



## BRIDGE CRANES – DESIGN DISTINCTIONS

Engineered Lifting Systems & Equipment Inc. (ELS) has a dedicated division that fabricates overhead lifting equipment and other related equipment. Bridge Cranes are one of the many products made in Elmira, Ontario, Canada. Bridge cranes provide numerous industries with many years of durable, reliable, safe lifting service. Certified design, superior construction, standard reliable components, operational safety, ease of maintenance, a customization options are qualities that distinguish our crane products in a very competitive market place.

### DESIGN FEATURES & CERTIFICATION

#### Runway Support Structure

Crane Runways provide the running surface for Overhead Cranes to travel on. Runway design, whether it be Free Standing, Ceiling Mounted or Building Supported are designed to CMAA standards and are certified by our professional engineering staff to be structurally adequate and comply with regulatory building codes.

#### Hoists

Our designers choose the right hoist for your application whether it be hand chain, electric chain, air driven chain or wire rope hoist. Consideration is given to which hoist type and hoist brand (Stahl, Budgit, CM, Kito, Shaw-Box) best suits your application requirements.

#### Electrical Systems

Built in-house by trained electrical workers gives assurance of quality and flexibility to meet customization requirements of you the customer.

#### Component Selection

Assurance of quality readily available components that come from reliable, trusted suppliers.

### CERTIFIED DESIGN

ELS design solutions are certified by on Staff Professional Engineers to comply with all applicable regulatory codes and established engineering standards for mechanical, electrical and structural elements. ELS designs its bridge crane products and other equipment to rigorous criteria, which includes but is not limited to the following:

- National Building Code of Canada Canadian Electrical Code
- Steel Design Code (CSA S16.09)
- CMAA #74 -Specification for Top Running & Under Running Single Girder Electric Traveling Cranes Utilizing Under Running Hoists
- CMAA #70 -Specification for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes
- Occupational Health and Safety Act (O. Reg. 851) for Industrial Establishments Welded Steel Construction Code (CWB W59)



## CONSTRUCTION & STANDARDIZED RELIABLE COMPONENTS

Materials and components are selected from suppliers with readily available quality stocks. Our manufacturing operations are performed by trained work staff qualified to the Canadian Welding Bureau CSA Standard W47.1, and by licensed electricians.

## OPERATIONAL SAFETY

Each Bridge Crane is ESA (Electrical Safety Authority) inspected prior to shipment to ensure compliance of electrical controls and components. Quality assurance is achieved by pre-shipment inspection of all Bridge cranes. Installations by ELS are done by trained and certified workers who perform inspections prior to commissioning cranes for use ensuring proper crane operations have been achieved.

## EASE OF MAINTENANCE

Bridge Cranes are easily maintained and component parts are readily available from trusted and qualified suppliers. Availability of component parts makes for faster repair time to get the crane back up and running.

- Remote radio control
- Variable frequency drive for smooth start/stop movements
- Pendant cable reel
- Faster travel speed
- Emergency stop sensor

## CUSTOM OPTIONS

Customization is available on Bridge Cranes when standard crane design does not suit, such as in a low head room application. Common ways cranes are customized are:

### Low headroom

The Single and Double Girder Low Profile cranes are specifically designed to give the most practical, reliable, economical, and balanced solution for achieving optimal hook height in Low Head Room situations. Each application requires a custom solution based on these considerations:

- Required Lift - relative to clearance to lowest obstruction.
- Required Span - As this affects beam selection.
- Required Hook Travel.
- Runway - The loading applied to the runway system is considered in the design. When designing a runway system for under running cranes the flange stress due local wheel loading must also be considered.

### Run-out Beams or Telescopic Cranes

This type customization is best designed to be built as an Under Running Crane. It is used when the reach of the bridge crane needs to extend beyond the span of the crane bay. It is recommended that the Runout Beam be powered for ease of operation

### Secondary Rotating Beams

Integrated on a trolley below the main bridge beam and are geared to swiveling loads in both directions. Applications where they are used would be industrial processes (vehicle assembly, rolled material). Designed and built to suit your application.



# ENGINEERED LIFTING SYSTEMS & EQUIPMENT INC.

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**MENTOR**  
DYNAMICS

## MECHANICAL & ELECTRICAL OPTIONS

ELS also offers many mechanical & electrical options to choose from.

## CERTIFICATION & INSPECTION

Professional engineers certify Bridge Crane design meets the requirement of the various state/provincial laws and standards. Stamped engineering drawings are provided as documentation of this certification. ESA Inspection is done on Bridge Cranes prior to shipping to ensure compliance to this regulatory standard. Runways for Bridge Cranes are designed in compliance to CMAA (Crane Manufacturers Association of America).