

# Dailey Supply, Inc.

## MILLER

**Offered By:**

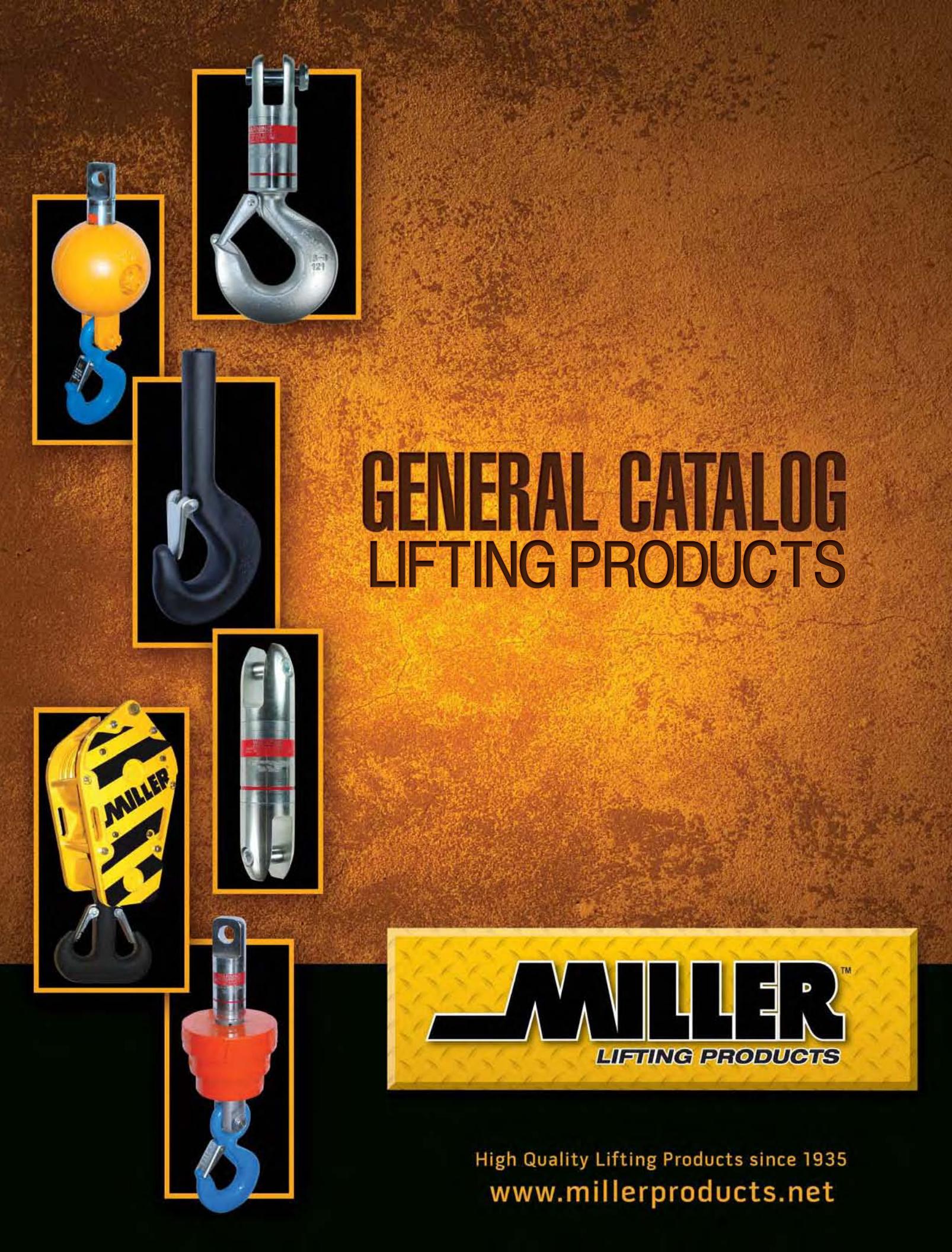
**Dailey Supply**

**2955 West 17th Street, Suite 5**

**Erie, PA 16505**

**(814) 833-7227**

**[mike@daileysupply.com](mailto:mike@daileysupply.com)**



# GENERAL CATALOG LIFTING PRODUCTS

**MILLER<sup>TM</sup>**  
LIFTING PRODUCTS

High Quality Lifting Products since 1935  
[www.millerproducts.net](http://www.millerproducts.net)



# Product Line at a Glance



## Ball Bearing Swivels (Y-Link)

54 standard types cover virtually every combination of shank and cap styles. Working loads from  $\frac{1}{2}$  to 1000 tons. All equipped with precision ground angular contact ball bearings for low torque under load, maximum reliability, efficiency, and long service life. Best in class.

See pages 11 - 18



## Thrust Bearing Swivels (Econo-Link)

Our economy priced models are designed to minimize costs without sacrificing traditional Miller quality. Fitted with factory lubricated tapered roller thrust bearings and forged steel hooks. For rope sizes  $\frac{1}{2}$ " to 1" and working loads to 15 tons.

See pages 19 - 20



## Special Swivels

Many special adaptations are available for special environments and applications. These include water tightness, high pressure and pressure compensating and stainless steel models for marine or corrosive industrial environments, undersea construction, tailored end fitting combinations, heavy wall for demolition, line-stringing, extra overhaul weight, etc. HD-Link, G-Link, Hydro-Link....

See pages 21 - 34



## Overhaul Balls/Split Balls

Featuring Miller angular contact bearing swivels, our overhaul balls help prevent wire rope twist and lengthen rope life. A wide variety of split balls and headache ball assemblies are available with eye, wedge, and clevis connection fittings. Standard overhaul weights to 1350 lbs. with larger models to suit.

See pages 35- 40



## Economy Weight Balls

Low cost swivelers use Miller Econo-Link factory lubricated thrust bearing swivels and have overhaul weights to 575 lbs. For working loads of 3 to 15 tons,  $\frac{1}{2}$ " to 1" wire rope. Extremely compact design maximizes lift range. Well suited for mobile applications.

See page 41



## Hi-Lift Blocks and Sheaves

Miller Hi-Lift Crane Blocks' welded, super-rigid construction makes for the most rugged and dimensionally stable block available, providing for a long and reliable service life. Miller blocks come standard with DIN 15400 hooks. The integrated sheave guard guides the rope for easier threading and eliminates the possibility of the rope jumping the sheaves. Sheaves for our Hi-Lift Blocks are cast or roll forged and are equipped with cylindrical or tapered roller bearings, or bronze bushings by request.

See pages 42 - 52



## Miller Mobile Crane Blocks

feature drop-away sheave guards for reeving with the rope end fitting in place, DIN 15401 single or DIN 15402 duplex hooks with locking latches, and double-row full complement cylindrical roller bearings in the sheaves. Standard sizes to 80 tons with up to 7 sheaves with larger designs available.

See pages 53 - 60



## Overhead Crane Blocks

Miller overhead crane blocks are produced to suit your application and are available to 300 tons WLL and for all CMAA service classes or to other requirements. Single and duplex hooks, locking hooks, insulated and motorized models available.

See pages 61 - 62



## Forged Hooks

Miller stocks a line of hooks certified to the DIN hook standards 15401 and 15402 for single and double hooks. The DIN standards are intricately detailed standards of German origin and DIN hooks are used worldwide by the very best names in the lifting equipment industry. Hooks are available in the raw forged state or

machined with matching nut to safely and reliably suit your application. Duplex, quad and custom-forged types are available. Also Eye Hooks to 400 tons WLL including ROV-ready.



See pages 63 - 74



## Insulating Links - (ISO/Link)

### For Power Line Safety, and More

Insulating links on Miller Swivels and Miller Blocks, or our non-swiveling insulating link alone, fitted to your specific situation can help protect against injury or death caused by crane boom or wire line contact with overhead power lines. Miller pioneered this technology over 50 years ago with generations of design improvement. Miller's ISO/Link-AC provides for outdoor crane electrical safety with working loads to 60 tons. Our ISO/Link-DC with load ratings to 60 tons is made for industrial applications where isolation of high currents from the building grid, as in induction heating or industrial welding, is necessary.



See pages 80 - 91

## TABLE OF CONTENTS

- 2** Glossary
- 3** Warnings & Precautions
- 4** Maintenance & Inspection
- 6** Warranty & Conditions of Sale

## SWIVELS

- 7** Types, Use & Selection
- 11** Y-Link (alloy steel, angular contact ball bearings)
- 19** Econo-Link (with tapered thrust bearings)
- 21** HD-Link (heavy duty, impact)
- 23** g-Link (weighted)
- 25** Y-Link/HP (high pressure alloy steel version)
- 28** Hydro-Link (stainless steel, angular contact ball bearings)
- 31** Hydro-Link/HP (high pressure, stainless steel version)
- 33** Custom Swivels (quote request form)
- 34** Line-Stringing/Pengo (line stringing swivels, connectors, pins)

## OVERHAUL BALLS

- 35** Split Balls
- 35** Overhaul Ball Assemblies, Y-Link (with angular contact bearings)
- 41** Econo-Swivel Ball Assemblies (with thrust bearings)

## BLOCKS

- 42** Hi-Lift Blocks
- 53** Mobile Crane Blocks- Quick Reeving
- 61** Overhead and Bridge Crane Blocks (quote request form)

## FORGED HOOKS (DIN)

- 63** Shank Hooks, Single, Double, Quad (*DIN*)
- 71** Latch Kits for Hooks
- 73** Eye Hooks, High-Capacity, Grade 80 (ROV-ready option)
- 74** Eye Hooks, High-Capacity, for Shackles (ROV-ready option)

## SHEAVES

- 75** Heavy Duty Sheaves (*replacement sheaves for Miller blocks*)
- 79** Custom Sheaves (quote request form)

## LOAD INSULATING PRODUCTS

- 80** Insulating Links - General
- 82** ISO/Link-AC (power line safety, standard, non-swiveling model)
- 84** ISO/Link-AC (swiveling models)
- 87** ISO/Link-DC (plant & industrial)
- 88** ISO-Blocks (insulated hook blocks)

## GLOSSARY

### Important Terms Defined:

**DESIGN (SAFETY) FACTOR:** The Ultimate Load divided by the Working Load Limit expressed as a ratio, e.g., 5:1. The Design Safety Factor (or Design Factor) denotes a product's theoretical reserve capability and is not the load rating of the product. See Working Load Limit below.

**MEAN BREAKING LOAD (MBL):** Similar to Ultimate Load, also the average load at which the product no longer supports the load or fails, used more typically with respect to chain and chain-related hardware.

**PROOF LOAD:** The average load to which a product may be subjected before physical deformation occurs. This is also the average force applied during a Proof Load Test. Miller products in this catalog have a maximum Proof Load of twice the Working Load Limit, except where otherwise indicated.

**PROOF LOAD TEST:** A load test of the product conducted at the specified Proof Load for the purpose of detecting material or manufacturing defects.

**SHOCK LOADING:** A dynamic increase in loading on the product caused by the sudden take up of slack, shifting or jerking of the load, or impact on the load or the product resulting in a significant increase beyond the static load.

**SHORT TON (TON)** - The unit of mass on which most Miller Lifting Products' capacities, load limits, etc. are based. Commonly used throughout the U.S. and Canada, the short ton equals 2,000 lbs and differs from the "metric ton" (SI) which equals 2,205 lbs and the "long ton" (UK tonne) which equals 2,240 pounds.

**METRIC TON (MT)** - The SI unit of mass equal to 1000 kilograms or 2,205 lbs. Some Miller Lifting Products capacities, load limits, etc. are expressed in metric tons.

**LONG TON (TONNE)** - The traditional UK unit of mass equal to 2,240 lbs or 1016 kg. No Miller Lifting Products capacities, load limits, etc. are expressed in long tons. Rarely used outside the UK, the long ton ceased to be legal for trade in 1985.

**STATIC LOAD:** The load resulting from a constant applied force.

**WORKING LOAD:** The maximum load which the product is authorized to support in a specific application, equal to or less than the Working Load Limit (WLL).

**WORKING LOAD LIMIT (WLL):** The maximum static load the product is intended to support in general service with the load being applied uniformly in direct axial tension relative to the centerline of the product. Working Load Limits do not apply to shock loading, hook tip loading, side loading, bending, torsional or other non-axial loading. The Working Load Limit reflects Miller's engineering evaluation and should never be exceeded regardless of the size or strength of the wire rope, synthetic rope, chain, etc. This term is used interchangeably with the following terms:

- Safe Working Load (SWL)
- Safe Working Limit
- Rated Load Value
- Maximum Load Limit
- Resultant Working Load

**ULTIMATE LOAD:** The average load at which the product fails or no longer supports the load.

**YIELD POINT:** The point between the Proof Load and the Ultimate Load at which permanent deformation occurs. Note that this deformation may not be visible.

## WARNINGS AND PRECAUTIONS

All ratings shown in any Miller literature are based on the products being in a new and unused condition. When selecting a product, consideration must be given to the greatest load the product will see, therefore, shock loading must be considered in the overall system design.

All products manufactured by Miller Products are sold with the express understanding that the customer is thoroughly familiar with the safe and proper use and application of the product.

In selecting a Miller product, such factors as extreme heat or cold, excess humidity, moisture, contaminated air, etc. must be considered since these may adversely affect longevity, performance and *Working Load Limit*.

**Do not immerse any standard Miller product in water.** Contact the factory for assistance in selecting the special product designed to meet fresh and saltwater applications.

**Lift only those loads for which the Miller product is designed.** Federal crane regulations prohibit the transport of personnel on any load or wire rope attachment (OSHA 1910, 180-h-3-v).

Miller products are generally designed for applications of tension or straight pull. Side loading must be avoided since it exerts additional force which the product is not designed to accommodate.

**HOOK LATCHES** - All Miller products that utilize hooks are equipped at the factory with hook latches. The only function of a hook latch is to retain loose slings or devices under slack conditions, i.e. no load. They are not intended to be anti-fouling devices, so caution should be used to prevent the latch from supporting any of the load. Routine inspection of the latches must be made to ensure their proper operating conditions. Hook applications might require other hook latches. Should you have any questions regarding hook latches, contact the factory.

**WHENEVER WEDGE SOCKETS ARE UTILIZED THESE TWO PRECAUTIONS MUST BE TAKEN:**  
1. When installing wire rope always pre-load the wedge with the wire rope in place. Then attach the end of the rope to the main line with the first clip to be located directly above the socket. It is imperative that the clips and clamps be installed precisely as specified by the manufacturers and in the number and sizes approved by the fitting manufacturers.  
2. Make allowance for the crimping effect common with all types of wedge sockets. Experience shows the *Maximum Load Limit* on a line will be reduced by 20% or more with this type of fitting.

**NEVER WELD ON ANY MILLER PRODUCT.** Should any modification or repairs be required on any Miller product, contact the factory for information.

**INSPECT AND MAINTAIN REGULARLY.** All Miller products are mechanical components and are subject to wear. Worn components do not have the same *Working Load Limit* as do new components. The total responsibility for the inspection, maintenance and continued use is entirely up to the purchaser/user. Remember, visual inspection may not be sufficient and examination methods such as X-ray, ultrasonic testing, magnetic particle inspection, dielectric resistance and others, might be required to establish the present integrity of the product. Check to see that your equipment is being inspected and tested in accordance with all applicable governmental rules and regulations. Should any Miller products become worn and in need of repair, the responsibility for the actual repair work will be borne solely by the party making such repairs. It is recommended that the factory be contacted should there be any questions whatsoever relating to a repair. See Maintenance and Inspection.

**INSULATING LINKS – ELECTRICAL PERFORMANCE** OF INSULATING LINKS DEGRADES WHEN LINKS ARE NOT KEPT FREE OF SURFACE DIRT AND CONTAMINATION. INSULATING LINK VOLTAGE RATINGS ASSUME CELAN AND DRY LINKS AND A DRY ENVIRONMENT. In the case of ELECTRICAL POWER LINE SAFETY use of an insulating link alone in the absence of other required measures is NOT ACCEPTABLE. OSHA power line safety requirements involving the use of cranes and derricks can be found in US federal regulation 29 CFR Part 1926, latest edition.

**REMEMBER:** External factors will affect the longevity of the product. There is no defined period for the useful life of any Miller product. It is the user's responsibility to maintain and check the product. Even after a short period of use circumstances may require the product to be withdrawn from service. Should any questions arise during the inspection of any Miller product that relate to its intended application or need for repair, promptly remove the product from service

**PROOF LOAD** – The recommended proof load on all items in this catalog is 2 times the *Working Load Limit* unless otherwise indicated.

**SPARE PARTS** - Use only new genuine Miller parts for replacement or repair.

**PRODUCT LABELS** – Per ANSI 535.4-1991 labels should be inspected and cleaned and safety related labels replaced when no longer legible. Contact Miller for replacements.

**DIMENSIONS** in this catalog are generally nominal dimensions in inches unless otherwise indicated. Where tolerance information is needed but is not indicated please contact Miller for applicable tolerances.

**WEIGHTS** in this catalog are generally in pounds unless otherwise indicated.



## MAINTENANCE and INSPECTION

**COMPANY POLICY:** The following are the minimum suggested maintenance practices we recommend based upon normal use. Product application, environment and use may dictate a more stringent inspection and maintenance program than suggested. Also, governmental and/or industry regulations must be viewed and complied with when determining the maintenance program for your specific Miller product. Always remember to contact the factory should you need any assistance in establishing or maintaining your maintenance program.

Should any Miller product become worn or deficient, any attempt at repairs will be taken entirely at the risk and cost of the party making such repairs. We will accept any Miller product at the factory for evaluation, repair and/or replacement after the appropriate arrangements have been made with customer service.

### NUTS, SET SCREWS, PINS, BOLTS AND RETAINERS

All nuts, set screws, pins, bolts and retainers should be checked for tightness every 14 to 30 days depending on the operating conditions and the product involved. High vibration applications such as pile driving, drilling and/or quarry work, will require more frequent inspections.

All set screws are staked at the factory. Should they attempt to back out, re-tighten as necessary and re-stake thoroughly. Where furnished, all other pins must remain in place. Replace any missing or damaged pins immediately.

### LUBRICATION SCHEDULE

| ITEM                               | LUBRICATION FREQUENCY                   |                                       |                                  |
|------------------------------------|---|---------------------------------------|----------------------------------|
|                                    | Under intermittent operating conditions | Under continuous operating conditions | Offshore or submerged conditions |
| Swivels and Swivel Overhaul Balls  | 14 days                                 | 24 hours                              | **                               |
| Blocks with Bronze Bushed Sheaves  | 14 days                                 | 8 hours                               | N/A                              |
| Blocks with Roller Bearing Sheaves | 14 days                                 | 24 hours                              | N/A                              |

Lubricant: Either sodium or lithium base greases may be used.

Soda soap base greases are more fibrous and cohesive.

Lithium soap base greases are particularly applicable where excessive moisture is present.

**REMEMBER:** These are the minimum suggested inspection requirements established based upon the general use of Miller products. Only you can and must establish the inspection and maintenance program consistent with your specific application. Always contact the factory should you have any question regarding a Miller product.

*\*\*For swivel applications in offshore or submerged conditions* a special high pressure, water-resistant grease with oxidation inhibitors is recommended. Please see the Miller website at [www.millerproducts.net](http://www.millerproducts.net) or contact Miller Customer Service for specific lubrication recommendations for this application type.

## MAINTENANCE and INSPECTION (CONTINUED)

### INSPECTION AND MAINTENANCE SCHEDULE/GENERAL

| INSPECTION FREQUENCY   | ITEM  | WHAT TO CHECK FOR   | APPROPRIATE ACTION  |
|--|---|---|---|
| When used  | Hook Latch                                  | Missing or off center, bent, broken spring, missing or defective  | Replace immediately   |
| Daily or when used   | Hooks, insulating links, and other fittings | Permanent deformation or stretching<br>Cracks or other defects  | A clear indication of overload. Take out of service immediately and replace.<br><br>Any suspicion of fractures calls for an immediate investigation and, if necessary, the replacement of the defective part.<br><br>ASME B30.10 Suggests that Hooks may require a nondestructive test as a result of detailed inspection findings.<br><br>Insulator links should be returned to the factory yearly for dielectric retesting. |
| 14 days under continuous conditions<br><br>30 days under intermittent operating conditions | Swivels*                                    | End play or gap of more than 1/16" along the axis   | Remove from service immediately.  |
|  |   | Rough turning   | Defective bearings. Remove from service immediately.  |
|  | Sheaves                                     | Elongated eye holes, bent clevis pins<br><br>Misalignment, as evidenced by wobble or uneven groove flange wear<br><br>Striations or corrugations in sheave groove | Indicates overload. Remove for repairs.<br><br>Indicates severe bearing wear. Remove from service and forward to factory for repairs estimate.<br><br>Check for wear in bronze spacers where used.<br><br>Result of rope wear. If serious, have factory replace.  |

\*For Y-Link Swivels See Gap Specifications in Y-Link Section of this catalog.

