com alta temperatura /H6)
Ex [pxb] d e m IIC T3 ou T4 Gb
-60 °C ≤ T_a ≤ +60 °C
(temperatura do ar de purga : 60 °C)

(versão baixa temperatura com alta temperatura /H7)

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Ex [pxb] d e m IIC T3 ou T4 Gb
-60 °C ≤ T_a ≤ +60 °C
(temperatura do ar de purga : 70 °C)

(versão baixa temperatura com alta temperatura /H6/ET – com temporizador eletrônico)
Ex [pxb] d e m ia IIC T3 ou T4 Gb
-60 °C ≤ T_a ≤ +60 °C
(temperatura do ar de purga : 60 °C)

(versão baixa temperatura com alta temperatura /H7/ET – com temporizador eletrônico)
Ex [pxb] d e m ia IIC T3 ou T4 Gb
-60 °C ≤ T_a ≤ +60 °C
(temperatura do ar de purga : 70 °C)

Observações:

1. O número do certificado é finalizado pela letra X para indicar as seguintes restrições no uso:
   Quando o controlador de purga MiniPurge é incorporado a um equipamento, as implicações da operação dos indicadores e/ou sinais opcionais de alarme e a aplicação das etiquetas apropriadas de aviso e identificação devem ser incluídas na avaliação do equipamento.
   O instalador/usuário deve garantir que o controlador de purga MiniPurge seja instalado de acordo com o certificado do equipamento que cobre a combinação do invólucro pressurizado com o controlador de purga MiniPurge.
   Os valores dos parâmetros de segurança devem ser ajustados de acordo com o certificado do equipamento que cobre a combinação do invólucro pressurizado e do controlador de purga MiniPurge.
   Ao utilizar as opções AO, AS e DT, as recomendações para os requisitos adicionais do equipamento Ex p contido na ABNT NBR IEC 60079-14 devem ser aplicadas.
   O controlador de purga e a versão de baixa temperatura devem ser protegidos por um sistema de segurança que assegure que ele não pode ser energizado se a temperatura da entrada de ar ou controlador de purga reduzir para -20° C. Este sistema deve utilizar os RTDs que são montados no controlador de purga para fornecer o nível apropriado da integridade do sistema (Nota: Estes RTDs não foram avaliados como um dispositivo de segurança).
   Os seguintes testes de rotina deverão ser realizados para
   - Verificação funcional do resfriador do Vortex (H6, H7 para altas temperaturas e H6, H7 para combinações permitidas);
   - Verificação funcional do isolador lógico pneumático (H6, H7 para altas temperaturas e H6, H7 para combinações permitidas).

2. Este Certificado de Conformidade é válido para os produtos de modelo e tipo idêntico ao protótipo ensaiado. Qualquer modificação de projeto ou utilização de componentes e materiais diferentes daqueles descritos na documentação deste processo, sem autorização prévia da TÜV Rheinland, invalidará o certificado.

3. É de responsabilidade do fabricante assegurar que os produtos fabricados estejam de acordo com as especificações do protótipo ensaiado, através de inspeções visuais e dimensionais.

4. Os produtos devem ostentar, na sua superfície externa e em local visível, a Marca de Conformidade e as características técnicas da mesma de acordo com as especificações da ABNT NBR IEC 60079-0 / ABNT NBR IEC 60079-2 / ABNT NBR IEC 60079-11 / ABNT NBR IEC 60079-31 / ABNT NBR IEC 60529 e Regulamento de Avaliação da Conformidade, anexo à Portaria nº 179 do INMETRO, publicada em 18 de Maio de 2010. Esta marcação deve ser legível e durável, levando-se em conta possível corrosão química.

5. As atividades de instalação, inspeção, manutenção, reparo, revisão e recuperação dos produtos são de responsabilidade do usuário e devem ser executadas de acordo com os requisitos das normas técnicas vigentes e com as recomendações do fabricante.

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6. Para fins de comercialização no Brasil, as responsabilidades da alínea "e" do item 10.1 da Portaria 179 de 18 de maio de 2010, é do representante legal, do importador ou do usuário.

Natureza das Revisões / Data
Nature of Reviews/Date ♦
Naturaleza de las Revisiones / Fecha

Revisão 00:	**28/09/2010 – Certificação inicial – Efetivação;** **25/04/2012 – Adequação do certificado AEX-13098-X à Portaria 179;**
Revisão 01:	**01/12/2015 – Revalidação, Inclusão do sensor local e atualização do endereço do fabricante de: Summer Road – Thames Ditton, Surrey KT7 0RH, para: unit 2, The Summit, Hanworth Road, Sunbury on Thames, Surrey TW16 5DB;**
Revisão 02:	**16/11/2017 – Atualização do certificado e correção do endereço do solicitante e fabricante**
Revisão 03:	**30/01/2018 – Correção da tabela de documentos e remoção de informação sobre a temperatura de purga para versão para baixa temperatura.**
Revisão 04:	**25/08/2018 – Revalidação;**
Revisão 05:	**01/04/2019 – Correção da codificação do modelo.**
Revisão 06:	**27/10/2021 – Revalidação.**

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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

1. ***aXCFbc. Mini-X-Purge Type CF Control System.***
   APX / I / 1 / ABCD /T6 Ta = 60°C - ML383 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice

2. ***aXCFHPbc. Mini-X-Purge Type CFHP Control System.***
   APX / I / 1 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

3. ***aXDPbc. Mini-X-Purge Type DP Control System.***
   APX / II / 1 / EFG /T6 Ta = 60°C - ML386 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*

4. ***aXLCbc. Mini-X-Purge Type LC Control System.***
   APX / I / 1 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11

a = Model size 1, 2, 3, 4, 5 or 6.
b = Enclosure type cs, ss, bp, pm or nm.
c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
*** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
Note: All LC Systems must include an RLV Series Relief Valve matched to the specific control system.

5. ***aYCFbc. Mini-Y-Purge Type CF Control System.***
   APY / I / 1 / ABCD /T6 Ta = 60°C - ML383 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

6. ***aYCFHPbc. Mini-Y-Purge Type CFHP Control System.***
   APY / I / 1 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

7. ***aYDPbc. Mini-Y-Purge Type DP Control System.***
   APY / II / 1 / EFG /T6 Ta = 60°C - ML386 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*

8. ***aYLCbc. Mini-Y-Purge Type LC Control System.***
   APY / I / 1 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB OC OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All LC Systems must include an RLV Series Relief Valve matched to the specific control system.

