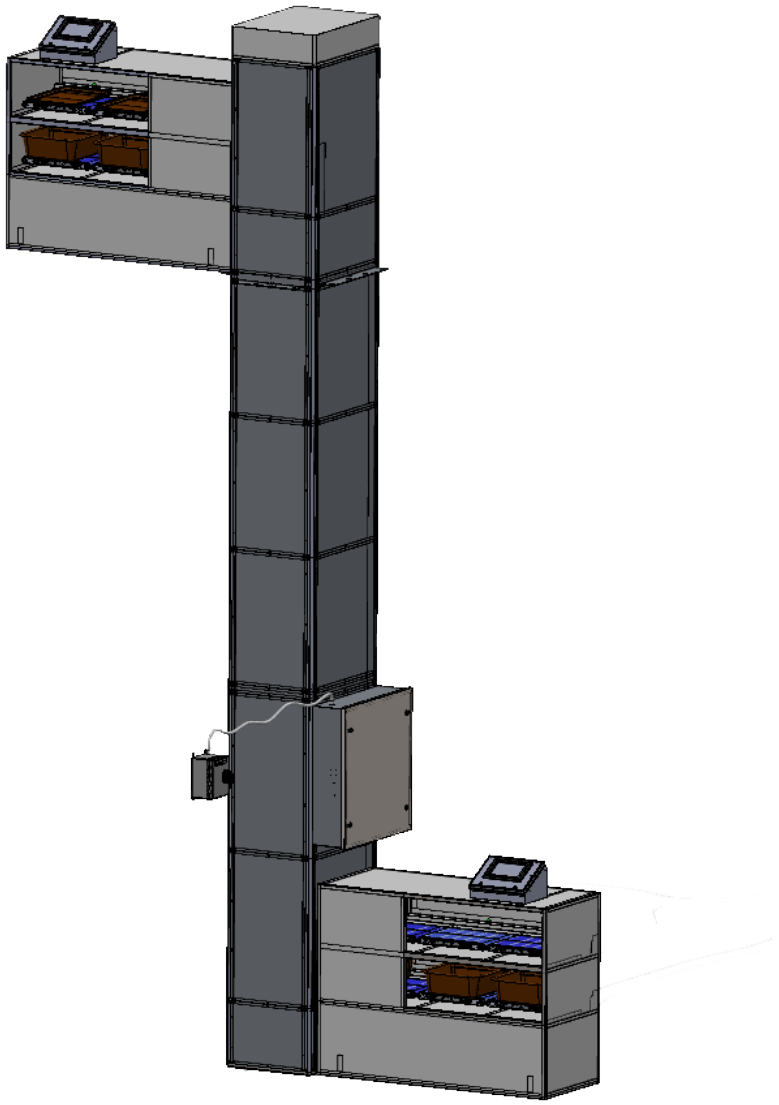
Antunes®
EXPECT SUCCESS



Antunes
Vertical Transport System
Specifications

Antunes Vertical Transport System

SYSTEM OVERVIEW

Vertical Smart Transport System

The Antunes Vertical Transport System is designed to transport food, covered beverage orders on a tray and Bus Tubs at a high speed from one kitchen location to another. This asynchronous configuration allows for multiple orders to be in process at the same time during peak hours. The orders remain on the Horizontal Buffer Conveyors, in queue, until delivered to location via the vertical conveyor. Precision digital conveyor “Speed Matching” makes the smooth transfer between all conveyors possible.

System Components

The Antunes Vertical Conveyor Transport System is operated from a Human Machine Interface (HMI) in the restaurant kitchen. The HMI is used to control the system and features a color touch screen that displays orders as they progress to or from 2 levels. A number is assigned to an order and is shown on the HMI as it progresses through the system. The conveyor system is comprised of self-contained modules that are isolated from potential spills.

The crew member can recall any order through the HMI and the order location will be tracked. As the order progresses through the three different modules, each module will flash red on the HMI to indicate the order’s current location.