### AC INSULATING LINKS USED FOR POWER LINE ELECTRICAL SAFETY

| INSPECTION FREQUENCY | INSPECTION ITEM                 | WHAT TO CHECK FOR           | APPROPRIATE ACTION TO TAKE   |
|----------------------|---------------------------------|-----------------------------|--|
| EACH USE             | CLEANLINESS VISUAL              | DIRT, MUD, ANY CONTAMINANT  | BRUSH AND WIPE 100% OF EXTERIOR SURFACES CLEAN WITH DAMP CLOTH AND THEN DRY CLOTH. ELECTRICAL PERFORMANCE OF INSULATING LINK DEGRADES WHEN SURFACE IS DIRTY. |
| DAILY                | SET SCREWS                      | TIGHTNESS                   | ASSURE SETSCREWS WHICH SECURE UPPER AND LOWER FITTINGS ARE TIGHT AND STAKED.   |
| DAILY                | MECHANICAL INTEGRITY POLYMER    | CRACKS OR OTHER DEFORMATION | PRESENCE OF ANY CRACKS OR DEFORMATION OF THE ORANGE EXTERIOR POLYMER JACKET REQUIRES THAT THE LINK BE REMOVED FROM SERVICE IMMEDIATELY.                      |
| DAILY                | MECHANICAL INTEGRITY STRUCTURAL | CRACKS OR OTHER DEFORMATION | PRESENCE OF ANY CRACKS OR DEFORMATION OF METALLIC AREAS REQUIRES THAT THE LINK BE REMOVED FROM SERVICE IMMEDIATELY.  |
| ANNUALLY             | ELECTRICAL INTEGRITY            | DIELECTRIC PERFORMANCE      | PERFORM ANNUAL HIGH VOLTAGE TEST WITH CERTIFIED TEST REPORT BY UNIT SERIAL NUMBER.   |



## LIMITED WARRANTY AND CONDITIONS OF SALE

### **Notice to Miller Customer:**

Please read carefully. Terms and conditions given here contain disclaimers of warranties and strict limitation of liability and remedies.

**Miller Products (A Division of GHM Industries, Inc.), as manufacturer, warrants to the original wholesale or O.E.M. purchaser and/or to the original retail purchaser only that the goods, equipment or merchandise described herein will be free from defects in material and workmanship for a period of 12 months from the date of manufacturer's shipment.** Should the goods, equipment or merchandise prove defective within such 12 month period, Miller products will, at its option, repair or replace the same when returned to its plant, charges prepaid, provided that Miller Products is given written notice of any such claimed defect promptly and the merchandise is submitted, freight prepaid, within such 12 month period for examination. Repair and/or replacement at the option of Miller Products shall be the sole and exclusive remedy of the buyer for breach of the above express warranty.

**Except as expressly set forth herein, Miller Products makes no warranty either express or implied, that the goods, equipment or merchandise shall be merchantable or fit for any particular purpose or use, nor does it make any other warranty, express, implied or statutory.** Miller Products shall have no liability for incidental, consequential, special, general or other damages arising from the use of its product including, but not limited to, failure of the goods, equipment, or merchandise to perform any general or particular function or purpose whether such damage or failure is due to mistake or deficiency in design, formula, plan specifications, advertising material, printed instructions, defective materials, defective or improper assembly or otherwise; the sole liability of Miller Products being to replace or repair, at its option, defects in material or workmanship as stated in the preceding paragraph.

Miller will not have any responsibility or liability for damage in shipment, during assembly, installation, erection, or that arising from accidents, abuse or improper operation of goods, equipment or merchandise.

These terms and conditions shall supersede and, in case of conflict, shall have control over all and any terms or other provisions in any oral or written purchase order or other document pertaining to the goods, equipment or merchandise described herein, including any negotiations between parties or as suggested by any product catalog or descriptive literature. Nor does any distributor, dealer, franchisee, independent sales representative or other person, firm or corporation have authority to assume any other obligations or liability on behalf of Miller Products or to waive, modify or change these terms and conditions.

**Engineering, product safety, inspection and maintenance information is included in the Miller Products General Catalog and is available upon request free of charge.** Miller, in performing the work of any purchase order agrees not to discriminate against any employee for reasons of race or orientation, creed, color or national origin.

### **Force Majeure:**

In the event of delay in shipment of items ordered by Miller customers due to causes beyond our control including but not limited to strike, fire, flood, accident, scarcity of labor, materials, power, fuel or transportation, war, public disorder, acts of public enemies or acts of God, deliveries hereunder may be suspended or partially suspended, during the continuance of such interruption.

**By acceptance of our sales order acknowledgement copy the customer accepts all the terms and conditions heretofore set forth** and agrees that the delivery of the merchandise described in said order shall be subject to no other terms or conditions whatsoever unless additional terms are made the subject of negotiation and are evidenced by separate written acceptance by Miller.

**Receipt of the order acknowledgement by the customer without written objection to Miller within thirty days from the receipt of the merchandise described in said order shall constitute an acceptance of the terms hereof** and an agreement that the delivery of the merchandise described in said order is subject to no other terms than those stated in this acceptance.

**Complete agreement:** This Warranty between the purchaser and Miller is complete. All prior contemporaneous discussions, representations, and/or understandings are merged into this warranty.

**Choice of Law:** Any dispute about the interpretation of this Warranty shall be governed by the laws of the State of Massachusetts.

**Dispute Resolution:** The purchaser and Miller expressly agree that any dispute arising out of the purchase, use or operation of the purchased product, upon written notice to the other party, be resolved through binding arbitration. The location of any arbitration shall be Boston, Massachusetts. The substantive laws of the State of Massachusetts shall govern the arbitration to the extent they are not in conflict with the then existing rules of the American Arbitration Association. In no event shall Miller be liable for incidental or consequential damages as part of the arbitration award. The award, decision, or filing rendered by the arbitration shall be final, and judgment may be entered upon it in accordance with the applicable law in any court having appropriate jurisdiction.

### **Terms- Miscellaneous:**

Prices and discounts are subject to change without notice. Orders are accepted with the understanding that prices and discounts prevailing at the time of shipment will apply. All prices are F.O.B. Charlton, Massachusetts unless otherwise agreed, with written indication in our order acknowledgement.

Shipment quantity or other discrepancies must be documented and notification to Miller made within 15 days of receipt of shipment.

No merchandise shall be returned for credit consideration without prior written permission. Freight must be prepaid. For new merchandise in resalable condition, minimum restocking charge is 25% of the order value or \$50.00, whichever is greater. Any transportation costs previously assumed by Miller will be charged back. Non-catalog (non-standard) items will be subject to cancellation charges of 25% of the order value or the actual cost of labor and material incurred, whichever is greater.

## MILLER SWIVELS- TYPES, USE, SELECTION

With the largest product line of load handling swivels worldwide, and continuous leadership and innovation in the use of swivels since our founding in 1935 in Pomona, California, Miller provides users worldwide with proven solutions to everyday problems in the field, under the sea, in the air, in the factory and in space. Miller also has provided many custom swivel solutions tailored to specific operations in the construction, mining, petroleum and natural gas, foundation drilling, nuclear, communications and other industries.

### The five general categories of Miller Swivels are:

- Y-Link, angular contact ball bearing swivels
- Econo-Link, tapered thrust bearing swivels
- Special application swivels (marine, stainless, insulated, demolition, drilling, line pulling)
- Custom-designed swivels for specific operational requirements

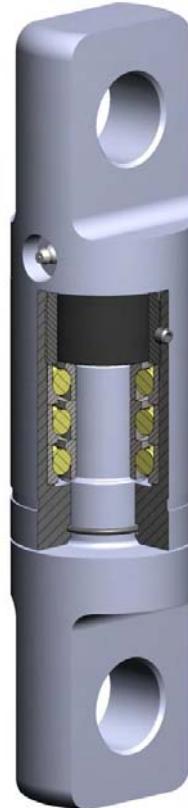
### Y-Link Angular Contact Ball Bearing Swivels

Developed by Miller, angular contact ball bearing swivels provide the most efficient way to handle the heavy thrust loads encountered in crane operation and other lifting and pulling jobs. The precision-ground, precisely matched bearings assure longer service life, superior performance, and much longer wire rope life where rope twist must be reduced or eliminated. The thrust load is transferred from an overlapping shoulder on the bearing race through the balls to the diagonally opposed shoulder on the outer bearing race. This distributes the load to the outer part of the barrel.

The angular contact bearings are mounted in complements of two or more, depending on the load capacity of the swivel. They permit the load to rotate freely, yet they prevent the load from spinning. By permitting the wire rope to neutralize itself, they can extend the wire rope life multiple times.

The angular contact ball bearing swivel design results in highly reduced torque levels- 50% to 70% less than the torque levels found for traditional thrust bearing swivels, especially as load increases.

External parts of Miller Y-Link Angular Contact Ball bearings are machined from high quality alloy steel and are zinc plated for long-term corrosion protection. Working loads range from  $\frac{1}{2}$  to 1000 tons.



### Econo-Link Thrust Bearing Swivels

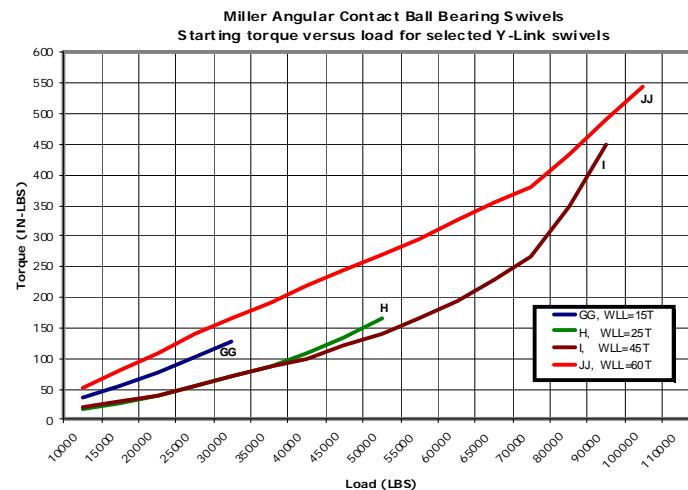
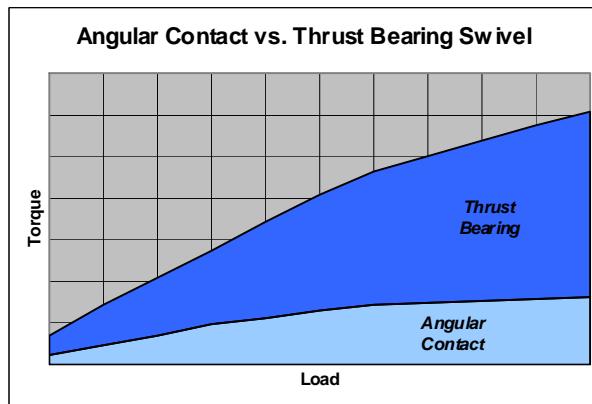


Outstanding economy and good service are the hallmarks of Miller's traditional swivel model. Miller thrust bearing swivels are economically priced, yet are surpassed only by Miller's angular contact bearing swivels. Miller Econo-Link Thrust Bearing Swivels incorporate a single heavy duty tapered roller bearing housed in a steel retainer. External parts are steel castings with forged steel hooks when hooks are used. A close-fitting bronze bushing seals lubricant in and keeps dirt out of the bearing. For many applications Miller Econo-Link Thrust Bearing Swivels offer the most economical, yet dependable, service available. Working loads range from 3 to 15 tons.

# MILLER SWIVELS- TYPES, USE, SELECTION

## Torque Considerations

Angular contact bearings allow much lower torque resistance. Starting torque under load for angular contact bearings is based on Miller testing and empirical data.



"General guide only, torque value may vary to a significant degree due to application conditions. Miller does not guarantee torque data shown, should specific torque performance be desired, contact Miller"

## SPECIAL APPLICATION SWIVELS with Angular Contact Ball Bearings

Over the years Miller has developed a number of angular contact ball bearing swivels for given applications or environments. The following are the most common and those for which we have developed standard products available to order from Miller. All of these swivels are presented in the tables following in this section of the catalog.

**Heavy Duty Swivels (HD-Link)** – These swivels which feature heavy duty barrels are available to protect bearings and maximize swivel life under the heavy impact and abrasive environment of demolition work. Many other Miller swivels can be fitted with heavy duty barrels upon request.

**Overhaul Swivels (g-Link)** – Weighing from 2.5 to nearly 4 times as much as standard swivels of the same type, these special Miller Overhaul Swivels provide an excellent means of adding additional weight without increasing overall dimensions. Ideal for small truck cranes and hoists in applications where minimal additional overhaul weight is required.

**Line Pulling Swivels (Miller-Pengo)** – Designed specifically by Miller for the electrical distribution industry for stringing high tension wires and for pulling wires through conduit. They help to accommodate the inevitable twisting developed as lines are installed using sheaves over long distances. These swivels are not designed for general lifting applications. Please see Miller Y-Link and Econo-Link for lifting swivels.

**Stainless Steel Swivels** – These swivels are designed for cable and chain applications above the surface of the water where long term environmental considerations require the corrosion resistant qualities of stainless steel. In addition to above surface marine, other typical applications include chemical processing plants, nuclear plants, and applications with magnetic permeability restrictions.

# MILLER SWIVELS- TYPES, USE, SELECTION

**Stainless Steel, Underwater High Pressure Swivels** – A unique pressure compensating, high pressure seal allows this series of swivels to operate reliably up to depths of 10,000 feet. These swivels find applications in oceanographic work, offshore mooring, cable laying, offshore oil and gas exploration, installation, operating activities, commercial fishing, defense and other marine applications. High pressure swivels are also available in non-stainless steel.

**Insulated Swivels** – Miller also produces a series of insulated swivels for working loads up to 120 tons. These swivel assemblies incorporate the Miller ISO/Link-AC or ISO/Link-DC for the personnel safety purposes of isolating the load from high voltage electrical current in case of boom contact with power lines or to prevent stray building grid currents in industrial applications where welding or induction melting occurs. Please refer to the Load Insulating section of the catalog for information on these high value swivels.

## MILLER SWIVEL SELECTION GUIDE

| SWIVEL MODEL  | Y-Link  | Y-Link/HP   | Hydro-Link  | Hydro-Link/HP  | Econo-Link  |
|---------------|---|---|---|--|---|
| DESIGN FACTOR | 5 for WLL ≤ 35T • 4 for WLL > 35T                           |   |   |  | 4   |
| WLL RANGE*    | .45 to 300T   | .45 to 300T   | .45 to 300T   | .45 to 300T  | 3 to 15T  |
| MBL RANGE     | N/A   | N/A   | N/A   | N/A  | N/A   |
| BEARING TYPE  | Angular Contact   | Angular Contact   | Angular Contact   | Angular Contact  | Tapered Thrust  |
| SEAL TYPE     | O-ring  | Pressure Compensating Spring-Energized Polymer                  | O-ring  | Pressure Compensating Spring-Energized Polymer                 | Bronze Bushing  |
| FEATURES      | Machined Alloy Steel, Best All Around, 54 Configurations    | Y-Link, Sealed for High Pressure Applications                   | Machined Stainless Steel Construction                               | Hydro-Link, Sealed for High Pressure                           | Cast Alloy Steel, Low Price, 6 Popular Configurations |
| LUBRICATION   | Grease filled, E-Size and Up Include Zerk                   | Hot Poured Miller Lube, Oil Plug                                | Grease filled, E-Size and Up Include Zerk                           | Hot Poured Miller Lube, Oil Plug                               | Grease filled, No Zerk                                |
| REBUILDABLE   | Yes   | Yes   | Yes   | Yes  | No  |
| APPLICATIONS  | Full Range Lifting, Custom End Configurations, Low Friction | Short Term Sub Sea to Depths of 10,000 ft, Offshore Oil and Gas | Above Surface Marine, Chemical and Nuclear Plants                   | Long Term Sub Sea to Depths of 10,000 ft, Offshore Oil and Gas | General lifting, Economical                           |
| SWIVEL MODEL  | Econo Swiveler  | g-Link  | HD-Link   | Pengo/Miller   |   |
| DESIGN FACTOR | 4   | 5   | 5   | 3  |   |
| WLL RANGE*    | 3 to 15T  | 1.5 to 8.5T   | 5 to 35T  | .9 to 50T  |   |
| MBL RANGE     | N/A   | N/A   | N/A   | N/A  |   |
| BEARING TYPE  | Tapered Thrust  | Angular Contact   | Angular Contact   | Angular Contact  |   |
| SEAL TYPE     | Bronze Bushing  | O-ring  | O-ring  | O-ring   |   |
| FEATURES      | 2 Configurations, 35 - 575 lbs Overhaul Weight              | 2.5 to 4 Times Overhaul weight Compared to Y-Links              | Heavy Duty Barrel for Increased Bearing Protection and Service Life | For Tension Line Pulling, 90 Degree Connectors Available.      |   |
| LUBRICATION   | Grease filled, No Zerk                                      | Grease Filled, D-Size and Up have Zerk                          | Grease Filled, E-Size and Up have Zerk                              | Grease filled, No Zerk   |   |
| REBUILDABLE   | No  | Yes   | Yes   | No   |   |
| APPLICATIONS  | Small Cranes, Low Head Room, Overhaul Weight                | Small Truck Cranes, Low Head Room, Minimal Overhaul Weight      | Demolition and High Impact  | Electrical Distribution, Line Stringing / Pulling              |   |

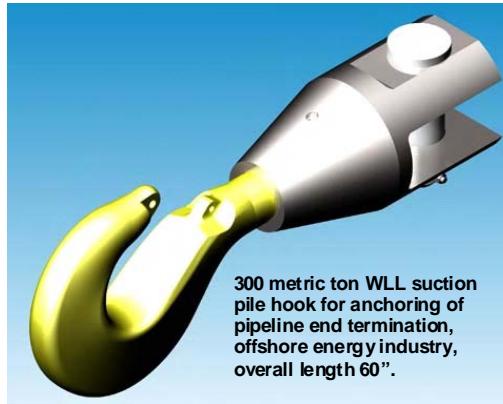
\* For standard swivels. Custom swivel working loads available to 1000 tons

## MILLER CUSTOM SWIVELS



375 ton WLL narrow body  
with side load capability, for  
riser pull-in, offshore energy  
industry. 65" L x Ø13"

Miller has designed and manufactured swivels for specific high value lifting or handling projects in various industries including construction, offshore energy, aerospace and defense, nuclear and others. Following are just a few examples. Please contact us directly for information on custom swivel products.



300 metric ton WLL suction  
pile hook for anchoring of  
pipeline end termination,  
offshore energy industry,  
overall length 60".



125T swivel, military  
transport



Insulated, 60T, NASA shuttle  
maintenance operations



375T offshore special for SCR  
pull-in

## SWIVELS- Y-LINK, ANGULAR CONTACT BEARINGS



- Proof Load is 2 x WLL
- Models 8.5 tons and up include lubrication fitting
- See table of contents for stainless steel, high pressure, and other special models

- First ever angular contact bearing design- developed 1<sup>st</sup> by Miller
- Standard models with Working Load Limits from 0.45 through 300 tons
- Specials available with Working Load Limits up to 1000 tons
- Wire rope sizes 1/8" and up
- Multiple Angular Contact Bearing Design extends the life of the wire rope, and maximizes efficiency, reliability and service life
- Lowest starting torque for faster response and higher rotational speeds
- Structural components machined from forged alloy steel- not cast
- Zinc plated inside and out for effective protection against corrosion
- Standard hook models utilize high quality forged alloy steel hooks produced to DIN standards 15400 and 15401
- Design Factor of 5 to 1 minimum for swivels 35 ton and below
- Design Factor of 4 to 1 minimum for swivels 45 tons and above

| GAP SPECIFICATIONS FOR Y-LINK SWIVELS |            |                        |       |            |                        |
|---------------------------------------|------------|------------------------|-------|------------|------------------------|
| MODEL                                 | WLL<br>(t) | ACCEPTABLE RANGE* (in) | MODEL | WLL<br>(t) | ACCEPTABLE RANGE* (in) |
| A                                     | 0.45       | .017/.029              | HH    | 35         | .030/.046              |
| BB                                    | 0.75       | .017/.031              | I     | 45         | .020/.050              |
| B                                     | 1.5        | .017/.031              | J     | 50         | .050/.092              |
| C                                     | 3          | .025/.041              | JJ    | 60         | .050/.092              |
| D                                     | 5          | .025/.041              | K     | 75         | .050/.092              |
| EE                                    | 8.5        | .025/.041              | KK    | 100        | .050/.092              |
| G                                     | 10         | .030/.047              | KKK   | 150        | .050/.092              |
| GG                                    | 15         | .030/.047              | L     | 200        | .068/.083              |
| H                                     | 25         | .030/.046              | M     | 300        | .068/.098              |

\* Gap between barrel and shank of swivel. If over limit take swivel out of service.  
\* Swivel Gap to be measured under a maximum load of 1% of the WLL in a vertical position.

