Amazon Project Overview

The information provided in this document is based on our experience with past Amazon projects and is intended to serve as a background information to aid in the bid process. Local code requirements may cause variations in design and the specifying engineer will determine what is acceptable on a particular project.

Project Types Overview

The 3 primary Amazon projects are multi-story fulfillment centers, single story fulfillment centers and delivery stations

Multistory fulfillment centers

- 4-5 stories tall with a footprint of 600,000 – 850,000 SF.
- Due to the building height these facilities may be classified as “high rise buildings” per the International Building Code which requires them to have “post fire smoke purge” fans. These fans facilitate the removal of smoke during post-fire salvage and overhaul operations so generally do not require UL Smoke certification. It's common to see SBE sidewall prop fans used in combination with some form of intake louver for the lower floors. The top floor tends to use RBE hooded prop fans or RBUMO upblast prop fans and intake louvers.
- Duct runs from rooftop units may serve multiple stories, generally requiring fire smoke dampers.
- HVLS fans are utilized specifically on the ground floor which has a taller clear height than the upper stories.

Single story fulfillment centers

- Typically, a footprint of around 1,000,000 SF with a large amount of mezzanine area
- These facilities hold stock to fulfil orders. Some facilities are dedicated to “sortable” products that can be placed into bins / racking. Other facilities are for large bulky items that are “non-sortable”.
- A smoke exhaust system is typically required to keep the smoke layer close to the ceiling in the event of a fire so people located on the mezzanine have a tenable environment to escape.
- 35,000 CFM RBUMOs are typically used for smoke exhaust. These need the UL Smoke certification. Common fan selections are a RBUMO-3L48 with a 7.5 HP motor or a RBUMO-3H60 with a 5 HP motor. The 3L48 is more cost effective but the 3H60 is sometimes used to reduce the electrical load on the standby generator.
- In cold climates a combination of ESD-635 louvers and ICD-45 dampers are used for intake for the smoke exhaust system. ICD-45 dampers are used for their thermal performance to reduce the risk of ice buildup on the dampers that could prevent them from opening.
- In other climates various operable louver models are utilized depending on what the engineer specifies.
- HVLS fans are generally used where possible to provide additional summer cooling benefits

Delivery Stations

- Delivery stations vary the most in size and design. Many of these buildings are existing that Amazons modifies to meet their requirements.
- These facilities sometimes referred to as “last mile” facilities are responsible for taking products from semis and loading them into delivery vans for delivery to their final destination.
- Some facilities will have parking areas where delivery vans are brought inside the facility. These areas need to be ventilated like a parking garage (alarm exhaust of 0.75 CFM/SF) to meet code. Usually this is accomplished with a CO & NO2 detection system.
- Make-up air units tend to be used in cold climates and are interlocked to the gas detection system. Make sure in you coordinate with your contractor for how this is going to be accomplished to make these projects go as smoothly as possible.
- HVLS is generally always used in these facilities.

Key Product Requirements

HVLS – HVLS fans need to be tied into the building management system. This is accomplished by including an advanced touchscreen controller for every 20 fans. Additionally, there are special wiring requirements for Amazon projects. For more detail see the following bulletin: HVLS Fan Control for Amazon Logistics Update

MUA – Amazon’s intent is to integrate make-up air units used on delivery stations into their building management system, either initially or in the future. Many specifications are unclear of these requirements. In order to integrate into the building management system the make-up air units must be configured with the microprocessor unit controls. Many of these units have needed to be converted in the field which is very costly and time consuming. If BMS integration is not specified submit an RFI for clarification on whether BMS integration is required.