



EU-TYPE EXAMINATION CERTIFICATE

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

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

Equipment: **MiniPurge Purge Controller**

Applicant: **EXPO Technologies Limited**

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

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

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.

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

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.

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.

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. 1/4" NPT or 2" BSP with a built in spark arrestor. 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 pressurized 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	Model Number: 1 X LC cs DS SS AA MO FM OA TW Key: a b cc mm Example option codes
	1	MiniPurge with Purge Flow Capacity up to 225 NI/min.	
	2	MiniPurge with Purge Flow Capacity up to 450 NI/min.	
	3	MiniPurge with Purge Flow Capacity up to 900 NI/min.	
	4	MiniPurge with Purge Flow Capacity up to 2000 NI/min.	
	5	MiniPurge with Purge Flow Capacity up to 6000 NI/min.	
	6	MiniPurge with Purge Flow Capacity up to 8000 NI/min.	
	7	MiniPurge with Purge Flow Capacity above 8000 NI/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 parallel	
	DXXX	Special design for specific flow rates, or other non-certification related options.	

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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:

Expo Telekom Safety System Limited

New name:


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:  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 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, 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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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/markings 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.

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- 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: <ul style="list-style-type: none">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: <ul style="list-style-type: none">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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Issue	Date	Report number	Comment
10	15 June 2016	R70048227A	This Issue covers the following changes: <ul style="list-style-type: none">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).

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- 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.

- $U_i = 30V$, $I_i = 100mA$, $P_i = 1W$, $C_i = 0$ and $L_i = 0$.

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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- 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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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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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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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	Minipurge 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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