Frequently Asked Questions | UL268 7th Edition

LEARN MORE: XTRALIS.COM

Table of Contents

1. UL268 7th Edition General FAQs

Q 1: Why UL268 7th Edition?

A: UL268 7th Edition introduces a new level of performance for smoke detectors; aiming at improving building occupants' life safety and reducing nuisance alarms.

Q 2: What are the key changes of UL268 7th Edition?

A: Introduction of three new required tests:

- Cooking nuisance alarm test to replicate common cooking nuisance events
- Smouldering polyurethane foam test, and
- Flaming polyurethane foam test to replicate common furniture fires

The new tests are intended to represent smoke profiles of modern building fires and drive technological advancements in reliable smoke detection; to distinguish between real threats and nuisance particle sources. The new requirements present greater challenges in smoke detection, and in particular, for the Aspirating Smoke Detection (ASD) technology due to its fundamental principle of operation requiring time to transport smoke from the farthest sampling point to the detector via a pipe network.

Q 3: What are the VESDA/VESDA-E series that have been listed to UL268 7th Edition?

A: VESDA-E VEP, VES, VEU and VEA range of detectors, and VESDA VLF-500 have been listed to UL268 7th Edition.

Q 4: What are the compliant VESDA/VESDA-E SKUs to UL268 7th Edition?

A: The table below lists the new SKUs that are compliant to UL268 7th Edition performance requirements:

SKU	Description
VEP-A00-1P-UL	VESDA-E VEP 1 Pipe with LEDs, Plastic Enclosure, UL
VEP-A00-P-UL	VESDA-E VEP with LEDs, Plastic Enclosure, UL
VEP-A10-P-UL	VESDA-E VEP with 3.5" Display, Plastic Enclosure, UL
VEU-A00-UL	VESDA-E VEU with LEDs, Aluminium Enclosure, UL
VEU-A10-UL	VESDA-E VEU with 3.5" Display, Aluminium Enclosure, UL
VES-A00-P-UL	VESDA-E VES with LEDs, Plastic Enclosure, UL
VES-A10-P-UL	VESDA-E VES with 3.5” Display, Plastic Enclosure, UL
VEA-040-A00-UL	VESDA-E VEA-40 Aspirating Smoke Detector with LEDs, UL
VEA-040-A10-UL	VESDA-E VEA-40 Aspirating Smoke Detector with 3.5" Display, UL
VLF-500-00-UL	VESDA VLF-500 UL European language set. English display labels.
VLF-500-02-UL	VESDA VLF-500 UL English + Asian language set. International display labels.

Q 5: Are VESDA VLF-250 and VESDA VLI compliant to UL268 7th Edition?

A: No, Xtralis will continue to supply VLI and VLF-250 6th Edition until the new standard comes into effect.

Q 6: VESDA VLI is not listed, is it going EOL?

A: The VLI is currently UL 6 listed, but Xtralis will not be moving forward with it in the UL268 7th Edition. The VLI-880 and VLI-885 will be going End of Life (EOL) in June 2024. VLI units produced before June 30 can be used in new installations if the AHJ accepts the use of the UL268 6th Edition mark for those installations. The UL268 6th Edition product line will still be listed for at least 2 years post the transition date.

Q 7: Do the detectors that are compliant to UL268 7th Edition standard have a Wi-Fi module?

A: No, they don’t have a Wi-Fi module.

Q 8: How does Flair™ detection technology help VESDA-E detectors be compliant with UL268 7th Edition standards?

A: The latest VESDA-E series has set a new benchmark for reliable and effective smoke detection in the fire industry using its patented Flair detection technology. Flair is the revolutionary detection chamber that forms the core of the VESDA-E series of detectors, it combines CMOS imaging with multi-directional laser light scattering to enable particle type characterisation for the earliest possible warning of a fire threat whilst minimising nuisance alarms at the same time.

Q 9: What are the detection modes under the new UL268 7th Edition standards?

A: Two detection modes are available:

- **Open Area Application Mode**
  - Used in applications where nuisance sources (cooking) are expected
  - Detectors are not permitted to signal an alarm under nuisance fire conditions
  - Kitchens, cafeteria, food courts and other areas where cooking appliances are used
- **Special Application Mode**
  - Used in applications where early warning is paramount and nuisance sources are not expected
  - Detectors do not need to comply with nuisance alarm requirements hence this mode is unsuitable for areas where cooking activities take place
  - Datacentres, computer rooms, telecommunications, warehouses, logistics, transport, utilities, power generation, etc.

Q 10: Why can't I use the NFPA 76 VEWFD (1.0%/ft) and EWFD (1.5%/ft) hole sensitivity limits when designing VESDA-E pipe networks?

