



**BID SPECIFICATIONS
KAR LIFT 250
55,000 LB. CAPACITY
PANTOGRAPH LIFT**

1.1 SUBMITTALS.

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Shop Drawings: Submit drawings showing full layout of all lifts with dimensions and details shown for services and conduits between lifts and the control consoles.
- C. Operation and Maintenance Manual: Submit Owner's manual to include system operation, maintenance and trouble shooting, spare part number, drawings and schematics.

1.2 QUALITY ASSURANCE

- A. Manufacturer Qualifications: The lift company selling the product shall have ISO-9001 certification and the proof of current certification shall accompany the bid.
- B. Installer Qualifications: For warranty validation, installation shall be performed by qualified factory Authorized and trained personnel.
- C. Product Requirements:
 - 1. Design Standards and Certification: The lift shall be tested to meet or exceed excepted industry standards.
 - 2. The drive system shall permit lifting without any pulsation, jerks, or unsteady lifting. Lifting shall be smooth. System shall comprise an electrically powered pump, flow control valves, and a fluid reservoir. An electronic/hydraulic synchronization device shall ensure smooth alignment of each lifting assembly based on variances in vehicle weight. A microprocessor shall control all lift movement for ultimate operator safety and convenience. Troubleshooting codes shall facilitate service and repair.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.4 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside

manufacturer's absolute limits.

B.

1.5 WARRANTY – **K PLUS Hydraulic Protection**

- A. Manufacturer's Warranty: Lift system shall be warranted against defects in workmanship and material for a minimum period of one year for ALL parts and 1-year labor. **The Hydraulic Cylinder seals and "Volumetric" Synchronization system shall be warranted for a minimum of ten (10) years covering replacement parts only. This warranty is limited will exclude misuse, abuse or lack of maintenance.**

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: OMER NA, Inc., which is located at: 2300 Speers Rd Oakville; Toll Free Tel: 877-799-LIFT; Tel: 647-973-6637; Email: sales@karliftsolutions.com, or web site > <http://www.karliftsolutions.com> <
- B. Substitutions: Not permitted.
1. Requests for substitutions will be considered in accordance with provisions the specific tender.
 2. Requests for changes on products, materials, equipment and methods of construction required by the contract documents by the Contractor after the award shall be considered requests for "substitutions", and shall follow the procedures outlined within the bid documents for Substitutions.
 3. Any substitution of specified lift requiring modifications of foundation system detailed will be the responsibility of the Contractor.
 4. The Contractor shall provide for any and all engineering and redesign of foundation system as a result of substitution.
 5. Under no circumstances will extra payment be permitted as a result of additional work to accommodate any equipment substitution.

2.2 **KARLIFT K250 - PANTOGRAPH LIFT**

1. Heavy-Duty Hydraulic Vehicle Lifts Model KAR-250 is manufactured OMER SPA.
2. Scope:
 - a. A vertical "Pantograph" K style hinged heavy-duty platform lift to elevate large trucks, buses, and other heavy-duty vehicles for the purpose of inspection, maintenance, servicing and cleaning. Lift shall rise in a vertical fashion. Mobile column type lifts, four post lifts, parallelogram lift, **are not acceptable.**
 - b. The lift must be as true "PANTOGRAPH" DESIGN to **maximize under runway FREE access** and reduce lifting stress. Those lifts using a "Y" design **will not be acceptable.**
 - c. **The lift must be available for indoors, outdoor, wash bay, surface mounted or in floor recessed for longitudinal and transversal loading.**
 - d. **For recessed in floor installations, an optional pneumatic style lifting platform must be available that operates sequentially with the raising and lowering of the lift controls.**
 - e. The lifting legs must be manufactured using nothing less than 50 mm – 2" XAR 400 thick steel bar. Legs using **multiple WELDS or tube design** are not acceptable.
 - f. The lift must pivot from the floor mounted fixed pads **without the need to SLIDE** to relieve offloading stresses. Sliding mounts inherently product friction and wear. The lift must incorporate an **"AOS" or equivalent shock absorbing system at each hinge to provide stress relief.**
 - g. The runway will be manufactured using a "BOX" design **versus plate welded to I Beams.** Box

design runways are inherently stronger and less susceptible to twisting. The box design runway is heavier, can lift more load and can be extended to longer lengths.