9. ***aZCFbc. Mini-Z-Purge Type CF Control System.***
   APZ / I / 2 / ABCD /T6 Ta = 60°C - ML383 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV,

PC, PN, PO, SS, TW, and/or **.
*** Denotes special, non-Approval related option such as color or enclosure mounting arrangements.*
Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

10. ***aZCFHPbc. Mini-Z-Purge Type CFHP Control System.***
APZ / I / 2 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
a = Model size 1, 2, 3, 4, 5 or 6.
b = Enclosure type cs, ss, bp, pm or nm.
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
*** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

11. ***aZDPbc. Mini-Z-Purge Type DP Control System.***
APZ / II / 2 / FG /T6 Ta = 60°C - ML386 / EP80-2-11
a = Model size 1, 2, 3, 4, 5 or 6.
b = Enclosure type cs, ss, bp, pm, or nm.
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
*** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*

12. ***aZLCbc. Mini-Z-Purge Type LC Control System.***
APZ / I / 2 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
a = Model size 1, 2, 3, 4, 5 or 6.
b = Enclosure type cs, ss, bp, pm or nm.
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
*** Denotes special, non-Approval related option such as color or enclosure mounting arrangements.*

Equipment Ratings:

1. Associated Type X Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML383 CF.

2. Associated Type X Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

3. Associated Type X Pressurization System for use in Class II, Division 1, Group E, F and G hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML386 DP.

4. Associated Type X Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

5. Associated Type Y Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class I, Division 2, Group A, B, C and D hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML383 CF.

6. Associated Type Y Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class I, Division 2, Group A, B, C and D hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

7. Associated Type Y Pressurization System for use in Class II, Division 1, Group E, F and G hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class II, Division 2, Group F and G hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML386 DP.

8. Associated Type Y Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class I, Division 2, Group A, B, C and D hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

9. Associated Type Z Pressurization System for use in Class I, Division 2, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML383 CF.

10. Associated Type Z Pressurization System for use in Class I, Division 2, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

11. Associated Type Z Pressurization System for use in Class II, Division 2, Group F and G hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML386 DP.

12. Associated Type Z Pressurization System for use in Class I, Division 2, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

FM Approved for:

Expo Technologies Ltd
Sunbury on Thames Surrey TW16 5DB
United Kingdom

FM Approvals
Member of the FM Global Group

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

FM Class 3600	2011
FM Class 3610	2010
FM Class 3615	2006
FM Class 3620	2014
ANSI/NFPA 496	2013

Original Project ID: 1X8A4.AE Approval Granted:

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
0B3A3.AE	November 5, 1996		
3010469	June 25, 2001		
071029	June 23, 2008		
080905	September 24, 2008		
101230	March 3, 2011		
3052954	July 28, 2015		

FM Approvals LLC

J.E. Marquedant
Manager, Electrical Systems

28 July 2015
Date

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

FM Approvals
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P.O. Box 9102 Norwood, MA 02062 USA
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CERTIFICATE OF COMPLIANCE

HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

1. ***aXCFbc. Mini-X-Purge Type CF Control System.***
   APX / I / 1 / ABCD /T6 Ta = 60°C - ML383 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice

2. ***aXCFHPbc. Mini-X-Purge Type CFHP Control System.***
   APX / I / 1 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

3. ***aXDPbc. Mini-X-Purge Type DP Control System.***
   APX / II / 1 / EFG /T6 Ta = 60°C - ML386 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*

4. ***aXLCbc. Mini-X-Purge Type LC Control System.***
   APX / I / 1 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.

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b = Enclosure type cs, ss, bp, pm or nm.
c = Option code AA, AC, AO, AS, CT, DS, DT, ET, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
*** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
Note: All LC Systems must include an RLV Series Relief Valve matched to the specific control system.

5. ***aYCFbc. Mini-Y-Purge Type CF Control System.***
   APY / I / 1 / ABCD /T6 Ta = 60°C - ML383 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

6. ***aYCFHPbc. Mini-Y-Purge Type CFHP Control System.***
   APY / I / 1 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

7. ***aYDPbc. Mini-Y-Purge Type DP Control System.***
   APY / II / 1 / EFG /T6 Ta = 60°C - ML386 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*

8. ***aYLCbc. Mini-Y-Purge Type LC Control System.***
   APY / I / 1 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC OS, OV, PC, PN, PO, SS, TW, and/or **.
   *** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
   Note: All LC Systems must include an RLV Series Relief Valve matched to the specific control system.

9. ***aZCFbc. Mini-Z-Purge Type CF Control System.***
   APZ / I / 2 / ABCD /T6 Ta = 60°C - ML383 / EP80-2-11
   a = Model size 1, 2, 3, 4, 5 or 6.
   b = Enclosure type cs, ss, bp, pm or nm.
   c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.

*** Denotes special, non-Approval related option such as color or enclosure mounting arrangements.*
Note: All CF Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

10. ***aZCFHPbc. Mini-Z-Purge Type CFHP Control System.***
APZ / I / 2 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
a = Model size 1, 2, 3, 4, 5 or 6.
b = Enclosure type cs, ss, bp, pm or nm.
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
*** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*
Note: All CFHP Systems must include an RLV Series Relief Valve matched to the specific control system with either an internal or separate Outlet Orifice.

11. ***aZDPbc. Mini-Z-Purge Type DP Control System.***
APZ / II / 2 / FG /T6 Ta = 60°C - ML386 / EP80-2-11
a = Model size 1, 2, 3, 4, 5 or 6.
b = Enclosure type cs, ss, bp, pm, or nm.
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
*** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*

12. ***aZLCbc. Mini-Z-Purge Type LC Control System.***
APZ / I / 2 / ABCD /T6 Ta = 60°C - ML384 / EP80-2-11
a = Model size 1, 2, 3, 4, 5 or 6.
b = Enclosure type cs, ss, bp, pm or nm.
c = Option code AA, AC, AO, AS, CT, DS, DT, IS, FM, MO, MT, NO, OA, OB, OC, OS, OV, PC, PN, PO, SS, TW, and/or **.
*** Denotes special, non-Approval related options such as color or enclosure mounting arrangements.*

Equipment Ratings:

1. Associated Type X Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML383 CF.

2. Associated Type X Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

3. Associated Type X Pressurization System for use in Class II, Division 1, Group E, F and G hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML386 DP.

