

## Options and Technical Data

### LOAD LIMITER

Reduces the potential for making hazardous, over-capacity lifts. The load limiter is preset at 115% of rated capacity and protects the hoist mechanism from damage due to overloading. Overloading the hoist electrically activates the load limiter, making the hoist inoperable (load can still be lowered at any time).



### STEEL CHAIN CONTAINERS



Containers are installed differently depending on the type of product or lift. The steel containers may not cover the standard beam curve radii depending on their installation conditions.

### BULLARD® AND SHUR-LOC® HOOKS

These hooks offer a positive locking latch feature. Consult Customer Service for full details.



Bullard®



Shur-Loc®

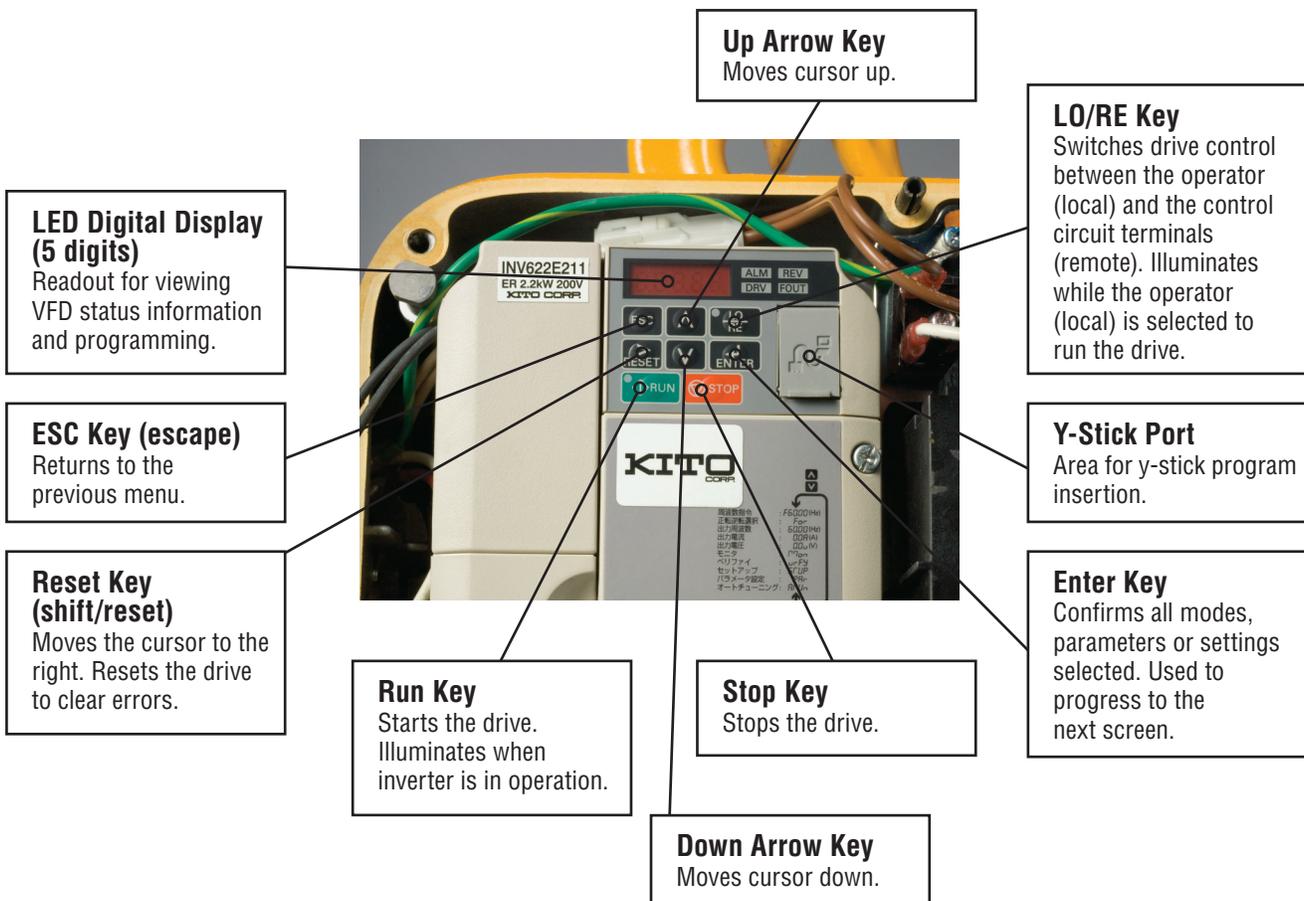
## Options and Technical Data

### VARIABLE FREQUENCY DRIVE – VFD (INVERTER FOR SMOOTH TRANSITIONAL SPEED)

The dual speed inverter delivers smoother movement than contactor control which reduces load swing. The inverter can be programmed to operate specific to the application resulting in smooth starts, improved control, improved positioning accuracy and overall increased productivity. Standard lifting speed ratio for 1/8 Ton through 5 Ton is 6:1 adjustable to 12:1\* Standard lifting speed ratio for 8 Ton and larger capacities is 3:1 adjustable to 12:1\* Standard traversing speed ratio is 6:1 adjustable to 10:1.

(N)ER/MR inverter unit is well-customized for lifting/traversing applications including exclusive software and is also provided with measures against impact and heat which were verified through long-run tests.

