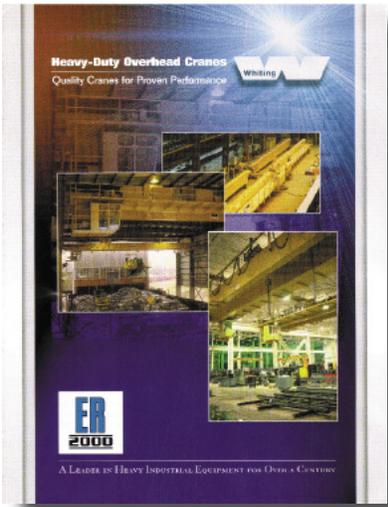


# Whiting Corporation Heavy-Duty Overhead Cranes

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# Whiting Heavy Duty Cranes

QUALITY CRANES  
FOR  
PROVEN  
PERFORMANCE



Whiting's facility is on a 23 acre site, with 197,000 square feet of office and manufacturing are under roof.



THE ER-2000 CRANE IS A HIGH QUALITY OVERHEAD CRANE THAT MEETS YOUR PERFORMANCE DEMANDS WITH A COST EFFECTIVE DESIGN, MODERN CAPABILITIES AND QUICK DELIVERY.

ER-2000 HEAVY DUTY CRANES ARE IDEALLY SUITED FOR SERVICE IN MACHINE SHOPS, FOUNDRIES, METAL FABRICATION PLANTS, METAL SERVICE CENTERS, PAPER MILLS AND MANY OTHER APPLICATIONS.

WHITING OFFERS OVER A CENTURY OF EXPERIENCE IN MEETING THE NEEDS OF CUSTOMERS. THE ER-2000 IS A TYPICAL EXAMPLE. MECHANICAL, STRUCTURAL, ELECTRICAL AND ANALYTICAL ENGINEERING TEAMS, WITH SOPHISTICATED CAD/CAM CAPABILITIES, HAVE DESIGNED AND PRODUCED A CRANE THAT WILL MEET PRACTICALLY ANY INDUSTRY CHALLENGE. OPTIONAL EQUIPMENT CAN BE SUPPLIED TO TAILOR THE ER-2000 TO MEET HIGHLY SPECIALIZED APPLICATIONS, AND WITH OUR PRE-ENGINEERED DESIGN, WE OFFER RAPID DELIVERY AND INSTALLATION.

## The Whiting "2x5" Warranty

WHITING GIVES YOU WARRANTY PROTECTION TWICE THE INDUSTRY STANDARD. OUR 2 X 5 WARRANTY COVERS PARTS & WORKMANSHIP FOR TWO FULL YEARS / 4,000 HOURS; WITH AN OPTIONAL EXTENSION TO FIVE YEARS / 10,000 HOURS. THIS MEANS YEARS OF TROUBLE FREE SERVICE.

SOME CRANE MANUFACTURERS CLAIM TO BE THE BEST.

Whiting puts it in writing.

# Heavy Duty Cranes

## Heavy Duty Hoist... Reliability-High Performance

- Precise load handling with patented Compu-Logic Control.
- SESA Shoe Type handling brake.
- Choice of Mechanical Load Brake, Eddy-Current Brake or Flux Vector control.
- Horizontally split gearcase with inspection cover for complete accessibility.

## Computer Designed Bridge Girders... Maximum Efficiency, Minimum Cost

- Wide flange girders.
- Welded box girders

## Pushbutton Pendant control station...Simple, one-hand crane operation



## Rugged Trolley... Low Maintenance

- Dependable motors for heavy duty operation.
- Heavy duty drive reducer and drive wheels.
- Massive trolley frame constructed from rolled steel, structural shapes.
- Sheave cluster is above deck for accessibility.

## Dependable Bridge Drives...

- Low maintenance squirrel-cage motors
- A-1 & A-4 drives available with Whiting Ultra-Dive controls.
- Double-Flanged drive wheels with machined treads for high strength performance.

## End Trucks and Connections... Accurate Alignment

- Notched interlocking truck connection for accurate permanent alignment.
- Maximum 7:1 span to wheelbase ratio.



