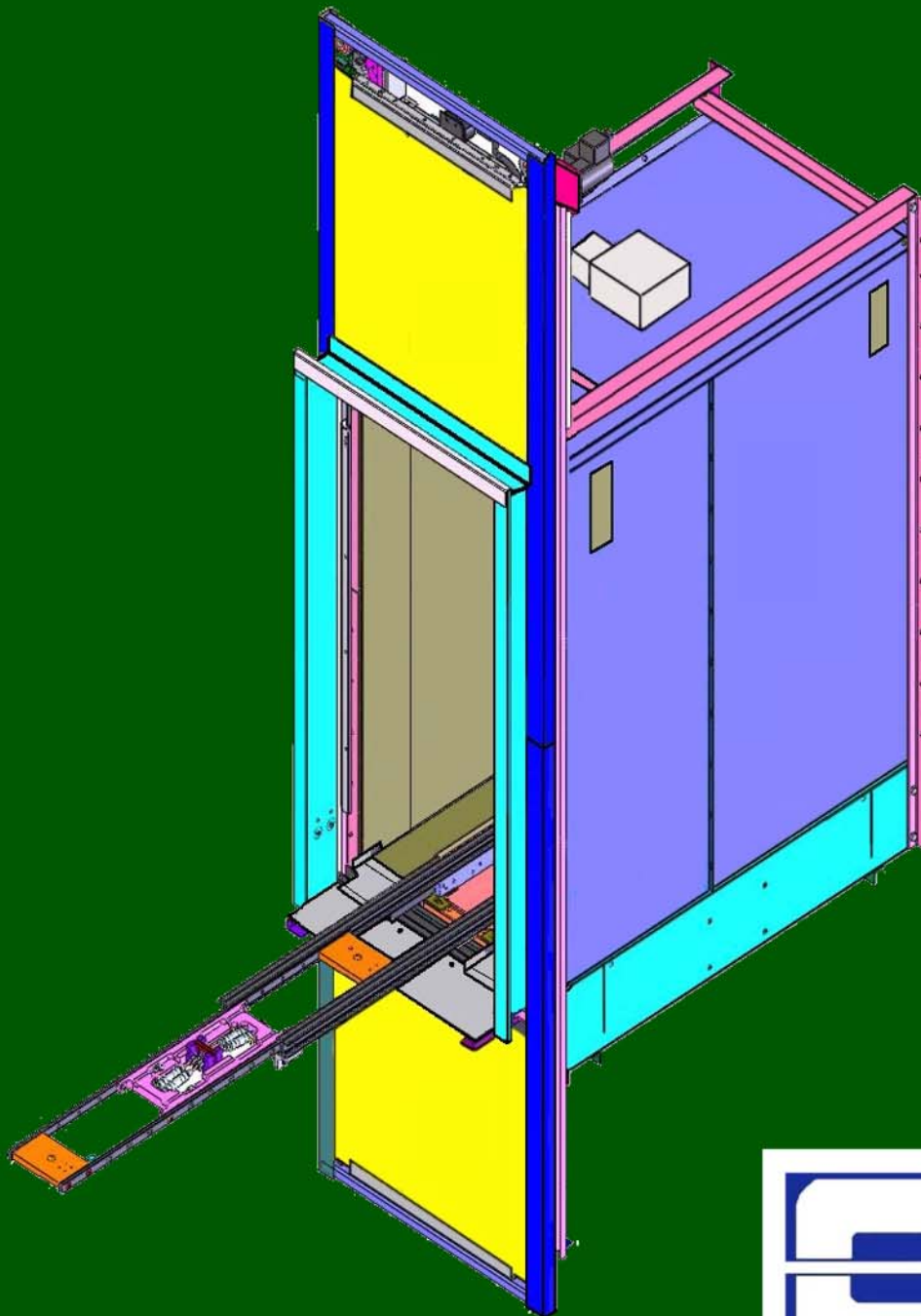


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Cart-Matic

Automatic Material Distribution Systems



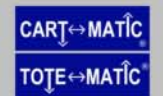
Freight Door Systems



Freight Car Enclosures



IUEC Installation



Material Handling
Systems



Service Parts



Service Parts



Service Parts



Service Parts



Opening Quality Doors Around The World

Specifications

COURION CART-MATIC Cart System Specifications

These Specifications cover the furnishing and installation of Courion's standard CART-MATIC Cart System equipment. A complete set of Material Lift with Transfer Device Specifications can be obtained from Courion upon request.

