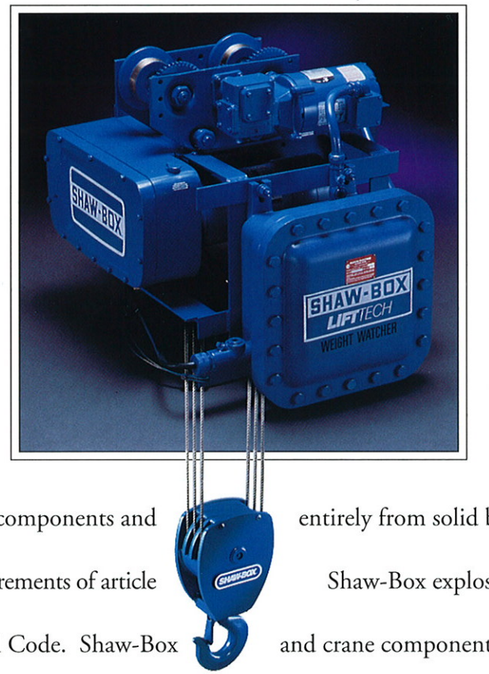
Explosion Proof Cranes and Hoists

SHAW-BOX®

ENGINEERED FOR EXPLOSIVE ATMOSPHERES

For over 100 years, Shaw-Box cranes and hoists have set industry standards for performance and durability. Using state-of-the-art technology, they have met the most rigorous industry demands. The same commitment to excellence that made Shaw-Box an industry leader is evident in our materials handling equipment for critical applications in hazardous environments.

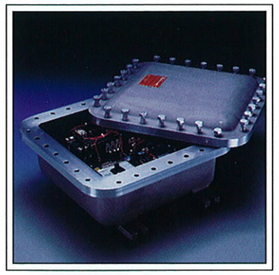
All Shaw-Box products are designed and built to rigid design and manufacturing standards. Our crane components and hoists meet or exceed the requirements of article 500 of the National Electrical Code. Shaw-Box also produces hoists and crane components in a wide range of capacities and lifts for duty in more demanding conditions. These components are specially designed to work safely and efficiently in the most hazardous environments.



Only the finest parts and materials are used to provide the maximum in safety, quality, and ease of maintenance. Explosive environments are safer with Shaw-Box explosion proof motors, brakes, and electrical components, including fittings, seals, enclosures, and limit switches. Shaw-Box also makes intrinsically safe electrical components which operate at voltages too low to cause ignition. Shaw-Box provides the industry's finest spark-resistant components, including stainless steel wire rope, solid manganese bronze or stamped beryllium copper wheels, duronze bronze hooks and lower block bodies constructed entirely from solid bronze plate.

Shaw-Box explosion proof and spark resistant hoists and crane components have been industry tested and proven in hazardous environments around the world. They are designed to meet the requirements for these applications as defined by the National Electrical Code for: Class 1, Groups C & D, Division 1 and 2 and Cla II, Groups E, F & G, Division 1 and 2 environments.

EXPLOSION PROOF ELECTRICAL COMPONENTS



Nema 7/9 Control Enclosures

Nema control enclosures are designed to reduce or eliminate the risk of explosion in hazardous environments. Nema 7 enclosures prevent ignition of gas external to the enclosure by containing the explosion within the panel. Nema 9 enclosures are sealed to prevent an explosion by excluding the entry of explosive amounts of hazardous dust.

Explosion or Dust Ignition Proof Motors

Explosion proof motors and brakes perform in the same way as Nema 7 control enclosures, preventing the ignition of external gas by containing the explosion within the motor and brake. Dust-ignition proof motors prevent ignition of the dust in the atmosphere, or which has built-up on the motor and brake, by operating at temperatures below the ignition point of the hazardous materials. Illustrated is an explosion proof motor and brake for use in a Class 2, Group F, Division I atmosphere.

Explosion Proof Limit Switch Enclosures

Unprotected limit switches can also pose an explosion risk in hazardous environments. Explosion proof and dust ignition proof geared or block type limit switches are provided for Nema 7 and 9 equipment. Illustrated is a Nema 7 geared limit switch enclosure.

Nema 7/9 Pendant Stations

Nema 7/9 pendant stations use standard control components in an explosion proof enclosure to prevent ignition of explosive materials outside the pendant station. The enclosure prevents ignitable dust from seeping in, and contains any explosion.

Intrinsically Safe Controls & Pendants

Intrinsically safe systems engage a motion's contactors with electrical components operating at voltages too low to cause ignition of gasses or dusts. While the motion's controls must be housed in a Nema 7 or 9 enclosure, the pendant station can use a smaller, lighter, standard enclosure (as shown) reducing operator fatigue and permitting easier operation of the equipment.

SPARK RESISTANT MECHANICAL COMPONENTS

Stainless Steel Wire Rope

For hazardous applications that require spark resistant features, the hoists are reeved with stainless wire rope instead of the standard plow steel. Stainless steel rope reduces the possibility of sparking when making contact with the rope drum, sheaves, or external objects with which it may come in contact with.

Bronze Hooks & Lower Blocks

Solid, cast bronze hooks reduce the possibility of sparking in the event the hook strikes steel or other ferrous metal objects. Hooks are provided with stainless steel, spring-loaded safety latches as a standard feature. The entire lower block body is fabricated from solid bronze plate. Solid bronze is used instead of coated steel because coating can chip or wear off – solid bronze does not.

Bronze Trolley Wheels

Trolley wheels manufactured from Manganese bronze reduce the possibility of sparking when in contact with steel rails, bridge or runway beams, or drive pinions, thereby also reducing the possibility of igniting the hazardous atmosphere. Illustrated are wheels for under-running monorail hoists.

Bronze Bridge Wheels

Top or under-running bridge crane wheels are manufactured from manganese bronze for spark-resistant requirements. Bronze wheels contacting a steel rail, runway beam or drive pinion reduces the possibility of hazardous sparks. Illustrated are wheels and pinions for under-running bridge cranes.

Air Operated Hoists

Air operated hoists are ideal for hazardous environments. Air power eliminates electric motors and controls and the sparking and arcing associated with them. Plus, air operation inherently provides variable speed control for precise spotting. (Illustrated is an air-piston motor driven 700 series hoist.)

For additional information contact your Lift-Tech representative or Lift-Tech headquarters direct.

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