

Specifications:

Hydraulic LULA (Limited Use / Limited Application) Elevator - Model GT500

1.0 GENERAL

1.1 Scope: To furnish all labour, materials and equipment necessary or required to fully complete the installation of the elevator shown on the drawings and the specifications. The specification is intended to cover the complete installation of a **Global Tardif GT500** Commercial LU/LA elevator.

1.2 System Description: The elevator shall consist of a power unit, car, rail guide system, 1:2 Cable hydraulic system or Direct drive (if provided), hoistway doors, car doors, control systems, signals and alarms, electrical wiring and parts and accessories deemed necessary to provide the required performance, operational code and safety requirements.

1.3 Quality Assurance:

- 1.3.1 The elevator shall meet or exceed the applicable regulations of all governing institutions and be in compliance with the applicable sections of the following codes and standards:
- CAN/CSA B44-00 "Safety Code for Elevators, Section 5.2.
 - Ontario Electrical Code consisting of CSA C22.1-02 and the Canadian Electrical Code Part 1.
 - Local codes and regulations as required.
- 1.3.2 Requirements of the Regulatory Agencies:
- Fabricate and install work in compliance with all jurisdictional authorities.
 - File drawings and submissions with local authorities as they are made available. Company and jurisdictional authority inspections are to be made on a timely basis.
 - Work will also include inspections by local authorities.
- 1.3.3 Subcontractor Qualifications:
- Work of this specification to be done by a contractor/company who has adequate product and public liability insurance.
 - All work to be handled by skilled tradesmen and is to be performed on a timely basis.
- 1.3.4 Substitutions:
No substitutions will be considered unless a written request for approval has been submitted by the bidder and is received by the architect 10 days before the bid closing date. Each request shall include all data required by the architect to fairly evaluate the product offered.

2.0 PREPARATORY WORK BY OTHERS:

- 2.1 The following is a list of preparatory work to be performed by others to prepare for the elevator installation.
- 2.1.1 Provide a machine room with a minimum height of 2130mm (84") with adequate ventilation, a self closing and locking door, GFI duplex receptacle, guarded light and light switch. Elevator machine room shall comply with all applicable codes and regulations.
 - 2.1.2 Permanent power to operate the elevator to be provided to a lockable fused/cartridge type disconnect with elevator rated auxiliary contact for emergency battery lowering. Provide 110v lighting supply and disconnect. Refer to architectural drawings for permanent power specifications and locations of disconnects.
 - 2.1.3 Provide appropriate sleeves for both electrical conduit and hydraulic line from the machine room to the hoistway.
 - 2.1.4 Provide enclosed plumb and square hoistway with smooth interior surfaces. Include for fascias or furring of hoistway interior surfaces where applicable.
 - 2.1.5 Suitable lintels over landing entrances are to be provided over rough openings sized to as per the elevator shop drawings.
 - 2.1.6 Provide a dry and level pit floor, floor must support the loads specified on the elevator shop drawings.
 - 2.1.7 Provide a structural sound support wall for the elevator guide rail fastenings.
 - 2.1.8 Provide a guarded light, switch and GFI receptacle to comply with local codes.
 - 2.1.9 Provide a pit ladder for pits 914mm (36") or greater.
 - 2.1.10 Provide finish grouting and masonry around landing entrances .
 - 2.1.11 Provide finished painting of landing entrances if required.

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3.0 SUBMITTALS:

- 3.1 The shop drawings shall show a complete layout of the elevator equipment detailing dimensions, clearances and location of machinery. Including but not limited to the following:
 - 3.1.1 Drawings showing the dimensions including plans, elevations sections and equipment locations.
 - 3.1.2 Load and reaction calculations shall be provided on the drawings.
- 3.2 Provide samples as required for laminate, paint and metal finishes.

4.0 PRODUCT DATA:

- 4.1 Elevator shall be the **Global Tardif GT500** as manufactured by Global Tardif Elevator Manufacturing Group of St. Augustin de Desmaures Quebec.

