

SHX-UN Universal Pressure Vent



The SHX-UN Universal Pressure Vent's unique design (pat applied) offers users the industry's best solution for blast protection and gas suppression pressure relief.

With the largest verified Free Vent Area (FVA) on the market, these third-generation products are effective not only with gas suppression systems, but also handling much higher energy blasts that can occur within electrical switchgear and transformer installations.

The SHX-UN range is the only pressure vent on the market to have the largest true value FVA available correctly 3rd party verified to BRE live discharge test 122084.

VDA calculated vent dynamic co-efficient (vDc) of 1.15 (for gas suppression systems only. The vDc changes with the rate of pressure increase. This is different for switchgear units. Call for advice)

The SHX-UN is discharge tested for cascade venting scenarios.

Operates at 80 Pascals and fully open at 95 Pascals.

NEXT DAY DELIVERY
If order is processed before 12pm

Evolution through HXD and SHX-UN pressure vent designs

The SHX-UN design, introduced in 2008, is a refinement to AFP's steadily-evolving pressure vent technology. The company first replaced the industry's traditional, inefficient bottom-weighted vent with their HXD design, using innovative lightweight double-skinned louvre blades and offset pivot points. It proved far better at keeping the vent blades closed under the 20 pa required for a fire test, while providing greatly improved pressure relief for gas suppression systems where risks require peak pressures between 250 and 500 pa.

The SHX-UN enhances the HXD design. It features

- a top weight to counterbalance the blade for opening
- a curved trailing edge interlocking blade which maximises the passing air acting on the blades at the point of most mechanical efficiency.

These features allow the vent to achieve 100% of its free vent area at very low pressures.

All these free vent area figures have been obtained using the correct test protocols and live discharge testing with full data logging. This allows the exact position of each vent blade over time, and hence the vent's FVA, to be proven. Predictions of back pressure and therefore peak pressure to be expected in a building can be made accordingly. All testing is carried out in-house by AFP using their own equipment and test protocols to BRE Live Discharge Test 122084, and is third-party verified. The standard, verified by BRE, clearly quantifies the rate at which the vent opens relative to the rate of pressure increase as well as the size of the vent specified; so that the role of both factors in controlling the peak pressure in the room is fully recognised.

By contrast, testing for HVAC applications typically involves vent blades being held open, or a constant flow of air; providing no indication of how efficiently they would open if subjected to a blast.

Benefits of certification

Through being certified to the BRE Live Discharge Test standard, the SHX-UN vents can be used with the industry's gas calculation software to guarantee performance in the event of a live gas discharge. This prevents dangerous over-pressurisation of buildings caused by incorrect vent design or certification. The vents also provide an effective fire barrier to recognised fire testing standards when fitted into a fire wall.

The SHX-UN range is now rated for blasts in excess of 60 kpa. They can also be motorised for ventilation and other specialist venting combinations, whilst maintaining their ability to dissipate gas over-pressurisation without any loss to their standard pressure venting efficiency.

Extensive testing history ensures that the right vent can always be provided for any requirement.

SHX-UN CEI Ceiling Mounted SHX-UN Universal Pressure Vent

The SHX-UN provides positive venting in both horizontal and vertical planes where venting options are limited. Accordingly, our SHX-UN CEI, a rebalanced SHX-UN with a stop that prevents the blades going over-centre during a gas discharge, delivers all the SHX-UN's proven performance from a ceiling mounting. Free Vent Area (FVA) is restricted to 70%.

Product Specification

Standard	SHX-UN300	SHX-UN500	SHX-UN700	SHX-UN1000
Ceiling Mounted	SHX-UN300 CEI	SHX-UN500 CEI	SHX-UN700 CEI	SHX-UN1000 CEI
Standard Free Vent Area	0.077m ²	0.212m ²	0.416m ²	0.85m ²
CEI Free Vent Area	0.036m ²	0.175m ²	0.343m ²	0.7m ²
Overall WxHxD	420x420x120mm	620x620x120mm	820x820x120mm	1120x1120x120mm
Hole cut out WxH	360x350mm	560x550mm	760x750mm	1060x1050mm
Standard Weight	12kg	19kg	34kg	53kg
CEI Weight	11.5kg	17.5kg	30.5kg	46kg

Performance Certification

Witnessed & Verified by the Building Research Establishment (BRE)
Live inert gas and FM200 discharge test - Report No. 122084 BRE UK

Fire Rating Certification

European Approval

Tested by BM Trada

Standard Type: BS EN 1363 - 1 / BS EN 1364-1

Report No. BMT/FEI/F15056 4 hour integrity

US Approval

Tested by Guardian Laboratories USA

Standard Type: UL555 & ASTM E 119-08a

Report No. GL 10010 2 hour integrity

Product Information

- Certified to BRE live discharge test 122084 - Report available upon request
- Has the flexibility of being wall or ceiling mounted (please specify if required)
- AFP blast tested with AFP blast simulator - Report available upon request
- AFP explosion tested - Report available upon request
- Vents are powder-coated to RAL 9010, and have 4-hour fire rating
- Manufactured to ISO9001 and Russian GOST certification
- The products carry a 5-year guarantee and are available ex-stock for next-day delivery if ordered before 12 pm
- Fits walls from thin panels to 380 mm thick without any additional parts.
- When installing in external walls an DWL dynamic weather louvre should also be installed
- For exterior walls less than 100 mm thick, where a Z frame may be required for surface mounting or for aesthetics
- The SHX-UN comes with wall liner, wall liner extension, fitting kit, intumescent mastic and fitting instructions, no hidden extra's.

Integrity Testing Calibration

The AFP range of pressure vents does not require calibration from an integrity test as they are fully certified to the BRE Live Discharge test of 2008