



ELEVATOR CONCEPTS LTD

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TIGER LIFT STANDARD SPECIFICATIONS

GENERAL SPECIFICATIONS

CAR FRAME:

Frame shall be constructed of steel, rigidly reinforced and gusseted, bolted and welded to insure durability including steel crosshead, safety plank, platform beams, stringers, side stiles, buffer strikes, and mounting pads for guide shoes. Provide cable hitch and safety actuating mechanism where applicable. Provide reinforced adjustable platen assembly for hydraulic units. Platform shall be 1-1/4" thick plywood. The entire car frame assembly shall be capable of sustaining a minimum static load of 5, or greater as required by code.

GUIDE RAILS:

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

GUIDE SHOES:

Adjustable car guides shall be fitted to the frame, and shall the rail with a minimum of clearance. Insert shall be nylon with molybdenum disulfide machined for close tolerance. Insert shall be removable without removing entire shoe. Where applicable, counterweight guide shoe to be rolled steel welded to an adjustable base. Inserts shall be nylon, machined for close tolerance. Insert shall be removable without removing entire shoe.

BUFFERS:

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

CONTROLLER:

Controller shall be enclosed in a NEMA 12 cabinet. Controller 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 set 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.

CAB:

Cab walls to be 3/4" engineered stressed-skin panels, consisting of high pressure plastic laminate pressure bonded with epoxy to a high density frame with 0-0-10 3/8 vertical core material. When required, car shall be fitted with a collapsing gate at each opening, conforming to applicable code. Canopy shall be 3/4" stress skin panel, laminate finish with 2 recessed incandescent light fixtures. Canopy shall be capable of sustaining 100 lbs/sq.ft.-(500 lbs total. Provide emergency bell and handrail.

GATE:

Standard gate to be wood folding accordion type, with concealed spring hinges. Panels to have stabilized wood core faced with semi-rigid vinyl film, 6 mil minimum, pressure laminated. Natural wood veneer optional. 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 gate operator shall be a traction drive type, consisting of a DC gearmotor close coupled to a 3-1/2" traction sheave, adjustable deflector and tensioning sheaves, magnetic open and close limits, and 1/8" steel aircraft cable with gate attachment, all mounted on an adjustable aluminum base.

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Optional side slide gate to consist of articulated 5" panels, each consisting of a) 2 interlocking sheets of 18 gauge steel for a total panel thickness of 5/8" or b) solid red oak. Each panel to have articulation joint with upper and lower bearings, retaining rod and outer tube. Provide 3 wheel trolley with ball bearing urethane tired wheels on alternate panels. Provide nylon

bearings for bottom guide. Provide upper and lower aluminum extruded track, with molded corner sections. Gate to turn and recess behind cab wall. Power operator also available.

FIXTURES:

Provide a car operating panel with illuminated buttons for each landing. Provide a light switch, alarm button, and emergency stop button. Provide an illuminated call button at each landing. All fixtures shall have stainless steel face plates, #4 finish.

TRACTION ELEVATORS:

MACHINE:

Double reduction bronze ring and worm gear machine mounted on a structural steel base. Motor shall be face mounted, totally enclosed fan cooled. Motor shall be 1750 RPM single speed AC, with integral brake, 6 ft/lbs capacity, spring set, electric release. Optional variable voltage drive shall consist of a heavy duty permanent magnet field motor and a solid state adjustable SCR drive, with minimum and maximum speed adjustment, line start and stop, line voltage compensation, full wave armature supply, adjustable current limiting, adjustable acceleration and deceleration, adjustable I.R. compensation, and temperature compensation.

COUNTERWEIGHT:

Provide sufficient weight to balance car. Frame shall be steel, of welded and bolted construction. Provide two tie rods to bind weights.

DRIVE AND DEFLECTOR SHEAVES:

All sheaves to be cast iron precision groove type, fitted with tapered bushings for secure fastening. All sheave shafts to be fitted with self-aligning pillow block ball bearings. Deflector sheaves shall be grooved to support cable without deformation. Drive sheave shall be grooved to maintain sufficient traction under operating conditions, but break traction upon setting safeties or overtravel into buffers.

GOVERNOR AND 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. Governor shall be of the centrifugal type, tripping at 125-175 fpm. 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. Safety shall operate a switch to remove power from motor and set brake. Safety shall release by raising the car.

HYDRAULIC ELEVATORS:

MACHINE:

Pumping unit to be of unitized construction, including steel reservoir of adequate capacity with filler, strainer, sight gauge and magnetic drain plug, direct coupled gear type positive displacement pump, heavy duty motor externally flange mounted for ease of service, and unit valve and line shut off valve.

PUMP:

Standard pump shall be high tolerance 3 screw set of hard nitrided steel, balanced to eliminate all axial loading. Input shaft to be supported by motor grade roller bearing. Housing to be extruded from G-Al-Si-12 Cu-Mg-Ni alloy, with integral steel strainer.

Optional pump shall be pressure balanced gear type pump, with pressure molded aluminum housing, one piece steel shaft and gears, pressure loaded steel-backed bronze bushings, and dual-lip seals.

VALVE:

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Hydraulic unit control valve shall be machined from solid aluminum billet, with the following field adjustable functions: check valve, relief valve, up start valve, down start valve, down stop valve. Unit valve shall be equipped with self closing manual lowering valve, self cleaning strainer, pressure gauge & shut off.

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.