*\*For a speed ratio other than the standard 2-speed or to request 2-step or 3-step infinitely variable, please make the request at the time of placing an order.*

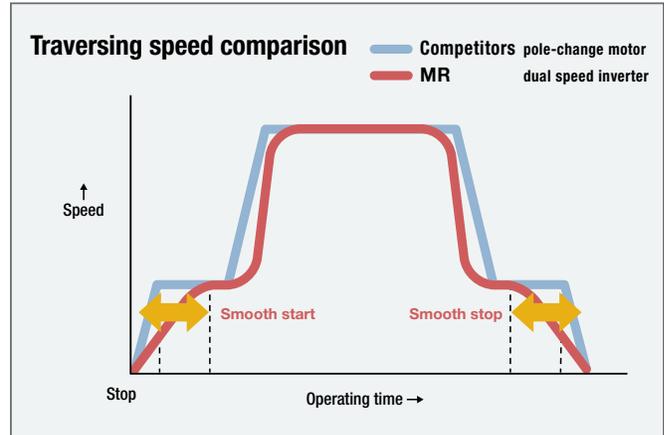
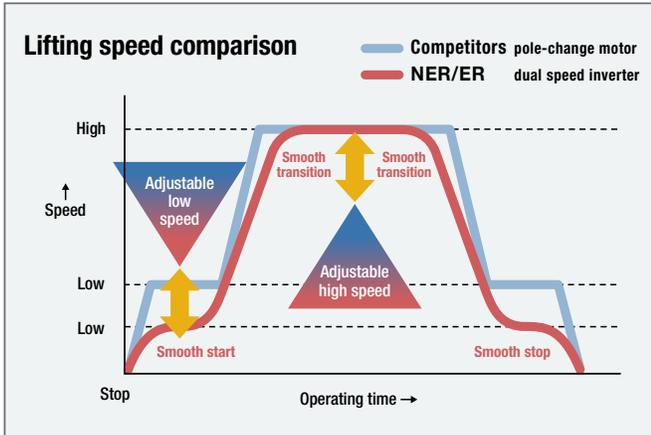


### UL Standards

The UL mark applied to products in the United States indicates that UL has performed product testing and evaluation and determined that their stringent standards for product safety have been met. For a product to receive UL certification, all components inside that product must also receive UL certification.

In general terms, with some exceptions, standard configurations of Harrington NER/ER three phase electric chain hoists qualify for UL. Custom configurations do not qualify. Examples of some product configurations that do not qualify include the addition of radio remote control, a load limiter, Bullard® hooks, flat cable festooning and cylinder control models.

**SPEED COMPARISONS**



**VFD HOIST CONTROL DESCRIPTIONS**

**Dual Speed Control**

Uses a 2-step button and a VFD to control the speed. Pressing the button to the first step causes the hoist to accelerate smoothly to the low speed. Pressing the button to the second step causes the hoist to accelerate smoothly to the high speed. Releasing the button from the second step to the first step causes the hoist to smoothly decelerate to the low speed. Releasing the button completely from any step causes the hoist to decelerate quickly to a stop with the brake holding the load.