- h. The lift must be available in both the conventional electronic sensor Inclinometer based PLC synchronization AND for rough surface, the **"ELECTRONIC SENSOR FREE"** **"VOLUMETRIC"** hydraulic cylinder divider combined with mini torsion bar.
 - i. The 25 ton 55,000 lb. lifting platform must have a minimum lifting height of 79" from the concrete base to the top of the lifting platform. This design must be capable of a collapsed height not to exceed **360 mm or 14.2"**. Lifts requiring a higher collapsed height will not be acceptable because they require a deeper recessed pit or longer approach ramp.
 - j. The lift system shall be totally open floor design with no obstructions between lifting platforms and no crossbeams either in the front or the rear of the runways.
 - k. The system shall incorporate a minimum of four hydraulic fluid driven cylinders; with one inversely mounted to each of the four upper hinge legs. The runway must position the cylinders so that they remain covered at all times. No chains, cables, slack cables, or pulleys are permitted.
 - l. The maximum lifting height of the lift system shall be programmable to the height specifications as requested by user.
 - m. Two 4 feet (1219 mm) extensions shall be provided to accommodate a modular length of up to 50' (15000 mm) for articulated vehicles.
 - n. Lift shall have a complete lighting system installed on the inner edge to illuminate the work area when the vehicle is raised. Individual lamps shall utilize waterproof low voltage construction and shall contain starter assembly integrated within one operating unit. Lamps shall be installed in adjacent to main lifting platform so as to be protected from potential damage caused by falling objects. The lift will also be available with optional low voltage LED style lighting.
 - o. The lift system shall have a jacking beam rated at 38,000 lbs. (17270 kg) suitably rated to correspond to the latest 2006 ALI regulations. Jacking beam shall be double-piston, telescopic piston. The jacking beam shall be designed with a flow divider valve to maintain synchronization of pistons in raising and lowering mode; maximum pressure valve shall prevent lifting of loads if loads exceed rated capacity of jack; check valves in each piston shall prevent the accident descent of load.
3. Equipment:
- a. The lift shall have a minimum nominal lifting capacity of:
55,000 lbs. (25 ton) Loading
 - b. The lifting capacity shall be determined by the following factors:
 - 1) The load distribution between the front and the rear axles.
 - 2) The location of the vehicle on the lift.
 - 3) The wheelbase of the vehicle.
 - c. The lift shall have a minimum lifting height of 79.6 inches (2022 mm) from floor to the top of the runways when the lift rests on the floor and no less than 69 inches (2022 mm) when the lift is flush mounted to the floor. Any equipment that does not have a minimum of 79 inches (2022 mm) lifting height shall not be acceptable.
 - d. The platform dimensions shall be available in the following dimensions:
 - 1) 23 feet (7 m).
 - 2) 26 feet (8 m).
 - 3) 30 feet (9 m).
 - 4) 33 feet (10 m).
 - 5) 39.5 feet (12 m).
 - 6) 49.5 feet (15 m).
 - e. Width of runways for all models shall be MINIMUM of 30 inches (762 mm).
 - f. The lift will have a minimum shipping weight of no less than 19,200 lbs. - 8.73 metric tons. Lifts

being offered with similar lifting capacity having a physical weight of less than this will be deemed as too lightweight structurally to provide the long-term durability required.

