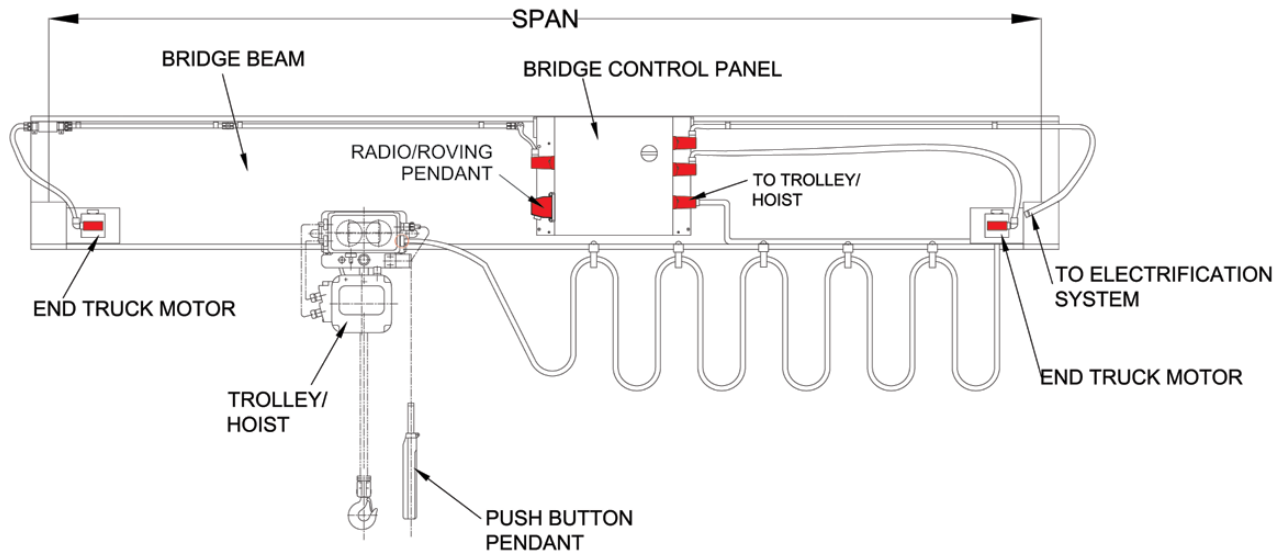


## Plug and Play Crane Kits

Harrington's Plug and Play Crane Kits are high-performance, easy-to-install systems that handle today's most demanding Class "C" applications. Conveniently labeled heavy-duty plugs make installation quick and easy. These kits include standard features that are options on most competitive systems. Applications include fabricating, machining, die handling, assembly, production and maintenance. Rely on Harrington Plug and Play Crane Kits for durability, reliability and years of trouble-free service.



### Standard Features

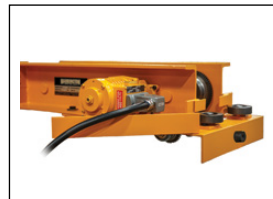
- Capacities: 1 – 10 Ton Top Running; 2 – 5 Ton Underhung
- Heavy-duty, plug-in connections on trolley hoist, end trucks, control panel and crane wiring
- Side guide rollers greatly reduce wheel friction and wear, providing smooth crane travel with increased wheel and runway life
- End trucks come standard with drives, brakes, bumpers, drop stops and rail sweeps
- (N)ER electric chain hoists
- UL/C-UL listed control panel
- CSA and UL listed crane wires and festooning



(N)ERM



Top Running End Trucks



Underhung End Trucks



Control Panel



Plug and Play Connections



Crane Wires



Festooning

## Crane Service Classifications:

### Crane Service Class:

- The Crane Manufacturers Association of America (CMAA) has established six service classes for cranes. These classes are Class A through Class F, and are based on load cycles and load magnitude. Class A cranes are suited for the least severe service, and Class F cranes are suited for the most severe service.

### Class C Service Class:

The load cycle and magnitude combinations that define the Class C Service Class are:

- Load is usually between 1/3 and 2/3 of rated capacity and is frequently equal to rated capacity, and design service life is 20,000 to 100,000 cycles.
- Load is usually 1/3 of rated capacity and is rarely equal to rated capacity, and design service life is 100,000 to 500,000 cycles.
- Load is usually very light and rarely is equal to rated capacity, and design service life is 500,000 to 2,000,000 cycles.