4. Associated Type X Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

5. Associated Type Y Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class I, Division 2, Group A, B, C and D hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML383 CF.

6. Associated Type Y Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class I, Division 2, Group A, B, C and D hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

7. Associated Type Y Pressurization System for use in Class II, Division 1, Group E, F and G hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class II, Division 2, Group F and G hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML386 DP.

8. Associated Type Y Pressurization System for use in Class I, Division 1, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to a Class I, Division 2, Group A, B, C and D hazardous (classified) location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

9. Associated Type Z Pressurization System for use in Class I, Division 2, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML383 CF.

10. Associated Type Z Pressurization System for use in Class I, Division 2, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

11. Associated Type Z Pressurization System for use in Class II, Division 2, Group F and G hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML386 DP.

12. Associated Type Z Pressurization System for use in Class I, Division 2, Group A, B, C and D hazardous (classified) locations to be used to reduce the internal area of a connected enclosure to an ordinary location in accordance with Expo Technologies Installation, Operation and Maintenance Manual ML384 LC & CFHP.

FM Approved for:

Expo Technologies Ltd
Sunbury on Thames Surrey TW16 5DB
United Kingdom

FM Approvals
Member of the FM Global Group

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

ANSI/NFPA 496	2013
CSA C22.2 No 25	1966
CSA C22.2 No 30	1986
CSA C22.2 No. 157	1992

Original Project ID: 1X8A4.AE
Canadian Project ID: 3052954 Approval Granted: July 28, 2015

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date

FM Approvals LLC

J.E. Marquedant
Manager, Electrical Systems

28 July 2015
Date

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

ONLINE CERTIFICATIONS DIRECTORY

RFPW7.E190061
Purging and Pressurizing Controls and Accessories for Use in Hazardous Locations Certified for Canada

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Purging and Pressurizing Controls and Accessories for Use in Hazardous Locations Certified for Canada

See General Information for Purging and Pressurizing Controls and Accessories for Use in Hazardous Locations Certified for Canada

EXPO TECHNOLOGIES LIMITED E190061
Unit 2 The Summit
Hanworth Road
Sunbury On Thames, SURREY TW16 5DB UNITED KINGDOM

Purge control units, Type X, for use in Class I, Groups A, B, C and D hazardous locations, Model** 1, 2, 3, 4, 5, 6 or 7 followed by X, followed by CF, CFHP or LC, followed by BP, CS, SS or PM may be followed by one or more of the following: ET, IS, PO, AO, DS, DT, SS and MO.

For the 'IS' option: intrinsically safe when installed in accordance with Control Drawing number EP80-2-11.

Type Y for use in hazardous (classified) locations, Model** 1, 2, 3, 4, 5, 6 or 7 followed by Y, followed by CF, CFHP or LC, followed by BP, CS, NM, PM, SS, may be followed by AO, DS, DT, IS, MO, NO, PO, SS.

Type Z for use in hazardous (classified) locations, Models** 1, 2, 3, 4, 5, 6 followed by Z, followed by CF, CFHP or LC, followed by BP, CS, PM, SS, may be followed by AO, DS, DT, IS, MO, NO, PO, SS.

Purge control accessory - Vent unit for use in hazardous (classified) locations, Model RLV followed by 25, 36, 52, 75, 104, 125, 150, or 200, followed by CS or SS, may be followed by FS.

** - Internal series identifier, precedes model number, which may contain one or more characters.

Last Updated on 2017-11-03

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RFPW.E190061
Purging and Pressurizing Controls and Accessories for Use in Hazardous Locations

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Purging and Pressurizing Controls and Accessories for Use in Hazardous Locations

See General Information for Purging and Pressurizing Controls and Accessories for Use in Hazardous Locations

EXPO TECHNOLOGIES LIMITED E190061
Unit 2 The Summit
Hanworth Road
Sunbury On Thames, SURREY TW16 5DB UNITED KINGDOM

Purge control units, Type X, for use in Class I, Groups A, B, C and D hazardous locations, Model** 1, 2, 3, 4, 5, 6 or 7 followed by X, followed by CF, CFHP or LC, followed by BP, CS, SS or PM, may be followed by one or more of the following: ET, IS, PO, AO, DS, DT, SS and MO.

For the 'IS' option: intrinsically safe when installed in accordance with Control Drawing number EP80-2-11.

Type Y for use in hazardous (classified) locations, Model** 1, 2, 3, 4, 5, 6 or 7 followed by Y, followed by CF, CFHP or LC, followed by BP, CS, NM, PM, SS, may be followed by AO, DS, DT, IS, MO, NO, PO, SS.

Type Z for use in hazardous (classified) locations, Models** 1, 2, 3, 4, 5, 6 followed by Z, followed by CF, CFHP or LC, followed by BP, CS, PM, SS, may be followed by AO, DS, DT, IS, MO, NO, PO, SS.

Purge control accessory - Vent unit for use in hazardous (classified) locations, Model RLV followed by 25, 36, 52, 75, 104, 125, 150, or 200, followed by CS or SS, may be followed by FS.

** - Internal series identifier, precedes model number, which may contain one or more characters.

Last Updated on 2017-11-03

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CCC 2020312304000830

CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

No.: 2020312304000830

Applicant	EXPO Technologies Ltd
Address	Unit 2, The Summit, Hanworth Road, Sunbury on Thames Surrey TW16 5DB, United Kingdom
Manufacturer	EXPO Technologies Ltd
Address	Unit 2, The Summit, Hanworth Road, Sunbury on Thames Surrey TW16 5DB, United Kingdom
Production Factory	EXPO Technologies Ltd
Production Address	Unit 2, The Summit, Hanworth Road, Sunbury on Thames Surrey TW16 5DB, United Kingdom
Product	MiniPurge Purge Controller
Model/Type	1XLC cs DS SS AA MO FM OA TW
Ex marking	See Annex
Reference Standards	GB/T 3836.1-2021, GB/T 3836.5-2021

Certification mode Type Test + Initial Factory Inspection + Post-Certification Surveillance

The product(s) is verified and certified according to CNCA-C23-01: 2019 *China Compulsory Certification Implementation Rule on Explosion Protected Electrical Product* and CNEX-C2301-2019 *Guideline of China Compulsory Certification Implementation Rule on Explosion Protected Electrical Product.*

See Annex for the detailed product information (7 pages).