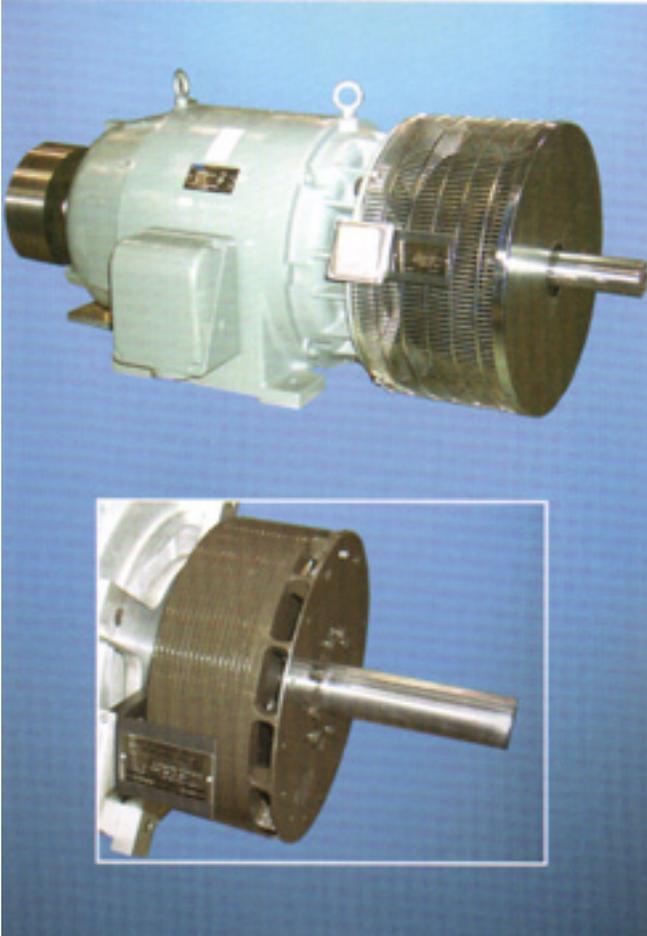
# Electrical Devices



WHITING SESA BRAKES



QUALITY ELECTRICAL COMPONENTS

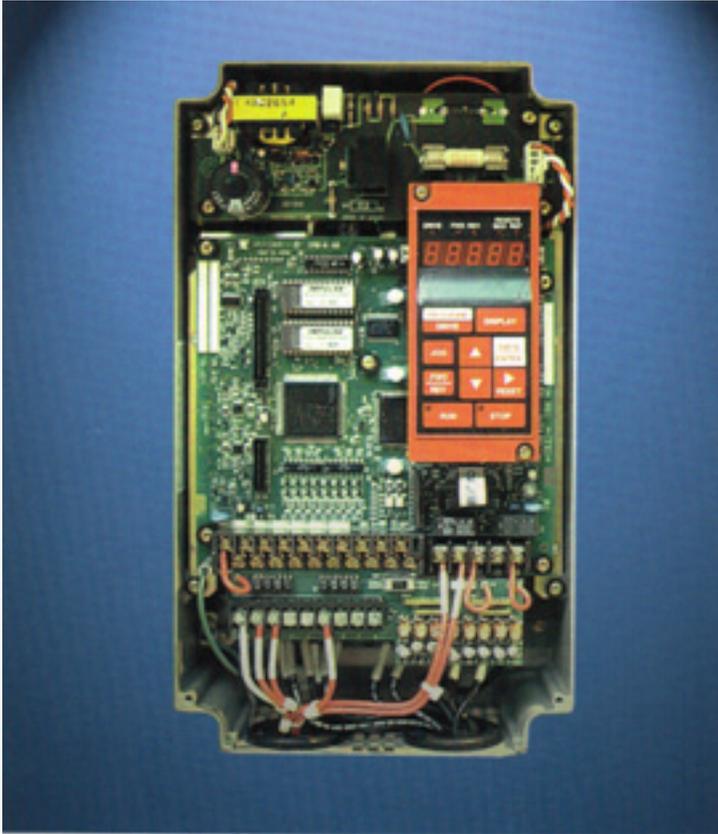


MOTORS WITH EDDY CURRENT BRAKES



RADIO CONTROL SYSTEMS

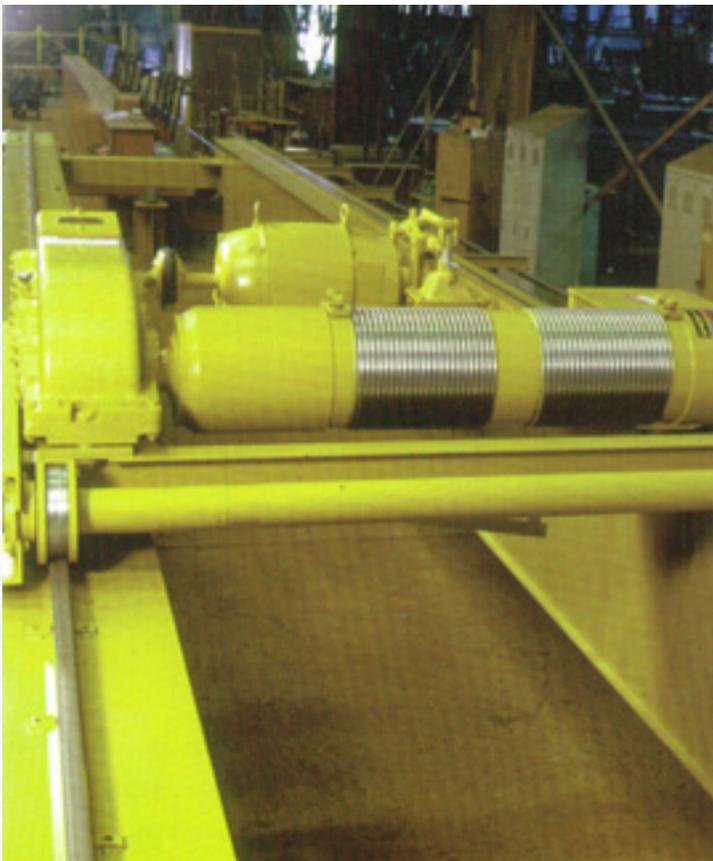
# Electrical Controls



## Trolley & Bridge Controls

STANDARD TROLLEY CONTROL IS THE ADJUSTABLE FREQUENCY WHITTING ULTRA-DRIVE™, FEATURING A CHOICE OF TWO OR THREE SPEEDS OR INFINITELY VARIABLE CONTROL.

STANDARD BRIDGE CONTROLS FEATURE A CHOICE OF ULTRA-DRIVE THREE SPEED, OR INFINITELY VARIABLE CONTROL, OR A TWO SPEED MAGNETIC CONTROL.



## Hoist Control

STANDARD HOIST CONTROL CONFIGURATIONS FOR PRECISE LOAD POSITIONING.

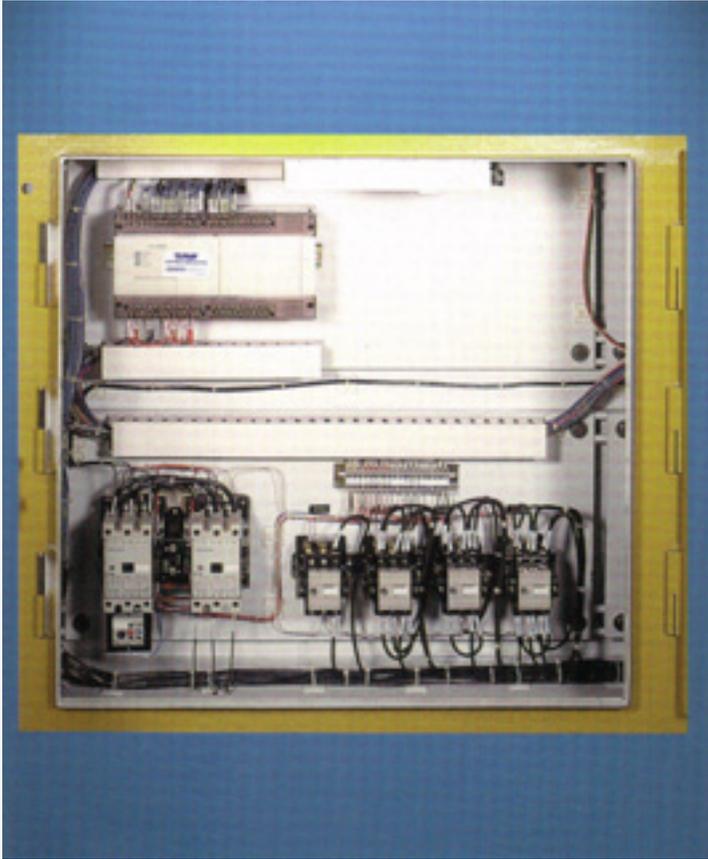
FIVE STEP MAGNETIC CONTROL WITH MECHANICAL LOAD BRAKE.

