



Guardian Hydraulic SRC Pit Type Truck Scale Specifications

Concrete Deck – 120 Ton – 70 x 10 Platform

GENERAL PROVISIONS:

Furnish and install one hydraulic vehicle scale with associated electronic instrumentation and controls.

The scale shall have a clear and unobstructed weighing surface of not less than 70 feet in length by 10 feet in width.

The scale shall be fully hydraulic load cell in design and shall incorporate a rigid restraint system that limits movement of the scale deck. Bumper bolts and / or full-floating designs are not allowed.

The scale shall be designed so that the platform shall be in a horizontal plane and of flat top design.

The scale shall have a minimum gross weight capacity of 120 tons and shall have a minimum concentrated load capacity of 45 tons.

The scale shall be designed to accept vehicles that generate up to 90,000 pounds per tandem axle.

The scale shall be calibrated in 20-pound increments.

The scale shall have a minimum of eight load cells.

Load cells shall be constructed of stainless steel.

The scale shall be covered under an NTEP Certificate of Conformance and shall meet the requirements set forth by the National Institute of Standards and Technology Handbook 44 current edition for a Class IIIIL device. The scale manufacturer shall provide an NTEP Certificate of Conformance to these standards. Provisional certification will not be accepted.

The design and manufacture of the scale weighbridge, load cells, digital instrumentation and associated accessories shall be from one manufacturer to maximize compatibility and availability of components.

The manufacturer shall provide with the bid proposal a listing of major spare parts and their prices including but not limited to replacement load cells, pressure transducers, totalizer assembly, if any, weight indicator, circuit boards and associated accessory parts.

The scale shall have a concrete platform a minimum of 6 inches thick using a minimum of 4500 psi reinforced concrete.

The scale shall include a minimum of two manholes.

The scale shall consist of Cardinal model number 1030607 or equivalent.

SCALE PIT REQUIREMENTS:

The foundation shall meet all local requirements and the minimum specifications as stated herein.

The minimum soil bearing capacity shall be 4,000 psf. Concrete shall have a minimum strength of 3,000 psi.

The pit shall contain provisions for drainage of water consisting of two floor drains and, if local conditions warrant, a sump pump.

The pit requirements shall meet all requirements of the state department of weights and measures in addition to those listed herein.

The pit shall be provided with a source of 115 VAC power and shall be equipped with a minimum of four light fixtures appropriate for damp environments.

The pit shall be reinforced in all load-bearing areas. The reinforcing steel shall be 60 KSI yield strength and conform with ASTM A615 grade 60, minimum.

Two approaches, one at each end of the scale, in accordance with local regulations and the guidelines of the National Institute of Standards and Technology Handbook 44, current edition shall be provided.

WEIGHBRIDGE SPECIFICATIONS:

The scale weighbridge shall be capable of weighing vehicles having a tandem axle weight of up to 90,000 pounds.

All required load cells, hydraulic totalizer, interconnecting tubes and weight indicator shall be furnished and installed at the job.

The scale shall operate over a temperature range of -25 to +60 degrees C.

SURFACE PREPARATION AND FINISH:

The structural steel is shot blasted to an SSPC-SP6 condition to remove rust and mill scale, then protected with a baked-on epoxyde cross-linked polyester anticorrosion tan powder paint for the highest quality.

LOAD CELL SPECIFICATIONS:

All load cells are to be of compression hydraulic type and shall have a minimum capacity of 75,000 pounds and a 150 percent safe overload rating.

Cardinal's hydraulic load cells carry a lifetime warranty per Cardinal warranty terms.

Load cell shall be certified by NTEP and meet the specifications as set forth by the National Institute of Standards and Technology, Handbook 44, current edition for Class IIIL multiple cells, 10,000 divisions. The manufacturer shall provide a NTEP Certificate of Conformance attesting to compliance with these requirements. Provisional NTEP Certificates are not acceptable.

Load cells shall output a hydraulic pressure signal to a corresponding pressure transducer at the totalizer junction box. The outputs from the pressure transducers shall be electrically summed with provisions for adjustment of individual load cells provided. Totalizers employing the mechanical summation of load cell pressures and / or utilizing shims are not acceptable.

The load cell assembly shall incorporate a compression element.

Temperature compensation shall take place within the pressure transducer circuitry.

The load cell shall be stainless steel and environmentally sealed to NEMA 6P / IP 68.

The load cell shall be provided with sufficient tubing to reach the totalizer junction box.

TOTALIZER JUNCTION BOX AND TUBING:

The totalizer junction box shall be mounted adjacent to the location for the weight-indicating instrument and shall be located such that it is exposed to the same ambient temperature as the scale and load cells. The totalizer enclosure shall be constructed of a corrosion proof non-conductive material.

The totalizer junction box shall hold the pressure transducers, load cell manifold, and associated tubing with provisions for bleeding each individual load cell hydraulic circuit of air.

The totalizer junction box shall provide sufficient strength to protect the internal components from physical damage.

The totalizer shall be designed for on-site repair. It shall not be necessary to return the totalizer to the factory for any service or repair.

SURGE VOLTAGE PROTECTION:

There shall be electrical isolation between the hydraulic tubes from the load cells and the load cell manifold / pressure transducer assembly.

WEIGHT INDICATOR:

The scale shall be provided with a weight indicator that is compatible with hydraulic load cells and employs appropriate compensation algorithms.

The weight indicator shall comply with the appropriate specifications for a Class IIIL, 10,000 division weight indicator as defined by the National Institute of Standards and Technology, Handbook 44, latest edition and shall have an NTEP Certificate of Conformance attesting to that fact.

The weight indicator shall be a Cardinal 200 series or equivalent.

WARRANTY REQUIREMENTS:

The scale manufacturer shall warrant the scale assembly including the deck and components below for a period of five (5) years; the digital weight indicator, printer, and peripheral devices shall be covered for a period of one year or by the original manufacturer's warranty if not produced by the scale manufacturer. The load cells shall be warranted against lighting and water damage in addition to material and workmanship for the life of the scale.

The manufacturer or its local representative shall present a program of regular maintenance and calibration service. Inspection in said maintenance program shall occur a minimum of once every six months and shall comply with the guidelines set forth by the scale manufacturer, local regulations, and the current edition of the National Institute of Standards and Technology's Handbook 44.