Initial issue date: 2020-11-04
Issued date: 2023-01-15 Valid to: 2025-11-03

The validity of this certificate is maintained through the regular supervision of the issuing authority during the validity period.

Where any discrepancy arises between the English translation and the original Chinese version, the Chinese version shall prevail.

Director:

Nanyang Explosion Protected Electrical Apparatus Research Institute Co.,Ltd.

CNAS 中国认可 产品 PRODUCT CNAS C208-P

http://www.ccc-cnex.com ccc.china-ex.com
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Tel: 0377-63239734
P.C.: 473008
Email: ccc@cn-ex.com

CN 0001555

CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

(Annex)

No.: 2020312304000830

Product information:

1. This certificate covers the following models:

- 1XLC cs DS SS AA MO FM OA TW

Nomenclature:

1	X	LC	cs	DS SS AA MO FM OA TW
a	b	cc	mm	Option codes

Model Number Designation for approved MiniPurge systems	
a	Size or Capacity Option codes (Added only if used)
1	MiniPurge with Purge Flow Capacity up to 225 NL/min
2	MiniPurge with Purge Flow Capacity up to 450 NL/min
3	MiniPurge with Purge Flow Capacity up to 900 NL/min
4	MiniPurge with Purge Flow Capacity up to 2000 NL/min
5	MiniPurge with Purge Flow Capacity up to 6000 NL/min
6	MiniPurge with Purge Flow Capacity up to 8000 NL/min
7	MiniPurge with Purge Flow Capacity above 8000 NL/min
b	Pressurization Type
X	X Pressurization
Y	Y Pressurization
Z	Z Pressurization
cc	Action after initial purging
LC	Leakage Compensation only after initial High Purge
CF	Continuous Flow (same flow rate during and after purging)
CF2	Two Flow CF system with initial High Purge rate but only one orifice
CFHP	Continuous (lower) Flow after initial High Purge

Issued on: 2023-01-15

Director:

Nanyang Explosion Protected Electrical Apparatus Research Institute Co.,Ltd.

CNAS 中国认可 产品 PRODUCT CNAS C208-P

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CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

(Annex)

No.: 2020312304000830

DP	Dust Protection (pressurization only)
mm	Material of the Control Unit Enclosure
al	Aluminium alloy
cs	Mild steel, painted
ss	Stainless steel
bp	Back plate only
co	Chassis only
pm	Panel mounting
nm	Non-metallic
Option codes (Added only if used)	
AA	Active Alarm output fitted
AC	Alarm cancellation circuit
AO	"Alarm Only Action" on Pressure or Flow Failure
AS	Alarm "Action on Pressure or Flow failure", Selector valve
CS	Containment System Monitor
DS	Door Switch Power Interlock fitted
DT	Delayed Trip after Pressure or Flow failure
ES	Electronic Timer with EPPS
ET	Electronic Timer (not EPPS option)
FM	Flow Meter(s) fitted
H6	High Temperature Tamb -20°C to +60°C, Air Supply Max Temp +60°C
H7	High Temperature Tamb -20°C to +60°C, Air Supply Max Temp +70°C
HP	System LC or CF with High Pressure Sensor
IS	Internal Switches suitable for Ex i circuits
LS	Local Sensing
LT	Low Temperature

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No.: 2020312304000830

MO	Manual Override fitted
MT	Mechanical Purge or Delay timer
OA	On/Off switch controlling Protective gas and logic supply
OB	On/Off switch controlling logic supply only
OC	On/Off switch controlling Protective gas supply only
OS	Outlet (Orifice) Selector valve
OV	Outlet valve, pneumatically operated
PA	"Ex" switch(es) built-in, with/without "Ex" junction box
PC	PE Pressure Control Leakage Compensation Valve (CLAPS System)
PO	Pneumatic Output signals for Power and Alarm control
SP	Secondary Pressurization supply options
SS	Separate Supply for Protective gas and Logic air
TW	Twin (or more) outputs for two or more separate pressurized enclosures purged in parallel
DXXX	Special design for specific flow rates, or other non-certification related options

Relief Valve - The MiniPurge controller is supplied with an optional overpressure relief valve, which is to be fitted to the Ex p protected apparatus to prevent an internal overpressure above the maximum overpressure rating of the apparatus. There are 14 models of relief valve; the designation of each relief valve refers to its nominal bore in mm, as follows: RLV3, RLV6, RLV9, RLV12, RLV19, RLV25, RLV26, RLV52, RLV36, RLV75, RLV104, RLV125, RLV150 and RLV200;

The outlet of each relief valve is fitted with a spark arrestor, of which there are four optional types:

① Metal foam
② Tortuous path with at least 4 x 90°or 2 x 180° bends
③ Multi-layer stainless steel mesh

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(Annex)

No.: 2020312304000830

④ Knitted mesh

Outlet Orifice - Three types of orifice are used:

① Threaded Orifices e.g. ¼" NPT or 2" BSP with a built in spark arrester. These are selected to maintain a desired back pressure within the Ex p protected apparatus when used with the Continuous Flow options. The designation of each outlet orifice indicates the nominal inlet diameter. The designations are as follows: SA3, SA6, SA9, SA12, SA19, SA25, SA32, SA38 and SA50

② Plain holes in the Relief Valve disk, sized according to the flow rate required

③ Replaceable orifice type SAU**

High Pressure Sensor for CF Systems (HP code) - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the controller resets cutting the power to the enclosure. On detecting the overpressure an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

High Pressure Sensor for LC Systems (HP code) - If the pressure in the pressurized enclosure rises above the setting of the High Pressure sensor, the purge gas flow is isolated from the pressurised enclosure. The valve isolates both the leakage compensation and the purge streams. On detecting the overpressure, an optional facility is available for the generation of an alarm or indicator. On systems with a High Pressure sensor, the relief valve may be omitted.

Pneumatically Operated Outlet Valve - The pneumatically operated outlet valve is used to positively open or close the outlet of the purged enclosure by means of a spring return pneumatic cylinder. Systems fitted with the Pneumatically Operated Outlet Valve will carry the option OV.