FIVE STEP EDDY-TAC CONTROL WITH EDDY-CURRENT BRAKE.

TWO SPEED MAGNETIC CONTROL. (AVAILABLE FOR AUXILIARY HOIST ONLY)

ULTRA-DRIVE™ - MODEL FV FIVE STEP, OR INFINITELY VARIABLE FLUX VECTOR CONTROL.

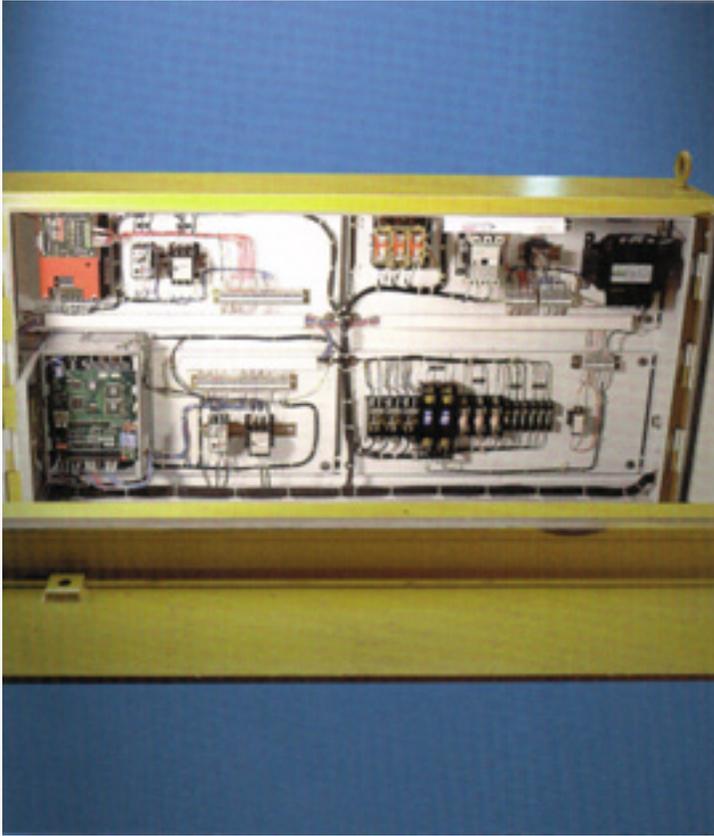
# Electrical Features



Each ER-2000 crane offers these important features:

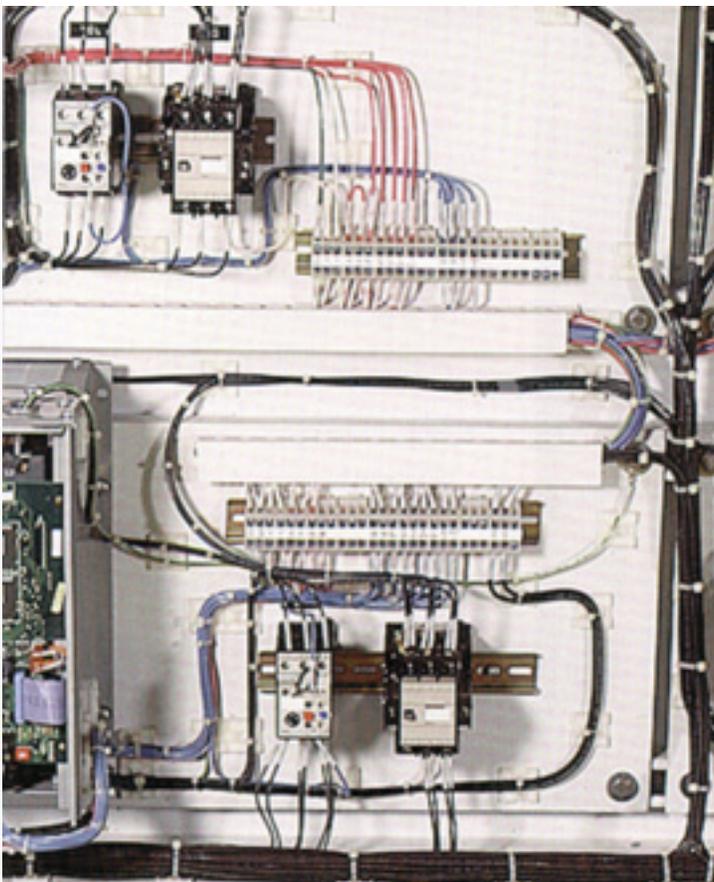
- FUSED, MANUALLY-OPERATED MAINLINE DISCONNECT SWITCH.
- DEPENDABLE, LOW MAINTENANCE SQUIRREL-CAGE AND WOUND-ROTOR MOTORS WITH THERMAL OVERLOAD PROTECTION.
- NEMA RATED MAGNETIC CONTACTORS ON HOIST CONTROLS.
- TIME DELAYS PROVIDED BETWEEN ALL SPEEDS POINTS.
- ELECTRICAL COMPONENTS IN AN EASY TO MAINTAIN MODULAR DESIGN.
- ALL COMPONENTS MEET OR EXCEED CMAA, NEC AND NEMA SPECIFICATIONS.
- ELECTRICAL WIRING TO WHITING ELECTRICAL STANDARDS OF EXCELLENCE (WESE); THE MOST COMPREHENSIVE WIRING STANDARD IN THE INDUSTRY.
- ALL ER-2000 CRANE ARE WIRED AND TESTED BEFORE SHIPMENT TO ASSURE EASY INSTALLATION AND FAST STARTUP.
- ALL ELECTRICAL COMPONENTS ARE MOUNTED IN PANEL LIGHTED NEMA-12 ENCLOSURES WITH REMOVABLE DOORS, MINIMUM 30" CLEARANCE AND A 110 VOLT CONVENIENCE OUTLET.
- ALL WIRING TERMINATIONS ARE MADE ON TERMINAL BLOCKS IN JUNCTION BOXES.
- 24 VOLT DC OPERATOR'S PENDANT.
- 200,000 AMP INTERRUPTING CAPACITY MOTION CONTROL FUSES.
- ELECTRICAL WIRING RUN IN CONDUIT AND MATCH MARKED FOR EASY FIELD INSTALLATION AND MAINTENANCE.





