expo Technologies

Purge & Pressurization system selection guide

Type X for Zone 1/21 & Class I/II Division 1

Expo Technologies has been working with electrical panel builders and OEMs across a wide range of industries, including oil & gas, chemical & petrochemical, and pharmaceutical & biotechnology, developing innovative solutions using purge and pressurization. Our purge systems are certified and approved to national and international standards.

Expo's MiniPurge Type X and SmartPurge II provide fully automatic control for purging and pressurizing electrical and electronic equipment, and are renowned for their simple installation & operation, reliability, and long life. For special and more challenging applications, the systems provide flexible platforms for customisation.

Hazardous Area Suitability	**Zone 1 / Class I Div 1**	**Zone 1 / Class I Div 1**	**Zone 1 / Class I Div 1**	**Zone 1 / Class I Zone 1**	**Zone 21 / Class II Div 1**
					
Product name	**MiniPurge Type X**	**MiniPurge Type X**	**MiniPurge Type X**	**SmartPurge II**	**MiniPurge Dust Protection Type X**
System Size (FF) **Purge Flow Rate** **Maximum recommended enclosure volume***	1 225 Nl/min (8 SCFM) $1.35m^3$ / $60 ft^3$	2 450 Nl/min (16 SCFM) $2.7m^3$ / $120 ft^3$	3 900 Nl/min (32 SCFM) $5.4m^3$ / $240 ft^3$	P Adjustable 10-540 Nl/min (0.35-1 9SCFM) $3.2m^3$ / $113 ft^3$	1 Adjustable 10 - 225 Nl/min (0.35 - 8 SCFM)
Purging Method (MM)**	LC= Leakage Compensation CF= Continuous Flow	LC= Leakage Compensation CF= Continuous Flow	LC= Leakage Compensation CF= Continuous Flow	Leakage Compensation: 110 - 540 Nl/min Continuous Flow 10 - 540 Nl/min	DP= Dust Protection (pressurization only)
Housing (HH)	ss= Stainless steel enclosure pm= Panel mount bp = Back plate	ss= Stainless steel enclosure pm= Panel mount bp = Back plate	ss= Stainless steel enclosure pm= Panel mount bp = Back plate	SS= 316L Stainless (NROB finish)	ss= Stainless steel enclosure pm= Panel mount bp = Back plate
Timing Method (TT)	ET= Intrinsically safe Electronic Timer, range 1-99 mins. Battery powered. Blank= Pneumatic timer	ET= Intrinsically safe Electronic Timer, range 1-99 mins. Battery powered. Blank= Pneumatic timer	ET= Intrinsically safe Electronic Timer, range 1-99 mins. Battery powered. Blank= Pneumatic timer	Selectable: 1-99 mins	No timer
Output signals (OO)	IS=Suitable for IS / Non-incendive circuits. PO=Pneumatic outputs (for connection to Expo MIU) PA= Ex e terminal box with: Power= 250 Vac 4 Amp (AC15) DPNO Ex d IIC T5 Alarm = 250 Vac 4 Amp (AC15) SPCO Ex d IIC T5	IS=Suitable for IS / Non-incendive circuits. PO=Pneumatic outputs (for connection to Expo MIU) PA= Ex e terminal box with: Power= 250 Vac 4 Amp (AC15) DPNO Ex d IIC T5 Alarm = 250 Vac 4 Amp (AC15) SPCO Ex d IIC T5	IS=Suitable for IS / Non-incendive circuits. PO=Pneumatic outputs (for connection to Expo MIU) PA= Ex e terminal box with: Power= 250 Vac 4 Amp (AC15) DPNO Ex d IIC T5 Alarm = 250 Vac 4 Amp (AC15) SPCO Ex d IIC T5	2 programmable alarm outputs RS485 capability for communication with 3rd party remote monitoring systems - please contact Expo	IS=Suitable for IS / Non-incendive circuits. PO=Pneumatic outputs (for connection to Expo MIU)
Options as required (OT)	MO= Manual override MK= MIU Mounting Kit (for output option PO) WM= Wall mounting bars (for housing option ss)	MO= Manual override MK= MIU Mounting Kit (for output option PO) WM= Wall mounting bars (for housing option ss)	MO= Manual override MK= MIU Mounting Kit (for output option PO) WM= Wall mounting bars (for housing option ss)	IS solenoid valve (LC): SP2-DV Manual valve (CF): SP2-CF Cable gland kit: SP2-GK Override key switch: SP2-OS	Contact Expo
External Power Supply (VO)	N/A	N/A	N/A	L= 11-28VDC M= 90-254VAC	N/A
Certified Temperature Range	-20°C to +55°C (-4°F to +131°F)	-20°C to +55°C (-4°F to +131°F) Low temperature version to -55°C - please contact Expo	-20°C to +55°C (-4°F to +131°F)	-20°C to +60°C (-4°F to +140°F)	-20°C to +55°C (-4°F to +131°F)
Approval	IECEx; ATEX; UL; FM; INMETRO; EAC; KOSHA; CCC; PESO; JPEx (CF/ss/IS version only)	IECEx; ATEX; UL; FM; INMETRO; EAC; KOSHA; CCC: PESO	IECEx; ATEX; UL; FM; INMETRO; EAC; CCC; PESO	IECEx; ATEX; FM, KOSHA; CCC; PESO	IECEx; ATEX; FM; INMETRO, EAC; CCC
Product code	07 1X(MM)/(HH)/(TT)/(OO)/(OT)	07 2X(MM)/(HH)/(TT)/(OO)/(OT)	07 3X(MM)/(HH)/(TT)/(OO)/(OT)	SP2-(FF)(VO)-SS	07 1XDP/(HH)/(OO)
Datasheet	Datasheet	Datasheet	Datasheet	Datasheet	Datasheet