## Y-LINK MODEL NUMBER SYSTEM

| M<br>O<br>D<br>E<br>L<br>W | CLEVIS   | EYE      | STUD     | CAPS           |          |          | BARRELS  | STANDARD<br>BARREL | CLEVIS   | EYE      | STUD     | SHANKS      |                |          |               |
|----------------------------|----------|----------|----------|----------------|----------|----------|----------|--------------------|----------|----------|----------|-------------|----------------|----------|---------------|
|                            |          |          |          | BULLET<br>NOSE | SOCKET   | THIMBLE  |          |                    |          |          |          | EYE<br>BOLT | BULLET<br>NOSE | HOOK     |               |
| L                          | 1        | 2        | 3        | 4              | 5        | 6        |          |                    |          |          |          | 1           | 2              | 3        | 4             |
| A                          | 0.5      | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | 5             |
| BB                         | 0.8      | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | 6             |
| B                          | 1.5      | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| C                          | 3        | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| D                          | 5        | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| EE                         | 8.5      | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| G                          | 10       | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| GG                         | 15       | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| H                          | 25       | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| HH                         | 35       | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| I                          | 45       | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| J                          | 50       | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| JJ                         | 60       | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| K                          | 75       | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| KK                         | 100      | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| KKK                        | 150      | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| L                          | 200      | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| M                          | 300      | ✓        | ✓        | ✓              | ✓        | ✓        |          |                    |          |          |          | ✓           | ✓              | ✓        | ✓             |
| <b>MODEL</b>               | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b>       | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b>           | <b>9</b> | <b>1</b> | <b>2</b> | <b>3</b>    | <b>4</b>       | <b>5</b> |               |
|                            |          |          |          |                |          |          |          |                    |          |          |          |             |                |          | <b>SHANKS</b> |

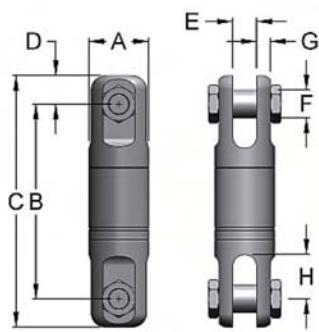
NOTE:  CHECKED COMPONENTS ARE AVAILABLE AS STANDARD PRODUCTS. OTHERS MAY BE ADDED. FOR UNCHECKED, PLEASE CONTACT MILLER

| MODEL NUMBER KEY: |            |               |              |
|-------------------|------------|---------------|--------------|
| MODEL LETTER(S)   | CAP NUMBER | BARREL NUMBER | SHANK NUMBER |
| X                 | #          | #             | #            |

EXAMPLE: D-115 = (D) 5 TON, (1) CLEVIS CAP, (1) STD. BARREL, (5) HOOK

# SWIVELS- Y-LINK, ANGULAR CONTACT BEARINGS

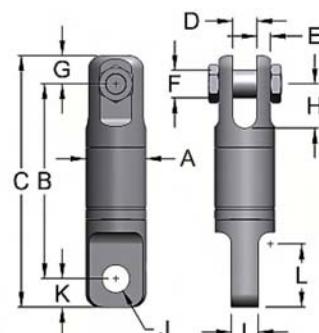
## CLEVIS TO CLEVIS - TYPE 111



| WLL*<br>Tons | Model<br>Number | Rope Size | A    | B     | C     | D    | E    | F    | G    | H    | Weight<br>Lbs. |
|--------------|-----------------|-----------|------|-------|-------|------|------|------|------|------|----------------|
| 0.45         | A-111           | 1/8       | 0.88 | 2.38  | 3.13  | 0.38 | 0.25 | 0.25 | 0.19 | 0.41 | 0.37           |
| 0.75         | BB-111          | 1/4       | 1.31 | 3.5   | 4.38  | 0.44 | 0.31 | 0.38 | 0.22 | 0.56 | 0.93           |
| 1.5          | B-111           | 3/8       | 1.63 | 4.06  | 5.44  | 0.69 | 0.5  | 0.5  | 0.31 | 0.78 | 2              |
| 3            | C-111           | 1/2       | 2    | 6.25  | 8.09  | 0.94 | 0.75 | 0.75 | 0.38 | 1.19 | 4.5            |
| 5            | D-111           | 5/8       | 2.5  | 7.94  | 10.09 | 1.13 | 1    | 0.88 | 0.56 | 1.56 | 9.5            |
| 8.5          | EE-111          | 3/4       | 2.88 | 9.63  | 12.31 | 1.34 | 1.56 | 1.19 | 0.53 | 2.09 | 15.25          |
| 10           | G-111           | 7/8       | 4    | 14    | 17.5  | 1.75 | 1.75 | 1.5  | 0.81 | 3.5  | 40             |
| 15           | GG-111          | 1         | 4    | 14    | 17.5  | 1.75 | 1.75 | 1.5  | 0.81 | 3.5  | 40             |
| 25           | H-111           | 1 1/4     | 5    | 15.94 | 20.69 | 2.38 | 2    | 2    | 1.13 | 3.69 | 78             |
| 35           | HH-111          | 1 1/2     | 5    | 15.94 | 20.69 | 2.38 | 2    | 2    | 1.13 | 3.69 | 78             |
| 45           | I-111           |           | 6    | 20.06 | 26.06 | 3    | 2.5  | 2.25 | 1.25 | 4    | 146            |
| 50           | J-111           |           | 7    | 20.94 | 27.94 | 3.5  | 3    | 2.5  | 1.5  | 4.5  | 207            |
| 60           | JJ-111          |           | 7    | 20.94 | 27.94 | 3.5  | 3    | 2.5  | 1.5  | 4.5  | 207            |
| 75           | K-111           |           | 8    | 24    | 32    | 4    | 3.5  | 3    | 1.75 | 5    | 300            |
| 100          | KK-111          |           | 10   | 32.88 | 43.88 | 5.5  | 4.06 | 4    | 2    | 6.75 | 692            |
| 150          | KKK-111         |           | 10   | 32.88 | 43.88 | 5.5  | 4.06 | 4    | 2    | 6.75 | 692            |
| 200          | L-111           |           | 11.5 | 36.52 | 48.02 | 5.75 | 5.06 | 4.5  | 2.56 | 7.75 | 985            |
| 300          | M-111           |           | 14   | 43.95 | 58.95 | 7.5  | 6.13 | 4.75 | 3.94 | 9.5  | 1680           |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

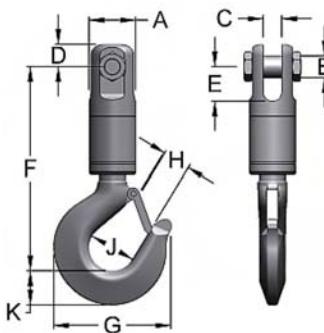
## CLEVIS TO EYE - TYPE 112



| WLL*<br>Tons | Model<br>Number | Rope Size | A    | B     | C     | D     | E    | F    | G    | H    | I    | J    | K    | L     | Weight<br>Lbs. |      |
|--------------|-----------------|-----------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|----------------|------|
| 0.45         | A-112           | 1/8       | 0.88 | 2.5   | 3.25  | 0.25  | 0.19 | 0.25 | 0.38 | 0.41 | 0.25 | .26  | 0.38 | 0.75  | 0.31           |      |
| 0.75         | BB-112          | 1/4       | 1.31 | 3.56  | 4.44  | 0.31  | 0.22 | 0.38 | 0.44 | 0.56 | 0.31 | 0.38 | 0.44 | 0.94  | 0.94           |      |
| 1.5          | B-112           | 3/8       | 1.63 | 4.13  | 5.38  | 0.5   | 0.31 | 0.5  | 0.69 | 0.78 | 0.5  | 0.66 | 0.63 | 1.34  | 1.94           |      |
| 3            | C-112           | 1/2       | 2    | 6.19  | 8.13  | 0.75  | 0.38 | 0.75 | 0.94 | 1.19 | 0.75 | 0.91 | 1    | 1.94  | 4.25           |      |
| 5            | D-112           | 5/8       | 2.5  | 7.88  | 10.19 | 1     | 0.56 | 0.88 | 1.13 | 1.56 | 1    | 1.28 | 1.19 | 2.5   | 8.94           |      |
| 8.5          | EE-112          | 3/4       | 2.88 | 9.5   | 12.34 | 1.56  | 0.53 | 1.19 | 1.34 | 2.19 | 1.25 | 1.41 | 1.5  | 3.13  | 15.25          |      |
| 10           | G-112           | 7/8       | 4    | 13.94 | 17.5  | 1.75  | 0.81 | 1.5  | 1.75 | 3.5  | 1.72 | 1.66 | 1.81 | 4.66  | 39             |      |
| 15           | GG-112          | 1         | 4    | 13.63 | 17.5  | 1.75  | 0.81 | 1.5  | 1.75 | 3.5  | 1.94 | 2.03 | 2.13 | 4.91  | 40             |      |
| 25           | H-112           | 1 1/4     | 5    | 15.94 | 20.69 | 2     | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 75             |      |
| 35           | HH-112          | 1 1/2     | 5    | 15.94 | 20.69 | 2     | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 75             |      |
| 45           | I-112           |           | 6    | 20.06 | 26.06 | 2.5   | 1.25 | 2.25 | 3    | 4    | 2.5  | 2.53 | 3    | 7     | 139            |      |
| 50           | J-112           |           | 7    | 20.94 | 27.94 | 3     | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 205            |      |
| 60           | JJ-112          |           | 7    | 20.94 | 27.94 | 3     | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 205            |      |
| 75           | K-112           |           | 8    | 24    | 32    | 3.5   | 1.75 | 3    | 4    | 5    | 3.5  | 3.38 | 4    | 8.13  | 305            |      |
| 100          | KK-112          |           | 10   | 32.88 | 43.88 | 4.06  | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.03 | 5.5  | 11.38 | 647            |      |
| 150          | KKK-112         |           | 10   | 32.88 | 43.88 | 4.06  | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.28 | 5.5  | 11.38 | 647            |      |
| 200          | L-112           |           |      | 11.5  | 35.52 | 47.27 | 5.06 | 2.56 | 4.5  | 5.75 | 7.75 | 5    | 4.81 | 6     | 13             | 925  |
| 300          | M-112           |           |      | 14    | 43.45 | 58.95 | 6.13 | 3.94 | 4.75 | 7.5  | 9.5  | 6    | 6.06 | 8     | 17             | 1645 |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## CLEVIS TO HOOK - TYPE 115

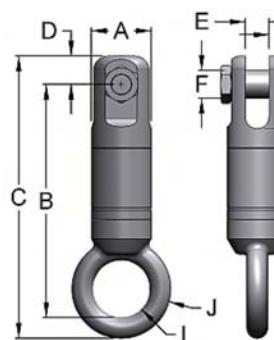


| WLL*<br>Tons | Model<br>Number | Rope Size | A    | B    | C    | D    | E    | F     | G     | H    | J    | K     | Weight<br>Lbs. |
|--------------|-----------------|-----------|------|------|------|------|------|-------|-------|------|------|-------|----------------|
| 1.5          | B-115           | 3/8       | 1.63 | 0.5  | 0.5  | 0.69 | 0.78 | 5.88  | 3.63  | 1    | 1.63 | 1     | 2.31           |
| 3            | C-115           | 1/2       | 2    | 0.75 | 0.75 | 0.94 | 1.19 | 8.56  | 4.88  | 1.34 | 2    | 1.38  | 5.94           |
| 5            | D-115           | 5/8       | 2.5  | 0.88 | 1    | 1.13 | 1.56 | 10.81 | 6.5   | 1.34 | 2.5  | 1.81  | 11.81          |
| 8.5          | EE-115          | 3/4       | 2.88 | 1.19 | 1.56 | 1.34 | 2.09 | 13.75 | 8.69  | 2.25 | 3.25 | 2.59  | 24             |
| 10           | G-115           | 7/8       | 4    | 1.5  | 1.75 | 1.75 | 3.5  | 17.88 | 11    | 3    | 3.25 | 3     | 53             |
| 15           | GG-115          | 1         | 4    | 1.5  | 1.75 | 1.75 | 3.5  | 17.88 | 11    | 3    | 4.25 | 3     | 53             |
| 25           | H-115           | 1 1/4     | 5    | 2    | 2    | 2.38 | 3.69 | 23.01 | 12.02 | 3.54 | 4.41 | 4.21  | 131            |
| 35           | HH-115          | 1 1/2     | 5    | 2    | 2    | 2.38 | 3.69 | 23.01 | 12.02 | 3.54 | 4.41 | 4.21  | 131            |
| 45           | I-115           |           | 6    | 2.25 | 2.5  | 3    | 4    | 27.65 | 13.46 | 3.94 | 4.92 | 4.69  | 211            |
| 50           | J-115           |           | 7    | 2.5  | 3    | 3.5  | 4.5  | 29.34 | 15.12 | 4.41 | 5.51 | 5.26  | 293            |
| 60           | JJ-115          |           | 7    | 2.5  | 3    | 3.5  | 4.5  | 29.34 | 15.12 | 4.41 | 5.51 | 5.26  | 293            |
| 75           | K-115           |           | 8    | 3    | 3.5  | 4    | 5    | 33.36 | 17    | 4.92 | 6.3  | 5.97  | 411            |
| 100          | KK-115          |           | 10   | 4    | 4.06 | 5.5  | 6.75 | 45.31 | 21.34 | 6.3  | 7.87 | 7.55  | 922            |
| 150          | KKK-115         |           | 10   | 4    | 4.06 | 5.5  | 6.75 | 46.98 | 24    | 7.09 | 8.82 | 8.42  | 1095           |
| 200          | L-115           |           | 11.5 | 4.5  | 5.06 | 5.75 | 7.75 | 50.48 | 26.95 | 7.87 | 9.84 | 9.29  | 1510           |
| 300          | M-115           |           | 14   | 4.75 | 6.13 | 7.5  | 9.5  | 63.13 | 33.69 | 9.17 | 12.4 | 11.81 | 2800           |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

# SWIVELS- Y-LINK, ANGULAR CONTACT BEARINGS

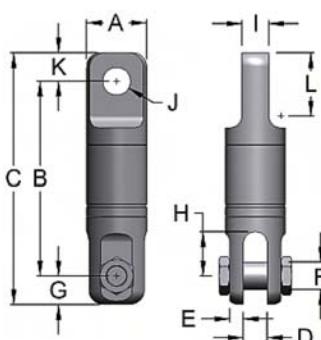
## CLEVIS TO EYE BOLT - TYPE 116



| WLL* | Model Number | Rope Size | A    | B     | C     | D    | E    | F    | G    | H    | I    | J    | Weight Lbs. |
|------|--------------|-----------|------|-------|-------|------|------|------|------|------|------|------|-------------|
| Tons |              |           |      |       |       |      |      |      |      |      |      |      |             |
| 1.5  | B-116        | 3/8       | 1.63 | 5.44  | 6.75  | 0.69 | 0.5  | 0.5  | 0.31 | 0.78 | 1.5  | 2.75 | 2.19        |
| 3    | C-116        | 1/2       | 2    | 7.47  | 9.16  | 0.94 | 0.75 | 0.75 | 0.38 | 1.19 | 1.75 | 3.5  | 4.5         |
| 5    | D-116        | 5/8       | 2.5  | 9.31  | 11.44 | 1.13 | 1    | 0.88 | 0.56 | 1.56 | 2    | 4    | 9.56        |
| 8.5  | EE-116       | 3/4       | 2.88 | 11.09 | 13.44 | 1.34 | 1.56 | 1.19 | 0.53 | 2.09 | 2.5  | 4.5  | 14.75       |
| 10   | G-116        | 7/8       | 4    | 15.91 | 19.47 | 1.75 | 1.75 | 1.5  | 0.81 | 3.5  | 3.25 | 6.88 | 43          |
| 15   | GG-116       | 1         | 4    | 15.91 | 19.47 | 1.75 | 1.75 | 1.5  | 0.81 | 3.5  | 3.25 | 6.88 | 43          |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

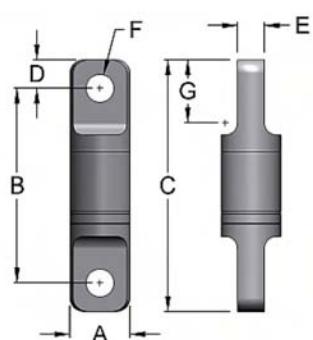
## EYE TO CLEVIS - TYPE 211



| WLL* | Model Number | Rope Size | A     | B     | C     | D    | E    | F    | G    | H    | I    | J    | K     | L    | Weight Lbs. |
|------|--------------|-----------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|-------------|
| Tons |              |           |       |       |       |      |      |      |      |      |      |      |       |      |             |
| 0.45 | A-211        | 1/8       | 0.88  | 2.5   | 3.25  | 0.25 | 0.19 | 0.25 | 0.38 | 0.41 | 0.25 | .26  | 0.38  | 0.75 | 0.38        |
| 0.75 | BB-211       | 1/4       | 1.31  | 3.63  | 4.5   | 0.31 | 0.22 | 0.38 | 0.44 | 0.44 | 0.31 | .39  | 0.44  | 0.94 | 0.94        |
| 1.5  | B-211        | 3/8       | 1.63  | 4.13  | 5.44  | 0.5  | 0.31 | 0.5  | 0.69 | 0.78 | 0.5  | 0.66 | 0.63  | 1.34 | 1.88        |
| 3    | C-211        | 1/2       | 2     | 6.19  | 8.13  | 0.75 | 0.38 | 0.75 | 0.94 | 1.19 | 0.75 | 0.91 | 1     | 1.94 | 4.31        |
| 5    | D-211        | 5/8       | 2.5   | 7.88  | 10.19 | 1    | 0.56 | 0.88 | 1.13 | 1.56 | 1    | 1.28 | 1.19  | 2.5  | 9.06        |
| 8.5  | EE-211       | 3/4       | 2.88  | 9.5   | 12.34 | 1.56 | 0.53 | 1.19 | 1.34 | 2.19 | 1.25 | 1.41 | 1.5   | 3.13 | 14.75       |
| 10   | G-211        | 7/8       | 4     | 13.94 | 17.5  | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 1.72 | 1.66 | 1.81  | 4.66 | 39          |
| 15   | GG-211       | 1         | 4     | 13.63 | 17.5  | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 1.94 | 2.03 | 2.13  | 4.91 | 40          |
| 25   | H-211        | 1 1/4     | 5     | 15.94 | 20.69 | 2    | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38  | 5.25 | 75          |
| 35   | HH-211       | 1 1/2     | 5     | 15.94 | 20.69 | 2    | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38  | 5.25 | 75          |
| 45   | I-211        | 6         | 20.06 | 26.06 | 2.5   | 1.25 | 2.25 | 3    | 4    | 2.5  | 2.53 | 3    | 7     | 139  |             |
| 50   | J-211        | 7         | 20.94 | 27.94 | 3     | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 211  |             |
| 60   | JJ-211       | 7         | 20.94 | 27.94 | 3     | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 211  |             |
| 75   | K-211        | 8         | 24    | 32    | 3.5   | 1.75 | 3    | 4    | 5    | 3.5  | 3.38 | 4    | 8.13  | 305  |             |
| 100  | KK-211       | 10        | 32.88 | 43.88 | 4.06  | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.03 | 5.5  | 11.38 | 678  |             |
| 150  | KKK-211      | 10        | 32.88 | 43.88 | 4.06  | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.28 | 5.5  | 11.38 | 678  |             |
| 200  | L-211        |           | 11.5  | 36.67 | 48.42 | 5.06 | 2.56 | 4.5  | 5.75 | 7.75 | 5    | 4.81 | 6     | 13   | 960         |
| 300  | M-211        |           | 14    | 43.45 | 58.95 | 6.13 | 3.94 | 4.75 | 7.5  | 9.5  | 6    | 6.06 | 8     | 17   | 1645        |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## EYE TO EYE - TYPE 212

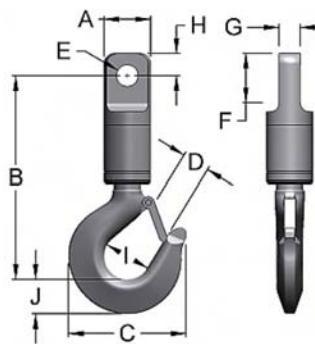


| WLL* | Model Number | Rope Size | A     | B     | C     | D    | E    | F     | G    | Weight Lbs. |
|------|--------------|-----------|-------|-------|-------|------|------|-------|------|-------------|
| Tons |              |           |       |       |       |      |      |       |      |             |
| 0.45 | A-212        | 1/8       | 0.88  | 2.63  | 3.38  | 0.38 | 0.25 | .26   | 0.75 | 0.31        |
| 0.75 | BB-212       | 1/4       | 1.31  | 3.81  | 4.69  | 0.44 | 0.31 | .39   | 0.94 | 0.93        |
| 1.5  | B-212        | 3/8       | 1.63  | 4.13  | 5.38  | 0.63 | 0.5  | 0.66  | 1.34 | 1.87        |
| 3    | C-212        | 1/2       | 2     | 6.13  | 8.13  | 1    | 0.75 | 0.91  | 1.94 | 4.06        |
| 5    | D-212        | 5/8       | 2.5   | 7.81  | 10.19 | 1.19 | 1    | 1.28  | 2.5  | 8.5         |
| 8.5  | EE-212       | 3/4       | 2.88  | 9.31  | 12.31 | 1.5  | 1.25 | 1.41  | 3.13 | 14.75       |
| 10   | G-212        | 7/8       | 4     | 13.88 | 17.5  | 1.81 | 1.72 | 1.66  | 4.66 | 37          |
| 15   | GG-212       | 1         | 4     | 13.25 | 17.5  | 2.13 | 1.94 | 2.03  | 4.91 | 39          |
| 25   | H-212        | 1 1/4     | 5     | 15.94 | 20.69 | 2.38 | 2.25 | 2.31  | 5.25 | 72          |
| 35   | HH-212       | 1 1/2     | 5     | 15.94 | 20.69 | 2.38 | 2.25 | 2.31  | 5.25 | 72          |
| 45   | I-212        | 6         | 20.06 | 26.06 | 3     | 2.5  | 2.53 | 7     | 132  |             |
| 50   | J-212        | 7         | 20.94 | 27.94 | 3.5   | 2.94 | 2.88 | 7     | 209  |             |
| 60   | JJ-212       | 7         | 20.94 | 27.94 | 3.5   | 2.94 | 2.88 | 7     | 209  |             |
| 75   | K-212        | 8         | 24    | 32    | 4     | 3.5  | 3.38 | 8.13  | 311  |             |
| 100  | KK-212       | 10        | 32.88 | 43.88 | 5.5   | 4.5  | 4.03 | 11.38 | 653  |             |
| 150  | KKK-212      | 10        | 32.88 | 43.88 | 5.5   | 4.5  | 4.28 | 11.38 | 657  |             |
| 200  | L-212        | 11.5      | 35.67 | 47.67 | 6     | 5    | 4.81 | 13    | 900  |             |
| 300  | M-212        |           | 14    | 42.95 | 58.95 | 8    | 6    | 6.06  | 17   | 1610        |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