**2-Step Infinitely Variable Control**

Uses a 2-step button and a VFD to control the speed. The acceleration rate can be changed by changing parameters in the VFD. The 2-Step Infinitely Variable differs from Dual Speed Control in that when releasing the button from the second step to the first step it will maintain whatever the speed was at the instant before the button arrived at the first step. This allows you to hold any speed between the low and the high speed. If the hoist is operating at a speed that is less than high speed, and you wish it to operate at a faster speed, press the button to the second step to accelerate the hoist. When you reach the desired speed, release the button to the first step. Note that there is no deceleration function other than completely releasing the button.

**3-Step Infinitely Variable Control**

Uses a 3-step button and a VFD to control the speed. This control is similar to the 2-Step Infinitely Variable Control with the added feature of a deceleration function. If the hoist is operating at a particular speed and you wish it to operate at a faster speed, press the button to the third step to accelerate. When you reach the desired speed, release the button to the second step to maintain that speed. If the hoist is operating at a particular speed and you want it to operate at a slower speed, release the button to the first step to decelerate. When you reach the desired speed, press the button to the second step to maintain that speed.

Contact Customer Service for additional documentation and descriptions.

**“THE GUARDIAN”: SMART BRAKE TECHNOLOGY—DESCRIPTION**

The Guardian Smart Brake releases when it senses current being consumed by the motor. If the motor burns out OR is single-phased, the motor does not consume current (amps). This cuts power to the brake and the brake assembly locks. It is electrically failsafe by design. The brake does not need adjustment or replacement parts, and it carries a **10 year warranty**.



# Options and Technical Data

## (N)ER CHAIN — DIMENSIONS

Cap. (Tons)	Product Code	d (in)	a (in)	b (in)	P (in)
1/8	(N)ER001HCC(D)	0.17	0.26	0.59	0.48
1/8	(N)ER001H(D)	0.17	0.26	0.59	0.48
1/4	(N)ER003S(D)	0.17	0.26	0.59	0.48
1/4	(N)ER003SCC(D)	0.17	0.26	0.59	0.48
1/4	(N)ER003H(D)	0.24	0.35	0.83	0.66
1/2	(N)ER005L(D)	0.24	0.35	0.83	0.66
1/2	(N)ER005S(D)	0.24	0.35	0.83	0.66
1	(N)ER010L(D)	0.30	0.46	1.06	0.85
1	(N)ER010S(D)	0.30	0.46	1.06	0.85
1 1/2	(N)ER015S(D)	0.40	0.60	1.41	1.13
2	(N)ER020C(D)	0.30	0.46	1.06	0.85
2	(N)ER020L(D)	0.40	0.60	1.41	1.13
2	(N)ER020S(D)	0.40	0.60	1.41	1.13
2 1/2	(N)ER025S(D)	0.44	0.65	1.54	1.24
3	(N)ER030L(D)*	0.49	0.62	1.73	1.50
3	(N)ER030C(D)	0.40	0.60	1.41	1.13
5	(N)ER050L(D)	0.44	0.65	1.54	1.24
8	(N)ER080S(D)	0.44	0.65	1.54	1.24
10	(N)ER100L(D)	0.44	0.65	1.54	1.24
10	(N)ER100S(D)	0.44	0.65	1.54	1.24
15	(N)ER150S(D)	0.44	0.65	1.54	1.24
20	(N)ER200S(D)	0.44	0.65	1.54	1.24

\*The (N)ER030L(D) listed is the previous hoist model.

## SNER CHAIN DIMENSIONS

Cap. (Tons)	Product Code	d (in)	a (in)	b (in)	P (in)
1/4	SNER003S	0.20	0.25	0.71	0.59
1/2	SNER005L	0.25	0.31	0.87	0.75
1/2	SNER005S	0.25	0.31	0.87	0.75
1	SNER010L	0.31	0.39	1.10	0.94
1	SNER010S	0.31	0.39	1.10	0.94
2	SNER020L	0.39	0.49	1.38	1.18
3	SNER030C	0.39	0.49	1.38	1.18

## ED CHAIN DIMENSIONS

Cap. (lbs)	Product Code	d (in)	a (in)	b (in)	P (in)
125 to 1050	(All Models)	0.16	0.20	0.53	0.48

