Fire and Gas Alarm Notification Appliances for Large, Noisy Industrial Facilities

Louder Horns and Brighter Strobes offer Better Warning and Greater Effective Coverage



Purpose

Noisy machinery, hearing protection in use, distractive procedures, process alarms, bright lights, molten sparks, moving equipment, poor visibility, confined spaces, obstructed areas - these are just some of the factors affecting the ability of workers to be notified of a dangerous situation inside an industrial facility.

Mass notification system design must take ambient noise as well as sounder performance into consideration when ascertaining the effective coverage area of an alarm horn. Likewise, installation location and proximity to workers is vitally important for strobe lights. With modern designs, Pfannenberg signaling devices possess the performance characteristics needed to fulfill NFPA requirements for evacuation alarms in and around industrial facilities.

Pfannenberg's Modern Signaling Devices Provide Advanced Features and Benefits



Brighter Strobe Lights Deliver Superior Visual Notification:

- Choice of 5, 10, or 15 Joules flash energy to ensure adequate warning over specified coverage areas.
- Pyramid shape with prismatic lens achieves the most effective light dispersion in all directions.
- Rated lifespan of 8,000,000 flashes.
- Strobe can be controlled simultaneously or independent from audible alarm sounder.
- Adjustable flash rate and automatic flash sync for multiple units (some models).
- Choice of lens colors to suit specific applications: clear, white, yellow, amber, red, green, blue.

Louder Horns Deliver Superior Audible Notification:

- Sounder includes onboard choice of 80 unique tones - many conforming to international alarm standards.
- Multiple alarm stages permits one device to emit a different tone for up to 4 distinctive events.
- Choice of 100, 105, 110, and 120 dB(A) (SPL) nominal output levels to ensure adequate warning over specified coverage areas.
- Optimized horn design projects audible signal for greatest effective range.

Other Features Common to All Models:

- 10-year warranty.
- Quick, safe, and error free installation.
- Optional tamper-proof fastener plugs.

10 YEARS WARRANTY

Certifications and Objectives

- Certifications*:
  - UL 464 - Audible Signal Appliances
  - UL 1638 - Visual Signaling Appliances - Private Mode Emergency and General Utility Signaling
  - CSA C22.2 No. 205 - M1983, Signaling Equipment - Consumer and Commercial Products
  - CAN/ULC - S525 – 07, Audible Signal Devices for Fire Alarm Systems, Including Accessories
  - MED - A.1/3.53 Fire Protection Devices (EU) 2015/559
  - DIN EN 54-23 Fire detection and fire alarm systems - Part 23 : Fire alarm devices - Visual alarm devices
  - DIN EN 54-3 Fire detection and fire alarm systems - Part 3: Fire alarm devices - Sounders
- Objectives:
  - NFPA 72 : National Fire Alarm and Signaling Code (National Fire Protection Association)
  - OSHA 29CFR 1910.165 : Employee alarm systems (Occupational Safety & Health Administration)

A Variety of Configurations are Available within the PATROL and PYRA Series Notification Appliances to Suit Many Requirements



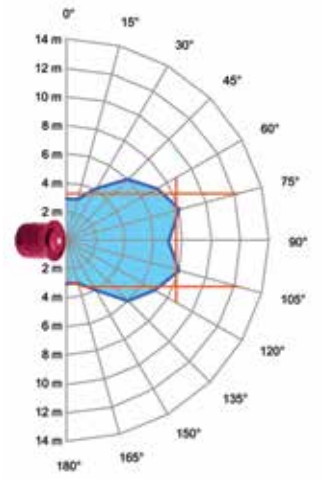
* All certifications may not apply to all versions and operating voltages. See website for posted certificates or contact factory for details.

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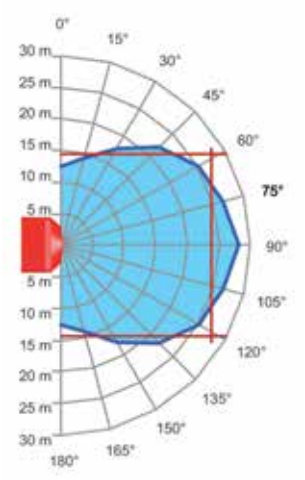
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Effective Coverage Area Must Be Considered for Notification Appliances in Noisy Facilities

Horn Design and Strobe Intensity Play Vital Roles for Successful Hazard Alarming



Digisound Model BSE 128
Effective area for minimum 75 dB(A) SPL is 48 square meters.



Pfannenberg Model PA 1
Effective area for minimum 75 dB(A) SPL is 678 square meters.

Comparing coverage area for two competitive 100 dB sounders:

The polar diagrams at left depict third party test results for two multi-tone sounders, each claiming on their respective data sheets to generate 100 dB(A) at 1 meter.

These plots show the actual effective range over a 180° projection. For this test, the same DIN tone (German emergency signal) was selected from the tone menu of each unit. Also, the effective SPL is assumed to be 75 dB(A), derived from: 65 dB(A) ambient SPL plus 10 dB(A) desired alarm offset - so the outer boundary of the shaded areas are the distances at which the SPL has dissipated to 75 dB(A). The red lines depict a "smoothed" performance from which the square meter coverage area is computed. Note: The distance axis has been scaled to fit the diagrams into a similar space.

Conclusions: 1). The actual effective coverage area can vary significantly between units that are marketed to have the same output SPL on their data sheets. 2). The sound projection geometry is a function of the efficiency of the horn design. 3). Installation location, such as the maximum height at which the unit can effectively be located, is a function of the coverage area and projection geometry. 4). Data sheet information alone is typically insufficient for sizing and suitable installation location purposes.

Strobe light considerations:

For large facilities with high ceilings, it is necessary to consider the effective light output range for strobe lights. Whether ceiling or wall-mounted, the coverage area must be adequate to satisfy NFPA and EN standards.

Tools and Support for the Consulting/Specifying Engineer

Sales Representative and Pfannenberg Regional Managers:

- Field personnel who can bring additional equipment for evaluation and assistance with details surrounding project needs.

Applications Engineers:

- Factory personnel are available to assist with proper sizing and configuration

Sizing Software:

- Free software is available online at www.pfannenbergusa.com to assist with proper sizing and configuration of signaling devices for multichannel installations.

Guide Specifications:

- Many CSI formatted guide specifications are available for download at www.pfannenbergusa.com

Master Specifications:

- Pfannenberg will help specifying engineers create their own master specification for thermal management or signaling solutions.



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