# SWIVELS- Y-LINK, ANGULAR CONTACT BEARINGS

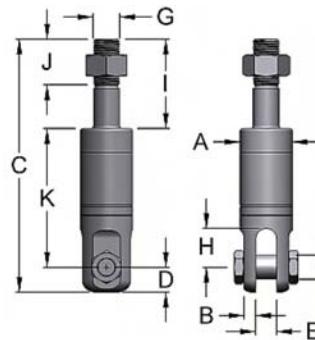
## EYE TO HOOK - TYPE 215



| WLL* Tons | Model Number | Rope Size | A    | B     | C     | D    | E    | F     | G    | H    | I    | J    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|-------|------|------|-------|------|------|------|------|-------------|
| 1.5       | B-215        | 3/8       | 1.63 | 6.19  | 3.63  | 1    | 0.66 | 1.34  | 0.5  | 0.63 | 1.63 | 1    | 2.25        |
| 3         | C-215        | 1/2       | 2    | 8.56  | 4.88  | 1.34 | 0.91 | 1.94  | 0.75 | 1    | 2    | 1.38 | 5.81        |
| 5         | D-215        | 5/8       | 2.5  | 10.88 | 6.5   | 1.69 | 1.28 | 2.5   | 1    | 1.19 | 2.5  | 1.81 | 11.37       |
| 8.5       | EE-215       | 3/4       | 2.88 | 13.63 | 8.69  | 2.25 | 1.41 | 3.13  | 1.25 | 1.5  | 3.25 | 2.59 | 23.5        |
| 10        | G-215        | 7/8       | 4    | 17.81 | 11    | 3    | 1.66 | 4.66  | 1.72 | 1.81 | 3.25 | 3    | 52          |
| 15        | GG-215       | 1         | 4    | 17.56 | 11    | 3    | 2.03 | 4.91  | 1.94 | 2.13 | 4.25 | 3    | 53          |
| 25        | H-215        | 1 1/4     | 5    | 23.01 | 12.02 | 3.54 | 2.31 | 5.25  | 2.25 | 2.38 | 4.41 | 4.21 | 128         |
| 35        | HH-215       | 1 1/2     | 5    | 23.01 | 12.02 | 3.54 | 2.31 | 5.25  | 2.25 | 2.38 | 4.41 | 4.21 | 128         |
| 45        | I-215        |           | 6    | 27.65 | 13.46 | 3.94 | 2.53 | 7     | 2.5  | 3    | 4.92 | 4.69 | 205         |
| 50        | J-215        |           | 7    | 29.34 | 15.12 | 4.41 | 2.88 | 7     | 2.94 | 3.5  | 5.51 | 5.26 | 289         |
| 60        | JJ-215       |           | 7    | 29.34 | 15.12 | 4.41 | 2.88 | 7     | 2.94 | 3.5  | 5.51 | 5.26 | 289         |
| 75        | K-215        |           | 8    | 33.36 | 17    | 4.92 | 3.38 | 8.13  | 3.5  | 4    | 6.3  | 5.97 | 423         |
| 100       | KK-215       |           | 10   | 45.31 | 21.34 | 6.3  | 4.03 | 11.38 | 4.5  | 5.5  | 7.87 | 7.55 | 913         |
| 150       | KKK-215      |           | 10   | 46.98 | 24    | 7.09 | 4.28 | 11.38 | 4.5  | 5.5  | 8.82 | 8.42 | 1087        |
| 200       | L-215        |           | 11.5 | 50.82 | 26.95 | 7.87 | 4.81 | 13    | 5    | 6    | 9.84 | 9.29 | 1485        |
| 300       | M-215        |           | 14   | 63.13 | 33.69 | 9.17 | 6.06 | 17    | 6    | 8    | 12.4 | 8.63 | 2835        |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

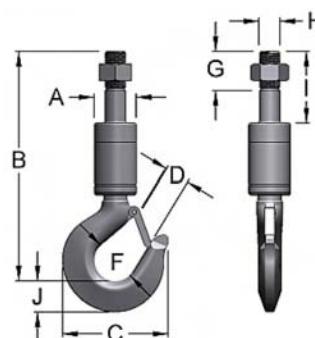
## STUD TO CLEVIS - TYPE 311



| WLL* Tons | Model Number | Rope Size | A    | B    | C     | D    | E    | F    | G    | H    | I    | J    | K     | Weight Lbs. |
|-----------|--------------|-----------|------|------|-------|------|------|------|------|------|------|------|-------|-------------|
| 0.45      | A-311        | 1/8       | 0.88 | 0.19 | 4.06  | 0.38 | 0.25 | 0.25 | 0.38 | 0.41 | 1.5  | 1.19 | 2.19  | 0.37        |
| 0.75      | BB-311       | 1/4       | 1.31 | 0.22 | 5.63  | 0.44 | 0.31 | 0.38 | 0.63 | 0.56 | 2    | 1.5  | 3.19  | 1.06        |
| 1.5       | B-311        | 3/8       | 1.63 | 0.31 | 6.06  | 0.69 | 0.5  | 0.5  | 0.75 | 0.78 | 2    | 1.5  | 3.75  | 1.87        |
| 3         | C-311        | 1/2       | 2    | 0.38 | 9.19  | 0.94 | 0.75 | 0.75 | 0.88 | 1.19 | 3    | 2.63 | 5.25  | 4.5         |
| 5         | D-311        | 5/8       | 2.5  | 0.56 | 11.19 | 1.13 | 1    | 0.88 | 1.25 | 1.56 | 3.5  | 3.13 | 6.56  | 9.75        |
| 8.5       | EE-311       | 3/4       | 2.88 | 0.53 | 13.03 | 1.56 | 1.56 | 1.19 | 1.5  | 2.19 | 4    | 3    | 7.69  | 14.5        |
| 10        | G-311        | 7/8       | 4    | 0.81 | 17.44 | 1.75 | 1.75 | 1.5  | 2    | 3.5  | 5.5  | 3    | 10.19 | 37          |
| 15        | GG-311       | 1         | 4    | 0.81 | 17.44 | 1.75 | 1.75 | 1.5  | 2    | 3.5  | 5.5  | 3    | 10.19 | 37          |
| 25        | H-311        | 1 1/4     | 5    | 1.13 | 23.31 | 2.38 | 2    | 2    | 2.5  | 3.69 | 8.5  | 4.25 | 12.44 | 78          |
| 35        | HH-311       | 1 1/2     | 5    | 1.13 | 23.31 | 2.38 | 2    | 2    | 2.5  | 3.69 | 8.5  | 4.25 | 10.44 | 78          |
| 45        | I-311        |           | 6    | 1.25 | 25.56 | 3    | 2.5  | 2.25 | 3    | 4    | 8    | 4    | 14.56 | 131         |
| 50        | J-311        |           | 7    | 1.5  | 28.44 | 3.5  | 3    | 2.5  | 3.25 | 4.5  | 8    | 4    | 16.94 | 198         |
| 60        | JJ-311       |           | 7    | 1.5  | 28.44 | 3.5  | 3    | 2.5  | 3.25 | 4.5  | 8    | 4    | 16.94 | 198         |
| 75        | K-311        |           | 8    | 1.75 | 33.5  | 4    | 3.5  | 3    | 3.75 | 5    | 10   | 5    | 19.5  | 271         |
| 100       | KK-311       |           | 10   | 2    | 51.13 | 5.5  | 4.06 | 4    | 6.25 | 6.75 | 20.5 | 7.25 | 25.13 | 648         |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## STUD TO HOOK - TYPE 315

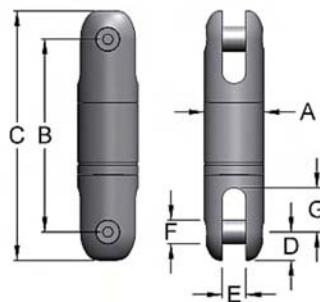


| WLL* Tons | Model Number | Rope Size | A    | B     | C     | D    | F    | G    | H    | I    | J    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|-------|------|------|------|------|------|------|-------------|
| 1.5       | B-315        | 3/8       | 1.63 | 7.25  | 3.63  | 1    | 1.63 | 1.5  | 0.75 | 2    | 1    | 2.25        |
| 3         | C-315        | 1/2       | 2    | 10.63 | 4.88  | 1.34 | 2    | 2.63 | 0.88 | 3    | 1.38 | 6           |
| 5         | D-315        | 5/8       | 2.5  | 13    | 6.5   | 1.69 | 2.5  | 3.13 | 1.25 | 3.5  | 1.81 | 12.06       |
| 8.5       | EE-315       | 3/4       | 2.88 | 15.81 | 8.69  | 2.25 | 3.25 | 3    | 1.5  | 4    | 2.59 | 23.25       |
| 10        | G-315        | 7/8       | 4    | 19.59 | 11    | 3    | 3.25 | 3    | 2    | 5.5  | 3    | 50          |
| 15        | GG-315       | 1         | 4    | 19.59 | 11    | 3    | 4.25 | 3    | 2    | 5.5  | 3    | 50          |
| 25        | H-315        | 1 1/4     | 5    | 28.5  | 12.02 | 3.54 | 4.41 | 4.25 | 2.5  | 8.5  | 4.21 | 133         |
| 35        | HH-315       | 1 1/2     | 5    | 28.5  | 12.02 | 3.54 | 4.41 | 4.25 | 2.5  | 8.5  | 4.21 | 133         |
| 45        | I-315        |           | 6    | 30.13 | 13.46 | 3.94 | 4.92 | 4    | 3    | 8    | 4.69 | 188         |
| 50        | J-315        |           | 7    | 33.34 | 15.12 | 4.41 | 5.51 | 4    | 3.25 | 8    | 5.26 | 278         |
| 60        | JJ-315       |           | 7    | 33.34 | 15.12 | 4.41 | 5.51 | 4    | 3.25 | 8    | 5.26 | 278         |
| 75        | K-315        |           | 8    | 38.82 | 17    | 4.92 | 6.3  | 5    | 3.75 | 10   | 5.97 | 403         |
| 100       | KK-315       |           | 10   | 58.2  | 21.34 | 6.3  | 7.87 | 7.25 | 6.5  | 20.5 | 7.55 | 941         |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## SWIVELS- Y-LINK, ANGULAR CONTACT BEARINGS

### BULLET NOSE TO BULLET NOSE - TYPE 414



| WLL* Tons | Model Number | Rope Size | A    | B     | C     | D    | E    | F    | G    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|-------|------|------|------|------|-------------|
| 0.45      | A-414        | 1/8       | 0.88 | 2.38  | 3.13  | 0.38 | 0.25 | 0.31 | 0.41 | 0.37        |
| 0.75      | BB-414       | 1/4       | 1.31 | 3.56  | 4.44  | 0.44 | 0.31 | 0.38 | 0.56 | 1.12        |
| 1.5       | B-414        | 3/8       | 1.63 | 4.06  | 5.19  | 0.56 | 0.5  | 0.44 | 0.81 | 1.81        |
| 3         | C-414        | 1/2       | 2    | 5.44  | 7.06  | 0.81 | 0.75 | 0.63 | 0.94 | 3.87        |
| 5         | D-414        | 5/8       | 2.5  | 7.88  | 10.19 | 1.13 | 1    | 0.88 | 1.56 | 8.06        |
| 8.5       | EE-414       | 3/4       | 2.88 | 9.81  | 12.31 | 1.25 | 1.28 | 1    | 2.13 | 14.5        |
| 10        | G-414        | 7/8       | 4    | 13.25 | 16.75 | 1.75 | 1.75 | 1.5  | 3.25 | 40          |
| 15        | GG-414       | 1         | 4    | 13.25 | 16.75 | 1.75 | 1.75 | 1.5  | 3.25 | 40          |
| 25        | H-414        | 1 1/4     | 5    | 15.91 | 20.66 | 2.38 | 2    | 2    | 3.69 | 84          |
| 35        | HH-414       | 1 1/2     | 5    | 15.91 | 20.66 | 2.38 | 2    | 2    | 3.69 | 84          |
| 45        | I-414        |           | 6    | 20.08 | 26.08 | 3    | 2.5  | 2.25 | 4    | 134         |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

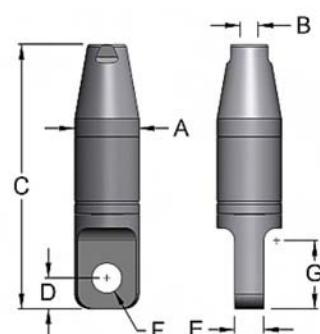
### SOCKET TO CLEVIS - TYPE 511



| WLL* Tons | Model Number | Rope Size | A    | B    | C     | D    | E    | F    | G    | H    | Weight Lbs. |
|-----------|--------------|-----------|------|------|-------|------|------|------|------|------|-------------|
| 1.5       | B-511        | 3/8       | 1.63 | 0.44 | 6.19  | 0.69 | 0.5  | 0.5  | 0.78 | 0.31 | 1.87        |
| 3         | C-511        | 1/2       | 2    | 0.56 | 8.94  | 0.94 | 0.75 | 0.75 | 1.19 | 0.38 | 4.43        |
| 5         | D-511        | 5/8       | 2.5  | 0.69 | 10.44 | 1.13 | 1    | 0.88 | 1.56 | 0.56 | 8.68        |
| 8.5       | EE-511       | 3/4       | 2.88 | 0.81 | 12.75 | 1.34 | 1.56 | 1.19 | 2.09 | 0.53 | 14.5        |
| 10        | G-511        | 7/8       | 4    | 0.97 | 16.25 | 1.75 | 1.75 | 1.5  | 3.5  | 0.81 | 33          |
| 15        | GG-511       | 1         | 4    | 1.13 | 16.25 | 1.75 | 1.75 | 1.5  | 3.5  | 0.81 | 33          |
| 25        | H-511        | 1 1/4     | 5    | 1.38 | 20.19 | 2.38 | 2    | 2    | 3.69 | 1.13 | 74          |
| 35        | HH-511       | 1 1/2     | 5    | 1.63 | 20.19 | 2.38 | 2    | 2    | 3.69 | 1.13 | 74          |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

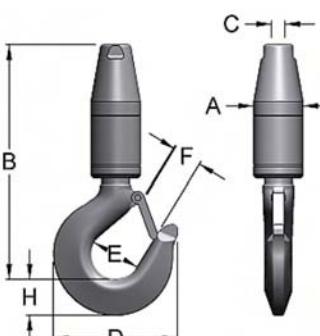
### SOCKET TO EYE - TYPE 512



| WLL* Tons | Model Number | Rope Size | A    | B    | C     | D    | E    | F    | G    | Weight Lbs. |
|-----------|--------------|-----------|------|------|-------|------|------|------|------|-------------|
| 1.5       | B-512        | 3/8       | 1.63 | 0.44 | 6.19  | 0.63 | 0.5  | 0.66 | 1.87 |             |
| 3         | C-512        | 1/2       | 2    | 0.56 | 8.94  | 1    | 0.75 | 0.91 | 4.43 |             |
| 5         | D-512        | 5/8       | 2.5  | 0.69 | 10.44 | 1.19 | 1    | 1.28 | 8.68 |             |
| 8.5       | EE-512       | 3/4       | 2.88 | 0.81 | 12.75 | 1.5  | 1.25 | 1.41 | 14.5 |             |
| 10        | G-512        | 7/8       | 4    | 0.97 | 16.25 | 1.81 | 1.72 | 1.66 | 33   |             |
| 15        | GG-512       | 1         | 4    | 1.13 | 16.25 | 2.13 | 1.94 | 2.03 | 33   |             |
| 25        | H-512        | 1 1/4     | 5    | 1.38 | 20.19 | 2.38 | 2.25 | 2.31 | 74   |             |
| 35        | HH-512       | 1 1/2     | 5    | 1.63 | 20.19 | 2.38 | 2.25 | 2.31 | 74   |             |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

### SOCKET TO HOOK - TYPE 515

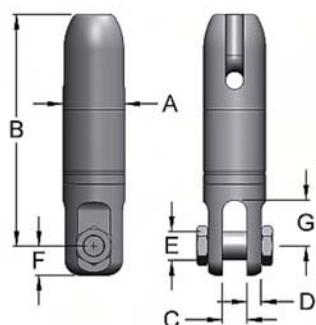


| WLL* Tons | Model Number | Rope Size | A    | B     | C    | D     | E    | F    | G    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|------|-------|------|------|------|-------------|
| 1.5       | B-515        | 3/8       | 1.63 | 7.38  | 0.44 | 3.63  | 1.63 | 1    | 1    | 2.18        |
| 3         | C-515        | 1/2       | 2    | 10.38 | 0.56 | 4.88  | 2    | 1.34 | 1.38 | 5.87        |
| 5         | D-515        | 5/8       | 2.5  | 12.19 | 0.69 | 6.5   | 2.5  | 1.69 | 1.81 | 11          |
| 8.5       | EE-515       | 3/4       | 2.88 | 15.56 | 0.81 | 8.69  | 3.25 | 2.25 | 2.59 | 23.25       |
| 10        | G-515        | 7/8       | 4    | 18.38 | 0.97 | 11    | 3.25 | 3    | 3    | 46          |
| 15        | GG-515       | 1         | 4    | 18.38 | 1.13 | 11    | 4.25 | 3    | 3    | 46          |
| 25        | H-515        | 1 1/4     | 5    | 24.88 | 1.38 | 12.02 | 4.41 | 3.54 | 4.21 | 125         |
| 35        | HH-515       | 1 1/2     | 5    | 24.88 | 1.63 | 12.02 | 4.41 | 3.54 | 4.21 | 125         |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## SWIVELS- Y-LINK, ANGULAR CONTACT BEARINGS

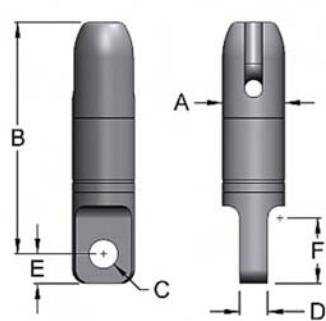
### THIMBLE TO CLEVIS - TYPE 611



| WLL* Tons | Model Number | Rope Size | A    | B     | C    | D    | E    | F    | G    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|------|------|------|------|------|-------------|
| 1.5       | B-611        | 3/8       | 1.63 | 6     | 0.5  | 0.31 | 0.5  | 0.69 | 0.78 | 2.5         |
| 3         | C-611        | 1/2       | 2    | 8.06  | 0.75 | 0.38 | 0.75 | 0.94 | 1.19 | 5.25        |
| 5         | D-611        | 5/8       | 2.5  | 9.31  | 1    | 0.56 | 0.88 | 1.13 | 1.56 | 10          |
| 8.5       | EE-611       | 3/4       | 2.88 | 11.38 | 1.56 | 0.53 | 1.19 | 1.34 | 2.09 | 16.5        |
| 10        | G-611        | 7/8       | 4    | 15.38 | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 42          |
| 15        | GG-611       | 1         | 4    | 15.38 | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 42          |
| 25        | H-611        | 1 1/4     | 5    | 18.31 | 2    | 1.13 | 2    | 2.38 | 2.69 | 80          |
| 35        | HH-611       | 1 1/2     | 5    | 18.31 | 2    | 1.13 | 2    | 2.38 | 2.69 | 80          |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

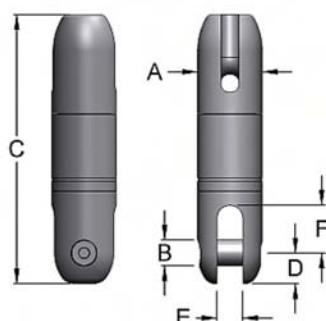
### THIMBLE TO EYE - TYPE 612



| WLL* Tons | Model Number | Rope Size | A    | B     | C    | D    | E    | F    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|------|------|------|------|-------------|
| 1.5       | B-612        | 3/8       | 1.63 | 6.13  | 0.66 | 0.5  | 0.63 | 1.34 | 2.43        |
| 3         | C-612        | 1/2       | 2    | 8     | 0.91 | 0.75 | 1    | 1.94 | 6           |
| 5         | D-612        | 5/8       | 2.5  | 9.25  | 1.28 | 1    | 1.19 | 2.5  | 9.43        |
| 8.5       | EE-612       | 3/4       | 2.88 | 11.31 | 1.41 | 1.25 | 1.5  | 3.13 | 16.5        |
| 10        | G-612        | 7/8       | 4    | 15.44 | 1.66 | 1.72 | 1.81 | 4.66 | 41          |
| 15        | GG-612       | 1         | 4    | 15.44 | 2.03 | 1.94 | 2.13 | 4.91 | 42          |
| 25        | H-612        | 1 1/4     | 5    | 18.31 | 2.31 | 2.25 | 2.38 | 5.25 | 75          |
| 35        | HH-612       | 1 1/2     | 5    | 18.31 | 2.31 | 2.25 | 2.38 | 5.25 | 75          |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

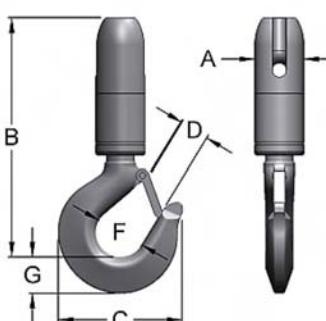
### THIMBLE TO BULLET NOSE - TYPE 614



| WLL* Tons | Model Number | Rope Size | A    | B    | C     | D    | E    | F    | Weight Lbs. |
|-----------|--------------|-----------|------|------|-------|------|------|------|-------------|
| 1.5       | B-614        | 3/8       | 1.63 | 0.44 | 6.61  | 1    | 0.5  | 1.5  | 2           |
| 3         | C-614        | 1/2       | 2    | 0.63 | 8.55  | 1.34 | 0.75 | 2.63 | 6.06        |
| 5         | D-614        | 5/8       | 2.5  | 0.88 | 10.44 | 1.69 | 1    | 3.13 | 9.5         |
| 8.5       | EE-614       | 3/4       | 2.88 | 1    | 12.77 | 1.25 | 1.28 | 2.13 | 16.5        |
| 10        | G-614        | 7/8       | 4    | 1.5  | 17.25 | 3    | 1.75 | 3    | 38.5        |
| 15        | GG-614       | 1         | 4    | 1.5  | 17.25 | 3    | 1.75 | 3    | 38.5        |
| 25        | H-614        | 1 1/4     | 5    | 2    | 20.69 | 3.63 | 2    | 4.25 | 76          |
| 35        | HH-614       | 1 1/2     | 5    | 2    | 20.69 | 3.75 | 2    | 4.25 | 76          |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