*Dealer: Canada Custom Elevator Inc. 2660 Meadowvale Blvd., Mississauga, Ontario L5N 6M6
Ph:905.286.4444 Fx:905.286.4355 Toll Free 888.283.1112*

- 1. Rated Load: 635kg (1400lbs.)
- 2. Rated Speed: 0.15m/s (30fpm)
- 3. Car Dim.: 1067mm W x 1524mm D (42" x 60")
- 4. Operation: Single Automatic Pushbutton
- 5. Power Req.: 208 or 480 or 575V/3pH/60Hz or 240/1pH/60Hz
- 6. Travel Dist.: 15240mm (600" or 50')
- 7. Levels Served: Maximum 6
- 8. Cab Openings: Maximum 2
- 9. Lighting Req.: 110/1/60 15A
- 10. Door Opening: 890mm x 2134mm (36" x 84")
- 11. Drive Type: Direct Acting or 1:2 Cable Hydraulic
- 12. Pump Type: Submersible with 2 Speed Valve
- 13. Hoistway Door: 2 Speed Horizontal Slide
- 14. Cab Door: Stainless Steel 2 Speed Horizontal Slide
- 15. Controller: Programmable Logic Control
- 16. Levelling Type: Magnetic Sensor

4.2 SIGNAGE:

- 4.2.1 As per national codes and standards the elevator shall have all necessary signs, capacity plates and data signs.
- 4.2.2 A capacity plate indicating the rated load in both kilograms and pounds with operating instructions shall be furnished by the manufacturer and fastened in a prominent place at each landing and in the cab. The capacity plate and operating instructions will be engraved on a lamicoid style plate that will fasten to the cab by a self adhesive backing.

4.3 FULLY AUTOMATIC OPERATION:

- 4.3.1 The operation shall be single automatic pushbutton. Each landing shall be equipped with a single light up button and a digital floor indicator with an arrival gong. Once a call is registered the activation of any other button will not affect the operation of the elevator until the first button call has been complete.

4.4 CAR ENCLOSURE:

- 4.4.1 Walls shall be 19mm (3/4") removable fire rated plastic laminate panels from Global Tardif standard selection applied onto #4 brushed Stainless steel reveal walls.
- 4.4.2 Ceilings shall be non removable white with incandescent or fluorescent lights.
- 4.4.3 Floor shall be plywood on steel framing. Flooring by others.
- 4.4.4 2" stainless steel Handrail shall be mounted on the control wall.
- 4.4.5 Emergency battery powered car lowering, door opening, and alarm during power failure shall be automatically rechargeable type.
- 4.4.6 Emergency cab lighting will be provided by the battery backup system.
- 4.4.7 Tactile Plates sized 32mm x 32mm (1.25" x 1.25") will be provided at each landing call station door jamb and each car station button indicating the appropriate floor number.
- 4.4.8 Car Operating panel shall be #4 stainless Steel and consist of metal push buttons for each floor, emergency alarm, keyed stop switch, and door open and close buttons.

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- 4.4.9 Car Travel lanterns will be provided to give a visual indicator of direction of car travel and audio signal upon floor arrival.
- 4.4.10 Digital Floor Indicator will be provided and located in the car control panel and will display the floor and direction of travel.
- 4.4.11 Car Lighting will consist of 4 low voltage or 2 fluorescent fixtures. Failure of one lamp will not cause the remaining lamps to extinguish.
- 4.4.12 Automatic Lights Car lights will automatically turn on when the elevator door is opened and stay on while the elevator is in use. The lights will turn off when the elevator is not in use.

4.5 PLATFORM TOE GUARD:

A platform toe guard shall be provided for safety at each car entrance opening to extend below the car entrance opening.

4.6 LEVELING DEVICE:

- 4.6.1 The elevator shall be provided with a 2 way levelling device which will maintain the car within 13mm (.5") of the landing.
- 4.6.2 leveling device switches shall be located in a position, inaccessible to unauthorized persons.
- 4.6.3 Hoistway car position shall be designed for quiet operation.

4.7 TWO SPEED HORIZONTAL SLIDING HOISTWAY DOOR / CAR DOOR:

- 4.7.1 Car Door Operation
 - a) Power operated, two speed horizontal side sliding, #4 brushed stainless steel panels providing a clear opening of 914mm x 2134mm (36" x 84") shall be provided.
 - b) Doors on the car and at the hoistway entrances shall be powered by means of a 24VDC operator which will also be operational during mainpower failure.
 - c) Door closing and opening shall be automatic at each landing, car and landing doors open simultaneously when the car arrives at the landing and closes after a set time interval.
 - d) The door shall be fitted with a multi-beam light screen that will stop and reverse the doors should it sense an obstruction whilst closing.
 - e) the car door electric contact shall prevent the car from moving away from the landing unless the car door is in the closed position and the controller will monitor the door contacts and register a fault if any have been bypassed.
- 4.7.2 Hoistway Doors
 - a) Two speed horizontal sliding, light grey primed steel panels with a clear opening of 914mm x 2134mm (36" x 84") shall be provided at each landing.
 - b) Frames shall be of bolted construction for a one piece assembly comprised of head and side jamb sections.
 - c) The door assembly shall be 1.5hr. UL/ULC labeled and provided with an approved electrical and mechanical interlock.
 - d) The landing door sill shall be aluminum with non-slip wear surfaces and grooves for door guides.