Note: the possible protection type of CCC certified Ex products(components) list in Option codes(see table above) could be Ex db, Ex eb or Ex ia.

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No.: 2020312304000830

Ex marking:

Standard versions: Ex [pxb] IIC T6 Gb, Ex [pxb] IIIC T85℃ Db (Ta: -20℃~+55℃)
Ex [pyb] IIC T6 Gb, Ex [pyb] IIIC T85℃ Db (Ta: -20℃~+55℃)
Ex [pzc] IIC T6 Gc, Ex [pzc] IIIC T85℃ Db (Ta: -20℃~+55℃)

Standard/ET/ES versions:
Ex [pxb] ia IIC T5 Gb, Ex [pxb] ia IIIC T100℃ Db (Ta: -20℃~+55℃)

Low temperature versions:
Ex [pxb] db eb IIC T3 Gb, Ex [pxb] db eb IIC T4 Gb (Ta: -60℃~+55℃)

Low temperature/ET/ES versions:
Ex [pxb] db eb ia IIC T3 Gb, Ex [pxb] db eb ia IIC T4 Gb (Ta: -60℃~+55℃)

High temperature versions – H6:
Ex [pxb] IIC T4 Gb (Ta: -20℃~+60℃, Purge air temp. up to +60℃)

High temperature/ET/ES versions – H6:
Ex [pxb] ia IIC T4 Gb (Ta: -20℃~+60℃, Purge air temp. up to +60℃)

High temperature versions – H7:
Ex [pxb] IIC T4 Gb (Ta: -20℃~+60℃, Purge air temp. up to +70℃)

High temperature/ET/ES versions – H7:
Ex [pxb] ia IIC T4 Gb (Ta: -20℃~+60℃, Purge air temp. up to +70℃)

Combined Versions
Low temp. with High temp. H6: Ex [pxb] db eb IIC T3/T4 Gb
(Ta: -60℃~+60℃, Purge air temp. up to +60℃)
Low temp. with High temp. H6 and ET/ES: Ex [pxb] db eb ia IIC T3/T4 Gb
(Ta: -60℃~+60℃, Purge air temp. up to +60℃)
Low temp. with High temp. H7: Ex [pxb] db eb IIC T3/T4 Gb
(Ta: -60℃~+60℃, Purge air temp. up to +70℃)
Low temp. with High temp. H7 and ET/ES: Ex [pxb] db eb ia IIC T3/T4 Gb
(Ta: -60℃~+60℃, Purge air temp. up to +70℃)

- Producers should organize production in accordance with the technical documents

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CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

(Annex)

No.: 2020312304000830

approved by the certification body.

2. Specific conditions of safety use:

- When using the AO, AS and DT options, the recommendations for the additional requirements of Ex p apparatus contained within GB/T 3836.5 shall be applied.
- The installer/user shall ensure that the MiniPurge Control Unit is installed in accordance with the equipment certificate that covers the combination of the pressurised enclosure(s) and MiniPurge Control Unit.
- The values of the safety parameters shall be set in accordance with the equipment certificate that covers the combination of the pressurized enclosure(s) and MiniPurge Control Unit.
- This MiniPurge Control Unit shall be incorporated into equipment and the appropriate Conformity Assessment Procedures applied to the combination. This certificate does not cover the combination.
- The purge controller, low temperature version, shall be protected by a system that ensures that it cannot be energized if the temperature of the controller logic air or purge controller falls below -20°C. This system shall utilise the RTDs that are fitted to the purge controller to provide the appropriate level of system integrity.
- Where a Vortex cooler is fitted the hot air outlet pipe shall be kept free from obstructions and blockage.
- The following routine tests are to be carried out:
  - The vortex cooler is functioning correctly. (H6 and H7 options ONLY)
  - The pneumatic logic isolator is functioning correctly. (H6 and H7 options ONLY)
- See instruction for other information.

3. Certificate related report(s):

- Type test report: CQST2009C581, CQST2009C581/01
- Factory inspection report: CN2020Q010175

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Nanyang Explosion Protected Electrical Apparatus Research Institute Co.,Ltd.

CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

(Annex)

No.: 2020312304000830

4. Certificate change information:

- 1st change on January 15, 2023: Updated the standards for certification.

Issued on: 2023-01-15

Director:

Nanyang Explosion Protected Electrical Apparatus Research Institute Co.,Ltd.

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This Certificate does not replace the original EAC Document

SERCONS®

CERTIFICATION AUTHORITY

EAC

CERTIFICATE

In accordance with
SERCONS INTERNATIONAL
Russian Certification Authority in Europe

the company:
Expo Technologies Limited,
United Kingdom, Unit 2,
The Summit Hanworth Road,
Sunbury on Thames Sur-rey ,
TW16 5DB

fulfills the necessary requirements to be certified according to EAC regulations.

Valid until: 22.10.2025

Sercons International GmbH · SERCONS INTERNATIONAL · General Director of SERCONS GROUP · Zugerstrasse 76A, 6340 Baar/Zug, Switzerland

SERCONS INTERNATIONAL — Certification Authority
Leitzstraße 45 | 70469 Stuttgart | +49 (0) 711 219 52 902 | www.serconsrus.com

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ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

EAC

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ ЕАЭС RU C-GB.АЖ58.В.00906/20

Серия RU № 0257687

ОРГАН ПО СЕРТИФИКАЦИИ Орган по сертификации Общества с ограниченной ответственностью Центр «ПрофЭкс». Место нахождения: 119501, Россия, город Москва, улица Веерная, дом 4, корпус 2, этаж П, помещение I, комната 27. Адрес места осуществления деятельности: 117246, Россия, город Москва, Научный проезд, дом 19, этаж 2, комнаты 105, 106. Телефон: +7 (495) 506-78-36, адрес электронной почты: info@profeks.ru. Уникальный номер записи об аккредитации в реестре аккредитованных лиц: RA.RU.10АЖ58. Дата решения об аккредитации: 23.11.2017 года.