### THIMBLE TO HOOK - TYPE 615

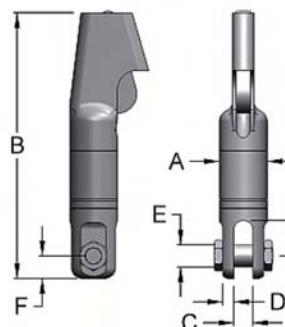


| WLL* Tons | Model Number | Rope Size | A    | B     | C     | D    | F    | G    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|-------|------|------|------|-------------|
| 1.5       | B-615        | 3/8       | 1.63 | 7.81  | 3.63  | 1    | 1.63 | 1    | 2.87        |
| 3         | C-615        | 1/2       | 2    | 10.44 | 4.88  | 1.34 | 2    | 1.38 | 6.81        |
| 5         | D-615        | 5/8       | 2.5  | 12.19 | 6.5   | 1.69 | 2.5  | 1.81 | 12.31       |
| 8.5       | EE-615       | 3/4       | 2.88 | 15.56 | 8.69  | 2.25 | 3    | 2.59 | 25.25       |
| 10        | G-615        | 7/8       | 4    | 19.38 | 11    | 3    | 3.25 | 3    | 55          |
| 15        | GG-615       | 1         | 4    | 19.38 | 11    | 3    | 4.25 | 3    | 55          |
| 25        | H-615        | 1 1/4     | 5    | 25.38 | 12.02 | 3.54 | 4.41 | 4.21 | 136         |
| 35        | HH-615       | 1 1/2     | 5    | 25.38 | 12.02 | 3.54 | 4.41 | 4.21 | 136         |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## SWIVELS- Y-LINK, ANGULAR CONTACT BEARINGS

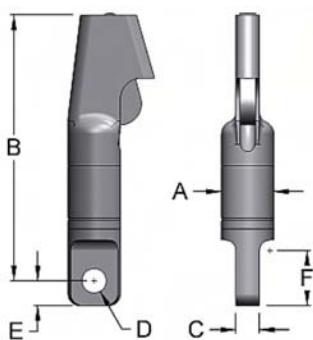
### WEDGE TO CLEVIS - TYPE 711



| WLL*<br>Tons | Model<br>Number | Rope Size     | A    | B     | C    | D    | E    | F    | G    | Weight<br>Lbs. |
|--------------|-----------------|---------------|------|-------|------|------|------|------|------|----------------|
| 3            | C-711           | 1/2           | 2    | 10.25 | 0.75 | 0.38 | 0.75 | 0.94 | 1.19 | 6.31           |
| 5            | D-711           | 1/2, 5/8      | 2.5  | 12.53 | 1    | 0.56 | 0.88 | 1.13 | 1.56 | 12.56          |
| 8.5          | EE-711          | 1/2, 5/8, 3/4 | 2.88 | 14.44 | 1.56 | 0.53 | 1.19 | 1.34 | 2.09 | 20.5           |
| 10           | G-711           | 3/4, 7/8, 1   | 4    | 19.75 | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 47             |
| 15           | GG-711          | 3/4, 7/8, 1   | 4    | 19.75 | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 47             |
| 25           | H-711           | 1 1/8, 1 1/4  | 5    | 27.31 | 2    | 1.13 | 2    | 2.38 | 3.69 | 98             |
| 35           | HH-711          | 1 1/8, 1 1/4  | 5    | 27.31 | 2    | 1.13 | 2    | 2.38 | 3.69 | 98             |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

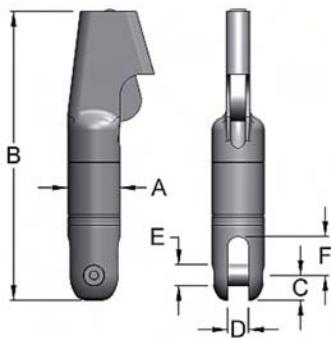
### WEDGE TO EYE - TYPE 712



| WLL*<br>Tons | Model Number | Rope Size     | A    | B     | C    | D    | E    | F    | Weight Lbs. |
|--------------|--------------|---------------|------|-------|------|------|------|------|-------------|
| 3            | C-712        | 1/2           | 2    | 10.25 | 0.75 | 0.91 | 1    | 1.94 | 6.06        |
| 5            | D-712        | 1/2, 5/8      | 2.5  | 12.5  | 1    | 1.28 | 1.19 | 2.5  | 12          |
| 8.5          | EE-712       | 1/2, 5/8, 3/4 | 2.88 | 14.25 | 1.25 | 1.41 | 1.5  | 3.13 | 20.5        |
| 10           | G-712        | 3/4, 7/8, 1   | 4    | 19.69 | 1.72 | 1.66 | 1.81 | 4.66 | 45          |
| 15           | GG-712       | 3/4, 7/8, 1   | 4    | 19.38 | 1.94 | 2.03 | 2.13 | 4.91 | 46          |
| 25           | H-712        | 1 1/8, 1 1/4  | 5    | 25.43 | 2.25 | 2.31 | 2.38 | 5.25 | 94          |
| 35           | HH-712       | 1 1/8, 1 1/4  | 5    | 25.43 | 2.25 | 2.31 | 2.38 | 5.25 | 94          |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

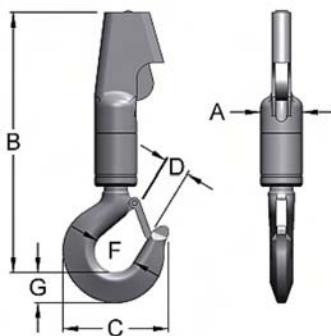
### WEDGE TO BULLET NOSE - TYPE 714



| WLL*<br>Tons | Model Number | Rope Size     | A    | B     | C    | D    | E    | F    | Weight Lbs. |
|--------------|--------------|---------------|------|-------|------|------|------|------|-------------|
| 3            | C-714        | 1/2           | 2    | 9.92  | 0.81 | 0.75 | 0.63 | 0.94 | 3.87        |
| 5            | D-714        | 1/2, 5/8      | 2.5  | 12.42 | 1.13 | 1    | 0.88 | 1.56 | 8.06        |
| 8.5          | EE-714       | 1/2, 5/8, 3/4 | 2.88 | 14.47 | 1.25 | 1.28 | 1    | 2.13 | 14.5        |
| 10           | G-714        | 3/4, 7/8, 1   | 4    | 19.75 | 1.75 | 1.75 | 1.5  | 3.25 | 40          |
| 15           | GG-714       | 3/4, 7/8, 1   | 4    | 19.75 | 1.75 | 1.75 | 1.5  | 3.25 | 40          |
| 25           | H-714        | 1 1/8, 1 1/4  | 5    | 27.3  | 2.38 | 2    | 2    | 3.69 | 96          |
| 35           | HH-714       | 1 1/8, 1 1/4  | 5    | 27.3  | 2.38 | 2    | 2    | 3.69 | 96          |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

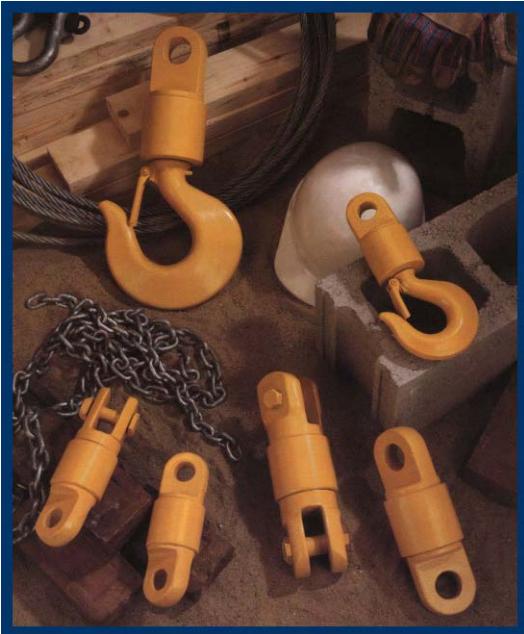
### WEDGE TO HOOK - TYPE 715



| WLL*<br>Tons | Model Number | Rope Size     | A    | B     | C     | D    | F    | G    | Weight Lbs. |
|--------------|--------------|---------------|------|-------|-------|------|------|------|-------------|
| 3            | C-715        | 1/2           | 2    | 12.63 | 4.88  | 1.34 | 2    | 1.38 | 7.81        |
| 5            | D-715        | 1/2, 5/8      | 2.5  | 15.44 | 6.5   | 1.81 | 2.5  | 1.81 | 14.87       |
| 8.5          | EE-715       | 1/2, 5/8, 3/4 | 2.88 | 18.56 | 8.81  | 2.25 | 3.25 | 2.59 | 29.25       |
| 10           | G-715        | 3/4, 7/8, 1   | 4    | 23.63 | 11    | 3    | 3.25 | 3    | 60          |
| 15           | GG-715       | 3/4, 7/8, 1   | 4    | 23.63 | 11    | 3    | 4.25 | 3    | 60          |
| 25           | H-715        | 1 1/8, 1 1/4  | 5    | 32    | 12.02 | 3.54 | 4.41 | 4.21 | 145         |
| 35           | HH-715       | 1 1/8, 1 1/4  | 5    | 32    | 12.02 | 3.54 | 4.41 | 4.21 | 145         |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

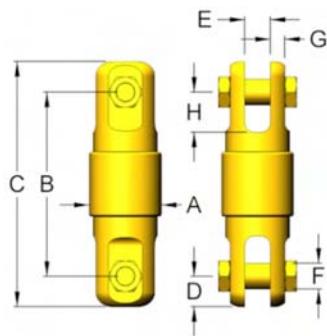
## SWIVELS- ECONO-LINK, THRUST BEARING SWIVELER



- Single tapered thrust bearing, factory lubricated
- Tight-fit bronze bushing acting as a seal, retains lubricant and protects bearing
- Load capacities from 3 to 15 tons
- Wire rope diameters from  $\frac{1}{2}$ " to 1"
- Six popular clevis, hook, and eye configurations available
- Structural components from cast alloy steel
- Hook models with forged alloy steel hook and safety latch
- Finished with enamel coating
- Minimum 4:1 design factor
- Proof Load is 2 x WLL

NOT FOR USE ON WRECKING BALLS. SEE HD-LINK.

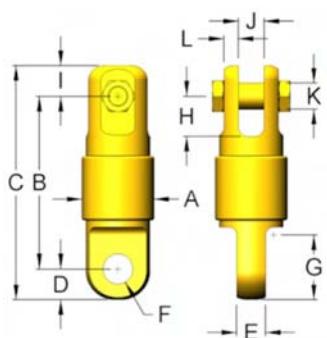
### CLEVIS TO CLEVIS - TYPE 181



| WLL*<br>Tons | Model<br>Number | Rope Size | A    | B     | C     | D    | E    | F    | G    | H    | Weight<br>Lbs. |
|--------------|-----------------|-----------|------|-------|-------|------|------|------|------|------|----------------|
| 3            | 3E181           | 1/2       | 2.63 | 6.31  | 8.69  | 1.19 | 1    | .75  | 0.5  | 1.38 | 6              |
| 6            | 6E181           | 5/8       | 3.25 | 7.81  | 10.81 | 1.5  | 1.13 | 1    | 0.75 | 1.75 | 14             |
| 10           | 10E181          | 3/4       | 3.75 | 9.31  | 12.56 | 1.63 | 1.38 | 1.25 | 0.75 | 2.13 | 21             |
| 15           | 15E181          | 1         | 4.13 | 11.06 | 14.81 | 1.88 | 1.75 | 1.38 | 0.88 | 2.5  | 31             |

\* Design factor 4:1

### CLEVIS TO EYE - TYPE 182

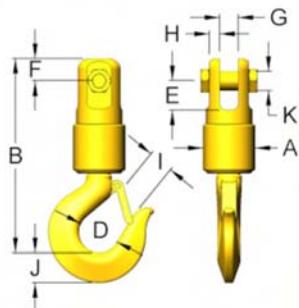


| WLL*<br>Tons | Model<br>Number | Rope Size | A    | B     | C     | D    | E    | F    | G    | H    | I    | J    | K     | L    | Weight<br>Lbs. |
|--------------|-----------------|-----------|------|-------|-------|------|------|------|------|------|------|------|-------|------|----------------|
| 3            | 3E182           | 1/2       | 2.63 | 5.94  | 8.25  | 1.13 | 1    | 1.06 | 1.13 | 1.38 | 1.19 | 1    | .75   | 0.5  | 5              |
| 6            | 6E182           | 5/8       | 3.25 | 7.25  | 10.25 | 1.5  | 1.19 | 1.41 | 1.38 | 1.75 | 1.5  | 1.13 | 1     | 0.75 | 13             |
| 10           | 10E182          | 3/4       | 3.75 | 9.31  | 12.56 | 1.63 | 1.44 | 1.66 | 2.38 | 2.13 | 1.63 | 1.38 | 1.25  | 0.75 | 20             |
| 15           | 15E182          | 1         | 4.13 | 11.06 | 14.81 | 1.88 | 1.94 | 2.06 | 2.63 | 2.5  | 1.88 | 1.88 | 1.375 | 0.88 | 30             |

\* Design factor 4:1

# SWIVELS- ECONO-LINK, THRUST BEARING SWIVELER

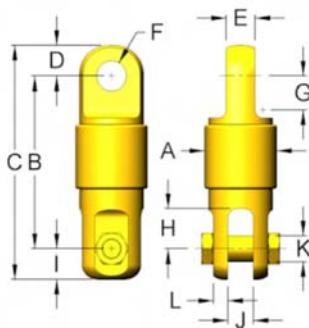
## CLEVIS TO HOOK - TYPE 185



| WLL* Tons | Model Number | Rope Size | A    | B     | C    | D    | E    | F    | G    | H    | I    | J    | K     | Weight Lbs. |
|-----------|--------------|-----------|------|-------|------|------|------|------|------|------|------|------|-------|-------------|
| 3         | 3E185        | 1/2       | 2.63 | 8.09  | 4.94 | 2    | 1.38 | 1.19 | 1    | 0.5  | 1.5  | 1.44 | .75   | 7           |
| 6         | 6E185        | 5/8       | 3.25 | 10.06 | 6.5  | 2.5  | 1.75 | 1.50 | 1.13 | 0.75 | 1.88 | 1.81 | 1     | 16          |
| 10        | 10E185       | 3/4       | 3.75 | 13.75 | 8.81 | 3.25 | 2.13 | 1.63 | 1.38 | 0.75 | 2.5  | 2.59 | 1.25  | 28          |
| 15        | 15E185       | 1         | 4.13 | 15.44 | 11   | 4.25 | 2.5  | 1.88 | 1.75 | 0.88 | 3.38 | 3    | 1.375 | 50          |

\* Design factor 4:1

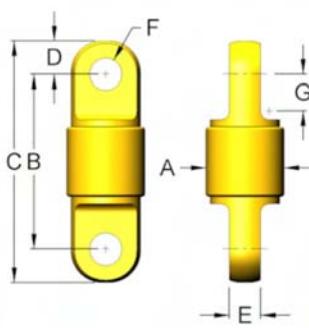
## EYE TO CLEVIS - TYPE 281



| WLL* Tons | Model Number | Rope Size | A    | B     | C     | D    | E    | F    | G    | H    | I    | J    | K     | L    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|-------|------|------|------|------|------|------|------|-------|------|-------------|
| 3         | 3E281        | 1/2       | 2.63 | 5.94  | 8.25  | 1.13 | 1    | 1.06 | 1.13 | 1.38 | 1.19 | 1    | .75   | 0.5  | 5           |
| 6         | 6E281        | 5/8       | 3.25 | 7.25  | 10.25 | 1.5  | 1.19 | 1.41 | 1.38 | 1.75 | 1.5  | 1.13 | 1     | 0.75 | 13          |
| 10        | 10E281       | 3/4       | 3.75 | 9.31  | 12.56 | 1.63 | 1.44 | 1.66 | 2.38 | 2.13 | 1.63 | 1.38 | 1.25  | 0.75 | 20          |
| 15        | 15E281       | 1         | 4.13 | 11.06 | 14.81 | 1.88 | 1.94 | 2.06 | 2.63 | 2.5  | 1.88 | 1.75 | 1.375 | 0.88 | 30          |

\* Design factor 4:1

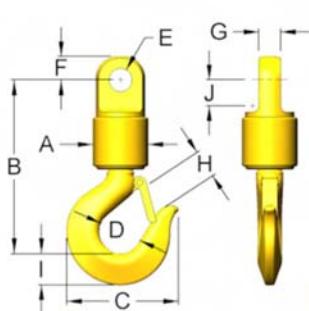
## EYE TO EYE - TYPE 282



| WLL* Tons | Model Number | Rope Size | A    | B     | C     | D    | E    | F    | G    | H    | I    | J    | K     | L    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|-------|------|------|------|------|------|------|------|-------|------|-------------|
| 3         | 3E282        | 1/2       | 2.63 | 5.5   | 7.75  | 1.13 | 1    | 1.06 | 1.13 | 1.13 | 1.13 | 1    | .75   | 0.5  | 5           |
| 6         | 6E282        | 5/8       | 3.25 | 6.94  | 9.94  | 1.5  | 1.19 | 1.41 | 1.41 | 1.41 | 1.41 | 1.38 | 1     | 0.75 | 12          |
| 10        | 10E282       | 3/4       | 3.75 | 9.81  | 12.94 | 1.63 | 1.44 | 1.66 | 2.38 | 2.13 | 1.63 | 1.38 | 1.25  | 0.75 | 21          |
| 15        | 15E282       | 1         | 4.13 | 11.94 | 15.06 | 1.88 | 1.94 | 2.06 | 2.63 | 2.5  | 1.88 | 1.75 | 1.375 | 0.88 | 31          |

\* Design factor 4:1

## EYE TO HOOK - TYPE 285



| WLL* Tons | Model Number | Rope Size | A    | B     | C    | D    | E    | F    | G    | H    | I    | J    | K    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|------|------|------|------|------|------|------|------|------|-------------|
| 3         | 3E285        | 1/2       | 2.63 | 7.66  | 4.94 | 2    | 1.06 | 1.13 | 1    | 1.5  | 1.44 | 1.13 | .75  | 7           |
| 6         | 6E285        | 5/8       | 3.25 | 9.75  | 6.5  | 2.5  | 1.41 | 1.50 | 1.19 | 1.88 | 1.81 | 1.38 | 1    | 16          |
| 10        | 10E285       | 3/4       | 3.75 | 13.75 | 8.81 | 3.25 | 1.66 | 1.63 | 1.44 | 2.5  | 2.59 | 2.38 | 1.25 | 28          |
| 15        | 15E285       | 1         | 4.13 | 15.81 | 11   | 4.25 | 2.06 | 2.00 | 1.94 | 3.38 | 3    | 2.63 | 50   |             |

\* Design factor 4:1

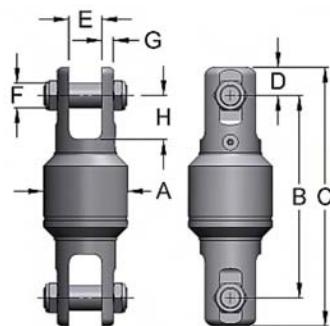
## SWIVELS- HD-LINK, HEAVY DUTY (ANGULAR CONTACT)



- Heavy Duty (HD) barrel for maximized swivel life in rough conditions
- Thick-walled barrel protects bearings and seals from shock and dust
- Equipped with low torque angular contact ball bearings like Miller Y-Link
- Designed for high impact, abrasive environments as found in demolition, quarries, etc.
- Machined from solid forged alloy steel bar
- Zinc plating inside and out for effective protection against corrosion
- Grease fitting allows for easy, frequent lubrication
- For Working Loads from 5 to 35 tons and wire rope sizes 5/8" to 1 1/2"
- Higher capacities are available upon request

**For demolition**, the swivel selected should be one size larger than the normally recommended size, should be lubricated daily, and should be installed 4-6 feet above the breaking ball overhaul weight.