### Class B Service Class:

The load cycle and magnitude combinations that define the Class B Service Class are:

- Load is usually 1/3 of rated capacity and is rarely equal to rated capacity, and design service life is 20,000 to 100,000 cycles.
- Load is usually very light and rarely is equal to rated capacity, and design service life is 200,000 to 500,000 cycles.

## Compliance

**In order to meet requirements of the Crane Manufacturers Association of America (CMAA), the National Electric Code (NEC) and the American National Standards Institute (ANSI/ASME), Harrington cranes include:**

- Thermal protection for all motors.
- Stationary crane wires that are enclosed in conduit.
- Rubber bumpers for crane and powered trolleys.
- Hoists load tested to 125% of rated capacity.
- Drop stops for cranes.
- Rail sweeps for top running and underhung cranes.

## Bridge Crane Control Panels

All motorized bridge cranes require a master panel to control bridge crane functions. Harrington control panels are completely pre-wired and tested, and ready to mount on bridge beam. Standard panel is NEMA 4/12 rated and includes:

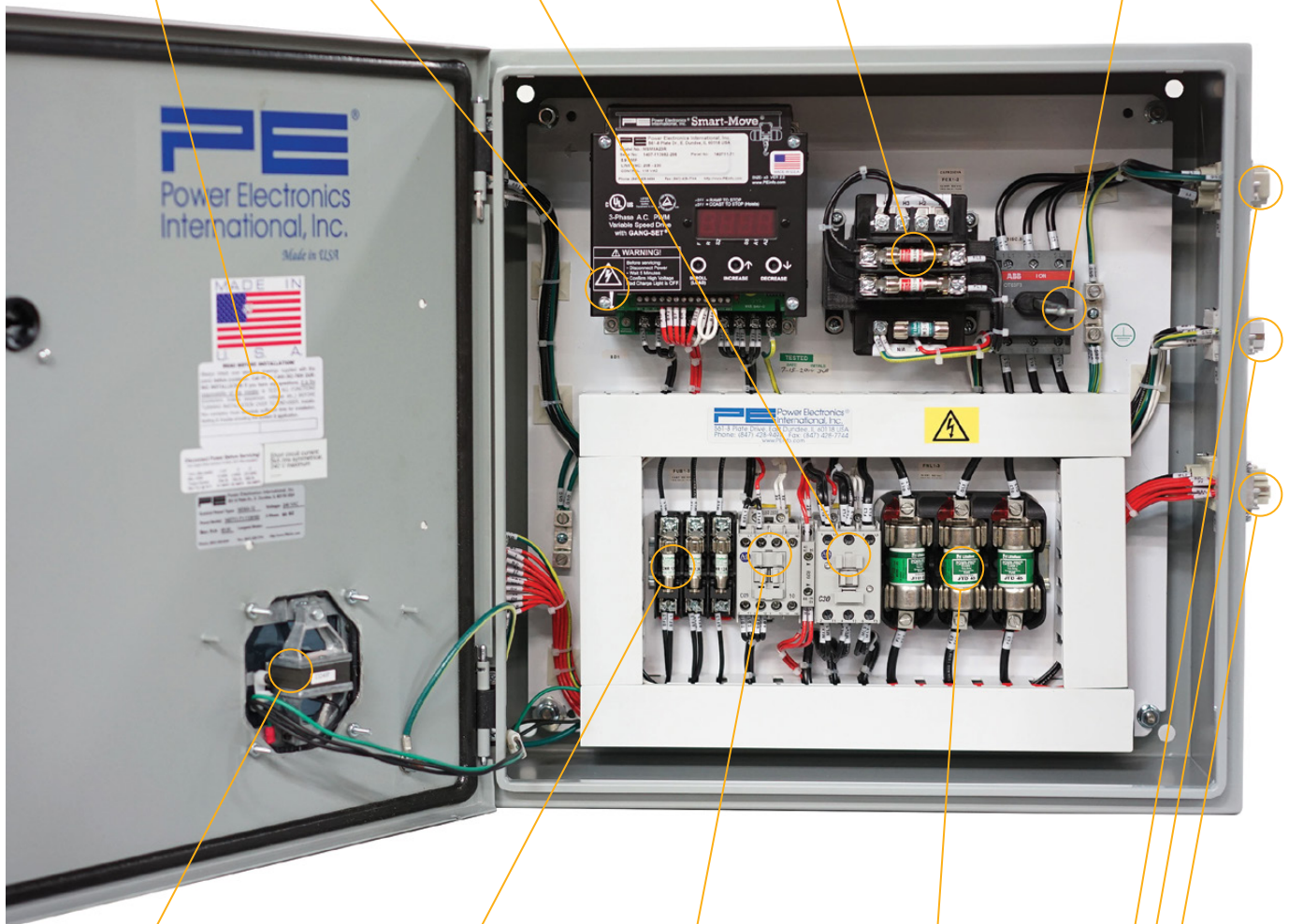
**Sales order and wiring diagram number** for easy reference

