



UNITED KINGDOM CONFORMITY ASSESSMENT

1 **UK TYPE EXAMINATION CERTIFICATE**

2 Equipment Intended for use in Potentially Explosive Atmospheres

UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3 Certificate Number: **CSAE 21UKEX1067X** Issue: **0**

4 Product: **MiniPurge Purge Controller**

5 Manufacturer: **EXPO Technologies Limited**

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

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

8 CSA Group Testing UK Limited, Approved Body number 0518, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations. 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 has been assured by compliance with:

EN 60079-0:2012/A11:2013 EN 60079-2:2014 EN 60079-11:2012

Except in respect of those requirements listed at Section 16 of the schedule to this certificate. The above standards may not appear on the UKAS Scope of Accreditation, but have been added through flexible scope of accreditation, which is available on request.

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

11 This UK TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall be in accordance with Regulation 41 and include the following:

Refer to the Schedule

Name: J A May
Title: Director of Operations



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


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Marking


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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13 DESCRIPTION OF PRODUCT

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 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.



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

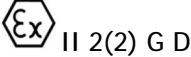
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13.1 Incorporated amendments:

The product description includes the following applicable amendments. Amendments directly applicable to UKCA certification have been included in this list.

- I The purge controller to be fitted inside an additional, heated, stainless steel enclosure that allows it to be used down to -50°C.
- II 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.
- III 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.
- IV RTDs are fitted to the air inlet pipe-work and inside the purge controller enclosure.
- V 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 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.
- VI Any suitable Category 2 approved cable gland may be used, if it can be used with the ambient temperature range.
- VII To permit the pressurisation of enclosures for the exclusion of combustibles 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)
- 
- VIII 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)
- IX 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.
- X The introduction of a high pressure sensor for the LC option.

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- XI The inlet air temperature sensing system was changed; as a consequence, a Special Condition for Safe Use was amended.
- XII A Local Sensing (LS) option was introduced.
- XIII The RLV configuration was changed to show an optional alternative position of the flow sensing connection.
- XIV The minimum ambient temperature limit for the Low Temperature and Low Temperature/ET versions was lowered from -50°C to -60°C.
- XV 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 suitably 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).
- XVI The introduction of the 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 suitably 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).
- XVII 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).

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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 suitably 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.

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.

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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 suitably 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).

- XXVIII 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 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.
- XIX The (ES) option was introduced. This is the (ET) electronic timer option complete with an Electro Pneumatic Power Supply (EPPS), covered by certificate DEMKO 17ATEX1795X, resulting in the model designation table being amended in the product description, to recognise the new (ES) option and amend the (ET) option.
- XX The RLV configuration was changed to show an alternative position of the flow sensing connection.
- XXI 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.
- XXII The withdrawal of the dust certification coding from the main certification coding for the low temperature versions of the mini-purge controller.
- XXIII The withdrawal of approved drawing SD8196.
- XXIV 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.
- XXV 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.
- XXVI To introduce an alternative configuration for the Delay Trip (DT) option.
- XXVII To introduce an alternative configuration for the leakage compensation system.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	02 July 2021	R80078969A	The release of the prime certificate.

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.



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- 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 UKCA Regulations. 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 UKCA Regulations, 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's 22 to 25 of Schedule 1 of UKCA Regulations.
- 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).
- 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.
- $U_i = 30\text{V}$, $I_i = 100\text{mA}$, $P_i = 1\text{W}$, $C_i = 0$ and $L_i = 0$.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (REGULATIONS SCHEDULE 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed in Section 9, all other requirements are demonstrated in the relevant reports.

17 PRODUCTION CONTROL

- 17.1 Holders of this certificate are required to comply with production control requirements defined in Schedule 3A, as applicable, and CSA Group Testing UK Regulations for Certificate Holders
- 17.2 The switches incorporated in the PA option shall be suitably certified for Category 2.
- 17.3 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.

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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.

- 17.4 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 CSA Group of any modifications of the devices that may impinge upon the explosion safety design of the products.
- 17.5 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.
- 17.6 The MiniPurge Controller shall not be marked as suitable for use in explosive dust atmospheres when a non-metallic or painted housing is used.
- 17.7 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.
- 17.8 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.



