

Section 14250 Dumbwaiters

Part 1 - General

1.1 Section Includes

- A. Furnish and provide all materials and labor necessary for the complete installation of one Automatic dumbwaiter system.
- B. Obtain information on conditions affecting work at jobsite. Including verification of dimensions, field material for anchoring, accessibility and storage space. Verify voltages and outlets on electrical drawings.

1.2 Work Done By Others

- A. Suitable, legal, two-hour fire rated hoistway, if consistent with building construction.
- B. Hoistway door walls must not be erected until doors are set in place.
- C. Electrician shall furnish power supply with line disconnect switch immediately adjoining the controller cabinet.
- D. Hoistway free of all pipes and obstructions.
- E. All bracket fastening inserts and other steel required for support of guide rails and brackets.
- F. Painting of exterior walls and prime finished components which are exposed to view, including inside of car, car gates and doors.
- G. Machine area lighting and convenience outlet.

1.3 References

Design and installation shall be in compliance with regulations and all governing agencies. Lift shall be subject to local, city and state approval prior to installation, along with city and state inspection after installation. Special local requirements shall be determined and handled locally by distributor with manufacturer's agreement.

1.4 Submittals

Submit drawings or manufacturer's literature for approval. Drawings shall show rough-in requirements and wiring materials.

1.5 Substitutions

No substitutions will be considered unless written request for approval has been submitted by the bidder and was received by the architect at least ten (10) days prior to the date of receipt of bids. Each such request shall include the name of the materials for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data, a list of projects of similar scope, photographs of existing installations and any other information necessary for evaluation.

1.6 Testing

The dumbwaiter system shall be tested after installation to demonstrate:

1. Accuracy of stops
2. Operation of hoistway door locks and car gate switch (es).
3. Operation of final terminal switches
4. Operation of push-button and key switches
5. Capacity load test. Operate dumbwaiter for a period of twenty (20) minutes with a capacity load. Run dumbwaiter from top terminal floor to bottom floor with one minute between starts after each stop.

PART 2 - PRODUCTS

2.1 Manufacturer

Matot Inc., Bellwood, Illinois

2.2 Product Type

- A. Model shall be the Automatic dumbwaiter system.
- B. Overall lift capacity shall be 300 lbs and the tote box and transfer capacity shall be a maximum of 100 lbs. Dumbwaiter to serve _____ stops and _____ openings, located on () same, () opposite side(s) of the hoistway. The car shall stop at counter-height. The travel distance shall be _____ feet. Power supply shall be _____ volt, 3 phase, _____ hertz.
- C. All equipment shall be manufactured in accordance with the latest edition of the ANSI 17.1 code for elevators, escalators, and dumbwaiters.

2.3 Fabrication

- A. Car Enclosure: Car dimensions shall be 24" wide x 31" deep x 30" high, constructed of 16 gauge # 4 satin polished stainless steel. Car shall be equipped with removable transfer module which shall transfer tote boxes into or out of the dumbwaiter.
- B. Car Gates: Car shall be equipped with motorized, vertical bi-parting car gates constructed of 16 gauge #4 satin polished stainless steel. Gates shall be provided with a reversing edge on the bottom of the upper panel. Motorized gates shall operate the outer hoistway doors.
- C. Guide Rails: Steel channel rails 2 7/8" wide x 1 3/4" deep and 1/4" flange shall be furnished to guide the car. Guide rails shall be mounted to the floor slabs and hoistway wall with steel brackets.
- D. Stabilizer Rail: Shall be 8 lb. tee on side of car opposite the main rails.
- E. Machine: Machine shall be the traction type. Motor shall be of ample horsepower to lift the rated load at the rated speed, with a high starting torque and low starting current. It shall be equipped with a spring applied and electrically released brake. Machine shall be located at the top of the hoistway and mounted on

structural steel base. The traction sheaves shall be semi-steel, with machine grooves designed to provide adequate traction, and long cable life.

- F. Controller: Controller shall be wall mounted type with lockable door, located on hoistway outer wall in sight of machine access door. Controller shall be solid state programmable and Underwriter's Laboratories, Inc. listed.
- G. Operational Control: Two program dispatch and return, with automatic loading/unloading at all openings. Central station control shall be at _____ floor. Other floors shall have call stations to return tote boxes to central station.

Dispatch station: Central dispatch station shall include the following:

- An illuminating push-button for dispatching to each floor
- One dispatch canceled push-button
- One non-operating indicator light
- One reset push-button
- One full table indicating light to prevent dispatch to a floor with a full table
- One key switch marked automatic-manual with indicating light
- One key switch marked dispatch-return with indicating light
- One horizontal transfer indicating light
- One key switch marked maintenance on-off
- Door open push-button and Door close push-button

Return station: Return stations shall include the following:

- An illuminating push-button to call the car
- One return program indicator light

- H. Signals: A combination car arrival light and chime-car position indicator shall be furnished at each central dispatch station. A car arrival light and chime shall be furnished at every other destination entrance.
- I. Leveling Accuracy: Car floor shall be no more than 1/4" above or below the level of the hoistway door sill.
- J. Hoist Ropes. Minimum (4, 1/4" x 3 x 19) traction steel cable with safety factor per code.
- K. Final Limit Stopping Devices: Provide per code
- L. Guide Shoes: Guide shoes shall be adjustable, renewable dry type.
- M. Hoistway Doors: Door shall be vertical sliding bi-parting. Each door shall bear the Underwriters "B" label and shall be rated for application in;(a) masonry shaft or (b) metal stud drywall shaft. Hollow metal door panels shall be 16 gauge stainless steel with satin polish & No.4 finish. Hoistway doors shall be operated by motorized car gate(s). Furnish retiring cams & true interlocks.
- N. Machine Access Door: Hinged access door shall be 24" w x 24"h and shall be furnished at machine location for service and maintenance. Access door shall be 16 gauge stainless steel with satin polished No.4 finish.
- O. Counterweight: The counterweight shall be equal in weight to that of the car plus 40% of the rated capacity.
- P. Transfer Tables: At each entrance furnish a () two (or) () three tote box capacity transfer table with container sensing switches. Table shall have neoprene continuous belt transfer surface. All trim and frame shall be #4 satin polished stainless steel.

- Q. Tote Box Containers: Furnish _____ molded fiberglass containers 17"wide x 20"long x 10"high which are compatible with transfer system.
D.A. MATOT INC. MUST APPROVE THE TOTE BOX CONTAINERS IF FURNISHED BY OTHERS.
- R. Manuals: Provide required instruction manuals, diagrams and parts lists necessary for operation and maintenance of system.
- S. Self Supporting Tower (Optional): Components shall be carried on a self-contained rigidly braced, structural steel angle tower. Tower must be braced by building structure.

2.4 Performance

- A. Rated load 300lb. capacity
- B. Minimum travel speed shall be _____ F.P.M.
- C. Drive and Control shall be variable voltage, variable frequency A.C.

Part 3 - Execution

3.1 Installation

- A. Coordinate work with General Contractor.
- B. Leave standard electrical connection drawings with electrical contractor to make final electrical connection. Wiring within unit shall be done as part of work of the is section, 20 amp circuit required.
- C. The installation of the dumbwaiter system shall be made in accordance with the approves plans and specifications and manufacture's installation instructions.