## Ultra-Drive™ Travel and Ultra-Drive™ FV Hoist Control

THE WHITING ULTRA-DRIVE™ CONTROL SYSTEM PROVIDES THE ULTIMATE SPEED CONTROL FOR BRIDGE, TROLLEY AND HOIST MOTIONS, REDUCING LOAD SWING FOR EFFICIENT LIFTING AND SPOTTING. ULTRA-DRIVE™ UTILIZES LOW MAINTENANCE AC SQUIRREL-CAGE MOTORS AND ELECTRONICALLY BALANCES SPEED AND HORSEPOWER TO PROVIDE SMOOTH OPERATION WITH MINIMAL ENERGY USE.

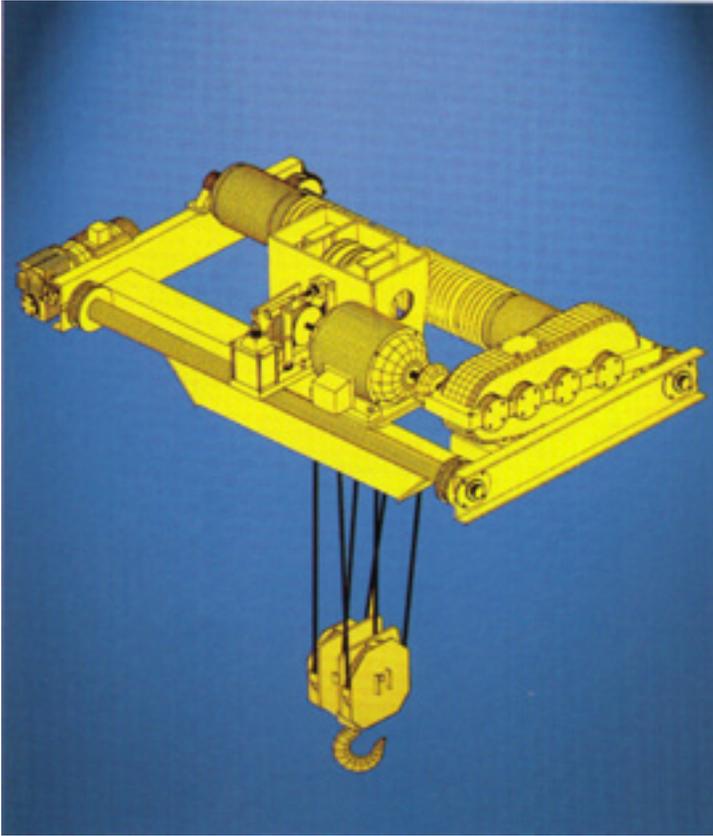


## Ultra-Drive™ Key features:

- INFINITELY VARIABLE SPEED CONTROL FOR SMOOTH ACCELERATING, RUNNING AND STOPPING.
- PRECISE POSITIONING REDUCES POSSIBILITY OF DAMAGED LOADS.
- SMALLER INVENTORIES OF REPLACEMENT PARTS.
- LOWER MAINTENANCE COSTS.
- REDUCED ELECTRICITY COSTS.

# Trolley

# Features



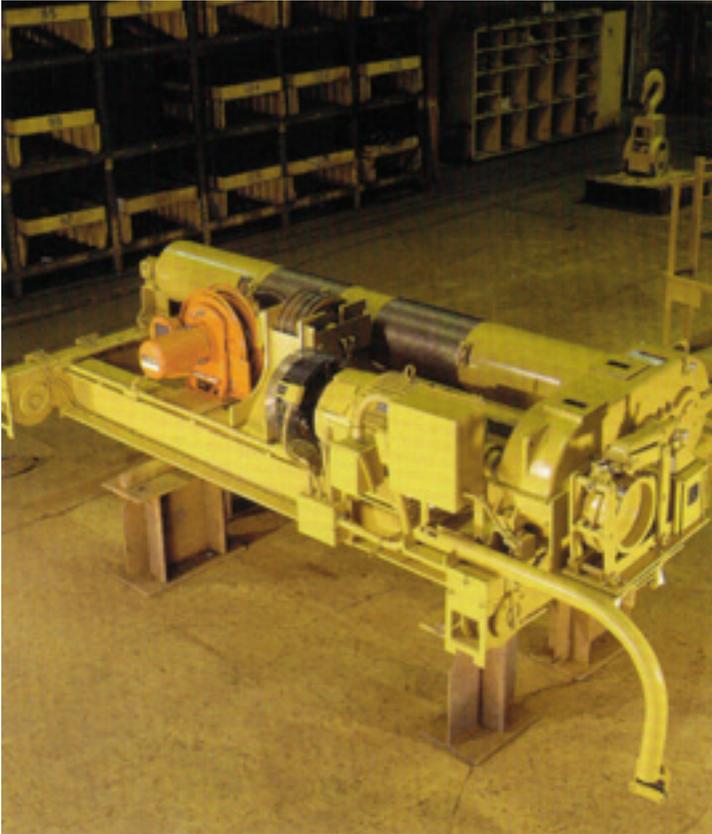
## ER-2000 Hoist & Trolley

The ER-2000 trolley is designed for easy maintenance and durability. The hoist is triple reduction helical and spur gear reducer for smooth operation under load. Sturdy, horizontally split, oil tight gearcase includes inspection/access cover for easy maintenance.