**VFD**  
Variable Frequency Drive

**Main line contactor**  
allows the crane to be turned on and off from the pendant

**Control transformer**  
(with primary and secondary fusing) provides low voltage control circuit for pendant

**Through-the-door fused disconnect switch**  
is OSHA compliant lock-out capable



**“Warning Device” (horn)**  
as required by CMAA when crane is equipped with a radio powered traversing function

**Branch circuit fusing**  
for crane drives

**Brake relay**

**Main line disconnect fusing**


**Plug and play connectivity**

NEMA 4 bridge crane control panels available upon request.

## Bridge Crane Control Panels

These panels are for use with all Harrington Series 3 motorized end trucks and are NEC compliant for overhead bridge cranes. All panels include bridge mounting bracket and wiring diagram. Specify voltage when ordering.

### Standard Panel – Single and Dual Speeds

All panels are NEMA 4/12 type and c  US LISTED.


Actual crane drive amps will be determined by system requirements.

Plug and play connection available up to 80A system.

### Standard Panel features include:

Lock-out compatible through-the-door manual disconnect switch with system fusing, 110 volt control circuit transformer with primary and secondary fusing, mainline contactor, mechanically interlocked reversing contactor, time and torque adjustable Electronic Acceleration Control (EAC), branch circuit fusing for bridge, auto-reset thermal overload relay and hinged door.

### Optional Panel – Variable Frequency Drive (VFD)

All panels NEMA 4/12 type and c  US LISTED.

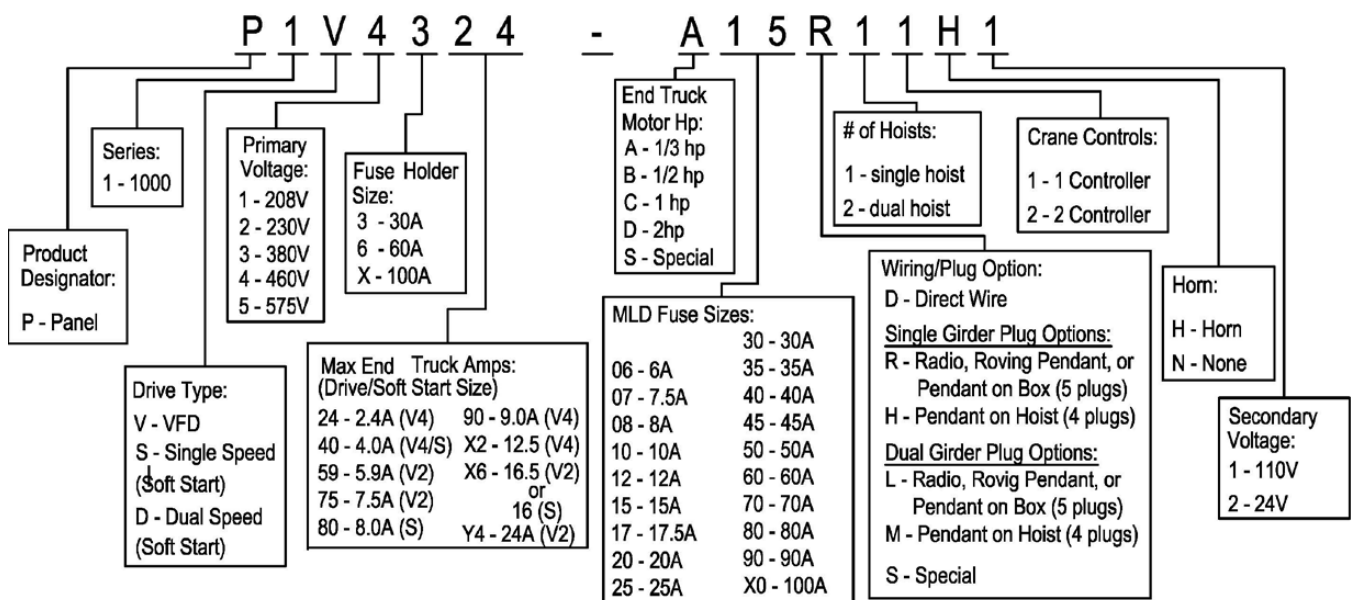
Actual crane drive amps will be determined by system requirements.