4.8 HYDRAULIC POWER UNIT:

- a) The pump and motor shall be the submersible type installed inside a steel tank.
- b) Control circuitry to be Programmable Logic Controls, the controller shall be mounted on the pump unit.
- c) The power unit control valve shall be a 2 speed valve type that incorporates the following features:
 - 1) Up or down acceleration and deceleration speed adjustment for smooth starts and stops.
 - 2) Soft stops at each landing.
 - 3) Constant down speed regulation
 - 4) Adjustable pressure relief valve.
 - 5) Manually operating DOWN valve for emergency elevator lowering.
 - 6) Pressure gauge indicating BARS and PSI.
 - 7) Manual shutoff valve.
- d) Pipe rupture Valve to hold the elevator in the event of main oil line failure or if the elevator should overspeed in the down directional shall be provided

4.9 NEGATIVE PRESSURE SWITCH:

A pressure switch shall be provided that will remove power from the pump and the control valve if there negative pressure at the control valve.

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4.10 CYLINDER AND PLUNGER:

- 4.10.1 The cylinder shall be constructed of steel pipe of a thickness and suitable safety margin. The cylinder top shall be equipped with a head, internal guide ring and self adjusting packing.
- 4.10.2 The plunger shall be constructed of steel, machined true and smooth to a proper diameter. The plunger will have a stop welded to the bottom to prevent it from leaving the cylinder.

4.11 Cable: Minimum of two (2) mm (.375")

4.12 Safety Device: A slack/broken cable safety device shall be supplied which will stop and hold the elevator at it's rated load if either of the hoisting cables becomes slack or is broken. It will be reset by the moving of the car in the upward direction. The switch shall be mounted in such a position to sense the operation of the safety device and will open the circuit to the controller to prevent operation of the car in either direction.

4.13 Guide Yoke: The 1:2 guide yoke shall be supplied with sheave, guide shoes, bearings, and cable guards. The sheave will have rounded groves to fit the cables.

4.14 Normal Terminal Stopping Devices: Shall be sensed at the top and bottom of the runway to stop the car automatically.

4.15 Guide Rails:

- 4.15.1 Steel 12kg/m (8lb/ft) guide rails/brackets shall be securely fastened to the building structure.
- 4.15.2 Brackets shall hold guides in a plumb and true position regardless of car loading.
- 4.15.3 Guides shall be bolted to the hoistway enclosure subject to the architectural approval.

4.16 Car Sling:

- 4.16.1 Car sling shall be fabricated from steel, with adequate bracing to support the car assembly.
- 4.16.2 The underside car bumpers must stop the car before the plunger reaches it's down limit of travel.
- 4.16.3 Maintenance free sliding guide shoes shall be used to provide superior ride.

4.17 Overspeed Governor: An overspeed governor shall be provided to continuously monitor the operating speed , and provide signal to the controller to impacts a retarding force to activate the car safety.

4.18 Car Top Inspection Station: Will override all other controls and shall be consist of stop, and constant pressure Up/Down buttons with 110v GFI outlet socket and light.

4.19 Wiring: All wiring and electrical connections shall comply with applicable codes. Wire shall have a insulated, flame retardant and moisture proof covering and shall be run in electrical conduit or wire ways.

4.20 Finish: All metal surfaces to be painted or finished.

5.0 EXAMINATION: All site dimensions shall be taken to ensure tolerances and clearances are maintained to meet local codes.

5.1 PREPARATION: Pre-inspect construction and service requirements of "Work by Others" which is included on the drawings, diagrams, engineering data sheets and special instructions.

6.0 WARRANTY: The entire elevator shall carry a LIMITED WARRANTY for a period of two (2) years. The warranty shall be for the replacement at no cost of defective but shall not include labour costs the defective part or parts.

7.0 OWNER'S INSTRUCTION AND MANUAL: After installation is complete, the contractor shall instruct the owner in the proper use, operation, emergency procedures, safety rules, precautions and maintenance requirements of the elevator. After instruction, the contractor will leave an "Owners Manual" detailing the above procedures.

END OF SECTION