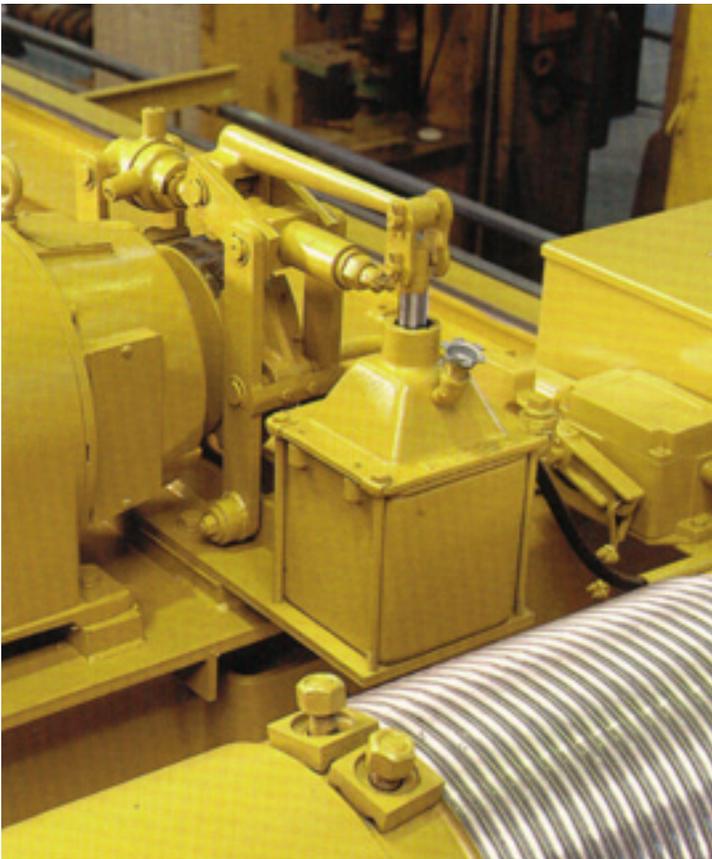


- ALL STEEL TROLLEY FRAME.
- DOUBLED FLANGED, MACHINED TREAD, STEEL WHEELS WITH HIGH STRENGTH ALLOY STEEL AXELS. BEARINGS ARE MOUNTED IN MACHINED IN-LINE BORES.
- DESIGNED TO ALLOW VISUAL INSPECTION OF MAJOR COMPONENTS... SIMPLIFIED MAINTENANCE.
- DUAL REEVING TO PROVIDE TRUE VERTICAL LIFT.
- LIFETIME LEBRICATED SHEAVE AND WHEEL BEARINGS.

# Trolley Features



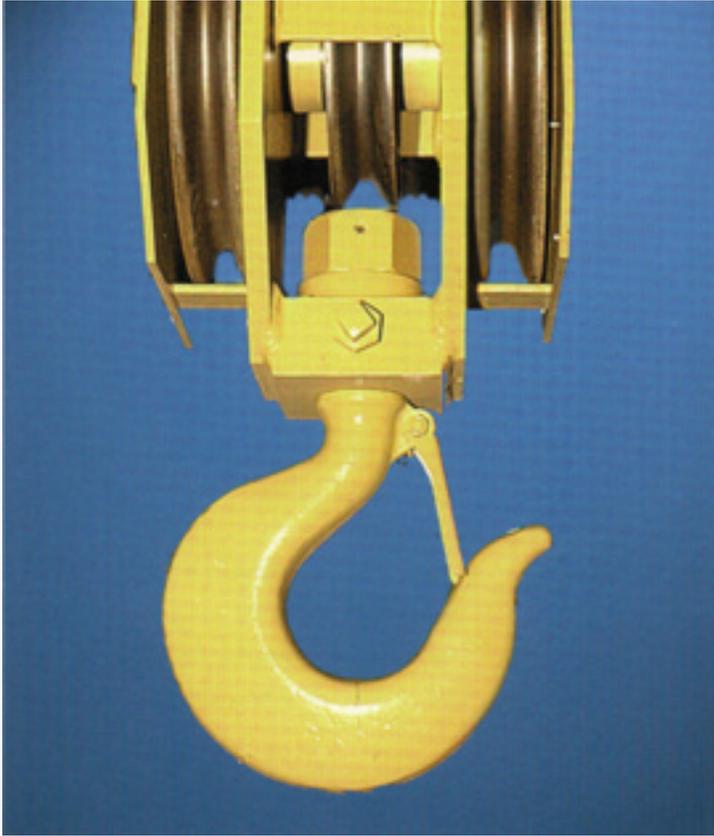
- MINIMUM L-10 HOIST GEARCASE BEARING LIFE 25,000 HOURS.
- TROLLEY DRIVE REDUCER MOUNTED DIRECTLY ON WHEEL AXLE EXTENSION DRIVING TWO WHEELS; DRIVE IS TOTALLY ENCLOSED WITH NO EXPOSED GEARING.
- 24:1 RUNNING SHEAVE/ROPE DIAMETER RATIO EXTENDS ROPE LIFE.



## Solenoid Encapsulated Self Adjusting Brakes

- WHITING'S RELIABLE SOLENOID ENCAPSULATED SELF-ADJUSTING HEAVY DUTY CRANE BRAKES OFFER SUPERIOR PERFORMANCES

# Hoist Features



## Hoist Block Features:

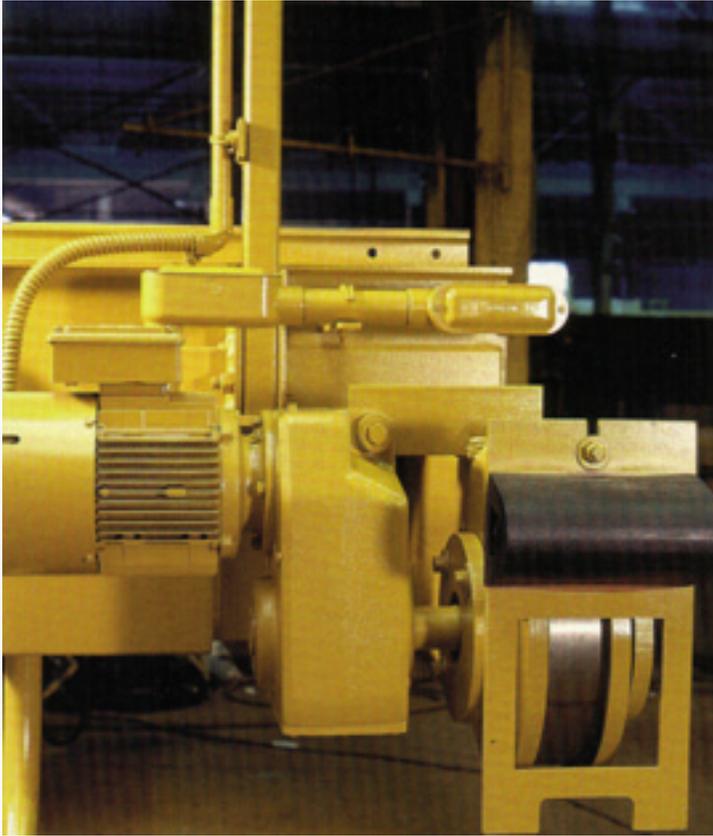
- **BLOCK HOUSING OF ALL STEEL CONSTRUCTION WITH CLOSE FITTING ROPE GUARDS.**
- **FORGED STEEL HOOK MOUNTED ON ROLLER THRUST BEARING, 360° SWIVEL.**
- **24:1 RUNNING SHEAVE/ROPE DIAMETER RATIO EXTENDS ROPE LIFE-MEETS CMAA CLASS E SERVICE.**
- **EASY VISUAL INSPECTION.**