Plug and play connection available up to 80A system

### Optional Panel features include:

Lock-out compatible through-the-door manual disconnect switch with system fusing, 110 volt control circuit transformer with primary and secondary fusing, mainline contactor, Variable Frequency Drive (VFD), brake relay, branch circuit fusing for bridge and hinged door.

These panels can be used for dual- and multiple-speed applications, infinitely variable speed applications and programmed acceleration/deceleration control, using single-speed end trucks. VFD comes pre-loaded with many easy-to-select programs to fit virtually any crane control application and includes fault-code troubleshooting



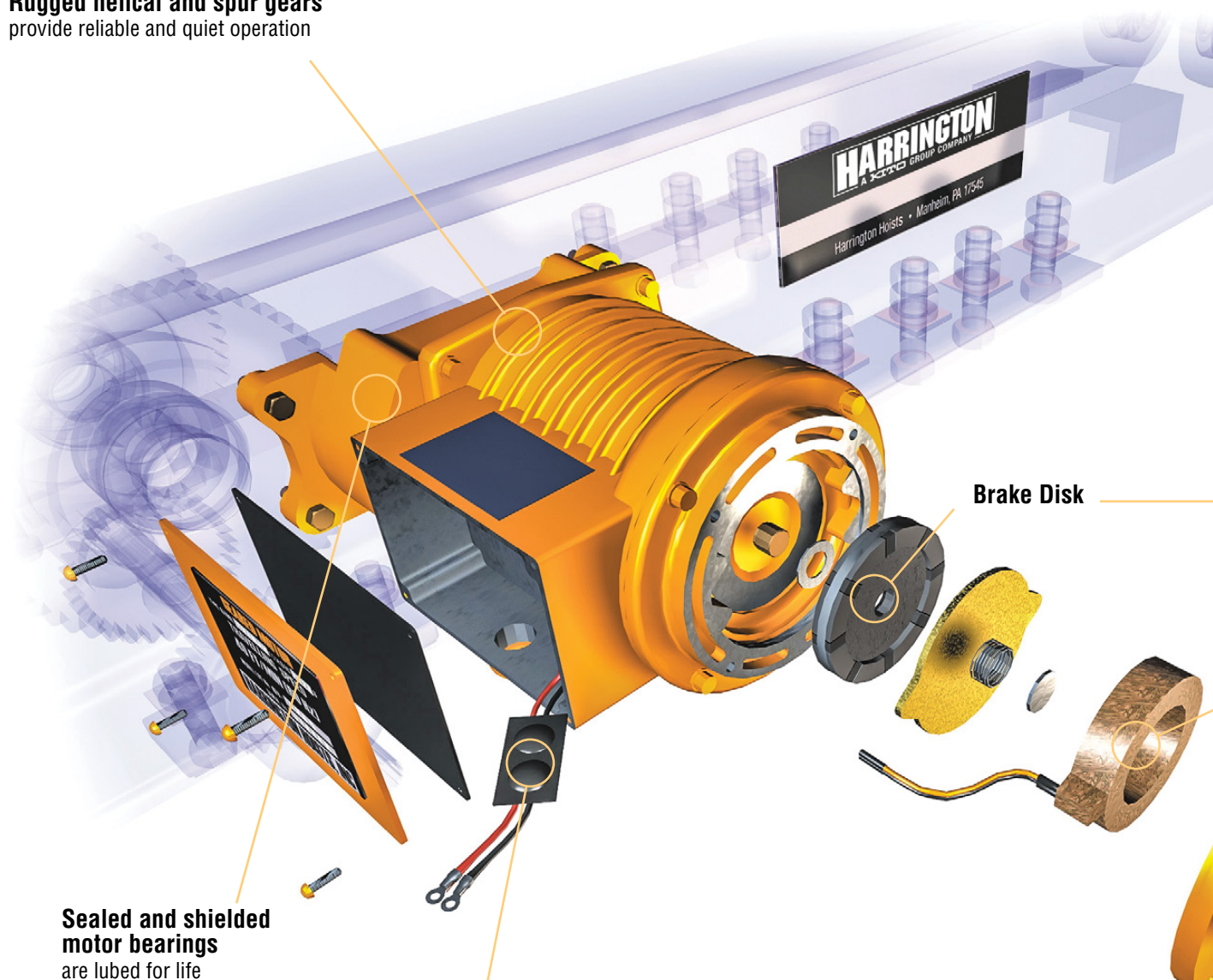
### Product Code



## Motor and Brake

Harrington motorized cranes are dual drive type, employing two totally enclosed non-ventilated drives per crane. Drives use helical and spur gearing and are equipped with adjustable DC brakes.