PRODUCTS

Manufacturer

Courion shall provide the Car Enclosure, Car Gate, Hoistway Doors, Door Operators, CART-MATIC Transfer Device, and Door & Transfer Device Controller

Product Type

- A. Model shall be the Courion CART-MATIC Cart Transfer System
- B. Overall lift capacity shall be 1,000 lbs and the CART-MATIC Cart Transfer Device shall be a maximum of 500 lbs.
- C. CART-MATIC Cart System to serve _____ stops and _____ openings located on [____] front, [____] rear of the hoistway. The travel distance shall be _____ feet. Power supply shall be _____ volts, 3-phase, _____ Hz. Minimum travel speed shall be _____ F.P.M.
- D. All equipment shall be manufactured in accordance with the latest edition of the ASME A17.1 code for dumbwaiters and material lifts.

Fabrication

- A. **Car Enclosure:** Car dimensions shall be _____ wide x _____ deep x _____ high, clear inside, constructed of 16 gauge, Type 304, #4 satin finished stainless steel with integral steel platform and recessed lights. The steel platform shall be reinforced for cart wheel positions, and arranged to receive and support a CART-MATIC Transfer Device. Open areas in the floor shall be covered with solid flooring, and openings in such material shall reject a ball 2" (50mm) in diameter. Car Enclosure shall be equipped with pivoting bridges to span the distance from car to hoistway sill.
- B. **Car Gate:** Car shall be equipped with motorized, vertical slide bi-parting car gates constructed of 16 gauge, Type 304, #4 satin finished stainless steel. Gates shall be provided with a reversing edge on the bottom of the upper panel.
- C. **Hoistway Doors:** Hoistway doors shall be power operated vertical slide bi-parting doors measuring _____ wide x _____ high. The hoistway doors shall guard the full height and width of the opening. The combination hoistway door and frame

units shall be construct of 16 gauge, Type 304, #4 satin finished stainless steel on the room side and 16 gauge primed mild steel on the hoistway side and shall include stainless steel sills designed to accommodate the capacity indicated for floor loading. Each hoistway door shall bear the Underwriters 1-1/2 hour "B" label and shall be rated for application in (a) masonry shaft, or (b) metal stud drywall shaft. Hoistway doors to be shipped complete with approved true interlocks to work in conjunction with motor operated retiring cam. Sills to have recess to receive cart wheels.

- D. **CART-MATIC Transfer Device:** Each lift shall have one (1) plug-in, stainless steel, CART-MATIC Transfer Unit capable of loading and unloading carts at each required opening. The CART-MATIC Transfer Unit shall be designed to be fully automatic and to engage a service cart as specified, located in front of the hoistway doors. Carts may be manually unloaded from the car by means of a foot lever located at the front of the CART-MATIC Transfer Unit. The CART-MATIC Transfer Unit shall be easily removed from the car enclosure. The CART-MATIC Transfer unit shall be designed that the kinetic energy of the load during discharge shall not exceed 30 ft-lbf) (40 J) and the speed shall not exceed 1.5 ft/s (0.5m/s). The CART-MATIC Transfer Unit shall stop the load at the completion of a discharge operation.
- E. **Guidance System:** Door jambs and car enclosure shall be equipped with CART-MATIC cart roller guidance assemblies. These cart roller guidance assemblies shall be designed to insure the proper guidance of the carts during the pick-up and discharge operation. The jamb roller guidance assemblies shall contain a cart sensing device capable of detecting a properly positioned cart for automatic loading. The cart sensing device shall activate a "Cart Ready" light above the entrance once a cart has been correctly positioned for pick-up. Cart sensing devices shall not be mounted in the sill.
- F. **Door and CART-MATIC Transfer Device Controller:** CART-MATIC Door and Transfer Unit Controller to provide selective automatic operations of the CART-MATIC Cart System equipment, and to be interconnected to lift program controller. The lift program controller shall be designed to provide the necessary control signals to initiate, as required, door opening and door closing cycles, CART-MATIC discharge and load cycles, as well as retiring of the cam to lock and unlock the hoistway doors, and additional necessary interfacing contacts to secure specific operation of the CART-MATIC Cart System.
- G. **Operational Control:** Central Station Control from Service Level [____] with automatic loading and unloading at all openings; automatic return to Service Level; automatic or manual operation of transfer unit; "Cart Ready" automatic call; "Dispatch and Return" program. Car # [____] "Dispatch and Return. Car # [____] Dispatch only. Car # [____] Return only.
- H. **Operating Fixtures:** Operating fixtures shall be as follows:

Central Control Station at Service Level: For each car at the Service Level there shall be a Central Control Station consisting of the following - PUSH BUTTONS: One (1) with

register light marked with floor numbers for each dispatch/return floor; One (1) marked "Cancel" (non-illuminated) for canceling a registered dispatch; One (1) marked "Reset" (non-illuminated) for resetting automatic transfer equipment and doors; One (1) marked "Door Open" (non-illuminated); and One (1) marked "Door Closed". KEY OPERATED SWITCHES: One (1) two position key titled "Cart-Matic" and marked "Auto / Manual"; One (1) two position key titled "Program" and marked "Dispatch / Return"; One (1) two position key titled "Maintenance" and marked "ON / OFF" that activates the "Door Open" and "Door Closed" push buttons at the Service Level and shuts down automatic operation when turned to "On"; and One (1) 3 position key titled "Access" and marked "Up / Off / Down". INDICATOR LAMPS: One (1) marked "Dispatch" to indicate Program Key Switch in Dispatch mode; One (1) marked "Return" to indicate Program Key Switch in Return mode; One (1) marked "Cart-On" to indicate presence of cart on car; One (1) marked "Non-Operating"; and One (1) marked "Lobby Full" for each floor serviced by CART-MATIC System.

Return Station: For each car at the Return Levels there shall be a Return Station consisting of the following: One (1) push button with register light marked "CALL"; One (1) indicator light marked "MANUAL" to indicate that the CART-MATIC Key Switch is in manual mode; One (1) indicator light marked "RETURN" to indicate Program Key Switch is in the Return mode; One (1) indicator light marked "LOBBY FULL"; and One (1) three position key switch titled "ACCESS" and marked "UP / OFF / DOWN".

In-Car Station: For each open end of the Car Enclosure there shall be an In-Car Push Button Station consisting of the following: One (1) push/pull switch marked "EMERGENCY STOP"; One (1) push button marked "ALARM"; and One (1) two position key switch titled "ACCESS ENABLE" and marked "ON / OFF". The In-Car Station shall stop the operation of the lift and stop the door operation and transfer device operation.

Top of Car Station: For each car enclosure there shall be a Top of Car Station consisting of the following: One (1) two position key switch marked "STOP" & "RUN"; One (1) selector switch marked "OPERATE" - "INSPECT"; One (1) push button marked "SAFE"; One (1) push button marked "UP"; and One (1) Push button marked "DOWN".

I. **Signals** shall be as follows:

A combination car arrival light and chime shall be located over hoistway entrances at [_____].

A Cart Ready indicator shall be located over hoistway entrances at [_____].

Each car shall have a flashing light and audible signal which will automatically sound on the start of the door opening prior to transfer, and for five (5) seconds before the start of the door closing.

- J. **Carts.** Carts shall be ___ wide, by ___ long bumper to bumper dimensions, and ___ high. Cart configuration drawings to be reviewed and approved by Courion before carts are released for fabrication. Four (4) Carts to be at job site before installation of CART-MATIC Cart System is completed. Each cart shall have a cart coupler that meets the requirements of the CART-MATIC Transfer Unit for pick-up and discharge.
- K. **Lobby Full Sensors:** There shall be ultrasonic cart presence detectors, or other suitable devices, located over [_____] cart position at each hoistway opening at Service Level and Return Levels [_____-_____-_____]. Such cart presence detectors shall be furnished and installed to sense a "Lobby Full" condition and shall prevent the dispatching of a cart to an upper landing or prevent the return of a cart to the Service Level if the detector is actuated by a cart indicating a full lobby. These detectors shall be capable of continuous detection of slow moving or stopped objects and shall not require installation in or on the station floor. They shall have an adjustable range and sensitivity control so they can be set to detect both an empty or a full cart in a specific position while ignoring background objects and carts in adjacent positions.
- L. **Cart-On Sensor:** There shall be an infra-red detector or other suitable sensor located in the Car Enclosure canopy. Such sensor shall detect a cart loaded into the Car Enclosure. In floor sensing devices are not acceptable.
- M. **Re-opening Device:** Car Gate shall be provided with an infra-red light curtain re-opening device which will cause both the car gate panels and adjacent hoistway door panels to re-open in the event that either car gate or hoistway door panel is obstructed while closing.
- N. **Manuals.** Provide required instruction manuals, diagrams and parts lists necessary for operation and maintenance of CART-MATIC Cart System. Continued maintenance furnished by the elevator contractor as indicated in elevator section of Job Specifications.

2.04 Performance

- A. Rated load 1,000 lbs capacity.
- B. Minimum travel speed shall be ___ F.P.M.
- C. Leveling Accuracy: Car floor shall be no more than ¼" above or below the level of the hoistway door sill.



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