## Hoist Features:

- **GEAR BOX.** THE HOIST IS A TRIPLE REDUCTION, SPLASH LUBRICATED REDUCER WITH PRECISION CUT STEEL HELICAL AND SPUR GEARING. ALL SHAFTS ARE EQUIPPED AND SPUR GEARING. SHATS ARE EQUIPPED WITH BALL BEARINGS AT EACH END, NO OVERHUNG GEARS. BEARINGS ARE RATED FOR CMAA CLASS E SERVICE. MINIMUM 25,000 HR L-10 GEAR BOX BEARING LIFE.
- **HOIST BRAKE.** THE HOIST MAY BE EQUIPPED WITH YOUR CHOICE OF A WESTON TYPE MECHANICAL LOAD BRAKE, EDDY-CURRENT BRAKE WITH EXCLUSIVE “EDDY-TAC” SPEED CONTROL, OR WHITING’S ULTRA-DRIVE™ FV FLUX VECTOR SPEED CONTROL.
- **UPPER SHEAVE ASSEMBLY.** THE UPPER SHEAVE NEST IS MOUNTED ABOVE THE TROLLEY FRAME DECK FOR EASY INSPECTION AND MAINTENANCE.
- **WEIGHT TYPE CONTROL CIRCUIT LIMIT SWITCH IS STANDARD, WITH OPTIONS FOR POWER CIRCUIT AND GEAR TYPE UNITS.**
- **HOLDING BRAKE.** WHITING’S SESA (SOLENOID ENCAPSULATED SELF-ADJUSTING) ELECTRIC HOLDING BRAKE RATED FOR AISE MILL TYPE SERVICE.
- **SHEAVES ROTATE ON LIFETIME LUBRICATED BEARINGS.**
- **THREE POINT MOUNTING ELIMINATES PRELOADING OF BEARINGS...PREMATURE**



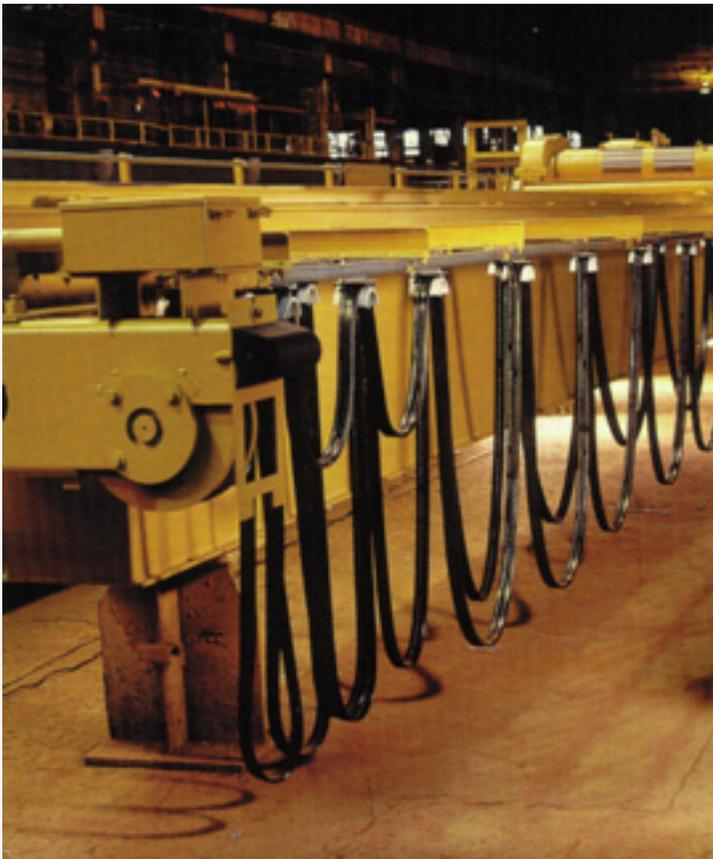
# Bridge Drives



## Bridge Drives:

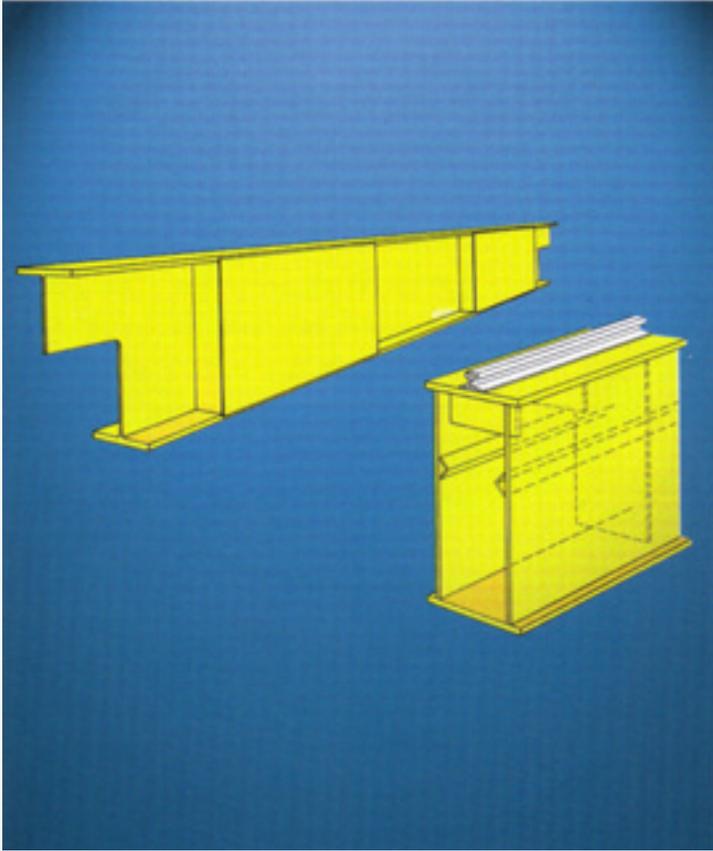
STANDARD DRIVE ARRANGEMENTS MAY BE EITHER A-1 OR A-4. A-1 BRIDGE DRIVES ARE A SINGLES MOTOR/REDUCER COMBINATION ON THE CENTERLINE OF THE BRIDGE, CONNECTED BY LINE SHAFTING TO THE AXLE ASSEMBLIES AT EACH END OF THE CRANE. A-4 DRIVES CONSIST OF TWO INDEPENDENTLY MOUNTED MOTOR/REDUCER COMBINATIONS DIRECTLY CONNECTED TO THE ROTATING AXLE AT EACH END OF THE CRANE.