ЗАЯВИТЕЛЬ ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "МИР ТЕХНОЛОГИЙ"
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Основной государственный регистрационный номер 1187746469096.
Телефон: 89154152183. Адрес электронной почты: MirTekhnologiy@gmail.com

ИЗГОТОВИТЕЛЬ Expo Technologies Limited
Место нахождения (адрес юридического лица) и адрес места осуществления деятельности по изготовлению продукции: Соединенное Королевство, Unit 2, The Summit Hanworth Road, Sunbury on Thames Surrey TW16 5DB

ПРОДУКЦИЯ Системы контроля продувки MiniPurge
Маркировка взрывозащиты согласно приложению (бланки №№ 0767603 - 0767606).
Продукция изготовлена в соответствии с Технической документацией изготовителя.

Серийный выпуск

КОД ТН ВЭД ЕАЭС 9032810000

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ
Технического регламента Таможенного союза "О безопасности оборудования для работы во взрывоопасных средах" (ТР ТС 012/2011)

СЕРТИФИКАТ СООТВЕТСТВИЯ ВЫДАН НА ОСНОВАНИИ
- протокола испытаний № 1989ИЛПМВ от 16.10.2020 года, выданного Испытательным центром Общества с ограниченной ответственностью "ПРОММАШ ТЕСТ" (регистрационный номер аттестата аккредитации RA.RU.21ВС05);
- акта анализа состояния производства от 29.07.2020 года, выданного Органом по сертификации Общества с ограниченной ответственностью Центр «ПрофЭкс».

Схема сертификации: 1с

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Срок службы 20 лет, срок хранения 30 лет, условия хранения указаны в руководстве по эксплуатации. Стандарты, обеспечивающие соблюдение требований Технического регламента Таможенного союза ТР ТС 012/2011 "О безопасности оборудования для работы во взрывоопасных средах": согласно приложениям - бланки №№ 0767603 - 0767606.

СРОК ДЕЙСТВИЯ С 23.10.2020 **ПО** 22.10.2025 **ВКЛЮЧИТЕЛЬНО**

Руководитель (уполномоченное лицо) органа по сертификации (подпись) Малютова Александра Николаевна (Ф.И.О.)

М.П.

Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) (подпись) …кин Артем Вячеславович (Ф.И.О.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-GB.АЖ58.В.00906/20

Серия RU № 0767603

1. Назначение и область применения

Сертификат соответствия распространяется на Системы контроля продувки MiniPurge, изготавливаемые по технической документации изготовителя.

Системы контроля продувки MiniPurge обеспечивают высокий поток продувочного газа, обычно сжатого воздуха. Если поток достаточен, запускается таймер продувки. После завершения времени продувки поток продувки отключается, и система контролирует более низкий расход, чтобы компенсировать утечку корпуса. Таким образом, внутреннее давление поддерживается выше внешнего давления, предотвращая попадание потенциально взрывоопасного газа / пара в корпус. В этом состоянии система блокировки позволяет внешнему источнику питания подаваться на внутреннее оборудование либо напрямую, либо через отдельный интерфейс.

Системы контроля продувки MiniPurge относятся к оборудованию группы II, III и предназначены для применения в потенциально взрывоопасных зонах и наружных установках класса 1, 2 по ГОСТ IEC 60079-10-1-2011 и 21, 22 по ГОСТ IEC 60079-10-2-2011 категории IIC и IIIC в соответствии с маркировкой взрывозащиты (смотри таблицу 1), инструкциями изготовителя и другими нормативными документами, регламентирующими применение оборудования во взрывоопасных зонах.

2. Описание оборудования и средств обеспечения взрывозащиты

Идентификация типа

Номер модели: 1 X LC cs DS SS AA MO FM OA TW

Обозначения = a b cc mm Пример кодов опций

a = Размер или Емкость
- 1 = MiniPurge с пропускной способностью продувки до 225 Nl/min
- 2 = MiniPurge с пропускной способностью продувки до 450 Nl/min
- 3 = MiniPurge с пропускной способностью продувки до 900 Nl/min
- 4 = MiniPurge с пропускной способностью продувки до 2000 Nl/min
- 5 = MiniPurge с пропускной способностью продувки до 6000 Nl/min
- 6 = MiniPurge с пропускной способностью продувки до 8000 Nl/min
- 7 = MiniPurge с пропускной способностью продувки свыше 8000 Nl/min

b = тип создания повышенного давления
- X = X создание повышенного давления
- Y = Y создание повышенного давления
- Z = Z создание повышенного давления

cc = действие после первоначальной продувки
- LC = компенсация утечки только после после первоначальной высокой продувки
- CF = непрерывный поток (одна и та же скорость потока во время и после продувки)
- CF2 = двухпоточная система CF с первоначальной высокой скоростью продувки, но только одной диафрагмой.
- CFHP = непрерывный (более низкий) поток после первоначальной высокой продувки
- DP = защита от пыли (только создание повышенного давления)

mm = материал корпуса блока управления
- al = алюминиевый сплав
- cs = мягкая (низкоуглеродистая) сталь с окраской
- ss = нержавеющая сталь
- bp = только задняя пластина
- co = только шасси
- pm = монтаж на панели
- nm = неметаллический

Опциональные коды (добавляются, только если используются)
- AA = установлен выход активного аварийного сигнала.
- AC = цепь отмены аварийного сигнала.
- AO = действие «Только аварийный сигнал» при неисправности давления или потока.
- AS = аварийный сигнал «Действие при неисправности давления или потока», селекторный клапан.
- CS = блок контроля системы герметизации.
- DS = установлен дверной выключатель блокировки питания.
- DT = задержка срабатывания после неисправности давления или потока.
- ES = электронный таймер (с опцией EPPS)
- ET = электронный таймер (без опции EPPS)
- FM = установлен измеритель(и) потока.
- HP = система LC или CF с датчиком высокого давления
- IS = внутренние выключатели, пригодные для цепей Ex i
- LS = локальное сенсорное обнаружение.
- LT = низкая температура.
- MO = установлен переход на ручное управление.
- MT = таймер механической продувки или задержки.
- OA = выключатель включения/выключения, контролирующий подачу защитного газа и логики.
- OB = выключатель включения/выключения, контролирующий только подачу логики
- OC = выключатель включения/выключения, контролирующий только подачу защитного газа
- OS = выпускной (диафрагменный) селекторный клапан.
- OV = выпускной клапан, с пневматическим приводом.
- PA = встроенный выключатель(и) «Ex», с распределительной коробкой/без распределительной коробки «Ex»
- PC = клапан компенсации утечки управление давлением PE (система CLAPS).
- PO = выходные сигналы пневматики для управления питанием и аварийными сигналами.
- SP = опция вторичной подачи для создания повышенного давления.