## (N)ER HOOK — DIMENSIONS

Product Code	Hook**	a (in)	b (in)	c (in)	d (in)	e (in)	f (in)	g (in)	h (in)
(N)ER001H, 003S, 003H, 005L, 005S	T & B	1.1	0.7	0.9	0.7	1.4	1.5	1.1	3.7
(N)ER001HCC, 003SCC	T	1.1	0.7	0.9	0.7	1.4	1.5	1.1	3.7
	B	0.8	0.5	0.7	0.5	1.4	1.4	0.9	3.0
(N)ER010L, 010S	T & B	1.5	0.9	1.2	0.9	1.7	1.8	1.2	4.3
(N)ER020C	T & B	1.9	1.1	1.6	1.1	2.0	2.2	1.5	5.4
(N)ER015S	T	2.0	1.3	1.7	1.3	2.1	2.2	1.5	5.7
	B	1.7	1.1	1.5	1.1	1.9	2.0	1.4	4.9
(N)ER020L, 020S	T & B	2.0	1.3	1.7	1.3	2.1	2.2	1.6	5.7
(N)ER025S	T	2.0	1.3	1.7	1.3	2.4	2.4	1.7	6.1
	B	2.0	1.3	1.7	1.3	2.1	2.2	1.6	5.7
(N)ER030L*, 030C	T & B	2.2	1.4	1.9	1.4	2.4	2.5	1.8	6.3
(N)ER050L	T & B	2.6	1.7	2.2	1.7	2.5	2.9	1.9	7.4
(N)ER080S	B	3.3	2.2	2.9	1.9	3.3	3.7	2.5	9.5
(N)ER100L, 100S	T & B	4.1	2.8	3.4	2.4	3.9	4.3	3.2	11.4
(N)ER150S	T & B	4.6	3.3	3.9	2.8	4.3	4.9	3.4	12.3
(N)ER200S	T & B	5.2	3.3	4.4	2.8	4.9	5.6	4.1	14.4

\*The (N)ER030L listed is the previous hoist model.

\*\*T = top hook, B = bottom hook

## SNER\* HOOK DIMENSIONS

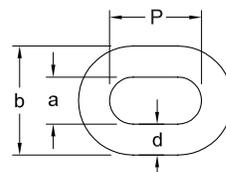
Capacity Code	Hook*	a (in)	b (in)	c (in)	d (in)	e (in)	f (in)	g (in)	h (in)
003, 005L, 005S	T	1.1	0.7	0.9	0.7	1.4	1.5	1.1	3.5
	B	1.1	0.7	0.9	0.7	1.4	1.5	0.9	3.4
010L, 010S	T & B	1.4	0.9	1.2	0.9	1.7	1.8	1.2	4.2
020L	T & B	1.9	1.1	1.6	1.1	2.0	2.2	1.5	5.3
030C	T & B	2.2	1.4	1.9	1.4	2.4	2.5	1.7	6.3

\*T=top hook, B=bottom hook.

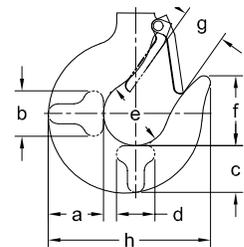
## ED HOOK DIMENSIONS

Capacity Code	Hook*	a (in)	b (in)	c (in)	d (in)	e (in)	f (in)	g (in)	h (in)
125 – 525	T	0.8	0.3	0.7	0.3	1.3	1.2	1.0	2.9
	B	0.8	0.5	0.7	0.5	1.4	1.4	1.0	3.0
1050	T	1.1	0.7	0.9	0.7	1.4	1.2	1.1	3.5
	B	1.1	0.7	0.9	0.7	1.4	1.4	0.9	3.4

\*T=top hook, B=bottom hook.