Certificate Annexe

Certificate Number: CSAE 21UKEX1067X
 Product: MiniPurge Purge Controller
 Manufacturer: EXPO Technologies Limited

Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
EP99-2-1	1 to 2	4	30-Nov-20	MiniPurge Type 'X' Leakage Compensation
EP99-2-10	1 of 1	3	15-Mar-07	Schematic – Pressure Control Leakage Compensation
EP99-2-11	1 of 1	4	04-Oct-18	Internal switches
EP99-2-12	1 of 1	2	15-Mar-07	Schematic – Containment System and Secondary pressurisation
EP99-2-14	1 of 1	2	15-Mar-07	Schematic – Continuous Flow with 2 Flow Rates
EP99-2-16	1 of 1	2	15-Mar-07	Schematic – Outlet Valve Control
EP99-2-17	1 of 1	2	15-Mar-07	Schematic – Continuous Flow with High Pressure
EP99-2-2	1 of 1	2	15-Mar-07	Schematic - Type x Continuous Flow
EP99-2-3	1 of 1	2	15-Mar-07	Sequence Diagram - Type x Leakage Compensation
EP99-2-4	1 of 1	2	15-Mar-07	Sequence Diagram – Type X Continuous Flow
EP99-2-5	1 of 1	2	15-Mar-07	Schematic – Alarm only and Alarm Action Selector
EP99-2-6	1 of 1	2	15-Mar-07	Schematic – Door Switch Active Alarm and Alarm Cancel
EP99-2-7	1 of 1	2	15-Mar-07	Schematic – Separate Supply and Mechanical Timer
EP99-2-8	1 to 2	4	30-Nov-20	Delay Before Trip “DT” and On/Off Controls
EP99-2-9	1 of 1	2	15-Mar-07	Schematic – Twin Output and Manual Override
EP99-3-1	1 of 1	2	15-Mar-07	Minipurge Control Unit – General Assembly
EP99-7-9	1 to 2	3	04-Oct-18	Outlet Valve Circuit N/O
SD7282	1 to 3	10	30-Nov-20	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
SD7500	1 of 1	1	25-Apr-07	Outlet Orifice Closing Device
SD7531	1 of 1	2	09-Jul-07	Schematic – Type Z or Y leakage compensation
SD7532	1 of 1	1	15-Mar-07	Schematic Type Z or Y Continuous Flow
SD7533	1 of 1	2	23-Nov-11	Minipurge Dust Protection Schematic
SD7535	1 of 1	1	15-Mar-07	Spark Arrestor
SD7536	1 of 1	1	18-Apr-07	Differential Flow Monitor
SD7537	1 to 4	2	30-Nov-20	Fault Evaluation
SD7538	1 of 1	1	27-Mar-07	Continuous Flow Outlet Orifice
SD7555	1 to 5	8	17-Dec-20	RLV Configurations
SD7556	2 of 2	1	09-Jul-07	Alternative Z&Y LC System
SD7913	1 to 2	4	30-Nov-20	Electronic Timer
SD7914	1 of 1	2	21-Dec-10	MiniPurge HP sensor
SD8158	1 of 1	2	22-Jun-15	Local Sensing Option
SD8196	1 to 7	1	22-Jun-15	MiniPurge Manual Extracts
SD8243	1 of 1	1	15-Apr-16	High Temperature Vortex Cooler & Logic Isolator
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 10	5	24-Nov-20	MiniPurge Manual Extracts





Certificate Annexe

Certificate Number: CSAE 21UKEX1067X
Product: MiniPurge Purge Controller
Manufacturer: EXPO Technologies Limited

Drawing	Sheets	Rev.	Date (Stamp)	Title
SD8258	1 to 2	1	16-Sep-16	Combined Low Temperature (/LT) and High Temperature (/H7)
SD8259	1 to 3	2	20-Sep-16	Combined Low Temperature (/LT) and High Temperature (/H6)
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
SD8422	1 to 3	2	24-Nov-20	Minipurge LD option
SD8424	1 of 1	2	24-Nov-20	Minipurge LD option – BOM
SD8490	1 to 7	1	15-Jun-21	Minipurge Certification Label UKCA
SD8501	1 to 10	1	15-Jun-21	MiniPurge - Manual Extracts UKCA



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