JACK UNIT:

The hydraulic jack unit shall comply with all provisions of ANSI 17.1. The plunger will be machined true to a minimum smoothness of 12 micro-inches, and equipped with a suitable stop ring. The cylinder will be rated for 500 psi working pressure, and fitted with a safety bulkhead, seamless dished bottom cap, removable head, bearing, and packing, and provisions for air bleed and leakage collection.

(ADD FOR ROPED UNITS)

The jack unit shall be equipped with a U-groove sheave to support hoisting cables. Sheave shall be mounted in a steel yoke and secured to plunger. Yoke shall be equipped with guide assembly to follow guide rails. Hoisting cables to be 3/8" x 8-19 traction steel, and shall terminate in wedge clamp type fasteners.

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 by raising the car.

WINDING DRUM ELEVATORS:

DRUM MACHINE:

Single reduction bronze ring and worm gear machine mounted on a structural steel base. Motor shall be face mounted, totally enclosed fan cooled. Motor shall have close coupled disc brake, 6 ft/lbs capacity, spring set, electric release. Machine shall be located as per job requirements. Drum shall be fabricated of DOM tubing, with accurately machined grooves to guide and support the hoist cables. The drum shall be fitted with tapered bushings in each hub to facilitate installation and removal. The drum shall have provisions to retain the free end of the hoist cables. The drum shaft shall be supported by an outboard pillow block roller bearing. Machine shall have an adjustable limit switch to remove power from motor and brake in the event of overtravel in either direction.

DRUM DEFLECTOR SHEAVES:

Deflector sheave shall be 6" steel, grooved to support cable without deformation. Sheaves to be fitted with bronze sleeve bearings. Traveling deflector sheave shafts shall be rigidly supported and sized to allow minimal deflection.

OPTIONAL EQUIPMENT:

DC DRIVE:

DC Drive shall consist of a special permanent magnet DC motor with a solid state speed control which contains adjustments for linear acceleration, linear deceleration, current limit, IR compensation, maximum and minimum speeds. Drive shall have temperature, IR, and line voltage compensation to provide 1% base speed regulation.

SOFT START:

Soft start shall be a solid state SCR network that shall gradually increase motor torque. Separate adjustments for time and torque shall be provided.

RUPTURE VALVE:

Rupture valve shall be mounted directly to cylinder inlet. In the event of pressure loss in hydraulic system ahead of valve, the valve shall close and bring the car to an immediate controlled stop. The valve shall be field adjustable to close at 10% under no load pressure, and shall open automatically when either the load is removed from the cylinder or pressure is restored to the hydraulic system.

TANK HEATER:

Heater shall be of the external surface type, adhered to the exterior of the oil reservoir and thermostatically controlled to automatically maintain oil temperature between 60 - 70 F.'

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AUTO LOWERING:

Provide circuitry and auxiliary power supply to allow car to descend to lowest landing in the event of failure of the main power supply. All safety circuits shall be fully operational. Provide circuitry to allow for either automatic or passenger initiated descent of car.

2 SPEED VALVE:

Hydraulic unit control valve shall be machined from solid aluminum billet, with the following field adjustable functions: check valve, relief valve, up start, up transition, up leveling, up stop, down start, down speed, down transition, down level, and down stop. Unit valve shall be equipped with self closing manual lowering valve, self cleaning strainer, pressure gauge & shut off.

MICROPROCESSOR:

Optional programmable controller shall have I/O capacity as required for the specific installation. The operating program shall be fully field programmable, and shall be viewable in real time with a laptop computer operating in the Windows environment. Inputs shall be 24VDC sink or source, outputs shall be relay type.

RETIRING CAM:

Heavy duty parallel arm gravity-drop cam with sufficient weight to open interlock, with torque motor to raise cam to lock door.

SCISSOR GATE:

Collapsing gate shall be heavy duty Bostwick type, with a minimum of 11 stiles and a minimum of 2 sets of relating scissors. Gate shall conform to all applicable requirements of ANSI 17.1. Stiles shall be fabricated from rolled steel channel. Relating scissors shall be fabricated from 1/8" steel flat stock. Gate shall be suspended on every other stile by a 3 wheel truck assembly, with provisions for height adjustment. Wheels shall be ball bearing type with polyurethane tires. The bottom of each stile shall be fitted with a nylon guide. The entire gate assembly shall be coated with enamel.

AUTOMATIC GATE CLOSER:

Gate shall be designed to close automatically after a field adjustable time delay. Closer shall be of the spirator type, with winding reel and aircraft cable with suitable attachment. Winding reel shall have provisions for retention by an adjustable solenoid, activated by the time delay circuit.

GATE OPERATOR:

Operator shall be traction drive type, with DC gearmotor, traction sheave, adjustable deflector sheaves, adjustable open and close limits, and control unit with DC power supply. Open and close speeds shall be fully adjustable. Traction drive shall be adjustable to provide for loss of traction if gate is obstructed. Signal from main control shall actuate open or close operation. Optional reopening device shall stop gate from closing and return it to the open position.

INDIVIDUAL DOOR OPERATOR:

Jr. Swing by Dor-O-Matic. Electromechanical type utilizing parallel arm pull type actuation. Operator shall be mounted on hoistway door. Integral spring closer, adjustable opening speed and back check.

MASTER OPERATOR:

Model 4300 by Power Access. Electromechanical type utilizing independent roller arm actuation. Operator shall be mounted on the elevator car and shall be electrically interlocked with the gate. Unit shall stop if it meets an obstruction. Seven second cycle time. Works with standard door closer.

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