

SPECIFICATION FOR Double Pantograph SCISSORS LIFT

GENERAL: The elevating platform shall be of the scissors lift electro-hydraulic operated type. The elevating platform and all component parts thereof shall be new and of current design at the time of bidding; shall conform to accepted design practice; and shall be standard commercial products except for modifications required to meet specific application requirements.

SAFETY: The elevating platform shall be designed to ensure safe, efficient and economical operation under the service requirement specified. All parts and components shall be designed with a minimum strength factor of three. Electrical control buttons shall be fully protected to prevent accidental operation. Chains or cables shall not be used as a means of elevating the platform.

CAPACITY: The elevating platform shall (as a minimum) be capable of raising and lowering the load of _____ pounds. Lowered height shall be a maximum of _____ inches above the floor. Lifting and lowering shall be accomplished at smooth acceleration without jerks or binding action. The platform shall be capable of holding the capacity load of _____ pounds at any height.

DEFLECTION: The maximum platform edge deflection shall be limited, by design, to _____ inches when a static load of one half the rated lifting capacity is uniformly distributed over one half of the platform width or length, in the fully raised position when measured between the platform to the base frame.

STRUCTURE: The structure shall be fabricated from structural steel shapes, plates, or steel castings at of least equal strength to the plate. The platform, scissors and related structure shall be sufficiently strong and well braced to prevent racking and twisting that might result in permanent distortion or approach the elastic limit of any component part or member. Outside of normal deflection, there shall be no evidence of structure instability.

PLATFORM: The platform dimensions shall be _____ x _____ inches. The platform shall be constructed to withstand the applied loads, without buckling or permanent deformation.

SCISSORS MECHANISM: The scissors mechanism shall be a double pantograph type which supports and raises the platform through hydraulic power. The hydraulic cylinder will be direct thrust. Cams or rollers shall not be used. The lower ends of the scissors shall rest directly within a structural steel base frame. The width and length of the leg set shall maximize the available width and length of the base frame, thus providing the widest stance and longest leg possible to support the platforms. The steel runners shall be of adequate length and width to accommodate the full travel of the moving legs. All pivot shafts, roller shafts, and trunnion shafts shall be constructed of high strength alloy steels, to a minimum of 150,000 PSI yield, ground, polished and chromed. Rollers shall be equipped with sealed, teflon coated anti-friction bearings with a maximum coefficient of friction of .09. The inner leg members shall have an integral, structural rectangular torque bar between the legs to assure proper torsional stability. The hydraulic cylinders shall have ram bearing and seal which have a five year warranty.

HYDRAULIC CYLINDER(S): The Hydraulic Cylinder(s) shall be _____" bore X _____" stroke, single acting. The cylinder walls shall be a minimum 1/4" thick. The cylinder shall be operated at 3,200 PSI maximum. The piston shall be equipped with a Q-34 seal and back up ring arrangement to prevent the piston from scoring the cylinder walls. The hydraulic cylinders shall have a life-time warranty on the bearings and seals.

WELDING: Surfaces to be welded shall be free from any foreign matter or defects which would adversely affect the quality and strength of the weld. Metal arc welding shall be accomplished in accordance with the provisions of the applicable portions of the "Code for Welding in Building Construction" AWS D1.0-63 of the American Welding Society.

HYDRAULIC FLUID: Hydraulic fluid shall not gum or clog the valves, corrode the ram or cylinders, be injurious to the packing used, or be highly flammable.

WORKMANSHIP: The materials used in the fabrication of the machine shall be new, suitable for the purpose used, and free of all defects which may affect the serviceability of the finished product. The steel shall meet ASTM Spec. 36-74. Workmanship shall be in accordance with MIL-STD-1242.

REPAIRS AND MAINTENANCE: Provision shall be made for ready adjustment, service, replacement of all electrical assemblies and components, wearing parts of lift mechanism and components, and power units.

POWER UNIT: Power for lifting shall be provided by a direct motor driven fixed displacement pump. The motor, pump, valves, and control enclosure shall be mounted within the lifting mechanism as a compact unit, which is readily removed for remote applications. Hydraulic hose routing shall be such to prevent chafing, binding or kinking during operation.

MOTOR: The motor shall be type TENV, Class F in accordance with Federal Specification CC-M-641. Leads identification shall be NEMA-MG-1 standard. The motor bearings shall be sealed anti-friction roller or ball bearing type.

STANDARDS: This lift is designed and built in accordance with the ANSI Standard MH29.1 for industrial scissors lifts.