Chain Dimensions



Hook Dimensions

**CORROSION-RESISTANT CHAINS  
NICKEL-PLATED (NP)  
AND NICKEL DIFFUSED (ND) CHAIN**

**Examples of Corrosion Resistance to Acids, Salts, and Other Substances Under Normal Temperatures**

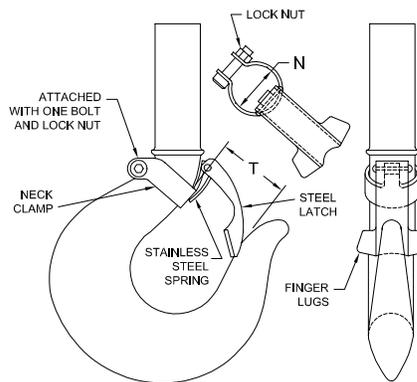
Substance		Concentration %	Corrosion Resistance
Air	Indoors, Outdoors	—	No Corrosion
Mineral Acids	Sulfuric Acid	10	Corrosion
	Nitric Acid	10	Corrosion
	Hydrochloric Acid	10	Corrosion
	Phosphoric Acid	10	Slight Corrosion
	Boric Acid	5	Slight Corrosion
Organic Acids	Acetic Acid	10	Slight Corrosion
	Tartaric Acid	10	No Corrosion
Alkalis	Caustic Soda	10	No Corrosion
	Ammonia	10	Slight Corrosion
Other	Salt Water	—	Slight Corrosion

Results listed in this table are for chemicals in a pure state. The degree of corrosion resistance may differ from this table with the presence of other chemicals, different concentrations, mixed substances or damage to the nickel surface layer.

**UNIVERSAL LATCH KITS**

Generic design to fit most hooks. Available in standard steel or stainless steel. Neck and throat dimensions can be combined for proper fit. (Example, neck size E with throat size L.) Neck measurement must be diameter—not circumference. Contact Customer Service for dimensions not shown.

Latch Kit Product Code	Neck Diameter N (in)	Throat Opening T (in)
A	9/16 to 5/8	1 1/16 to 1 1/8
B	3/4 to 1 3/16	1 1/4
C	7/8 to 1	1 3/8 to 1 1/2
D	1 1/8 to 1 1/4	1 3/4 to 1 7/8
E	1 3/8 to 1 1/2	2 1/16
F	1 5/8 to 1 11/16	2 1/4
G	1 3/4 to 1 11/16	2 1/2
H	1 7/8 to 2	3
J	2 1/16 to 2 1/8	3 3/8
K	2 3/16 to 2 1/4	3 1/2
L	2 5/16 to 2 3/8	3 3/4
M	2 7/16 to 2 3/4	4
O	3 to 3 1/4	4 1/2



# Options and Technical Data

## DUTY CLASSIFICATIONS

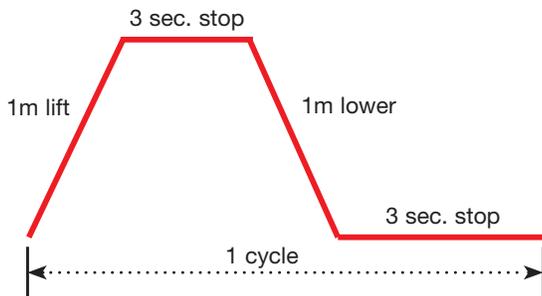
Hoist Duty Class	Typical Areas of Application	Operation Time Ratings at K = 0.65*			
		Uniformly Distributed Work Periods		Infrequent Work Periods	
		Max. Time (min/hr)	Max. No. of Starts/hr	Max. Time From Cold Start (min)	Max. No. of starts
H2	Light machine shop fabricating, service and maintenance; loads and utilization randomly distributed; rated loads infrequently handled	7.5 (12.5%)	75	15	100
H3	General machine shop fabricating, assembly, storage, and warehousing; loads and utilization randomly distributed	15 (25%)	150	30	200
H4	High volume handling in steel warehouses, machine shops, fabricating plants and mills, and foundries; manual or automatic cycling operations in heat treating and plating; loads at or near rated load frequently handled	30 (50%)	300	30	300

\*K = Mean effective load factor.

## LIFTING MOTOR RATINGS

### Short Time Rating

This rating indicates how long the hoist can be operated continuously at the rated capacity on the cycle below, assuming continued operation for a short time span.

