



## TYPE XWD WINDING DRUM ELEVATOR SPECIFICATION

### GENERAL

#### SCOPE OF WORK:

It is the intent of this specification to provide for a complete elevator system, including but not limited to all labor, material, equipment as required to provide a complete elevator as shown on the drawings and specified herein.

#### SUMMARY OF WORK SPECIFIED ELSEWHERE:

Legal hoistway and machine room, properly dimensioned and enclosed, including landing entrances.  
Suitable motor circuit through a heavy duty fused mainline disconnect to the lift controller.  
Suitable lighting circuit through a lockable disconnect to the lift controller for cab lighting.  
Finish floor covering.

#### SUBMITTALS

Submit shop drawings including basic device layout with clearances, loads on building structure, excavation requirements, machine and motor data, weights of principle components, electrical requirements, and other information as may be required by regulatory agencies.

Submit product data including descriptions and operation of principle components, maintenance schedules, parts lists, operating instructions, and emergency procedures.

#### CODE REQUIREMENTS

Comply with all applicable requirements of ASME A17.1 and local codes. Provide permits and inspections as required.

#### GUARANTEE

Provide one year guarantee for materials and workmanship. Make good on defects, except those due to ordinary wear and tear, misuse, or improper maintenance, at no cost to the owner.

#### QUALITY ASSURANCE

The equipment shall be manufactured as an integrated system and supplied as a complete package from a single supplier. The installer shall have not less than 5 years experience with the installation of equipment similar to that specified.

#### MAINTENANCE

The installer shall maintain a 24 hour service for repair and maintenance of the equipment. Upon completion of the work, the installer shall provide 90 days free maintenance. Upon completion of the free maintenance period, the installer shall provide to the owner a proposal for continuing maintenance service.

#### INSTALLATION

The installation shall be first-class in every respect, utilizing trained and licensed personnel experienced with the equipment specified. Comply with all applicable codes. Electric wiring shall comply with the latest edition of the National Electric Code and ASME 17.1.

#### SYSTEM DESIGN

Provide manufacturer's standard or custom equipment as required to comply with the requirements specified herein.

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## PRODUCTS:

Elevator contractor to furnish and install where indicated on plans one (1) TIGER LIFT XWD Winding Drum elevator as manufactured by Elevator Concepts LTD, Riverview, Michigan.

## SYSTEM DESCRIPTION:

|              |   |
|--------------|---|
| MODEL & TYPE | XWD - WINDING DRUM  |
| CAPACITY     | 500# / optional #950 for platforms exceeding 12 square feet |
| SPEED        | 35 FPM  |
| RAILS        | 8# Steel "T"  |
| GUIDES       | Slide   |
| TRAVEL       | 35' max   |
| PLATFORM     | 36 x 48; other sizes available; maximum 15 square feet      |
| LANDINGS     | 6 max   |
| CAR OPENINGS | 1 or 2  |
| DOOR SIZE    | 36  |
| DOOR TYPE    | SWING   |
| OPERATION    | MANUAL / option automatic                                   |
| POWER SUPPLY | 208 1 ph  |

|                |                                    |
|----------------|------------------------------------|
| CAB:           |                                    |
| WALL FINISH    | LAMINATE / other finishes optional |
| GATE TYPE      | ACCORDION                          |
| CEILING FINISH | LAMINATE                           |
| HEIGHT         | 80"                                |
| HANDRAILS      | 1                                  |
| FLOOR COVERING | BY OTHERS                          |

|                 |                       |
|-----------------|-----------------------|
| FIXTURES:       |                       |
| COP             | STANDARD              |
| HALL STATION    | STANDARD              |
| TEL CABINET     | OPTIONAL              |
| EMERGENCY LIGHT | OPTIONAL              |
| FINISH          | #4 STAINLESS STANDARD |

|                    |                                  |
|--------------------|----------------------------------|
| CONTROL:           |                                  |
| CONTROLLER LOGIC   | PROGRAMMABLE MICROPROCESSOR      |
| CONTROL VOLTAGE    | 24 VOLT                          |
| LANDING SYSTEM     | MAGNETIC HALL EFFECT SENSOR      |
| DRIVE              | VVVF                             |
| EMERGENCY LOWERING | MANUAL (BATTERY BACKUP OPTIONAL) |
| INTERLOCKS         | ELECTRIC                         |
| GATE OPERATION     | MANUAL                           |
| DOOR OPERATION     | MANUAL                           |

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### MACHINE:

Gear box to be precision helical bevel type, continuous duty with cast iron case, dual output shafts, carburized gears and shafts to 58-60 RC, 95% efficiency minimum. Inverter duty motor shall be close coupled to gear box, with DC brake and rectifier module. Machine output shafts shall be fitted with a drum with machined grooves suitable for the diameter and length of the hoist cables. Drums shall be secured to the shafts with tapered bushings.

### GUIDE RAILS:

Steel T rails shall be machined to exact tolerances for smooth travel. Guides shall be stabilized by adequate brackets as required, and secured to hoistway. Guides shall have a nominal weight of 8 lbs/ft.