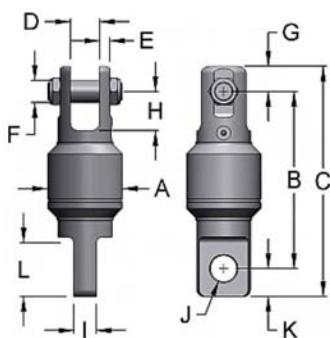
### CLEVIS TO CLEVIS - TYPE 131



| WLL* Tons | Model Number | Rope Size | A   | B     | C     | D    | E    | F    | G    | H    | Weight Lbs. |
|-----------|--------------|-----------|-----|-------|-------|------|------|------|------|------|-------------|
| 5         |              | 5/8       | 3.5 | 7.94  | 10.19 | 1.13 | 1    | .88  | 0.56 | 1.56 | 12          |
| 5         | D-131        | 5/8       | 3.5 | 7.94  | 10.19 | 1.13 | 1    | .88  | 0.56 | 1.56 | 12          |
| 8.5       | EE-131       | 3/4       | 4   | 9.63  | 12.31 | 1.34 | 1.56 | 1.19 | 0.56 | 2.09 | 19.75       |
| 15        | GG-131       | 1         | 5   | 14    | 17.5  | 1.75 | 1.75 | 1.5  | 0.81 | 3.5  | 50          |
| 35        | HH-131       | 1 1/2     | 6   | 15.94 | 20.69 | 2.38 | 2    | 2    | 1.13 | 3.69 | 99          |
| 45        | I-131        |           | 7   | 20.06 | 26.06 | 3    | 2.5  | 2.25 | 1.25 | 4    | 160         |

\* Design factors for WLL=35T and below are 5:1; and 45T are 4:1

### CLEVIS TO EYE - TYPE 132

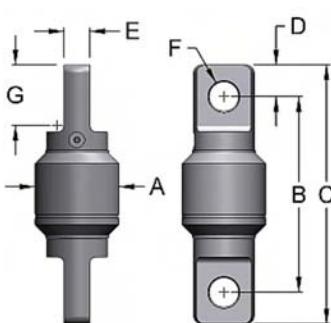


| WLL* Tons | Model Number | Rope Size | A   | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | L    | Weight Lbs. |
|-----------|--------------|-----------|-----|-------|-------|------|------|------|------|------|------|------|------|------|-------------|
| 5         | D-132        | 5/8       | 3.5 | 7.88  | 10.19 | 1    | 0.56 | .88  | 1.13 | 1.56 | 1    | 1.28 | 1.19 | 2.5  | 11.38       |
| 8.5       | EE-132       | 3/4       | 4   | 9.5   | 12.34 | 1.56 | 0.56 | 1.19 | 1.34 | 2.09 | 1.25 | 1.41 | 1.5  | 3.13 | 19.75       |
| 10        | G-132        | 7/8       | 5   | 13.94 | 17.5  | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 1.72 | 1.66 | 1.81 | 4.66 | 49          |
| 15        | GG-132       | 1         | 5   | 13.63 | 17.5  | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 2    | 2.03 | 2.13 | 4.91 | 50          |
| 35        | HH-132       | 1 1/2     | 6   | 16.44 | 21.19 | 2    | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25 | 96          |
| 45        | I-132        |           | 7   | 20.06 | 26.06 | 2.5  | 1.25 | 2.25 | 3    | 4    | 2.5  | 2.53 | 3    | 7    | 155         |

\* Design factors for WLL=35T and below are 5:1; and 45T are 4:1

## SWIVELS- HD-LINK, HEAVY DUTY (ANGULAR CONTACT)

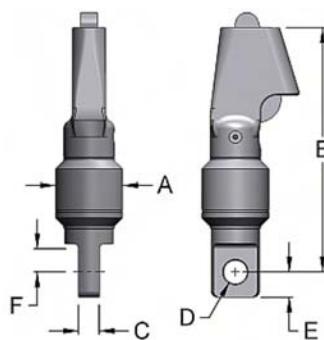
### EYE TO EYE - TYPE 232



| WLL*<br>Tons | Model<br>Number | Rope Size | A   | B     | C     | D    | E    | F    | G    | Weight<br>Lbs. |
|--------------|-----------------|-----------|-----|-------|-------|------|------|------|------|----------------|
| 5            | D-232           | 5/8       | 3.5 | 7.69  | 10.19 | 1.19 | 1    | 1.28 | 2.5  | 11             |
| 8.5          | EE-232          | 3/4       | 4   | 9.31  | 12.34 | 1.5  | 1.25 | 1.41 | 3.13 | 19.25          |
| 10           | G-232           | 7/8       | 5   | 13.88 | 17.5  | 1.81 | 1.72 | 1.66 | 4.66 | 47             |
| 15           | GG-232          | 1         | 5   | 13.25 | 17.5  | 2.13 | 2    | 2.03 | 4.91 | 48             |
| 35           | HH-232          | 1.5       | 6   | 16.5  | 21.19 | 2.38 | 2.25 | 2.31 | 5.25 | 93             |
| 45           | I-232           |           | 7   | 20.06 | 26.06 | 3    | 2.5  | 2.53 | 7    | 150            |

\* Design factors for WLL=35T and below are 5:1; and 45T are 4:1

### WEDGE TO EYE - TYPE 732



| WLL*<br>Tons | Model Number | Rope Size     | A   | B     | C    | D    | E    | F    | Weight Lbs. |
|--------------|--------------|---------------|-----|-------|------|------|------|------|-------------|
| 5            | D-732        | 1/2, 5/8      | 3.5 | 12.5  | 1    | 1.28 | 1.19 | 1.31 | 15          |
| 8.5          | EE-732       | 1/2, 5/8, 3/4 | 4   | 14.25 | 1.25 | 1.41 | 1.5  | 1.63 | 25          |
| 10           | G-732        | 3/4, 7/8, 1   | 5   | 19.69 | 1.72 | 1.66 | 1.81 | 2.84 | 55          |
| 15           | GG-732       | 3/4, 7/8, 1   | 5   | 19.38 | 2    | 2.03 | 2.13 | 2.78 | 56          |
| 25           | H-732        | 1 1/8, 1 1/4  | 6   | 25.44 | 2.25 | 2.31 | 2.38 | 2.88 | 119         |
| 35           | HH-732       | 1 1/8, 1 1/4  | 6   | 25.44 | 2.25 | 2.31 | 2.38 | 2.88 | 119         |

\* Design factor 5:1

## Load Handling SOLUTIONS

- ▶ Swivels
- ▶ Forged Hooks
- ▶ Blocks
- ▶ Sheaves



SCR Pull-in Swivel  
375 metric tons working load

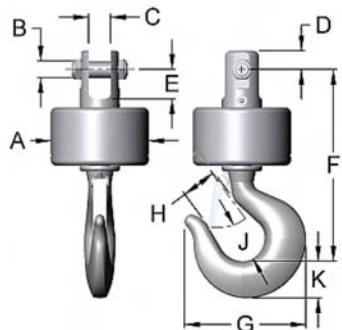
[www.millerproducts.net](http://www.millerproducts.net)

## SWIVELS- g-LINK, OVERHAUL (ANGULAR CONTACT)



- Miller's **g-Link** overhaul swivels weigh 2 ½ to nearly four times as much standard swivels of the same type
- Adds overhaul weight without increasing overall length
- Ideal for small truck cranes and low head room applications where only minimal overhaul weight is required
- For 1.5 to 8.5 ton Working Loads
- Angular contact ball bearings for low torque swivel motion
- Machined from forged alloy steel bar
- Zinc plating inside and out for effective protection against corrosion.
- The g-Link is available with many of the other end fittings shown in this catalog. If you do not see your requirement in the following tables, please inquire.

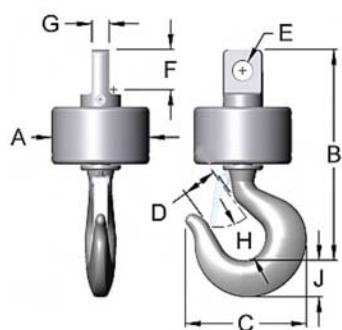
### CLEVIS TO HOOK - TYPE 125



| WLL* Tons | Model Number | Rope size | A | B    | C    | D    | E    | F     | G    | H    | J    | K    | Weight Lbs. |
|-----------|--------------|-----------|---|------|------|------|------|-------|------|------|------|------|-------------|
| 1.5       | B-125        | 3/8       | 4 | 0.5  | 0.5  | .69  | 0.78 | 6.09  | 4.09 | 1.13 | 1.19 | 1.13 | 9           |
| 3         | C-125        | 1/2       | 5 | 0.75 | 0.75 | .94  | 1.19 | 8.38  | 4.94 | 1.34 | 1.38 | 1.48 | 17.94       |
| 5         | D-125        | 5/8       | 7 | 0.88 | 1    | 1.13 | 1.56 | 12.63 | 6.5  | 1.69 | 1.75 | 1.81 | 43.81       |
| 8.5       | EE-125       | 3/4       | 7 | 1.19 | 1.56 | 1.34 | 2.09 | 13.75 | 8.94 | 2.25 | 2.56 | 2.59 | 60          |

\* Design factor 5:1 \* Models 5 Ton and up include lubrication fitting.

### EYE TO HOOK - TYPE 225

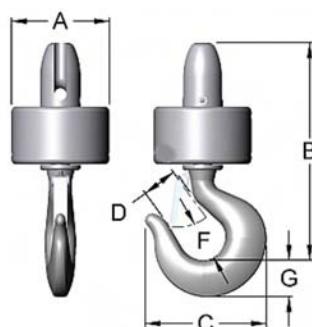


| WLL* Tons | Model Number | Rope Size | A | B    | C    | D    | E    | F    | G    | H    | J    | K     | Weight Lbs. |
|-----------|--------------|-----------|---|------|------|------|------|------|------|------|------|-------|-------------|
| 1.5       | B-225        | 3/8       | 4 | 6.25 | 4.09 | 1.13 | 0.66 | 1.38 | 0.5  | 1.19 | 1.13 | 9     |             |
| 3         | C-225        | 1/2       | 5 | 9.75 | 4.81 | 1.34 | 0.91 | 1.88 | 0.75 | 1.38 | 1.44 | 17.94 |             |
| 5         | D-225        | 5/8       | 7 | 12.5 | 6.5  | 1.69 | 1.28 | 2.5  | 1    | 1.75 | 1.81 | 43.81 |             |
| 8.5       | EE-225       | 3/4       | 7 | 13.5 | 8.69 | 2.25 | 1.41 | 3.13 | 1.25 | 2.56 | 2.59 | 60    |             |

\* Design factor 5:1 \* Models 5 Ton and up include lubrication fitting.

## SWIVELS- g-LINK, OVERHAUL (ANGULAR CONTACT)

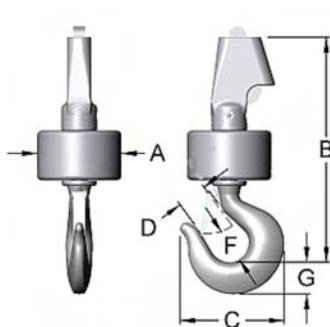
### THIMBLE TO HOOK - TYPE 625



| WLL* Tons | Model Number | Rope Size | A | B     | C    | D    | F    | G    | Weight Lbs. |
|-----------|--------------|-----------|---|-------|------|------|------|------|-------------|
| 1.5       | B-625        | 3/8       | 4 | 8.22  | 4.09 | 1.13 | 1.19 | 1.13 | 9.38        |
| 3         | C-625        | 1/2       | 5 | 10.5  | 4.94 | 1.34 | 1.38 | 1.19 | 19.19       |
| 5         | D-625        | 5/8       | 7 | 14.22 | 6.5  | 1.69 | 1.75 | 1.81 | 45.31       |
| 8.5       | EE-625       | 3/4       | 7 | 15.5  | 8.69 | 2.25 | 2.19 | 2.59 | 56.25       |

\* Design factor 5:1 \* Models 5 Ton and up include lubrication fitting.

### WEDGE TO HOOK - TYPE 725



| WLL* Tons | Model Number | Rope Size     | A | B     | C    | D    | F    | G    | Weight Lbs. |
|-----------|--------------|---------------|---|-------|------|------|------|------|-------------|
| 3         | C-725        | 1/2           | 5 | 12.69 | 4.94 | 1.34 | 1.13 | 1.19 | 20.38       |
| 5         | D-725        | 1/2, 5/8      | 7 | 17.19 | 6.5  | 1.69 | 1.75 | 1.81 | 47.88       |
| 8.5       | EE-725       | 1/2, 5/8, 3/4 | 7 | 18.5  | 8.69 | 2.25 | 2.56 | 2.59 | 65.25       |

\* Design factor 5:1 \* Models 5 Ton and up include lubrication fitting.

# Load Handling SOLUTIONS

Blocks • Swivels • Forged Hooks • Sheaves • Insulating Links



High Quality Lifting Products  
since 1935

[www.millerproducts.net](http://www.millerproducts.net)  
800.733.7071

**MILLER**  
LIFTING PRODUCTS

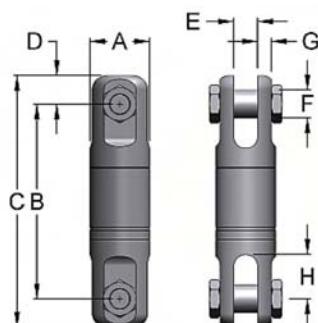
## SWIVELS- Y-LINK/HP, HIGH PRESSURE



**Miller Y-Link alloy steel swivels are available in a high pressure version in six popular configurations**, suitable for use in submerged environments where corrosion exposure from long term unattended deployments are not a major concern. These swivels are based on our Y-Link models and contain special pressure compensating seals for reliable operation to ocean depths of 10,000 feet. Y-Link/HP models are slightly longer than standard Y-Link models due to the addition of special high pressure seals.

- **Y-Link/HP** high pressure swivels contain special pressure compensating seals and oil-filled cavities for reliable operation to depths of 10,000 feet
- Working Load Limits from 0.75 to 600 tons
- Angular contact bearing design extends the life of the wire rope, and maximizes efficiency, reliability and service life
- Alloy steel structural components are zinc plated inside and out for corrosion protection
- Design Factor of 5 to 1 minimum for swivels 35 ton and below
- Design Factor of 4 to 1 minimum for swivels 45 tons and above
- Proof Load is 2 x WLL
- Models 8.5 tons and up include lubrication fitting
- Special designs are available

### CLEVIS TO CLEVIS - TYPE 111HP

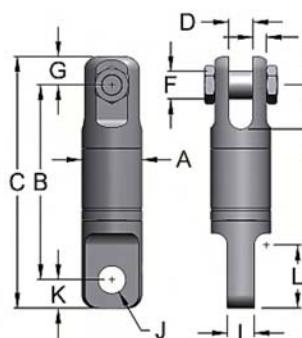


| WLL* Tons | Model Number | Rope Size | A    | B     | C     | D    | E    | F    | G    | H    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|-------|------|------|------|------|------|-------------|
| 0.75      | BB-111HP     | .25       | 1.31 | 3.69  | 5.56  | .44  | 0.31 | .38  | 0.22 | 0.56 | 1           |
| 1.5       | B-111HP      | .375      | 1.63 | 5     | 6.38  | .69  | 0.5  | .5   | 0.31 | 0.78 | 2           |
| 3         | C-111HP      | .5        | 2    | 5.44  | 9.31  | .94  | 0.75 | .75  | 0.38 | 1.19 | 5           |
| 5         | D-111HP      | .625      | 2.5  | 9.19  | 11.44 | 1.13 | 1    | .88  | 0.56 | 1.56 | 10          |
| 8.5       | EE-111HP     | .75       | 3    | 10.38 | 13.06 | 1.34 | 1.56 | 1.19 | 0.53 | 2.03 | 15          |
| 15        | GG-111HP     | 1         | 4    | 15.5  | 19    | 1.75 | 1.75 | 1.5  | 0.81 | 3.5  | 43          |
| 35        | HH-111HP     | 1.5       | 5    | 18.19 | 22.94 | 2.38 | 2    | 2    | 1.13 | 3.69 | 85          |
| 45        | I-111HP      |           | 6    | 22.56 | 28.56 | 3    | 2.5  | 2.25 | 1.25 | 4    | 156         |
| 60        | JJ-111HP     |           | 7    | 24    | 31    | 3.5  | 3    | 2.5  | 1.5  | 4.5  | 229         |
| 75        | K-111HP      |           | 8    | 27    | 35    | 4    | 3.5  | 3    | 1.75 | 5    | 328         |
| 100       | KK-111HP     |           | 10   | 36.5  | 47.5  | 5.5  | 4.06 | 4    | 2    | 6.75 | 747         |
| 200       | L-111HP      |           | 11.5 | 36.52 | 48.02 | 5.75 | 5.06 | 4.5  | 2.56 | 7.75 | 985         |
| 300       | M-111HP      |           | 14   | 44.2  | 59.2  | 7.5  | 6.13 | 4.75 | 3.94 | 9.5  | 1680        |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

# SWIVELS- Y-LINK/HP, HIGH PRESSURE

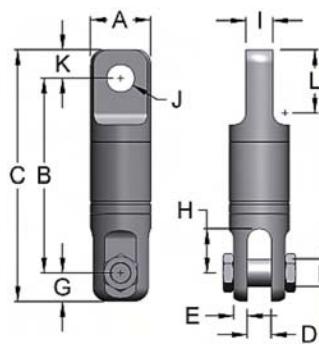
## CLEVIS TO EYE - TYPE 112HP



| WLL* | Model Number | Rope Size | A    | B     | C     | D     | E    | F    | G    | H    | I    | J    | K    | L     | Weight Lbs. |     |      |
|------|--------------|-----------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|-------------|-----|------|
| Tons |              |           |      |       |       |       |      |      |      |      |      |      |      |       |             |     |      |
| 0.75 | BB-112HP     | .25       | 1.31 | 4.75  | 5.56  | .31   | 0.22 | .38  | 0.44 | 0.56 | .31  | .38  | .44  | 0.94  | 1           |     |      |
| 1.5  | B-112HP      | .375      | 1.63 | 5     | 6.31  | 0.5   | 0.31 | .5   | 0.68 | 0.78 | 0.5  | .66  | .63  | 1.34  | 2           |     |      |
| 3    | C-112HP      | .5        | 2    | 7.31  | 9.31  | 0.75  | 0.38 | .75  | 0.94 | 1.19 | 0.75 | .91  | 1    | 1.94  | 5           |     |      |
| 5    | D-112HP      | .625      | 2.5  | 9.13  | 11.44 | 1     | 0.56 | .88  | 1.13 | 1.56 | 1    | 1.28 | 1.19 | 2.5   | 11          |     |      |
| 8.5  | EE-112HP     | .75       | 3    | 10.25 | 13.09 | 1.56  | 0.53 | 1.19 | 1.34 | 2.09 | 1.25 | 1.41 | 1.5  | 3.13  | 16          |     |      |
| 15   | GG-112HP     | 1         | 4    | 15.25 | 19.13 | 1.75  | 0.81 | 1.5  | 1.75 | 3.5  | 2    | 2.03 | 2.13 | 4.91  | 43          |     |      |
| 35   | HH-112HP     | 1.5       | 5    | 18.19 | 22.94 | 2     | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 82          |     |      |
| 45   | I-112HP      |           | 6    | 22.56 | 28.56 | 2.5   | 1.25 | 2.25 | 3    | 4    | 2.5  | 2.53 | 3    | 7     | 149         |     |      |
| 60   | JJ-112HP     |           | 7    | 24    | 31    | 3     | 1.5  | 2.5  | 3.5  | 4.5  | 3.5  | 2.88 | 3.5  | 7     | 226         |     |      |
| 75   | K-112HP      |           | 8    | 27    | 35    | 3.5   | 1.75 | 3    | 4    | 5    | 3.5  | 3.38 | 4    | 8.13  | 333         |     |      |
| 100  | KK-112HP     |           | 10   | 36.5  | 47.5  | 4.06  | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.03 | 5.5  | 11.38 | 698         |     |      |
| 200  | L-112HP      |           |      | 11.5  | 35.52 | 47.27 | 5.06 | 2.56 | 4.5  | 5.75 | 7.75 | 5    | 4.81 | 6     | 13          | 925 |      |
| 300  | M-112HP      |           |      |       | 14    | 44.2  | 59.2 | 6.13 | 3.94 | 4.75 | 7.5  | 9.5  | 6    | 6.06  | 8           | 17  | 1645 |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

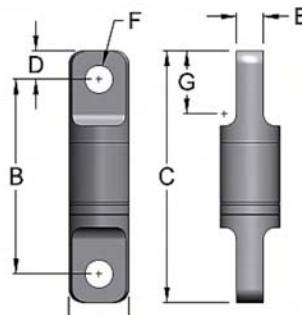
## EYE TO CLEVIS - TYPE 211HP



| WLL* | Model Number | Rope Size | A    | B     | C     | D     | E    | F    | G    | H    | I    | J    | K    | L     | Weight Lbs. |     |      |
|------|--------------|-----------|------|-------|-------|-------|------|------|------|------|------|------|------|-------|-------------|-----|------|
| Tons |              |           |      |       |       |       |      |      |      |      |      |      |      |       |             |     |      |
| 0.75 | BB-211HP     | 1/4       | 1.31 | 4.69  | 5.56  | .31   | 0.22 | .38  | 0.44 | 0.56 | .31  | .38  | .44  | 0.94  | 1           |     |      |
| 1.5  | B-211HP      | 3/8       | 1.63 | 5     | 6.31  | 0.5   | 0.31 | .5   | 0.68 | 0.78 | 0.5  | .66  | .63  | 1.34  | 2           |     |      |
| 3    | C-211HP      | 1/2       | 2    | 7.31  | 9.31  | 0.75  | 0.38 | .75  | 0.94 | 1.19 | 0.75 | .91  | 1    | 1.94  | 5           |     |      |
| 5    | D-211HP      | 5/8       | 2.5  | 9.13  | 11.44 | 1     | 0.56 | .88  | 1.13 | 1.56 | 1    | 1.28 | 1.19 | 2.5   | 10          |     |      |
| 8.5  | EE-211HP     | 3/4       | 3    | 10.25 | 13.09 | 1.56  | 0.53 | 1.19 | 1.34 | 2.09 | 1.25 | 1.41 | 1.5  | 3.13  | 16          |     |      |
| 15   | GG-211HP     | 1         | 4    | 15.25 | 19.13 | 1.75  | 0.81 | 1.5  | 1.75 | 3.5  | 2    | 2.03 | 2.13 | 4.91  | 43          |     |      |
| 35   | HH-211HP     | 1 1/2     | 5    | 18.19 | 22.94 | 2     | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 80          |     |      |
| 45   | I-211HP      |           | 6    | 22.56 | 28.56 | 2.5   | 1.25 | 2.25 | 3    | 4    | 2.5  | 2.53 | 3    | 7     | 149         |     |      |
| 60   | JJ-211HP     |           | 7    | 24    | 31    | 3     | 1.5  | 2.5  | 3.5  | 4.5  | 3.5  | 2.88 | 3.5  | 7     | 233         |     |      |
| 75   | K-211HP      |           | 8    | 27    | 35    | 3.5   | 1.75 | 3    | 4    | 5    | 3.5  | 3.38 | 4    | 8.25  | 333         |     |      |
| 100  | KK-211HP     |           | 10   | 36.5  | 47.5  | 4.06  | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.03 | 5.5  | 11.38 | 731         |     |      |
| 200  | L-211HP      |           |      | 11.5  | 36.67 | 48.42 | 5.06 | 2.56 | 4.5  | 5.75 | 7.75 | 5    | 4.81 | 6     | 13          | 960 |      |
| 300  | M-211HP      |           |      |       | 14    | 44.2  | 59.2 | 6.13 | 3.94 | 4.75 | 7.5  | 9.5  | 6    | 6.06  | 8           | 17  | 1645 |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## EYE TO EYE - TYPE 212HP