Typical applications

Control panel purge

Gas analyser protection

Painting robot purge

Mobile systems

Label printers

Protection of PCs and screens

OEM equipment

For more information, visit our application library.

Read more on our website

MiniPurge Type X

SmartPurge II

Dust Protection

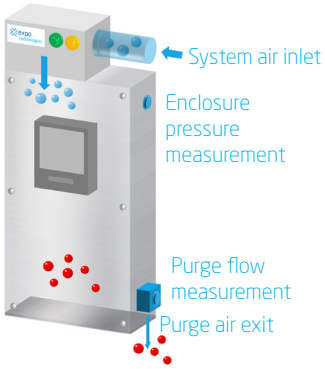
Configure your product

Get started

* Enclosure volume calculations based on 30 minute purge time . Figures in m^3 based on 5 volume changes. Figures in $ft.^3$ based on 4 volume changes. In line with applicable codes and standards.
** MiniPurge LC and Dust Protection systems include the control unit (CU) and relief valve (RLV). CF systems include an additional spark arrestor protected outlet (SAU).

Expo's purge & pressurization systems protect thousands of electrical systems worldwide

Purge and Pressurization (Ex p) – a simple protection concept that excludes any hazardous material from the equipment installation. Ex p offers many advantages over other protection concepts – since general purpose electrical equipment and enclosures can be used, it makes system design, assembly, and commissioning simpler.



Purge: The purge system supplies clean, dry instrument air to the enclosure at a high flow rate for a pre-set time, expelling any potentially flammable atmosphere remaining inside. Enclosure pressure and purge flow are monitored. The electrical equipment inside the enclosure is not energised.

Pressurization: After purge is complete, the system supplies sufficient air to maintain a constant pressure inside the enclosure, compensating for any small leaks, preventing ingress of the outside atmosphere. Enclosure pressure is monitored. The electrical equipment inside the enclosure can be energised.

More than 17,500 electrical systems protected by Expo purge systems

Protect very large enclosures up 5.4m³ under IECEx 60079-2; up to 240 cu. ft. under NFPA 496

Cerified under nine national and international schemes

Expo's purge and pressurization systems have the widest range of certification.

Expo operates in more than 50 countries worldwide. To find out more about how Expo can help you solve your hazardous area problems, get in touch via our website www.expoworldwide.com or through your local channel partner.

You can speak to an applications engineer at one of our manufacturing centres.

Expo Technologies UK
Unit 2, The Summit, Hanworth Road,
Sunbury on Thames, UK TW16 5DB
T: +44 (0) 20 8398 8011
E: sales@expoworldwide.com

Expo Technologies USA
9140 Ravenna Road, Unit #3,
Twinsburg, OH 44087, USA
T: +1 (440) 247-5314
E: sales.na@expoworldwide.com

Expo Technologies China
617 Shilin Er Lu, Jimo District, Qingdao,
Shandong Province, 266200 China
T: +86 532 8906 9858
E: qingdao@expoworldwide.com

Expo Purge & Pressurization Type X
Brochure 09/2023