Руководитель (уполномоченное лицо) органа по сертификации _____ (подпись) Мамаева Александра Николаевна (Ф.И.О.)

М.П.

Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) _____ (подпись) Шкин Артем Вячеславович (Ф.И.О.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-GB.АЖ58.В.00906/20

Серия RU № 0767604

SS = отдельная подача для защитного газа и воздуха логики.
TW = два (или более) выходов для двух или более отдельных корпусов с повышенным давлением, продуваемых параллельно.
DXXX = специальная конструкция для конкретных скоростей потока.
H6 = высокая температура Tamb от -20°C до +60°C, макс. темп. подачи воздуха +60°C
H7 = высокая температура Tamb от -20°C до +60°C, макс. темп. подачи воздуха +70°C

Основные технические данные систем контроля продувки MiniPurge представлены в таблице 1.

Таблица 1.

Наименование параметра	Значение
Диапазон пневматической подачи	
Минимальная подача, бар	4
Максимальная подача, бар	16
Минимальный расход газа при продувке, нормированный литр в минуту	225 (размер 1)
Время продувки, мин	1-99
Маркировка взрывозащиты [Ex] и температура окружающей среды	
Стандартное исполнение	1Ex [px] IIC T6 Gb Ex [px] IIIC T85°C Db 1Ex [py] IIC T6 Gb Ex [py] IIIC T85°C Db 1Ex [pz] IIC T6 Gb Ex [pz] IIIC T85°C Db (-20°C ≤ Tamb≤ +55°C)
Стандартное /ET & /ES исполнение	1Ex [px] ia IIC T5 Gb Ex [px] ia IIIC T100°C Db (-20°C ≤ Tamb≤ +55°C)
Низкотемпературное исполнение	1Ex [px] d e mb IIC T3 Gb 1Ex [px] d e mb IIC T4 Gb Ex [px] IIIC T200°C Db Ex [px] IIIC T135°C Db (-60°C ≤ Tamb≤ +55°C)
Низкотемпературное /ET & /ES исполнение	1Ex [px] d e mb ia IIC T3 Gb 1Ex [px] d e mb ia IIC T4 Gb Ex [px] ia IIIC T200°C Db Ex [px] ia IIIC T135°C Db (-60°C ≤ Tamb≤ +55°C)
Высокотемпературное исполнение – H6	1Ex [px] IIC T4 Gb (-20°C ≤ Tamb≤ +60°C) [температура продуваемого воздуха до +60°C]
Высокотемпературное /ET & /ES исполнение – H6	1Ex [px] ia IIC T4 Gb (-20°C ≤ Tamb≤ +60°C) [температура продуваемого воздуха до +60°C]
Высокотемпературное исполнение – H7	1Ex [px] IIC T4 Gb (-20°C ≤ Tamb≤ +60°C) [температура продуваемого воздуха до +70°C]
Высокотемпературное /ET & /ES исполнение – H7	1Ex [px] ia IIC T4 Gb (-20°C ≤ Tamb≤ +60°C) [температура продуваемого воздуха до +70°C]
Комбинированное исполнение Низкотемпературное с высокотемпературным – H6	1Ex [px] d e mb IIC T3/T4 Gb (-60°C ≤ Tamb≤ +60°C) [температура продуваемого воздуха до +60°C]
Комбинированное исполнение Низкотемпературное с высокотемпературным – H6 и /ET & /ES	1Ex [px] d e mb ia IIC T3/T4 Gb (-60°C ≤ Tamb≤ +60°C) [температура продуваемого воздуха до +60°C]

Руководитель (уполномоченное лицо) органа по сертификации _____ (подпись) Мамаева Александра Николаевна (Ф.И.О.)

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Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) _____ (подпись) Шкин Артем Вячеславович (Ф.И.О.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-GB.АЖ58.B.00906/20

Серия RU № 0767605

Комбинированное исполнение Низкотемпературное с высокотемпературным – H7	1Ex [px] d e mb IIC T3/T4 Gb (-60°C ≤ Tamb≤ +60°C) [температура продуваемого воздуха до +70°C]
Комбинированное исполнение Низкотемпературное с высокотемпературным – H7 и /ET & /ES	1Ex [px] d e mb ia IIC T3/T4 Gb (-60°C ≤ Tamb≤ +60°C) [температура продуваемого воздуха до +70°C]

Перечень взрывозащищенного оборудования, входящего в состав систем контроля продувки MiniPurge, представлен в таблице 2.

Таблица 2

№	Наименование	Завод-изготовитель	Маркировка
1.	Клеммные коробки модели MIU e	Expo Technologies	1Ex e IIC T5 Gb Ex tb IIIC T100°C Db
2.	Клеммные коробки модели MIU d	Expo Technologies	1Ex d IIC T* Gb Ex tb IIIC T* Db 1Ex d IIB+H2 T* Gb Ex tb IIIC T* Db 1Ex d IIB+H2 T3 Gb
3.	Модуль электронного таймера ETM-IS	Expo Technologies	0Ex ia IIC T* Ga Ex ia IIIC T* Da
4.	Нагреватель CP	Intertec-Hess GmbH	1Ex d IIC T3
5	Клеммные коробки модели BPG	Abtech	1Ex e IIC T6 Gb Ex tb IIIC T85°C Db
6	Клеммные коробки модели ZAG	Abtech	1Ex e IIC T6 Gb Ex tb IIIC T85°C Db
7	Клеммные коробки модели OTB-122	Bartec	1Ex e IIC T6 Gb Ex tb IIIC T85°C Db
8	Клеммные коробки модели 07-51	Bartec	1Ex e IIC T6 Gb Ex tb IIIC T80°C Db
9	Концевой выключатель 07-2511	Bartec	1Ex d IIC T6 Gb

Конструкция систем контроля продувки MiniPurge обеспечивает их взрывобезопасность, что достигается выполнением ряда требований, в том числе:

- обеспечением продувки внутреннего пространства шкафов защитных под избыточным давлением по ГОСТ IEC 60079-2-2011 в случае установки компонентов системы общепромышленного исполнения во внутренний объем шкафов;

- выполнение корпусов шкафов и блоков элементов систем контроля продувки MiniPurge из материалов, имеющих высокую степень механической прочности, устойчивых к механическим воздействиям величиной до 7 Дж;