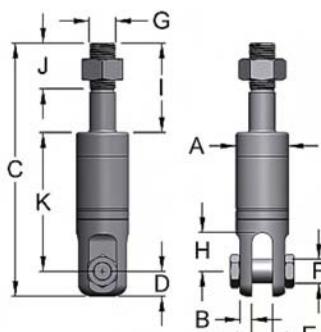


| WLL* | Model Number | Rope Size | A    | B     | C     | D     | E    | F    | G     | Weight Lbs. |     |      |
|------|--------------|-----------|------|-------|-------|-------|------|------|-------|-------------|-----|------|
| Tons |              |           |      |       |       |       |      |      |       |             |     |      |
| 0.75 | BB-212HP     | 1/4       | 1.31 | 4.94  | 5.88  | .44   | 0.31 | .39  | 0.94  | 1           |     |      |
| 1.5  | B-212HP      | 3/8       | 1.63 | 5     | 6.25  | .69   | 0.5  | .66  | 1.34  | 2           |     |      |
| 3    | C-212HP      | 1/2       | 2    | 7.31  | 9.31  | 1     | 0.75 | .91  | 1.94  | 5           |     |      |
| 5    | D-212HP      | 5/8       | 2.5  | 9.06  | 11.44 | 1.19  | 1    | 1.28 | 2.5   | 10          |     |      |
| 8.5  | EE-212HP     | 3/4       | 3    | 10.13 | 13.06 | 1.5   | 1.25 | 1.41 | 3.13  | 16          |     |      |
| 15   | GG-212HP     | 1         | 4    | 15.13 | 19.38 | 2.13  | 2    | 2.03 | 4.91  | 43          |     |      |
| 35   | HH-212HP     | 1 1/2     | 5    | 18.19 | 22.94 | 2.38  | 2.25 | 2.31 | 5.25  | 79          |     |      |
| 45   | I-212HP      |           | 6    | 22.56 | 28.56 | 3     | 2.5  | 2.53 | 7     | 142         |     |      |
| 60   | JJ-212HP     |           | 7    | 24    | 31    | 3.5   | 3.5  | 2.88 | 7     | 231         |     |      |
| 75   | K-212HP      |           | 8    | 27    | 35    | 4     | 3.5  | 3.38 | 8.25  | 340         |     |      |
| 100  | KK-212HP     |           | 10   | 36.5  | 47.5  | 5.5   | 4.5  | 4.03 | 11.38 | 704         |     |      |
| 200  | L-212HP      |           |      | 11.5  | 35.67 | 47.67 | 6    | 5    | 4.81  | 13          | 900 |      |
| 300  | M-212HP      |           |      |       | 14    | 43.2  | 59.2 | 8    | 6     | 6.06        | 17  | 1600 |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## SWIVELS- Y-LINK/HP, HIGH PRESSURE

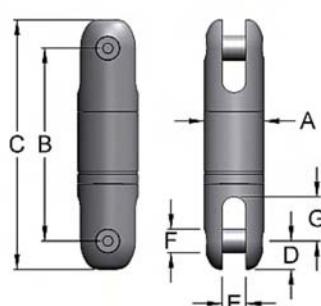
### STUD TO CLEVIS - TYPE 311HP



| WLL* | Model Number | Rope Size | A    | B    | C     | D    | E    | F    | G    | H    | I    | J    | K     | Weight Lbs. |
|------|--------------|-----------|------|------|-------|------|------|------|------|------|------|------|-------|-------------|
| Tons |              |           |      |      |       |      |      |      |      |      |      |      |       |             |
| 0.75 | BB-311HP     | 1/4       | 1.31 | 0.22 | 5.81  | .44  | 0.31 | .38  | 0.63 | 0.56 | 2    | 1.5  | 4.38  | 1           |
| 1.5  | B-311HP      | 3/8       | 1.63 | 0.31 | 7     | .69  | 0.5  | .5   | 0.75 | 0.78 | 2    | 1.5  | 4.31  | 2           |
| 3    | C-311HP      | 1/2       | 2    | 0.38 | 10.44 | .88  | 0.75 | .75  | 0.88 | 1.19 | 3    | 2.63 | 5.25  | 5           |
| 5    | D-311HP      | 5/8       | 2.5  | 0.56 | 11.19 | 1.13 | 1    | .88  | 1.25 | 1.56 | 3.5  | 3.13 | 6.56  | 11          |
| 8.5  | EE-311HP     | 3/4       | 3    | 0.53 | 13.78 | 1.34 | 1.56 | 1.19 | 1.5  | 2.09 | 4    | 3    | 8.44  | 15          |
| 15   | GG-311HP     | 1         | 4    | 0.81 | 18.69 | 1.75 | 1.75 | 1.5  | 2    | 3.5  | 5.5  | 3    | 11.44 | 40          |
| 35   | HH-311HP     | 1 1/2     | 5    | 1.13 | 25.56 | 2.38 | 2    | 2    | 2.5  | 3.69 | 8.5  | 4.25 | 14.69 | 84          |
| 45   | I-311HP      |           | 6    | 1.25 | 28    | 3    | 2.5  | 2.25 | 3    | 4    | 8    | 4    | 17    | 141         |
| 60   | JJ-311HP     |           | 7    | 1.5  | 31.5  | 3.5  | 3    | 2.5  | 3.25 | 4.5  | 8    | 4    | 20    | 219         |
| 75   | K-311HP      |           | 8    | 1.75 | 36.5  | 4    | 3.5  | 3    | 3.75 | 5    | 10   | 5    | 22.5  | 295         |
| 100  | KK-311HP     |           | 10   | 2    | 54.75 | 5.5  | 4.06 | 4    | 6.25 | 6.75 | 20.5 | 7.25 | 28.75 | 699         |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

### BULLET NOSE TO BULLET NOSE - TYPE 414HP



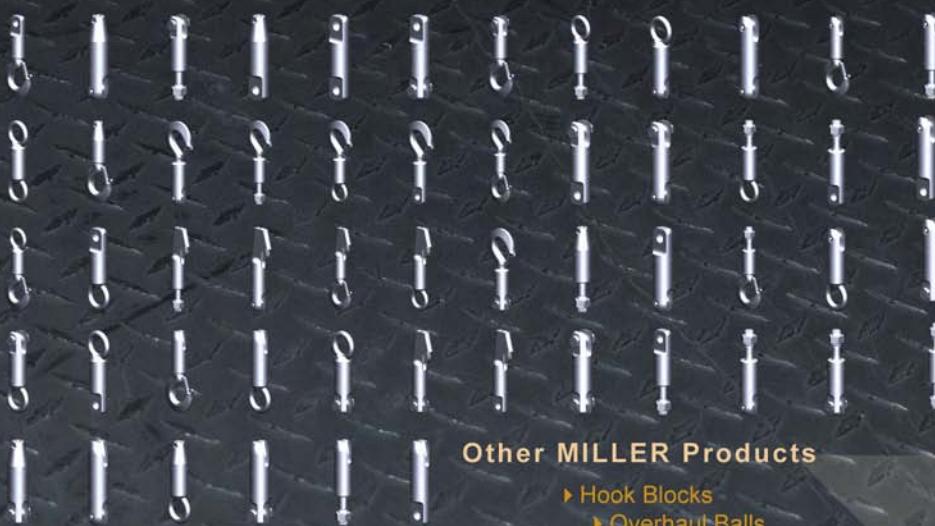
| WLL* | Model Number | Rope Size | A    | B     | C     | D    | E    | F   | G    | Weight Lbs. |
|------|--------------|-----------|------|-------|-------|------|------|-----|------|-------------|
| Tons |              |           |      |       |       |      |      |     |      |             |
| 0.75 | BB-414HP     | .25       | 1.31 | 4.88  | 5.63  | .44  | 0.31 | .38 | 0.56 | 1           |
| 1.5  | B-414HP      | 3/8       | 1.63 | 5     | 6.25  | .56  | 0.5  | .44 | 0.81 | 2           |
| 3    | C-414HP      | 3/8       | 2    | 6.5   | 8.13  | .81  | 0.75 | .63 | 0.94 | 4           |
| 5    | D-414HP      | 5/8       | 2.5  | 9.25  | 11.38 | 1.13 | 1    | .88 | 1.56 | 9           |
| 8.5  | EE-414HP     | 3/4       | 3    | 10.56 | 13.13 | 1.25 | 1.28 | 1   | 2.13 | 16          |
| 15   | GG-414HP     | 1         | 4    | 15    | 18.5  | 1.75 | 1.75 | 1.5 | 3.25 | 42          |
| 35   | HH-414HP     | 1 1/2     | 5    | 18.16 | 22.91 | 2.38 | 2    | 2   | 3.69 | 87          |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1



54 termination combinations to suit your requirements so far. Don't see the one you need? No problem. Miller has the largest range of swivels worldwide and customization is our specialty. We've been at it since 1935 and have more than a few ideas.

## 54 Varieties... & COUNTING



- ▶ Angular Contact Y-Link
- ▶ Thrust Bearing Econo-Link
- ▶ Stainless
- ▶ Undersea
- ▶ Hydro-Link/Chain
- ▶ Line Pulling
- ▶ Foundation Drilling
- ▶ Insulated
- ▶ Custom Designs
- ▶ Working Loads To 600 Tons +

### Other MILLER Products

- ▶ Hook Blocks
- ▶ Overhaul Balls
- ▶ Sheaves
- ▶ Forged Hooks
- ▶ Insulated Links

[www.millerproducts.net](http://www.millerproducts.net)

Miller Products  
100A Sturbridge Rd.  
Charlton, MA 01507 USA  
T. 1-508-248-3941  
1-800-733-7071  
F. 1-508-248-0639  
E-mail: [info@millerproducts.net](mailto:info@millerproducts.net)

## SWIVELS- HYDRO-LINK & HYDRO-LINK/HP

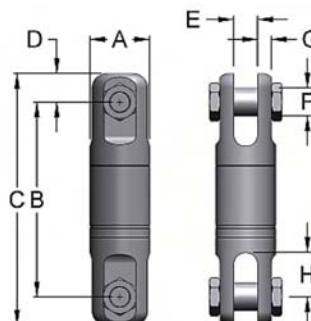
- Miller Hydro-Link swivels are machined from a special non-magnetic, austenitic stainless steel alloy of exceptionally high strength and corrosion resistance which maintains good mechanical properties at elevated and sub-zero temperatures.
- Available in two configurations, standard Hydro-Link and high pressure Hydro-Link/HP



- **Hydro-Link** swivels are intended for use with cable and chain in non-submerged corrosive environments such as sea air or harsh industrial environments
- **Hydro-Link/HP** high pressure swivels contain special pressure compensating seals and oil-filled cavities for reliable operation to depths of 10,000 feet
- Working Load Limits from 0.75 to 600 tons
- Angular contact bearing design extends the life of the wire rope, and maximizes efficiency, reliability and service life
- Stainless steel parts are passivated for added corrosion resistance
- Design Factor of 5 to 1 minimum for swivels 35 tons and below
- Design Factor of 4 to 1 minimum for swivels 45 tons and above
- Proof Load is 2 x WLL
- Models 8.5 tons and up include lubrication fitting
- Special designs available

## SWIVELS- HYDRO LINK, STAINLESS STEEL

### CLEVIS TO CLEVIS - TYPE 151, STAINLESS STEEL

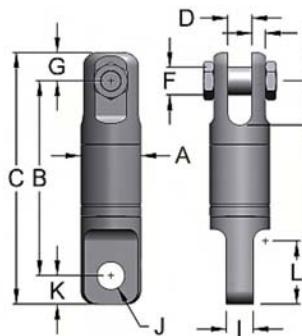


| WLL* | Model Number | Rope Size | A     | B     | C     | D    | E    | F    | H    | G    | Weight Lbs. |
|------|--------------|-----------|-------|-------|-------|------|------|------|------|------|-------------|
| 0.75 | BB-151       | 1/4       | 1.31  | 3.5   | 4.38  | 0.44 | 0.31 | .38  | .56  | 0.22 | 0.93        |
| 1.5  | B-151        | 3/8       | 1.63  | 4.06  | 5.44  | 0.69 | 0.5  | .5   | .78  | 0.31 | 2           |
| 3    | C-151        | 1/2       | 2.00  | 6.25  | 8.09  | 0.94 | 0.75 | .75  | 1.19 | 0.38 | 4.5         |
| 5    | D-151        | 5/8       | 2.5   | 7.94  | 10.09 | 1.13 | 1    | .88  | 1.56 | 0.56 | 9.5         |
| 8.5  | EE-151       | 3/4       | 2.88  | 9.63  | 12.31 | 1.34 | 1.56 | 1.19 | 2.09 | 0.53 | 15.25       |
| 10   | G-151        | 7/8       | 4.00  | 14    | 17.5  | 1.75 | 1.75 | 1.5  | 3.5  | 0.81 | 40          |
| 15   | GG-151       | 1         | 4.00  | 14    | 17.5  | 1.75 | 1.75 | 1.5  | 3.5  | 0.81 | 40          |
| 25   | H-151        | 1 1/4     | 5.00  | 15.94 | 20.69 | 2.38 | 2    | 2    | 3.69 | 1.13 | 78          |
| 35   | HH-151       | 1 1/2     | 5.00  | 15.94 | 20.69 | 2.38 | 2    | 2    | 3.69 | 1.13 | 78          |
| 45   | I-151        |           | 6.00  | 20.06 | 26.06 | 3    | 2.5  | 2.25 | 4    | 1.25 | 146         |
| 50   | J-151        |           | 7.00  | 20.94 | 27.94 | 3.5  | 3    | 2.5  | 4.5  | 1.5  | 207         |
| 60   | JJ-151       |           | 7.00  | 20.94 | 27.94 | 3.5  | 3    | 2.5  | 4.5  | 1.5  | 207         |
| 75   | K-151        |           | 8.00  | 24    | 32    | 4    | 3.5  | 3    | 5    | 1.75 | 300         |
| 100  | KK-151       |           | 10.00 | 32.38 | 43.38 | 5.5  | 4.06 | 4    | 6.75 | 2    | 692         |
| 150  | KKK-151      |           | 10    | 32.88 | 43.88 | 5.5  | 4.06 | 4    | 6.75 | 2    | 692         |
| 200  | L-151        |           | 11.25 | 36.31 | 48.31 | 6    | 5.06 | 4.5  | 8.25 | 3.09 | 885         |
| 300  | M-151        |           | 14    | 43.95 | 58.95 | 7.5  | 6.13 | 4.75 | 9.5  | 3.94 | 1680        |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

# SWIVELS- HYDRO LINK, STAINLESS STEEL

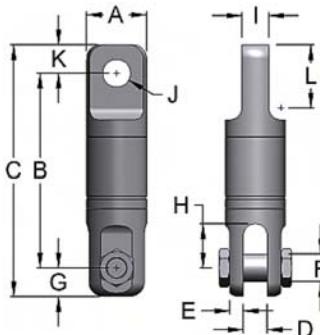
## CLEVIS TO EYE - TYPE 152, STAINLESS STEEL



| WLL *<br>Tons | Model<br>Number | Rope Size | A     | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | L     | Weight<br>Lbs. |
|---------------|-----------------|-----------|-------|-------|-------|------|------|------|------|------|------|------|------|-------|----------------|
| 0.75          | BB-152          | 1/4       | 1.31  | 3.56  | 4.44  | 0.31 | 0.22 | .38  | 0.44 | 0.56 | 0.31 | .38  | .44  | 0.94  | 0.94           |
| 1.5           | B-152           | 3/8       | 1.63  | 4.13  | 5.38  | 0.5  | 0.31 | .5   | 0.69 | 0.78 | 0.5  | .66  | .63  | 1.34  | 1.94           |
| 3             | C-152           | 1/2       | 2.0   | 6.19  | 8.13  | 0.75 | 0.38 | .75  | 0.94 | 1.19 | 0.75 | .91  | 1    | 1.94  | 4.25           |
| 5             | D-152           | 5/8       | 2.5   | 7.88  | 10.19 | 1    | 0.56 | .88  | 1.13 | 1.56 | 1    | 1.28 | 1.19 | 2.5   | 8.94           |
| 8.5           | EE-152          | 3/4       | 2.88  | 9.5   | 12.34 | 1.56 | 0.53 | 1.19 | 1.34 | 2.19 | 1.25 | 1.41 | 1.5  | 3.13  | 15.25          |
| 10            | G-152           | 7/8       | 4.0   | 13.94 | 17.5  | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 1.72 | 1.66 | 1.81 | 4.66  | 39             |
| 15            | GG-152          | 1         | 4.0   | 13.63 | 17.5  | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 1.94 | 2.03 | 2.13 | 4.91  | 40             |
| 25            | H-152           | 1 1/4     | 5.0   | 15.94 | 20.69 | 2    | 1.13 | 2.03 | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 75             |
| 35            | HH-152          | 1 1/2     | 5.0   | 15.94 | 20.69 | 2    | 1.13 | 2.03 | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 75             |
| 45            | I-152           |           | 6.0   | 20.06 | 26.06 | 2.5  | 1.25 | 2.25 | 3    | 4    | 2.5  | 2.53 | 3    | 7     | 139            |
| 50            | J-152           |           | 7.0   | 20.94 | 27.94 | 3    | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 205            |
| 60            | JJ-152          |           | 7.0   | 20.94 | 27.94 | 3    | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 205            |
| 75            | K-152           |           | 8.0   | 24    | 32    | 3.5  | 1.75 | 3    | 4    | 5    | 3.5  | 3.38 | 4    | 8.13  | 305            |
| 100           | KK-152          |           | 10.0  | 32.88 | 43.88 | 4.06 | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.03 | 5.5  | 11.38 | 647            |
| 150           | KKK-152         |           | 10    | 32.88 | 43.88 | 4.06 | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.28 | 5.5  | 11.38 | 647            |
| 200           | L-152           |           | 11.25 | 35.93 | 48.31 | 5.06 | 3.09 | 4.5  | 6    | 8.25 | 5    | 4.81 | 6.38 | 13.5  | 885            |
| 300           | M-152           |           | 14    | 43.45 | 58.95 | 6.13 | 3.94 | 4.75 | 7.5  | 9.5  | 6    | 6.06 | 8    | 17    | 1645           |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

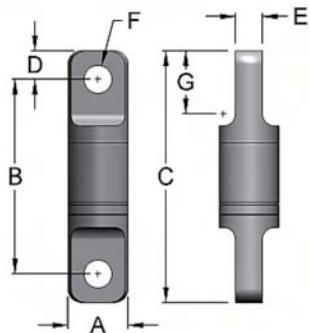
## EYE TO CLEVIS - TYPE 251, STAINLESS STEEL



| WLL *<br>Tons | Model<br>Number | Rope Size | A     | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | L     | Weight<br>Lbs. |
|---------------|-----------------|-----------|-------|-------|-------|------|------|------|------|------|------|------|------|-------|----------------|
| 0.75          | BB-251          | 1/4       | 1.31  | 3.63  | 4.5   | 0.31 | 0.22 | .38  | 0.44 | 0.44 | 0.31 | .39  | .44  | 0.94  | 0.94           |
| 1.5           | B-251           | 3/8       | 1.63  | 4.13  | 5.44  | 0.5  | 0.31 | .5   | 0.69 | 0.78 | 0.5  | .66  | .63  | 1.34  | 1.88           |
| 3             | C-251           | 1/2       | 2.0   | 6.19  | 8.13  | 0.75 | 0.38 | .75  | 0.94 | 1.19 | 0.75 | .91  | 1    | 1.94  | 4.31           |
| 5             | D-251           | 5/8       | 2.5   | 7.88  | 10.19 | 1    | 0.56 | .88  | 1.13 | 1.56 | 1    | 1.28 | 1.19 | 2.5   | 9.06           |
| 8.5           | EE-251          | 3/4       | 2.88  | 9.5   | 12.34 | 1.56 | 0.53 | 1.19 | 1.34 | 2.19 | 1.25 | 1.41 | 1.5  | 3.13  | 14.75          |
| 10            | G-251           | 7/8       | 4.0   | 13.94 | 17.5  | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 1.72 | 1.66 | 1.81 | 4.66  | 39             |
| 15            | GG-251          | 1         | 4.0   | 13.63 | 17.5  | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 1.94 | 2.03 | 2.13 | 4.91  | 40             |
| 25            | H-251           | 1 1/4     | 5.0   | 15.94 | 20.69 | 2    | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 75             |
| 35            | HH-251          | 1 1/2     | 5.0   | 15.94 | 20.69 | 2    | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 75             |
| 45            | I-251           |           | 6.0   | 20.06 | 26.06 | 2.5  | 1.25 | 2.25 | 3    | 4    | 2.5  | 2.53 | 3    | 7     | 139            |
| 50            | J-251           |           | 7.0   | 20.94 | 27.94 | 3    | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 211            |
| 60            | JJ-251          |           | 7.0   | 20.94 | 27.94 | 3    | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 211            |
| 75            | K-251           |           | 8.0   | 24    | 32    | 3.5  | 1.75 | 3    | 4    | 5    | 3.5  | 3.38 | 4    | 8.13  | 305            |
| 100           | KK-251          |           | 10.0  | 32.88 | 43.88 | 4.06 | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.03 | 5.5  | 11.38 | 678            |
| 150           | KKK-251         |           | 10    | 32.88 | 43.88 | 4.06 | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.28 | 5.5  | 11.38 | 678            |
| 200           | L-251           |           | 11.25 | 35.93 | 48.31 | 5.06 | 3.09 | 4.5  | 6    | 8.25 | 5    | 4.81 | 6.38 | 13.5  | 885            |
| 300           | M-251           |           | 14    | 43.45 | 58.95 | 6.13 | 3.94 | 4.75 | 7.5  | 9.5  | 6    | 6.06 | 8    | 17    | 1645           |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## EYE TO EYE - TYPE 252, STAINLESS STEEL