**Rugged helical and spur gears**  
provide reliable and quiet operation



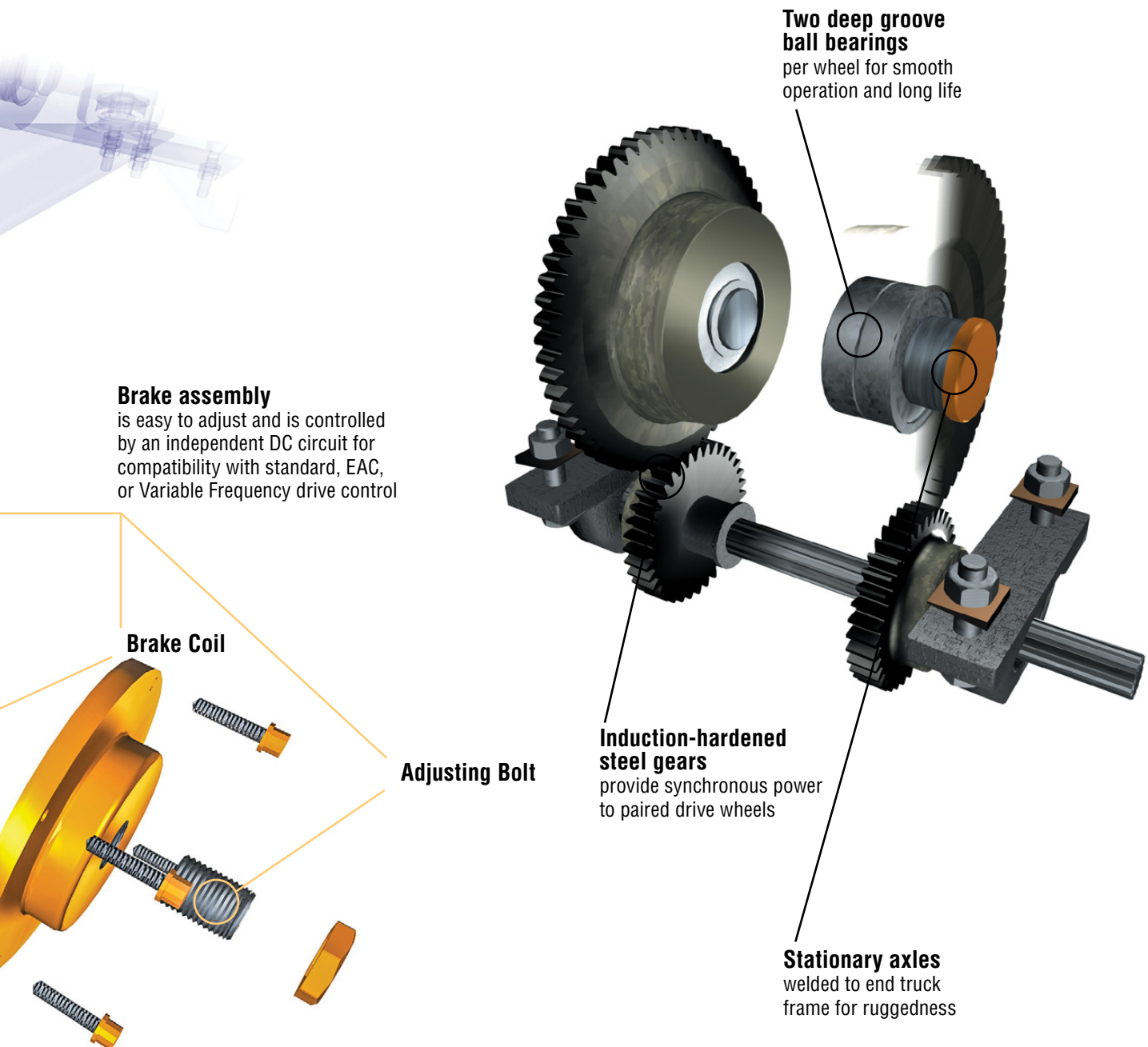
**Sealed and shielded motor bearings**  
are lubed for life

**Rectifier**  
for brake circuit supplies  
DC voltage to brake coil

**Brake Disk**

## Series 3 Underhung Crane Drive Wheels

Harrington's motorized and geared underhung cranes use a gear system that drives two of the four wheels on each end truck. All Series 3 underhung cranes have two bearings in each wheel.