A: The current UL268 7th Edition approval of VESDA-E detectors has a hole sensitivity upper limit of 0.460%/ft with a 90-second transport time. Whilst this may be more sensitive than certain applications would like to set, VESDA-E has a cutting-edge Flair technology with imaging and multi-polarization detection to provide reliable fire protection. Furthermore, we do plan to revisit the 0.460%/ft sensitivity and explore lower sensitivities in Q1 2024**.**

Q 11: Does the transport time of the detectors differ under UL268 6th Edition and UL268 7th Edition?

A: Yes, under UL268 6th Edition a standard smoke transport time of 120 seconds applied to all ASD detectors, but under UL268 7th Edition each product has its own smoke transport time for Open Area and Special Applications, as shown in the table below:

Product	Application	Hole Sensitivity	Max. Transport Time (sec)
VEP-1	Open Area	5%/m to 10%/m (1.551%/ft to 3.160%/ft)	49
	Special	0.01%/m to 1.5%/m (0.003%/ft to 0.460%/ft)	90
VEP	Open Area	5%/m to 10%/m (1.551%/ft to 3.160%/ft)	45
	Special	0.01%/m to 1.5%/m (0.003%/ft to 0.460%/ft)	85
VES	Open Area	5%/m to 10%/m (1.551%/ft to 3.160%/ft)	40
	Special	0.01%/m to 1.5%/m (0.003%/ft to 0.460%/ft)	64
VEU	Open Area	5%/m to 10%/m (1.551%/ft to 3.160%/ft)	50
	Special	0.01%/m to 1.5%/m (0.003%/ft to 0.460%/ft)	85
VLF-500	Open Area	7%/m to 10%/m (1.524%/ft to 3.049%/ft)	24
	Special	0.01%/m to 1.5%/m (0.003%/ft to 0.457%/ft)	47
VEA	Open Area	Fixed 8.0%/m (2.509%/ft)	51
	Special	1.6%/m to 8.0%/m (0.490%/ft to 2.509%/ft)	79

Q 12: How do I differentiate from special applications high sensitivity and low sensitivity?

A: There are performance categories (VEWFD, EWFD and SFD) defined by sensitivity, spacing, and special placement requirements. Note that the special applications' requirements are based on installation criteria, and depending on standards (e.g., NFPA76), you will need to consider VEWFD, EWFD and SFD. The transport times of (120, 90, 60) apply to the UL268 6th Edition code, but when UL268 7th Edition is fully implemented and enforced, each detector has its own transport times based on its listing. Please refer to the Product guides for updated information based on UL268 7th Edition.

Q 13: Do you have documents that incorporate UL268 7th Edition performance requirements?

A: Yes, there is a separate set of technical and marketing documents for UL268 7th Edition that is available on Xtralis website.

Q 14: Is there any impact on the pipe length and holes for the detector designs that are subject to UL268 7th Edition requirements?

A: Yes, there is a minimal deployment impact to branched pipe lengths and associated maximum number of holes. As for VEA, it maintains the same number and length of capillary tubes, as shown below:

Product	Capillary Networks			
	UL268 6th Edition (Old)		UL268 7th Edition	
VEA*	100m	40	100m	40

** Detection Mode: Special Applications*

And the table below shows a performance comparison between 6th and 7th edition for large bore detectors, it shows the maximum pipe length and maximum number of holes as per the requirement of UL268 6th Edition and UL268 7th Edition:

Product	Branched Pipe Networks			
	UL268 6th Edition (Old)		UL268 7th Edition	
	Max Pipe Length	Max No. of Holes	Max Pipe Length	Max No. of Holes
VEP-1*	130 m	45	130 m	22
VEP*	560 m	100	470 m	80
VES*	560 m	100	520 m	98
VEU*	800 m	100	610 m	96
VLF-500*	60 m	24	60 m	16

** Detection Mode: Special Applications*

Q 15: The revised length of allowable special applications piping is critical to determine the number of detectors needed per model. Are the existing VESDA detectors that do not meet UL268 6th Edition grandfathered to be acceptable?

A: Under UL268 6th Edition, a unit that is installed and approved does not need to be changed, as units produced before June 30 are grandfathered in. However, if an installation needs to be updated, the AHJ may require the use of a UL268 7th Edition detector in circumstances that align with local codes and building regulations. It is crucial to run the latest ASPIRE software and consult the technical support for calculations. If an update is required, the AHJ may specify the use of a UL268 7th Edition detector.

Q 16: Will ASPIRE be still used to verify the pipe network design for the detectors that meet the UL268 7th Edition requirements?