- g. The runways (ramps) must be available in lengths from 276" – 7000 mm to 590" (49.2') – 15000 mm.
 - h. The collapsed height shall be maximum 14.2 inches (360 mm).
 - i. The lift will be supplied with a minimum of floor mounted drive on approach ramps no less than 101" – 2580 mm. The ramps must be reinforced with an anti skid surface. For drive through applications a second set of ramps will be available as an option. For lower vehicles approach ramps will be available in longer lengths to reduce the approach angle.
 - j. Concrete thickness shall be a minimum of 6 inches (152 mm). There will be four (4) base plates that will accommodate installation with 5 bolts per plate. Total installation shall not require more than 20 bolts.
 - k. There must be a minimum of two (2) vertically mounted leveling bolts installed on either side of each base plate to assist the accurate and stable leveling of the lift.
4. Safety Devices:
- a. An independent and fail-safe mechanical safety device shall be present on each lifting hinge. This safety device shall be totally independent from the lifting drive system. A locking catch shall be free to engage all of the teeth of the locking strip attached to the half scissor. This mechanical locking system must operate automatically and controlled by the central control panel. The locking devices will be disengaged for lowering by a pneumatically operated lock release requiring 8-19 Bar pressure. To lower the lift the lift must rise up off the mechanical lock automatically to allow the airlocks to release before the lift descends.
 - b. The lift shall incorporate a combination of 1) dead man operated safeties 2) Low Voltage Controls and 3) Limiting switch with audible alarm (buzzer) capable of stopping the lowering of the lift at 500 mm or 19".
 - c. Each lifting device shall be provided with two (2) separate leveling systems. The synchronization system between the two runways can be, depending on the model, electro-hydraulic or electronic sensor with PLC, ensuring maximum reliability under all conditions of employment. The result should therefore be perfect alignment (co planarity) of the system.
 - d. The lifts must be equipped with "new generation" safety devices designed by OMER. Using combination mechanical locks using 250mm XAR 400 plate steel, safety valves on each cylinder, pressure relief valve and a "Photo Cell Electric" sensor on the runway that maintains the runway synchronization within 50mm will ensure safety.
 - e. The lift system shall incorporate a splash proof electrical system (IP65).
 - f. There will be hydraulic burst valves (velocity fuses) installed at the base of all lifting cylinders with no less than five (5) HYDRAULIC FLOW CONTROL VALVES with an operating pressure of approximately 220 Bar pressure.
 - g. The lift system shall have an automatic foot-guard protection. The lift must be equipped with limit switches so that the runway automatically stops at a safety height of 19.6 " or 500 mm from the ground accompanied by a buzzer audible alarm.
 - h. Locking mechanism shall be activated in no less than 3 inches (76 mm) of lifting height
5. Controls:
- a. The lift system shall utilize appropriately rated motors that operate at 208/220/460V, 3 phases, 60 Hz. (Optional 575 v 3 phase)
 - b. The lift shall have a two-speed lowering option.

- c. The control system will be available in a water resistant design for use in wash bay environments.
 - d. The lift will be available with an optional manual hydraulic hand pump to aid with raising the lift off the mechanical locks for lowering in the event of a power failure.
 - e. Electrical enclosures for control components shall be rated IP 65 and shall include as a minimum:
 - 1) System disconnects.
 - 2) "Power-on" pilot lamp.
 - 3) "Up" control and "down" control.
 - 4) Lock release button.
6. Coatings:
- The lift must be available in both a premium powder coat and Nickel Zinc Galvanized protective coating. The steel components must undergo a steel pellet blast preparation with acid wash before the coating is applied.
7. Drive Mechanism:
- a. The drive system shall be hydraulic drive and shall permit lifting without any pulsations, jerks or unsteady lifting. Lifting shall be smooth. Hydraulic system shall be comprised of an electrically powered pump, flow control valves, and a fluid reservoir.
 - b. Hydraulic lifting cylinders shall be of a piston type to prevent leakage in the case of piston damage.
 - c. The cylinders shall be built using highly polished chromium plated plunger shafts that resist corrosion, scratching and other damage that could lead to shorter seal life.
 - d. All rotating axles shall be made of stainless steel.
 - e. There will be "zirk" style grease fittings installed at all accessible hinge points to permit scheduled lubrication and extended operational life.

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