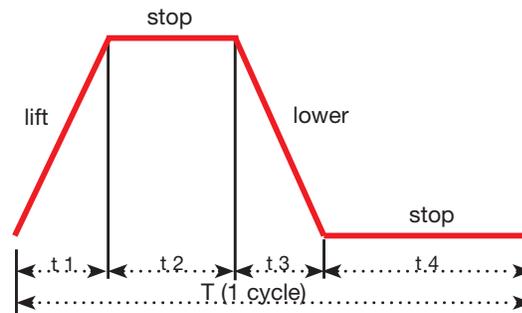


- Single speed: 60 min
- Dual speed: 30/10 min

### Intermittent Rating (Percent ED)

#### Max. Number of Starts Per Hour

This rating indicates the allowable ratio of motor ON time to motor OFF time, and starts per hour for a hoist operated continuously at 63% of rated capacity on the cycle below, assuming continued operation or repeated starting over a long time span.



$$\text{Example (single speed): \%ED} = \frac{\text{Motor ON time (t1 + t3)}}{T \text{ (1 cycle)}} \times 100$$

(Where T = 1 cycle (t1 + t2 + t3 + t4) and is not more than 10 minutes.)

#### NER/ER Lifting Motor Ratings

- Single speed: 60% ED, 360 starts/hr
- Dual speed: 40/20% ED, 120/240 starts/hr

**COMPLIANCE**

Harrington's electric chain hoists are produced to comply with:

- UL 1340\*
- ANSI/NFPA 70, "National Electrical Code"
- ANSI/ASME B30.16, "Safety Standard—Overhead Hoists (Underhung)"
- ANSI/ASME HST—1M, "Performance Standard for Electric Chain Hoists"

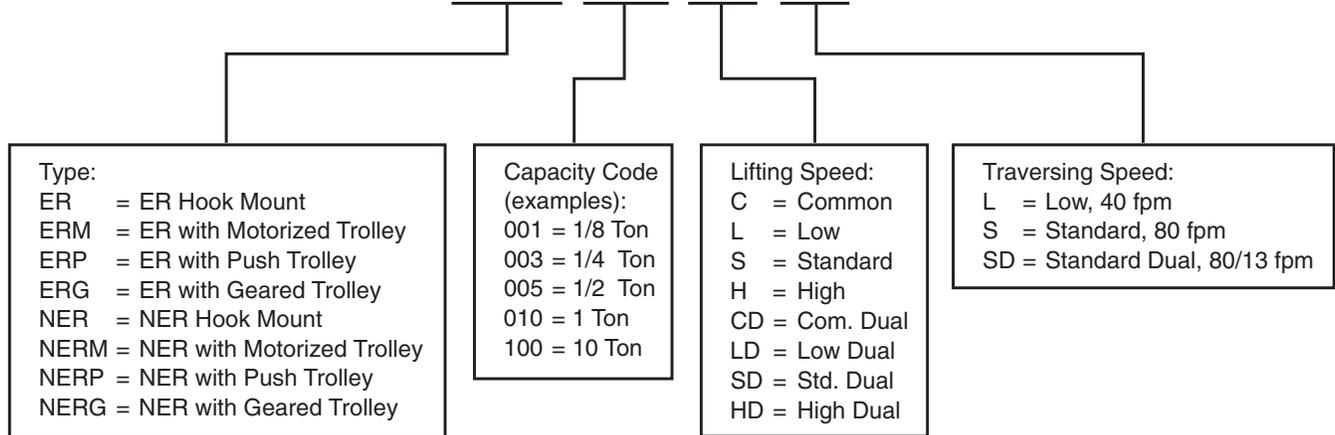
Harrington's manual and electric-powered trolleys are produced to comply with the trolley-related requirements of:

- OSHA Section 1910.179 of Title 29, "Occupational Safety and Health Regulations — Overhead and Gantry Cranes"
- ANSI/ASME B30.11, "Safety Standard—Monorails and Underhung Cranes"
- ANSI/ASME B30.17, "Safety Standard—Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist)"

*\*Most models shipped with UL listing. Contact Customer Service for listed models.*