Operation & Features

- All orders are assembled by the crew member prior to placement in the transporter. Items are placed in current packaging not to exceed 10” in height and placed on trays, along with drinks if desired. Tray size is 15” x 20”.
- Trays are placed in the transporter and the crew member initiates the delivery on the HMI. If a large order requires a second tray, it is loaded at the same time. All order locations throughout the system are simultaneously and continuously displayed on the HMI screen.
- The trays are vertically transferred up by a high-speed mechanism that is programmable for acceleration and deceleration to maximize transfer speed and avoid spilling of drinks. All transfers, both horizontally and vertically function with this patent pending programmable feature.
- When the transport arrives at the top, the tray with an order is immediately transferred to the upper Buffer conveyor, allowing for immediate return of the vertical transfer to get the next order from the lower buffer conveyor. This asynchronous configuration allows for up to six trays to be in process at the same time during peak hours. The order will remain on the lower buffer conveyor, in queue, until the next buffer conveyor is empty.
- Design of unit is intended for food orders to transfer from 1st floor to 2nd floor utilizing the top row of Buffer Conveyors. These will also be used to send trays and wrong orders from the 2nd floor to 1st floor.
- NOTE: Buffer (top row) and Vertical Conveyors must be emptied prior to returning orders from 2nd floor to first.
- Bottom rows of Buffer Conveyors are designed to ONLY be in contact with Bus Tubs (22-7/8” x 17-3/4” x 6-1/8”); no contact with food or packaging. Clean tubs will be transferred from 1st floor to 2nd floor. Lower conveyors will also be used to transfer empty dishes from 2nd floor to 1st floor.
- Light indicator will be provided by Antunes to be installed behind the liquor/alcohol bar on 2nd floor of the restaurant. The indicator light notifies users that an order is available for pickup. LED Indicator will be hard wired and specified under electrical requirements.

Antunes Vertical Transport System

Throughput

15-20 seconds for one transfer to go from the ground floor to the second floor and return back for the next order, allowing for approximately 180-240 orders per hour.

Asynchronous operation will allow for orders to be buffered while entering and exiting the transfer so an order can be ready to pick up continuously in peak times if they are available from the kitchen.

Antunes Supplied Equipment Scope

Antunes will provide complete self-contained internal modules including all mechanical and control components.

Support structure, including environmental and communication controls to be developed by Customer construction partner.

Field Requirements

Antunes will specify access and loading specifications that must be maintained by the architect in order to provide maintenance and safe installation and operation for years to come.

System Weight

The estimated weight: 4000-4500 lbs. Mounting of vertical tower should be able to support upwards of 2500 lbs. TBD during design phase.

Standards

Antunes will provide a Smart Conveyor System that is designed to meet all applicable NSF and UL commercial equipment electrical, safety and sanitary standards. All local construction to the facility and permitting with respect to installation and operation at location will be by Customer or their contractors. Any applicable local codes pertaining to the machine are the responsibility of the Customer.

Equipment will be commercial-grade and comply with applicable NSF and Health & Safety Code standards. Underwriters Laboratories (UL Sanitation) and ETL Testing Laboratories will be sought if equipment demonstrates compliance with applicable ANSI standards. Equipment will be made of nontoxic, non-corrodible materials, and be constructed, installed, and maintained to be easily cleanable through usage of access panels.

Installation

The Vertical Transporter is a fully enclosed system that is designed to be self-supporting and requires a suitable foundation, and anchors for lateral stabilization were passing through floors. The Transport system is to be installed by an approved Customer contractor. Antunes will provide installation instructions and be on-site to support the installation.

Conveyor system will arrive on site by truck in 3 separate crates. Crate will contain the following:

- 1x Vertical Conveyor
- 2x Buffer Conveyors (each in their own crate)
- 1x Parts Box with two styles of mounting flanges

Equipment will be bolted to studs in the restaurant floor. Different styles of flanges are supplied to accommodate most installation types. Vertical Tower must be suitably away from adjacent walls and equipment so as to facilitate cleaning of the equipment and surrounding surfaces as well as to provide applicable space from heat sources and latent vapors. Installation in interior of building must allow for interaction with equipment while providing space to safely maneuver product in and out of unit openings with ease. Access to the transport system requires one side and buffer face for service and cleaning. At least 3 feet (915mm) of space between the equipment and adjacent equipment to allow for ease of inspection and cleaning.