### GUIDES:

Car guides shall be fully adjustable slipper type. Replaceable inserts shall be machined from UHMW.

### BUFFERS:

Compression springs of sufficient stroke and capacity shall cushion the car in the event of overtravel.

### CAR FRAME:

Frame shall be constructed of steel, rigidly reinforced and gusseted, bolted and welded to insure durability. Supply isolation coupling between piston and platen. Provide platform of 1-1/4" plywood. All frame components shall be capable of sustaining a static load 5 times the rated load.

### CAB:

Standard cab walls to be 3/4" engineered panels, consisting of high pressure plastic laminate pressure bonded to a high density core material. Car shall be fitted with a collapsing gate at each opening, conforming to applicable code. Canopy shall be 3/4" plywood, laminate finish with 2 recessed incandescent light fixtures. Canopy shall be capable of sustaining 100 lbs/sq.ft. - 500 lbs total.

### GATE:

Standard gate to be folding accordion type, with vinyl hinges. Panels to have stabilized wood core faced with semi-rigid vinyl film, 6 mil minimum, pressure laminated. Panels to be enclosed in steel frames, joined with articulated hinges. Hanger assembly of dual nylon rollers shall be installed on alternate panels. Gate shall be suspended in track of no less than 20 gauge metal. Gate shall be fitted with lower guide pins and track.

Optional automatic gate operator shall be model KIS100 by Porta. Operator features to include linear screw drive, adjustable slowdowns in both directions, magnetic gate coupling, fully adjustable PWM motor drive.

### CONTROLLER:

Controller shall be enclosed in a NEMA 12 cabinet. Shall be of the electro-magnetic type, designed to prevent damage to the motor from overload or excessive current. The controller shall automatically stop the motor and release the brake if any safety device becomes operative. A non interference relay shall be provided. Momentary pressure on a car or hall button shall send car to the desired floor if all safety circuits are made up. Controller shall be equipped with a programmable VVVF drive to control motor. Provide programmable parameters for acceleration and deceleration rates and curves, running and leveling speed, DC braking and torque boost. Controller and all associated switches and wiring to comply with ANSI 17.1.

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### FIXTURES:

Provide a car operating panel with buttons for each landing. Provide a car top operation device. Provide a light switch, alarm button, and emergency stop button. Provide a call button at each landing. All fixtures shall have stainless steel face, #4 finish. Operating buttons shall be internally illuminated when depressed and extinguished when call is answered. Buttons shall be 1-1/8". Floor designations shall be 5/8" high, black, on translucent white background.

### EMERGENCY OPERATION:

When required, provide backup power source to allow normal elevator operation in the down direction.

### HOIST CABLES

Hoisting cables for 500# capacity cars to be 1/4" x 7-19 aircraft cable. Hoisting cables for higher capacity cars to be 3/8" x 7-19 aircraft cable. Cables shall be fitted with approved fittings for termination to car. Fittings shall be adjustable.

### SAFETY:

Type A instantaneous safety shall be located in a steel safety plank below the platform, capable of stopping and holding the car plus its rated load with a safety factor of 5 minimum. Safety shall be actuated by a slack cable mechanism or optional governor. Safety shall operate a switch to remove power from motor and valve. Safety shall release only by raising the car.

### GOVERNOR:

Governor shall be furnished where required by code. Governor shall be of the centrifugal type. The governor rope shall be steel, 1/4" diameter and 8x19 construction. Governor shall be located on the machine base. Tension sheave shall maintain sufficient traction, and be located in the overhead. Safeties shall set through inertia on free fall, independent of the governor.

### LEVELING DEVICE:

Provide automatic 2-way leveling device to maintain platform within 3/8' of landing. Leveling device to function when doors and gates are open or closed. Leveling device shall consist of hall effect sensors mounted in a traveling carriage attached to the car, output driver circuit board, 2" spring steel tape with mounting brackets, and sufficient magnets to actuate sensors as required for the appropriate control of the elevator.

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## EXECUTION:

### PREPARATION

1. Verify that hoistway, pit and machine room are ready for installation of elevator equipment.
2. Verify that shaft and openings are according to manufacturer's layout as approved for this installation.
3. Confirm electrical power availability and characteristics; arrange for temporary electrical power if necessary.
4. Report defects or deficiencies in writing.

### INSTALLATION

1. Coordinate elevator installation with other trades for time and sequence to avoid delays.
2. Install in accordance with all applicable codes.
3. Install hoistway and machine room components as per manufacturer's recommendations.
4. Provide conduit, boxes, and wiring to connect controller to switches, signals and accessories.
5. Arrange equipment in machine room to allow for future service of individual components. Arrange equipment to allow clear passage to access door; maintain all code clearances.
6. Adjust equipment for proper operation as per manufacturer's recommendations.

### TURNOVER

1. Upon completion of installation and before turnover, perform tests as required by the authority with jurisdiction; correct any deficiencies. Furnish test and approval certificates.
2. Instruct Owner's personnel in operation and emergency procedures.
3. Remove protective coverings from finished surfaces; clean all finished surfaces as required.