**Product Code  
For NER/ER Series**

**ERM 020 SD-SD**



# Product Specification Form

## Harrington Three Phase Electric Chain Hoists

**NER/ER THREE-PHASE ELECTRIC CHAIN HOISTS/TROLLEYS**

Quantity \_\_\_\_\_  
 Capacity \_\_\_\_\_  
 Lift \_\_\_\_\_  
 Lift Speed \_\_\_\_\_ C (Common) \_\_\_\_\_ L (Low)  
 \_\_\_\_\_ S (Standard) \_\_\_\_\_ H (High)  
 \_\_\_\_\_ Single \_\_\_\_\_ Dual  
 Voltage \_\_\_\_\_ 208-3-60 \_\_\_\_\_ 230-3-60 \_\_\_\_\_ 460-3-60 \_\_\_\_\_ 575-3-60  
 Control Voltage \_\_\_\_\_ 110V (standard) \_\_\_\_\_ 24V  
 Control \_\_\_\_\_ Pendant  
 Pendant Drop \_\_\_\_\_ (standard is 4' less than lift)  
 Power Supply Cord \_\_\_\_\_  
 (standard is 15' thru 5 Ton – hook, push or geared trolley mount)  
 (standard is 30' above 5 Ton – hook, push or geared trolley mount)  
 (standard is 30' all capacities – motorized trolley mount)  
 Suspension \_\_\_\_\_ Hook \_\_\_\_\_ Lug \_\_\_\_\_ Trolley (see below)

Options: \_\_\_\_\_ Canvas Chain Container  
 \_\_\_\_\_ Steel Chain Container  
 \_\_\_\_\_ Plastic Chain Container  
 \_\_\_\_\_ Mechanical Brake (ER standard feature)  
 \_\_\_\_\_ Hoist Mount – Parallel to Beam  
 \_\_\_\_\_ Hoist Mount – Perpendicular to Beam

Trolley Type \_\_\_\_\_ Push \_\_\_\_\_ Geared \_\_\_\_\_ Motorized  
 Hand Chain Drop \_\_\_\_\_ (if geared trolley)  
 Travel Speed \_\_\_\_\_ L (40 FPM) \_\_\_\_\_ S (80 FPM) \_\_\_\_\_  
 \_\_\_\_\_ SD (80/13 FPM) (if motorized trolley)  
 Beam Type/Size \_\_\_\_\_  
 Beam Flange Width \_\_\_\_\_  
 Beam Radius \_\_\_\_\_ (if curved monorail)

Specials: \_\_\_\_\_

Form completed by:

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

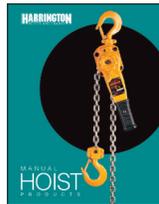
Phone \_\_\_\_\_ Fax \_\_\_\_\_

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

E-Mail Address \_\_\_\_\_ Copy & fax to 717-665-7432

## Complete Product Offering

Over the years Harrington has continued to respond to the needs of our customers by further expanding our product offerings. In addition to the many models described in this catalog, our full series of product catalogs, as shown below, will provide you with all of the information you will need to answer questions, specify a product and place an order. For catalog copies or answers to specific product questions, please contact our Customer Service Department by calling 800-233-3010 (Manheim, PA) or 800-317-7111 (Corona, CA) or e-mail [customerservice@harringtonhoists.com](mailto:customerservice@harringtonhoists.com)



### Manual Hoist Products Catalog

Refer to this Harrington catalog for detailed information on the following:

- Lever hoists
- Hand chain hoists
- Hoist and trolley combinations
- Low headroom trolley hoists
- Push and geared trolleys
- Hoist load testers



### Air Powered Hoists Catalog

Refer to this Harrington catalog for detailed information on the following:

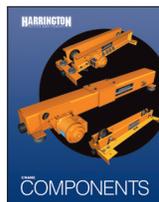
- Compact Mini-Cat with pendant, cord and manipulator controls
- Air hoists with pendant and cord controls
- Air trolleys



### Electric Wire Rope Hoists Catalog

Refer to this Harrington catalog for detailed information on the following:

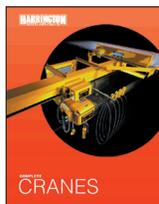
- Deck/base mounted or lug suspended hoists
- Standard headroom trolley hoists
- Ultra-low headroom trolley hoists



### Crane Components Catalog

Refer to this Harrington catalog for detailed information on the following:

- End trucks-top running-motorized, geared and push
- End trucks-underhung-motorized, geared and push
- Double girder MAX-E-Lift end trucks
- Convertible push end trucks
- Beam accessory kits



### Complete Cranes Catalog

Refer to this Harrington catalog for detailed information on the following:

- Heavy-duty Class C single girder top running and underhung cranes
- Heavy-duty Class C double girder top running and underhung cranes
- Medium-duty top running and underhung push cranes
- Crane control panels