A-1 AND A-4 DRIVES FEATURE SPLASH LUBRICATED GEARING IN A SEALED, CAST GEARCASE WITH PRECISION-CUT HELICAL GEARING FOR SMOOTH, QUIET, LOW MAINTENANCE OPERATION. EACH DRIVE IS EQUIPED WITH A MOTOR MOUNTED, DC RECTIFIED DISC BRAKE. SPRING PRESSURE AUTOMATICALLY COMPENSATES FOR LINING WEAR.



## Bridge Conductors: Long Life and Low Maintenance

- UL/CSA APPROVED, FLAT CABLE CONDUCTORS.
- PVC JACKETED FLAT CABLE CONDUCTORS PASS UL & CSA FLAME TESTS.
- DESIGNED FOR INDOOR/OUTDOOR APPLICATIONS.
- CONDUCTORS ARE COLOUR CODED PER ICEA AND NEMA.
- JACKETED CABLE RATED FROM  $-40^{\circ}\text{C}$  TO  $+105^{\circ}\text{C}$  AT 600 VOLTS.
- INVERTED GALVANIZED STEEL C-TRACK CONDUCTOR SYSTEM EXCLUDES DIRT AND MOISTURE.
- GALVANIZED STEEL CABLE TROLLEYS WITH LIFETIME LUBRICATED BALL BEARINGS AND DIRT /MOISTURE SEALS.



## Computerized Bridge Girder Designs:

WIDE FLANGE AND WELDED BOX GIRDERS ARE COMPUTER-DESIGNED; GIRDERS PROVIDE OPTIMUM STRENGTH WITH MINIMUM WEIGHT.

## Wide Flange girders

WIDE FLANGE GIRDERS ARE MADE MORE RIGID BY THE UNIQUE ADDITION OF STIFFENER PLATES WELDED BETWEEN THE TOP AND BOTTOM FLANGE. THE LENGTH AND POSITION OF THE PLATES IS DETERMINED BY COMPUTER ANALYSIS. THE ADDED RIGIDITY DERIVED FROM THESE SCIENTIFICALLY DESIGNED AND POSITIONED PLATES RESULTS IN IMPORTANT CUSTOMER BENEFITS:

- MINIMUM CRANE DEAD WEIGHT SO THAT WHEEL LOADS ARE LOWER AND COST OF RUNWAY IS MINIMIZED.
- SUFFICIENT TORSIONAL AND LATERAL STIFFNESS FROM THE PLATES TO ELIMINATE THE NEED FOR AN AUXILIARY GIRDER.

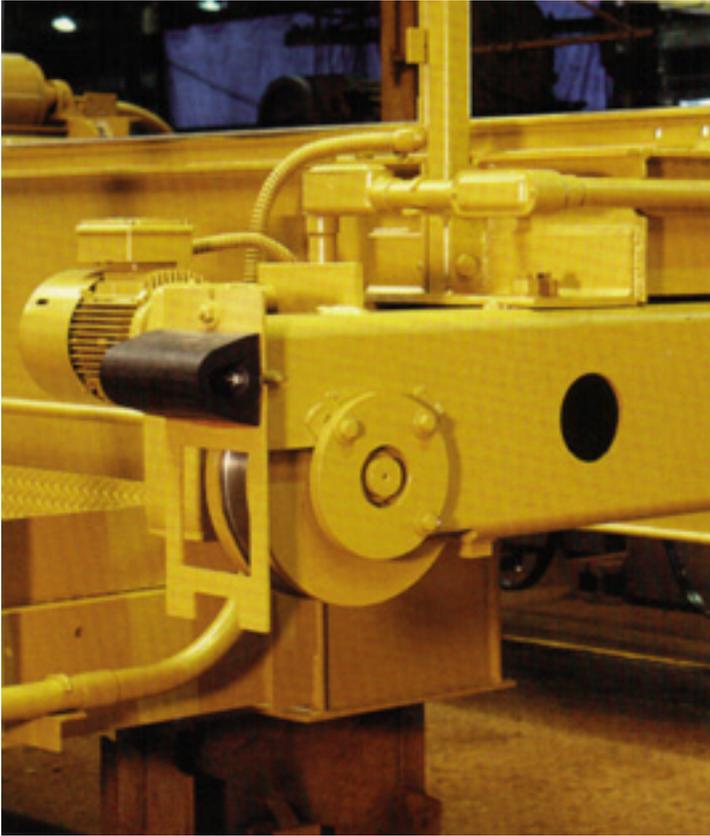
## Welded Box Girders

WELDED, BOX-TYPE GIRDERS ARE ALSO COMPUTER-DESIGNED SO THAT THE TOP AND BOTTOM COVER PLATE WIDTHS AND WEB DEPTHS GIVE OPTIMUM STRENGTH FOR INTENDED SERVICE WITHOUT UNNECESSARY WEIGHT.

- CONTINUOUS, AUTOMATIC, MACHINE WELDS JOIN COVER PLATES TO WEBS.
- TRUE WELD BOX SECTION FABRICATED FROM A-36 STEEL PLATES.



# Bridge Features



## Standard Bridge Features:

- DOUBLE FLANGED STEEL WHEELS WITH MACHINED TREADS; RIM ROUGHENING IS AVAILABLE. EASY VISUAL INSPECTION AND MAINTENANCE.
- DRIVE WHEELS KEYED TO HIGH STRENGTH ALLOY STEEL AXLED WHICH ROTATED ON TWO EQUALLY SPACED LIFETIME LUBRICATED, SPHERICAL ROLLER BEARINGS...NO OVERHUNG GEARING AT THE TRUCKS.
- MINIMUM 10,000 HOUR L-10 BEARING LIFE.
- HEAVY DUTY RECTANGULAR STRUCTURAL-TUBE TRUCK DESIGN WITH RUBBER BUMPERS.
- MAXIMUM 7:1 SPAN-TOWHEELBASE RATIO.
- HEAVY DUTY RAIL SWEEPS WITH WHEEL INSPECTION OPENINGS.
- RUGGED END TRUCK/GIRDER CONNECTION WITH CLOSE TOLERANCE BOLTS IN PRECISION REAMED HOLES ASSURE ACCURATE, PERMANENT CRANE ALIGNMENT. BOLT CONNECTION PROVIDES EASY INSTALLATION.
- A.S.C.E. RAIL SECTIONS ATTACHED TO GIRDERS BY STEEL RAIL CLIPS WELDED TO THE GIRDER. RAILS ARE CENTERED ON GIRDER FOR BALANCED LOADING.