- выполнение корпусов из материалов не содержащих более 7.5 % магния;

- наличие на корпусе заземляющих зажимов;

- конструкция соединения деталей, исключают возможность прорыва уплотнений или раскрытия стыков;

- обеспечением степени защиты от внешних воздействий по ГОСТ 14254-2015;

- конструкция и применяемые материалы для исключения возможности накопления и разряда статического электричества;

- резьбовые соединения сборочных единиц, обеспечивающие взрывозащиту электрооборудования, имеют устройства для предотвращения произвольного самоослабления;

- на дверцы и крышки защищаемого оборудования нанесены предупредительные надписи: "ПРЕДОСТЕРЕЖЕНИЕ! НЕ ОТКРЫВАТЬ ПРИ ВОЗМОЖНОМ ПРИСУТСТВИИ ВЗРЫВООПАСНОЙ СРЕДЫ ИЛИ ПОД НАПРЯЖЕНИЕМ» или подобное;

- монтаж, эксплуатация, ремонт и обслуживание систем контроля продувки MiniPurge должны производиться в строгом соответствии с требованиями руководства по эксплуатации. Обслуживающий персонал должен строго соблюдать требования к параметрам окружающей и рабочей сред, установленные в руководстве по эксплуатации.

- оборудование систем контроля продувки MiniPurge при применении ее по назначению и выполнении требований к монтажу и эксплуатации по ГОСТ IEC 60079-14-2013, обеспечивает безопасность, что достигается выполнением ряда требований:

- применением взрывобезопасного электрооборудования с видами взрывозащиты "взрывонепроницаемая оболочка "d" по ГОСТ IEC 60079-1-2011; продувка оболочки под избыточным давлением "p" по ГОСТ IEC 60079-2-2011; повышенная защита вида "e" по ГОСТ Р МЭК 60079-7-2012; искробезопасная электрическая цепь "i" по ГОСТ 31610.11-2012; видом взрывозащиты «герметизация компаундом «m» по ГОСТ Р МЭК 60079-18-2012; защитой от воспламенения пыли оболочками "t" по ГОСТ IEC 60079-31-2013, конструкция которого соответствует требованиям ГОСТ 31610.0-2014 и соблюдением условий безопасного применения «X».

Внесение изменений в согласованные чертежи и конструкцию изделий возможно только по согласованию с ОС ООО Центр "ПрофЭкс"

Данный сертификат соответствия подтверждает соответствие требованиям взрывобезопасности ТР ТС 012/2011 и не рассматривает любые другие виды безопасности при эксплуатации оборудования.

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ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-GB.АЖ58.B.00906/20

Серия RU № 0767606

3. Системы контроля продувки MiniPurge соответствуют требованиям:

ТР ТС 012/2011	Технический регламент Таможенного союза «О безопасности оборудования для работы во взрывоопасных средах»
ГОСТ 31610.0-2014	Взрывоопасные среды. Часть 0. Оборудование. Общие требования.
ГОСТ IEC 60079-1-2011	Взрывоопасные среды. Часть 1. Оборудование с видом взрывозащиты "взрывонепроницаемые оболочки "d"
ГОСТ IEC 60079-2-2011	Взрывоопасные среды. Часть 2. Оборудование с видом взрывозащиты заполнение или продувка оболочки под избыточным давлением "p"
ГОСТ Р МЭК 60079-7-2012	Взрывоопасные среды. Часть 7. Оборудование. Повышенная защита вида "e"
ГОСТ 31610.11-2012	Электрооборудование для взрывоопасных газовых сред. Часть 11. Искробезопасная электрическая цепь "i"
ГОСТ Р МЭК 60079-18-2012	Взрывоопасные среды. Часть 18. Оборудование с видом взрывозащиты "герметизация компаундом "m"
ГОСТ IEC 60079-31-2013	Взрывоопасные среды. Часть 31. Оборудование с защитой от воспламенения пыли оболочками "t"
ГОСТ IEC 60079-14-2013	Взрывоопасные среды. Часть 14. Проектирование, выбор и монтаж электроустановок.

4. Маркировка взрывозащиты

Маркировка, наносимая на оборудование, включает следующие данные:
- наименование изготовителя или его зарегистрированный товарный знак;
- наименование изделия;
- маркировку взрывозащиты (смотри таблицу 1);
- температуру эксплуатации (смотри таблицу 1);
- дату выпуска;
- порядковый номер изделия по системе нумерации предприятия-изготовителя, включающий обозначение типа оборудования;
- название или знак органа по сертификации и номер сертификата соответствия;
- другие данные, которые должен отразить изготовитель, если это требуется технической документацией.

Маркировка специальным знаком взрывобезопасности и единым знаком обращения продукции в соответствии с ТР ТС 012/2011.

5. Специальные условия применения

- контроллер продувки, установленная на передней части оборудования, не должна подвергаться воздействию прямых источников ультрафиолетового излучения или прямых солнечных лучей;
- защитный газ не должен содержать горючих газов, паров и влаги, а также агрессивных примесей.
- в процессе эксплуатации запрещается изменять время предпусковой продувки; пределы срабатывания блокировок по избыточному давлению и установки по величине расхода;
- перед вводом в эксплуатацию, после ремонта и профилактических работ необходимо выполнять проверки величин сигнала достижения защитным газом допустимого минимального или максимального избыточного давления, расхода защитного газа.
- отключать блокировки и сигнальную систему для проведения наладочных работ разрешается только при условии отсутствия взрывоопасной окружающей среды в течение всего времени отключения блокировок.
- запрещается производить ремонт электронных схем, обеспечивающих искробезопасное исполнение. В случае выхода из строя, печатные платы и элементы искробезопасных электрических цепей должны заменяться новыми, поставляемыми изготовителем.
- монтаж, эксплуатацию, осмотр, обслуживание и ремонт оборудования, имеющего в маркировке знак «X» следует осуществлять строго в соответствии с руководством по эксплуатации, изложенными в сопроводительной технической документации на данное оборудование (смотри таблицу 2), а также с учетом всех требований ГОСТ IEC 60079-14-2013 и отраслевых Правил безопасности.

Руководитель (уполномоченное лицо) органа по сертификации _____ (подпись) Мамаева Александра Николаевна (Ф.И.О.)

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