For installation drawing please see last page of document for more specifics.

Elevations

Equipment allows for MAXIMUM 1’5” (approximately 432mm)from bottom of unit access area to floor. Equipment requires a minimum of 8’1” (approximately 2464mm) to top of access area to floor. Vertical Tower will be mounted in place with no readily movable casters or legs. Horizontal Buffer Units are placed on easily cleanable casters (readily movable by one person), 6-inch or higher legs meeting NSF standards. Top Buffer level is designed for 1520CT Trays. Bottom Buffer Level is designed for Bus Boxes.
Check with the local fire department for further information on required clearances.

Noise Level of Machinery

Noise level will be negligible for crew members and customers. The noise level of a single, exposed conveyor, NOT inside of an enclosure, is less than 70dB.

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Power/Electrical Requirements

Antunes will be providing Smart Conveyor Systems that can operate by typical power supplied in most municipal power systems.

Electrical Specs: 208-240V, 30A-40A

If problems occur due to power supply including but not limited to voltage pull down this will need to be addressed by others. An Uninterrupted Power Source (UPS) system is recommended to power the system in the event of a power outage or brown out and is not included with the Transport system at this time.

Electrical Location

The Electrical system enclosure will be secured directly to the system. A power quick disconnect box is tethered to the Enclosure with a 10' cable and can be mounted at a preferred location in the restaurant.

Environment

Antunes is providing Smart Conveyor Systems that are designed for the temperature-controlled environment of a commercial kitchen. In the event this is an external installation, environmental considerations including but not limited to snow loading, wind load, solar load, rain and water tightness etc, are by others and not included in Antunes' design or supply scope. Antunes will fully support collaboration with the team that are performing these functions and designing for the environment.

Manufacturing Location

The Vertical Transport Conveyor System will be manufactured at Antunes's Corporate office located in Carol Stream, IL.

Required Maintenance

Daily: Conveyor belt cleaning completed by crew personnel.

12 -24 Months (Estimated): Conveyor Belts on the Horizontal and Vertical Transfer Conveyors need to be replaced when worn. Antunes conveyors are designed to be replaced by restaurant employees.

The Carriers (Plastic Trays) are all removable for cleaning in the sink or can be wiped down in place. The belt conveyors are all manually cleaned by wiping down as required and are easily removable for cleaning, without tools.

