FAAST FLEX™ NOISE EMISSION LEVELS APPLICATION NOTE

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Contents

1 Scope

This Application Note provides an overview of sound (noise) level measurements for FAAST FLEX detectors. The reported sound levels cover a wide range of pipe network configurations that may be experienced in the field.

2 Results

The sound level measurements were conducted in an anechoic chamber, with detectors placed 1m (3.28ft) in front of the samples. The following test conditions were employed:

1. The sample holes were positioned outside the detector's operating area.
2. The detectors were tested with the exhaust both inside and outside the operating area. For exhaust outside the operating area, detectors were connected to 7.4m (24.3 ft) exhaust pipe/tube.
3. FAAST FLEX detectors were tested with different pipe inlets and varying flow rates.

Table 1: FLX-010 Detector Sound Levels (dB A)

Speed	**Noise level (dBA)**	
	FLX-010 with exhaust	**FLX-010 without exhaust**
Low	45.3	50
High	53.9	58

Table 2: FLX-020 Detector Sound Levels (dB A)

Speed	**Noise Level (dBA)**	
	FLX-020 with exhaust	**FLX-020 without exhaust**
Low	46.4	50.3
High	50.8	57.4

3 Conclusion

The results demonstrate that FAAST FLEX sound levels increase with higher flowrates (i.e., higher fan speeds for a given pipe network or less restrictive pipe networks for a given fan speed).

Furthermore, it was observed that all detectors' sound levels reduced significantly when the exhaust was routed outside the operating area with a recorded reduction of up to 7 dBA.

However, it is important to note that the sound level measurements presented in this application note should only be used as a guide. Detectors sound levels in the field may be influenced by various factors, such as the application where the detector is installed (room shape/size, construction, obstructions, operational activities), the detector mounting surface and the exhaust pipe arrangement.

4 Recommendations – Noise Reduction

The following should be considered to assist with the reduction of FAAST FLEX detectors noise levels in the field:

- Exhausting the sampled air outside the detector operating area – ensure system parameters (sample holes pressure/flow rate, smoke transport time) are verified in ASPIRE.
- Opting for reduced detector fan speeds during the design phase.
- Opting for less restrictive pipe networks during the design phase.

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