A: Yes, UL268 7th Edition design parameters are incorporated in ASPIRE pipe modelling tool and it covers both open area and special application detection modes.

Q 17: Who will support the network design using ASPIRE?

A: The Advanced Detection Global Services (ADGS) team is fully equipped to support the introduction of the new standard and will provide ASPIRE training on UL268 7th Edition design elements.

Q 18: Will the UL268 6th Edition be discontinued?

A: Yes. However, we will allow sufficient transitional period leading up to the UL268 7th Edition becoming mandated in June 2024. UL268 6th Edition detectors will have a Last Time Buy (LTB) date of April 2024 and last shipment date of June 2024.

Q 19: Will Xtralis provide support for UL268 6th Edition after the deadline?

A: Support for the UL268 6th Edition detectors follows the Advanced Detection EOL policy.

Q 20: Will I be able to obtain a UL268 6th Edition product after the June 2024 deadline?

A: Xtralis will be transitioning to the UL268 7th Edition standard after the June 2024 deadline, and all existing products manufactured after 30 June 2024 will have the UL 6 removed from the label.

Q 21: When will production of the UL 6th Edition version cease?

A: Production of detectors carrying the UL268 6th Edition mark on their label will conclude after June 30th, as part of our transition to the UL268 7th Edition mark. Units produced after this date will no longer feature the UL268 6th Edition mark.

Q 22: Are new spare parts available for UL268 7th Edition detectors? What about UL268 6th Edition detectors' spare parts?

A: The UL268 7th Edition detector range follows our latest hardware baseline GA4, so for the GA4 generation of detectors, new spare parts are now offered and listed below for your convenience. Additionally, spare parts for UL268 6th Edition detectors from the GA3 generation remain available.

GA4 Generation		
Spare Part Ordering Code	**Spare Part Description**	**VESDA-E Products**
VSP-964-04	Smoke Detection Chamber - MK4	VEU, VEP, VEP-1P, VES
VSP-962	Filter	
VSP-962-20	Filter - 20 pieces	
VSP-965	Sampling Module	
VSP-963	Aspirator	
VSP-960	Mounting Bracket	
VSP-961	Exhaust Adaptor US	
VSP-956-04	Manifold	VEU, VEP, VEP-1P
VSP-955-04	VES Scanner Manifold	VES
VSP-966	Front Cover - Aluminium - LEDs	VEU-A00
VSP-967-04	Front Cover - Aluminium - LCD - 3.5" Display	VEU-A10
VSP-968	Front Cover - Plastic - LEDs	VEP-A00-P, VEP-A00-1P, VES-A00-P
VSP-969-04	Front Cover - Plastic - LCD - 3.5" Display	VEP-A10-P
VSP-969-04-S	Front Cover - Plastic - LCD - 3.5" Display	VES-A10-P

Q 23: Are UL268 7th Edition detectors backwards compatible?

A: The product is electrically compatible, networking (VESDAnet). However, pipe designs will need to be reviewed with ASPIRE to the UL268 7th Edition standard to ensure you meet the new standards' transport times.

Q 24: Will pipe revisions be needed using a 7th Edition detector within a 6th Edition application?

A: Compatibility of pipe network designs depends on the application. The new ASPIRE tool for UL268 7th Edition must be used to determine compatibility for all pipe network verifications.

Q 25: What are the requirements for replacing UL268 6th Edition detectors with UL268 7th Edition? What are the implications on the pipe network?

A: Customers outside warranty will need to transition to the new UL268 7th Edition product/ pipe design. In our application note we cover 3 possible design scenarios that can help customer transition easier to the new standard before changing any pipes.

Q 26: If I purchase units today, can I update the firmware to UL268 7th Edition later?

A: If you purchase units today, you will receive the UL268 6th Edition detectors with the UL and Firmware (FM) stickers on them. Unfortunately, it is not possible to upgrade a UL268 6th Edition SKU product to a UL268 7th Edition product as per UL requirements. These are treated as two distinct SKUs. UL has advised against attempting to update a unit to a new standard outside of the production process.

Q 27: The detector will not change if the firmware is updated. Will that create a conflict with the label?

A: Labels are unique and issued by UL. The firmware update will not change the detector, and the part number will remain the same. UL does not allow customers to update a unit to a new standard outside of the production process, as it would conflict with the label.

Q 28: What additional information is available on UL268 7th changes and VESDA detectors deployment?

A: Xtralis will provide an Application Note that encompasses the UL268 7th Edition deployment.

- UL268 7th Edition changes (distinguish between open and special applications)
- Impact on applications
- Guidelines to replace 6th Edition to 7th Edition detector systems
- Configure 7th Edition (changing open area (factory default) to special application)