## ER-2000 PAINTING PROCEDURES:

- SURFACE PREPARATION: TO SP3 AND SP7 STEEL STRUCTURES PAINTING COUNCIL STANDARDS.
- PRIME COATING: APPROXIMATELY 1 MIL THICKNESS, RED OXIDE, EPOXY TYPE, CORROSION INHIBITING PRIMER.
- FINISH COATING: APPROXIMATELY 1 MIL THICKNESS, AQUA-LUST CASTERPILLAR YELLOW, ALKYD CO-POLYMER TYPE.

# Optional Equipment

A number of optional features are available for the ER-2000 crane, including:

## Telemotive Radio Control

...ALLOWS TOTAL REMOTE OPERATION FROM PRACTICALLY ANY LOCATION WITHIN THE CRANE AREA. OMNI-DIRECTIONAL UHF OR VHF TRANSMITTER/RECEIVER IS NOT SUBJECT TO THE LINE OF SIGHT LIMITATIONS COMMON TO MOST UNITS. DURABLE, PADDLE TYPE TRANSMITTER FEATURES TACTILE FEEDBACK CONTROLS, SO THE OPERATOR CAN WATCH THE LOAD, NOT THE CONTROL. KEYLOCK ON-OFF, POWER ON INDICATION LIGHT AND LEAD ACID BATTERY WITH CHARGER ARE STANDARD RADIO CONTROL FEATURES.

## Crane Sentry™ Anti-Collision System

...FOR CRANE TO CRANE OR CRANE TO WALL COLLISION AVOIDANCE. CRANE SENTRY IS NOT AFFECTED BY RADIO INTERFERENCE FROM OTHER CONTROL DEVICES. WHEN INCORPORATED WITH COMPU-LOGIC CONTROL, CRANE SENTRY™ CAN BE PROGRAMMED TO SLOW OR STOP THE CRANE AT A PREDETERMINED POINT, AND CAN BE USED WITH END OF TRAVEL LIMIT SWITCHES FOR REDUNDANT COLLISION AVOIDANCE.

## Overload Sensing Device

...HOIST OVERLOAD SENSING IS AVAILABLE ON WHITING FIVE-SPEED MECHANICAL LOAD BRAKE OR EDDY-CURRENT BRAKE CONTROLS. THIS OPTION CAN REDUCE THE CHANCE OF INADVERTENTALLY OVERLOADING THE HOIST.

## Open, Sit Down Control Cab

...CONSTRUCTED OF WELDED STRUCTURAL STEEL AND MOUNTED ON THE DRIVE GIRDER AT EITHER END OF THE CRANE; PROVIDES FULL VISIBILITY FOR THE CRANE OPERATOR.

- ADJUSTABLE, CUSHIONED OPERATOR'S CHAIR.
- WARNING BELL WITH FOOT ACTUATED SWITCH.
- CONVENIENTLY LOCATED START/STOP PUSHBUTTON.
- CONVENIENTLY ACCESS LADDER FROM CAB TO BRIDGE FOOTWALK.
- SIDE OR REAR CHAINED ENTRY.
- FLOOR MAT, FIRE EXTINGUISHER.
- ADDITIONAL CAB OPTIONS INCLUDE 120 VOLT CONVEINCE OUTLET, CAB LIGHT AND SWITCH, ELECTRIC SPACE HEATER.

## Auxiliary Hoists

- BUILT-UP TYPE AUXILIARY HOIST WITH DUPLICATE COMPONENTS AND ALL THE FEATURES OF THE MAIN HOIST.
- PACKAGED HOISTS.

## Open, Stand Up Control Cab

...WITH PENDANT TRAY CONSTRUCTED OF WELDED STRUCTURAL STEEL. THE 3'-6" SQUARE FOOT CAB CAN BE MOUNTED ON EITHER SIDE OF THE CRANE, AND CONTAINS AN ACCESS LADDER FROM THE WALK ABOVE. ALL CRANE CONTROLS ARE OPERATED FROM THE PUSHBUTTON STATION.

## Warning Systems

WARNING BELLS, SIRENS OR RED STROBE LIGHTS ARE MANUALLY ACTIVATED BY THE PENDANT CONTROL, REMOTE RADIO CONTROL, OR A CAB FOOT SWITCH. THE WARNING SYSTEM MAY BE INTERCONNECTED WITH THE COMPU-LOGIC CONTROL SYSTEM FOR AUTOMATIC OPERATION.

## Optional Weather Protection

...FOR CRITICAL CRANE COMPONENTS, CONTROL PANELS, BRAKES AND CONDUIT FITTING, ARE PROTECTED FROM WATER PENETRATION.



## Bridge Lighting High intensity Discharge (HID) area lighting system

YOUR (HID) LIGHTING CHOICES INCLUDE HIGH PRESSURE SODIUM (HPS) OR METAL HALIDE (MH). HID LIGHTING PROVIDES THREE TO SIX TIMES MORE LIGHT OUTPUT AND SIX TO SEVEN TIMES LONGER LIFE THAN STANDARD INCANDESCENT SYSTEMS. SWING-UP MOUNTING PROVIDED TO ALLOW CONVENIENT ACCESS FROM CRANE SERVICE PLATFORMS.

Other custom features  
are available on request

# Heavy-Duty Overhead Cranes

Quality Cranes for Proven Performance



WHITING PRODUCT SUPPORT SERVICES CAN INCLUDE EMERGENCY ACTION ANY HOUR, ANY DAY. WE'RE ALWAYS READY TO HELP WITH:

- GENUINE WHITING QUALITY REPLACEMENT PARTS
- EQUIPMENT INSPECTION AND PREVENTATIVE MAINTENANCE PROGRAMS
- EXPERT OPERATOR TRAINING SERVICES
- INSTALATION SERVICES
- CRANE MODERNIZATION PROGRAMS
- ELECTRICAL, MECHANICAL AND STRUCTURAL REPAIR SERVICES
- MAINTENANCE TRAINING SEMINARS



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