# Product Specification Form

## Harrington Complete Crane Systems

### HARRINGTON COMPLETE CRANE SYSTEMS

Quantity	_____
Capacity	_____ (Ton)
Span	_____
Voltage	_____ (If Motorized)
Runway Length	_____
Crane Type	_____ Single Girder _____ Double Girder _____ Top Running _____ Underhung
Structure	_____ Rail Size (If Top Running) _____ Runway Beam Size (If Underhung)
Bridge Travel (If Motorized)	_____ Motorized _____ Push _____ Geared _____ Single Speed _____ Dual Speed _____ VFD _____ Desired Speed
(If Geared)	_____ Hand Chain Drop (feet)
Specials:	_____
Bridge Beam	_____ Required _____ Existing _____ Beam Spec. (If Existing)
Hoist Type	_____ Manual Chain _____ Electric Chain _____ Electric Wire Rope
Lift	_____ Feet
(If Electric)	_____ Single Speed _____ Dual Speed _____ VFD _____ Desired Speed
Options:	_____ Canvas Chain Container
Specials:	_____
Trolley Type	_____ Motorized _____ Push _____ Geared
(If Motorized)	_____ Single Speed _____ Dual Speed _____ VFD _____ Desired Speed
(If Geared)	_____ Hand Chain Drop (feet)
Specials:	_____

Form completed by:

Name \_\_\_\_\_ Company \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

E-Mail Address \_\_\_\_\_

## Options

### Plug and Play Connections

- End Trucks
- Crane Control Panel L
- Crane Wires
- Trolley/Hoist

### Flat Cable Festooning

- Roving pendant
- Hoist/trolley power
- Runway—crane power

### Variable Frequency Control

- Multiple speeds
- Infinitely variable speeds
- Programmable acceleration and deceleration

### Remote Control

- Radio
- Infrared
- Wall-mounted pendant (hard-wired)

### 24V Control Voltage

(110V is standard)

### NEMA 4, 4X, 12, or 13 Bridge Control Box

(NEMA 4/12 is standard)

### NEMA 4 or 4X Pendant

### Warning Devices

- Lights
- Audible alarms

### Enclosed Conductor Electrification

- Bridge
- Runway

### Multiple Hoists on Single Bridge

### Power Supply—Other Voltages Available

### Interlocking Bridges

### Patented Track Runway Applications

(3 1/4" and above)

### Travel Limit Switches

### Load Limiting Device

### Special Applications

## Glossary of Common Crane Terms:

**Adjustable brakes:** Electro-mechanical device to control horizontal crane deceleration.

**Bridge beam:** Traveling beam connected to end trucks - supports trolley hoist and load.

**Bumpers:** Energy absorbing device mounted on end trucks or trolley that reduces impact when the truck or trolley contacts either its end stop or another truck or trolley.

**Capacity:** Maximum rated load which a crane is designed to carry. Commonly expressed in Tons. (1 Ton = 2,000 lbs.).

**Drop stops:** Means to limit the drop of a bridge or trolley in case of wheel or axle failure.

**Electronic Acceleration Control (EAC):** Electronic control for adjusting rate of crane acceleration; also known as Electronic Soft Start.

**End truck:** Load-bearing crane component that supports the bridge beam and consists of a frame, wheels, axles, etc.

**Festooning:** Wiring and support system that delivers power to trolley hoist across bridge or runway beam.

**Distributed by Tri-State Equipment Company Inc.**

sales@tsoverheadcrane.com

www.tsoverheadcrane.com

Tel: (314) 869-7200

**Rail sweeps:** Device designed to clear obstructions from wheel running surface.

**Runway beam:** Stationary beams that support crane and load. Commonly fabricated from S or W beams or patented track.

**Runway electrification:** Delivers power to crane as it travels along runway.

**Span:** Dimension from one runway centerline to the other runway centerline.

**System max wheel load:** Maximum load exerted on runway beams for a crane loaded to its rated capacity. It occurs when trolley hoist is located at its maximum end approach and includes an allowance for vertical inertial forces associated with electric hoists. This value is expressed for Series 3 cranes as lbs/wheel for top running and lbs/wheel pair for underhung cranes. For Series HPC 500 cranes, both top running and underhung are lbs/wheel pair.

**Top running:** Crane type that travels on top of rail or bar attached to runway beams.

**Underhung:** Crane type that travels on the lower flange of runway beams.