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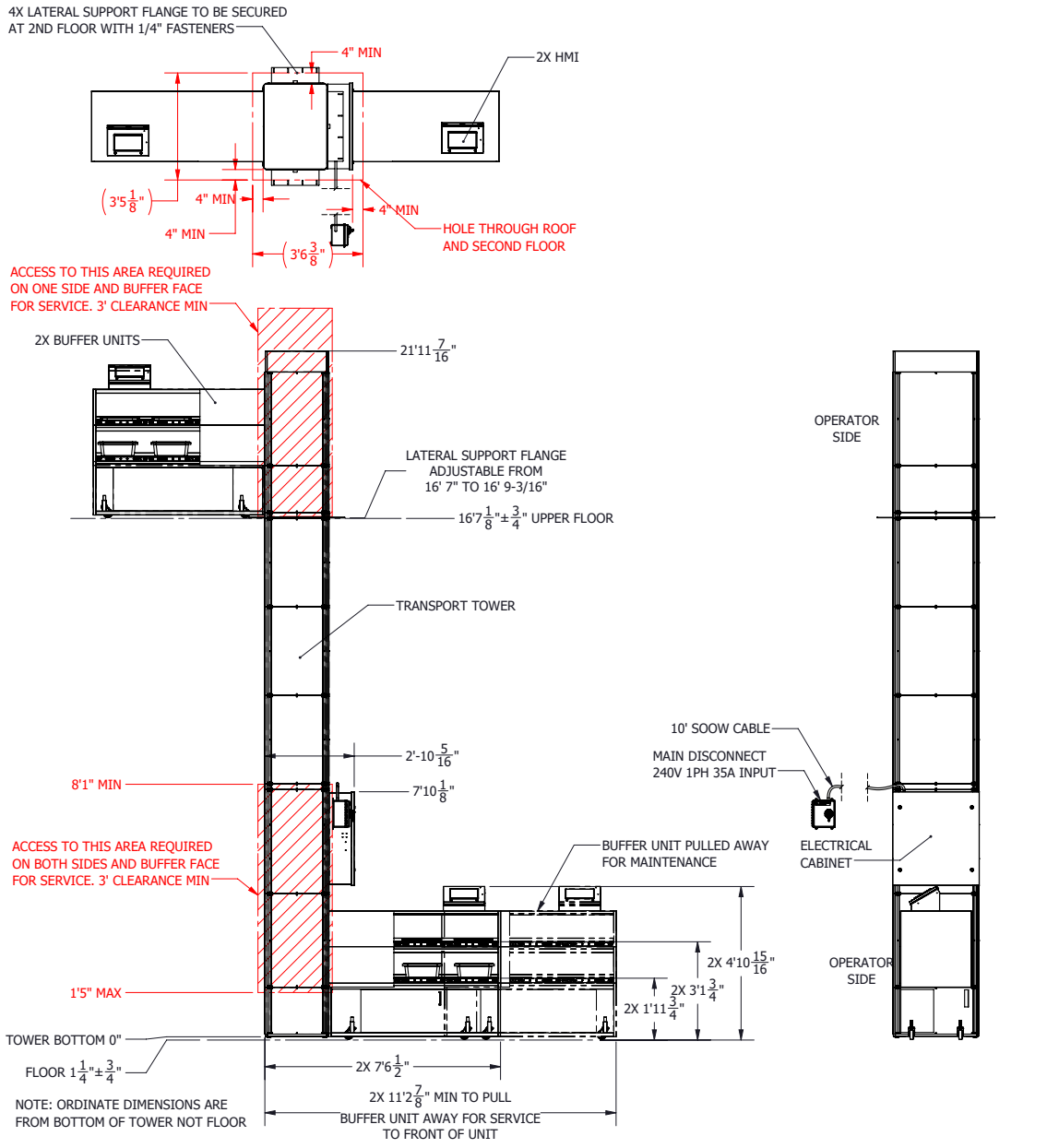

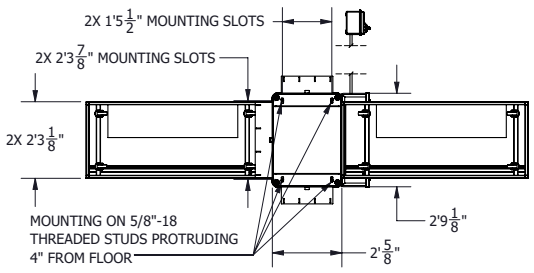

NOTES:
1) TOWER WEIGHT: APPROX 1500 lbs
2) BUFFER WEIGHT: APPROX 550 lbs EACH
3) POWER REQUIREMENT: 1X 240V 1PH 35A CIRCUIT
4) MAXIMUM CARGO CAPACITY 40 lbs
5) TOP BUFFER LEVEL FOR 1520CT TRAYS, BOTTOM BUFFER LEVEL FOR 1527 BUS BOX.
6) 4X 5/8"-18 THREADED STUDS SET INTO THE FLOOR PROTRUDING 4" FROM FLOOR ARE REQUIRED TO MOUNT TOWER.
7) STUD DEPTH AND STRUCTURAL / FOUNDATION DESIGN ARE THE RESPONSIBILITY OF THE CUSTOMER.
8) UNIT MUST BE TIED TO THE SECOND FLOOR WITH SUPPLIED FLANGES FOR LATERAL STABILITY. CUSTOMER IS RESPONSIBLE FOR STRUCTURAL REQUIREMENTS.
9) ACCESS AREAS SHOWN ON SIDES AND BUFFER FACE OF UNIT MUST BE CLEAR FOR A TECHNICIAN TO FREELY STAND NEXT TO UNIT WITH BUFFER REMOVED. 3' CLEARANCE MIN.