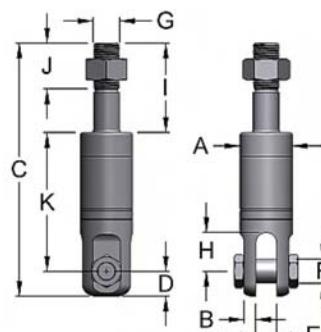


| WLL *<br>Tons | Model<br>Number | Rope Size | A     | B     | C     | D    | E    | F    | G     | Weight<br>Lbs. |
|---------------|-----------------|-----------|-------|-------|-------|------|------|------|-------|----------------|
| 0.75          | BB-252          | 1/4       | 1.31  | 3.81  | 4.69  | 0.44 | 0.31 | .39  | 0.94  | 0.93           |
| 1.5           | B-252           | 3/8       | 1.63  | 4.13  | 5.38  | 0.63 | 0.5  | .66  | 1.34  | 1.87           |
| 3             | C-252           | 1/2       | 2     | 6.13  | 8.13  | 1    | 0.75 | .91  | 1.94  | 4.06           |
| 5             | D-252           | 5/8       | 2.5   | 7.81  | 10.19 | 1.19 | 1    | 1.28 | 2.5   | 8.5            |
| 8.5           | EE-252          | 3/4       | 2.88  | 9.31  | 12.31 | 1.5  | 1.25 | 1.41 | 3.13  | 14.75          |
| 10            | G-252           | 7/8       | 4     | 13.88 | 17.5  | 1.81 | 1.72 | 1.63 | 4.66  | 37             |
| 15            | GG-252          | 1         | 4     | 13.25 | 17.5  | 2.13 | 1.94 | 2.03 | 4.91  | 39             |
| 25            | H-252           | 1 1/4     | 5     | 15.94 | 20.69 | 2.38 | 2.25 | 2.31 | 5.25  | 72             |
| 35            | HH-252          | 1 1/2     | 5     | 15.94 | 20.69 | 2.38 | 2.25 | 2.31 | 5.25  | 72             |
| 45            | I-252           |           | 6     | 20.06 | 26.06 | 3    | 2.5  | 2.53 | 7     | 132            |
| 50            | J-252           |           | 7     | 20.94 | 27.94 | 3.5  | 2.94 | 2.88 | 7     | 209            |
| 60            | JJ-252          |           | 7     | 20.94 | 27.94 | 3.5  | 2.94 | 2.88 | 7     | 209            |
| 75            | K-252           |           | 8     | 24    | 32    | 4    | 3.5  | 3.38 | 8.13  | 311            |
| 100           | KK-252          |           | 10    | 32.88 | 43.41 | 5.5  | 4.5  | 4.03 | 11.38 | 653            |
| 150           | KKK-252         |           | 10    | 32.88 | 43.88 | 5.5  | 4.5  | 4.28 | 11.38 | 657            |
| 200           | L-252           |           | 11.25 | 35.56 | 48.31 | 6.38 | 5    | 4.81 | 13.5  | 880            |
| 300           | M-252           |           | 14    | 42.95 | 58.95 | 8    | 6    | 6.06 | 17    | 1610           |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## SWIVELS- HYDRO LINK, STAINLESS STEEL

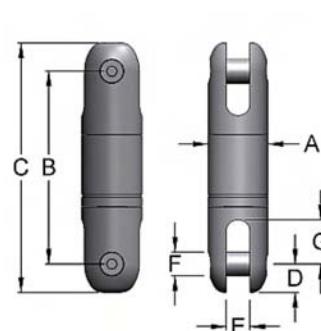
### STUD TO CLEVIS - TYPE 351, STAINLESS STEEL



| WLL* Tons | Model Number | Rope Size | A    | B    | C     | D    | E    | F    | G    | H    | I    | J    | K     | Weight Lbs. |
|-----------|--------------|-----------|------|------|-------|------|------|------|------|------|------|------|-------|-------------|
| 0.75      | BB-351       | 1/4       | 1.31 | 0.22 | 5.63  | 0.44 | 0.31 | .38  | 0.63 | 0.56 | 2    | 1.5  | 3.19  | 1.06        |
| 1.5       | B-351        | 3/8       | 1.63 | 0.31 | 6.06  | 0.69 | 0.5  | .5   | 0.75 | 0.78 | 2    | 1.5  | 3.75  | 1.87        |
| 3         | C-351        | 1/2       | 2    | 0.38 | 9.19  | 0.94 | 0.75 | .75  | 0.88 | 1.19 | 3    | 2.63 | 5.25  | 4.5         |
| 5         | D-351        | 5/8       | 2.5  | 0.56 | 11.19 | 1.13 | 1    | .88  | 1.25 | 1.56 | 3.5  | 3.13 | 6.56  | 9.75        |
| 8.5       | EE-351       | 3/4       | 2.88 | 0.53 | 13.03 | 1.56 | 1.56 | 1.19 | 1.5  | 2.19 | 4    | 3    | 7.69  | 14.5        |
| 10        | G-351        | 7/8       | 4    | 0.81 | 17.44 | 1.75 | 1.75 | 1.5  | 2    | 3.5  | 5.5  | 3    | 10.19 | 37          |
| 15        | GG-351       | 1         | 4    | 0.81 | 17.44 | 1.75 | 1.75 | 1.5  | 2    | 3.5  | 5.5  | 3    | 10.19 | 37          |
| 25        | H-351        | 1 1/4     | 5    | 1.13 | 23.31 | 2.38 | 2    | 2    | 2.5  | 3.69 | 8.5  | 4.25 | 12.44 | 78          |
| 35        | HH-351       | 1 1/2     | 5    | 1.13 | 23.31 | 2.38 | 2    | 2    | 2.5  | 3.69 | 8.5  | 4.25 | 10.44 | 78          |
| 45        | I-351        |           | 6    | 1.25 | 25.56 | 3    | 2.5  | 2.25 | 3    | 4    | 8    | 4    | 14.56 | 131         |
| 50        | J-351        |           | 7    | 1.5  | 28.44 | 3.5  | 3    | 2.5  | 3.25 | 4.5  | 8    | 4    | 16.94 | 198         |
| 60        | JJ-351       |           | 7    | 1.5  | 28.44 | 3.5  | 3    | 2.5  | 3.25 | 4.5  | 8    | 4    | 16.94 | 198         |
| 75        | K-351        |           | 8    | 1.75 | 33.5  | 4    | 3.5  | 3    | 3.75 | 5    | 10   | 5    | 19.5  | 271         |
| 100       | KK-351       |           | 10   | 2    | 51.13 | 5.5  | 4.06 | 4    | 6.25 | 6.75 | 20.5 | 7.25 | 25.13 | 648         |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

### BULLET NOSE TO BULLET NOSE - TYPE 454, STAINLESS STEEL



| WLL* Tons | Model Number | Rope Size | A    | B     | C     | D    | E    | F   | G    | Weight Lbs. |
|-----------|--------------|-----------|------|-------|-------|------|------|-----|------|-------------|
| 0.75      | BB-454       | 1/4       | 1.31 | 3.56  | 4.44  | 0.44 | 0.31 | .38 | 0.56 | 1.12        |
| 1.5       | B-454        | 3/8       | 1.63 | 4.06  | 5.19  | 0.56 | 0.5  | .44 | 0.81 | 1.81        |
| 3         | C-454        | 1/2       | 2    | 5.44  | 7.06  | 0.81 | 0.75 | .63 | 0.94 | 3.87        |
| 5         | D-454        | 5/8       | 2.5  | 7.88  | 10.19 | 1.13 | 1    | .88 | 1.56 | 8.06        |
| 8.5       | EE-454       | 3/4       | 2.88 | 9.81  | 12.31 | 1.25 | 1.28 | 1   | 2.13 | 14.5        |
| 10        | G-454        | 7/8       | 4    | 13.25 | 16.75 | 1.75 | 1.75 | 1.5 | 3.25 | 40          |
| 15        | GG-454       | 1         | 4    | 13.25 | 16.75 | 1.75 | 1.75 | 1.5 | 3.25 | 40          |
| 25        | H-454        | 1 1/4     | 5    | 15.91 | 20.66 | 2.38 | 2    | 2   | 3.69 | 84          |
| 35        | HH-454       | 1 1/2     | 5    | 15.91 | 20.66 | 2.38 | 2    | 2   | 3.69 | 84          |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

### Miller Swivel Products

Largest, most comprehensive inventory for immediate shipment in North America

- Y-Link, the original angular contact ball bearing swivel
- Rugged, economical Econo-Link thrust bearing swivels
- Overhaul ball assemblies for every lift height
- Custom swivel designs for specific operational requirements (e.g., drilling, stainless, offshore, line pull, mooring, insulated)

**Y-Link, Angular Contact Ball Bearing**

**Econo-Link, Tapered Roller Thrust Bearing**

**Overhaul Ball Assemblies**

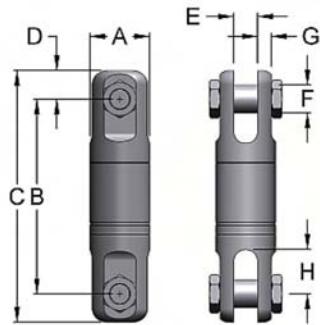
**Special Requirements**

High Quality Lifting Products since 1935  
[www.millerproducts.net](http://www.millerproducts.net)  
 800.733.7071

**MILLER**  
LIFTING PRODUCTS

# SWIVELS- HYDRO LINK\HP, HIGH PRESSURE, STAINLESS STEEL

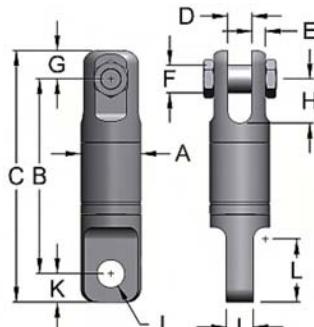
## CLEVIS TO CLEVIS - TYPE 151HP, STAINLESS STEEL



| WLL*<br>Tons | Model<br>Number | Rope Size | A     | B     | C     | D    | E    | F    | G    | H    | Weight<br>Lbs. |
|--------------|-----------------|-----------|-------|-------|-------|------|------|------|------|------|----------------|
| 0.75         | BB-151HP        | 1/4       | 1.31  | 3.69  | 5.56  | .44  | 0.31 | .38  | 0.22 | 0.56 | 1              |
| 1.5          | B-151HP         | 3/8       | 1.63  | 5     | 6.38  | .69  | 0.5  | .5   | 0.31 | 0.78 | 2              |
| 3            | C-151HP         | 1/2       | 2     | 5.44  | 9.31  | .94  | 0.75 | .75  | 0.38 | 1.19 | 5              |
| 5            | D-151HP         | 5/8       | 2.5   | 9.19  | 11.44 | 1.13 | 1    | .88  | 0.56 | 1.56 | 10             |
| 8.5          | EE-151HP        | 3/4       | 3     | 10.38 | 13.06 | 1.34 | 1.56 | 1.19 | 0.53 | 2.03 | 15             |
| 15           | GG-151HP        | 1         | 4     | 15.5  | 19    | 1.75 | 1.75 | 1.5  | 0.81 | 3.5  | 43             |
| 35           | HH-151HP        | 1 1/2     | 5     | 18.19 | 22.94 | 2.38 | 2    | 2    | 1.13 | 3.69 | 85             |
| 45           | I-151HP         |           | 6     | 22.56 | 28.56 | 3    | 2.5  | 2.25 | 1.25 | 4    | 156            |
| 60           | JJ-151HP        |           | 7     | 24    | 31    | 3.5  | 3    | 2.5  | 1.5  | 4.5  | 229            |
| 75           | K-151HP         |           | 8     | 27    | 35    | 4    | 3.5  | 3    | 1.75 | 5    | 328            |
| 100          | KK-151HP        |           | 10    | 36.5  | 47.5  | 5.5  | 4.06 | 4    | 2    | 6.75 | 747            |
| 200          | L-151HP         |           | 11.25 | 36.31 | 48.31 | 6    | 5.06 | 4.5  | 3.09 | 8.25 | 885            |
| 300          | M-151HP         |           | 14    | 44.2  | 59.2  | 7.5  | 6.13 | 4.75 | 3.94 | 9.5  | 1680           |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

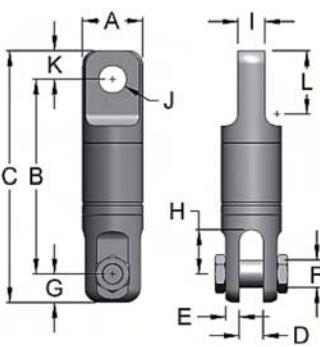
## CLEVIS TO EYE - TYPE 152HP, STAINLESS STEEL



| WLL*<br>Tons | Model<br>Number | Rope Size | A     | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | L     | Weight<br>Lbs. |
|--------------|-----------------|-----------|-------|-------|-------|------|------|------|------|------|------|------|------|-------|----------------|
| 0.75         | BB-152HP        | 1/4       | 1.31  | 4.75  | 5.56  | .31  | 0.22 | .375 | 0.44 | 0.56 | .31  | .38  | .44  | 0.94  | 1              |
| 1.5          | B-152HP         | 3/8       | 1.63  | 5     | 6.31  | 0.5  | 0.31 | .5   | 0.68 | 0.78 | 0.5  | .66  | .63  | 1.34  | 2              |
| 3            | C-152HP         | 1/2       | 2     | 7.31  | 9.31  | 0.75 | 0.38 | .75  | 0.94 | 1.19 | 0.75 | .91  | 1    | 1.94  | 5              |
| 5            | D-152HP         | 5/8       | 2.5   | 9.13  | 11.44 | 1    | 0.56 | .88  | 1.13 | 1.56 | 1    | 1.28 | 1.19 | 2.5   | 11             |
| 8.5          | EE-152HP        | 3/4       | 3     | 10.25 | 13.09 | 1.56 | 0.53 | 1.06 | 1.34 | 2.09 | 1.25 | 1.41 | 1.5  | 3.13  | 16             |
| 15           | GG-152HP        | 1         | 4     | 15.25 | 19.13 | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 2    | 2.03 | 2.13 | 4.91  | 43             |
| 35           | HH-152HP        | 1 1/2     | 5     | 18.19 | 22.94 | 2    | 1.13 | 2.03 | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 82             |
| 45           | I-152HP         |           | 6     | 22.56 | 28.56 | 2.5  | 1.25 | 2.25 | 3    | 4    | 2.5  | 2.53 | 3    | 7     | 149            |
| 60           | JJ-152HP        |           | 7     | 24    | 31    | 3    | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 226            |
| 75           | K-152HP         |           | 8     | 27    | 35    | 3.5  | 1.75 | 3    | 4    | 5    | 3.5  | 3.38 | 4    | 8.13  | 333            |
| 100          | KK-152HP        |           | 10    | 36.5  | 47.5  | 4.06 | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.03 | 5.5  | 11.38 | 698            |
| 200          | L-152HP         |           | 11.25 | 35.92 | 48.29 | 5.06 | 3.09 | 4.5  | 6    | 8.25 | 5    | 4.81 | 6.38 | 13.5  | 885            |
| 300          | M-152HP         |           | 14    | 44.2  | 59.2  | 6.13 | 3.94 | 4.75 | 7.5  | 9.5  | 6    | 6.06 | 8    | 17    | 1645           |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## EYE TO CLEVIS - TYPE 251HP, STAINLESS STEEL

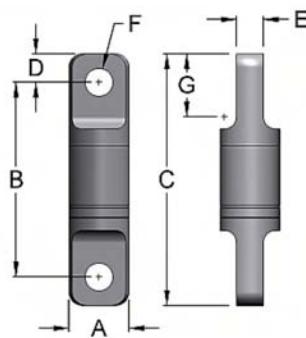


| WLL*<br>Tons | Model<br>Number | Rope Size | A     | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | L     | Weight<br>Lbs. |
|--------------|-----------------|-----------|-------|-------|-------|------|------|------|------|------|------|------|------|-------|----------------|
| 0.75         | BB-251HP        | 1/4       | 1.31  | 4.69  | 5.56  | .31  | 0.22 | .38  | 0.44 | 0.56 | .31  | .39  | .44  | 0.94  | 1              |
| 1.5          | B-251HP         | 3/8       | 1.63  | 5     | 6.31  | 0.5  | 0.31 | .5   | 0.68 | 0.78 | 0.5  | .66  | .63  | 1.34  | 2              |
| 3            | C-251HP         | 1/2       | 2     | 7.31  | 9.31  | 0.75 | 0.38 | .75  | 0.94 | 1.19 | 0.75 | .91  | 1    | 1.94  | 5              |
| 5            | D-251HP         | 5/8       | 2.5   | 9.13  | 11.44 | 1    | 0.56 | .88  | 1.13 | 1.56 | 1    | 1.28 | 1.19 | 2.5   | 10             |
| 8.5          | EE-251HP        | 3/4       | 3     | 10.25 | 13.09 | 1.56 | 0.53 | 1.19 | 1.34 | 2.09 | 1.25 | 1.41 | 1.5  | 3.13  | 16             |
| 15           | GG-251HP        | 1         | 4     | 15.25 | 19.13 | 1.75 | 0.81 | 1.5  | 1.75 | 3.5  | 2    | 2.03 | 2.13 | 4.91  | 43             |
| 35           | HH-251HP        | 1 1/2     | 5     | 18.19 | 22.94 | 2    | 1.13 | 2    | 2.38 | 3.69 | 2.25 | 2.31 | 2.38 | 5.25  | 80             |
| 45           | I-251HP         |           | 6     | 22.56 | 28.56 | 2.5  | 1.25 | 2.25 | 3    | 4    | 2.5  | 2.53 | 3    | 7     | 149            |
| 60           | JJ-251HP        |           | 7     | 24    | 31    | 3    | 1.5  | 2.5  | 3.5  | 4.5  | 2.94 | 2.88 | 3.5  | 7     | 233            |
| 75           | K-251HP         |           | 8     | 27    | 35    | 3.5  | 1.75 | 3    | 4    | 5    | 3.5  | 3.03 | 4    | 8.25  | 333            |
| 100          | KK-251HP        |           | 10    | 36.5  | 47.5  | 4.06 | 2    | 4    | 5.5  | 6.75 | 4.5  | 4.03 | 5.5  | 11.38 | 731            |
| 200          | L-251HP         |           | 11.25 | 35.93 | 48.31 | 5.06 | 3.09 | 4.5  | 6    | 8.25 | 5    | 4.81 | 6.38 | 13.5  | 885            |
| 300          | M-251HP         |           | 14    | 44.2  | 59.2  | 6.13 | 3.94 | 4.75 | 7.5  | 9.5  | 6    | 6.06 | 8    | 17    | 1645           |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

# SWIVELS- HYDRO LINK\HP, HIGH PRESSURE, STAINLESS STEEL

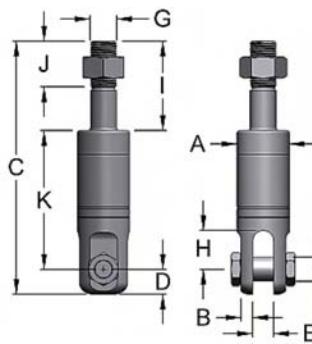
## EYE TO EYE - TYPE 252HP, STAINLESS STEEL



| WLL*<br>Tons | Model<br>Number | Rope Size | A     | B     | C     | D    | E    | F    | G     | Weight<br>Lbs. |
|--------------|-----------------|-----------|-------|-------|-------|------|------|------|-------|----------------|
| 0.75         | BB-252HP        | 1/4       | 1.31  | 4.94  | 5.88  | .44  | 0.31 | .39  | 0.94  | 1              |
| 1.5          | B-252HP         | 3/8       | 1.63  | 5     | 6.25  | .69  | 0.5  | .66  | 1.34  | 2              |
| 3            | C-252HP         | 1/2       | 2     | 7.31  | 9.31  | 1    | 0.75 | .91  | 1.94  | 5              |
| 5            | D-252HP         | 5/8       | 2.5   | 9.06  | 11.44 | 1.19 | 1    | 1.28 | 2.5   | 10             |
| 8.5          | EE-252HP        | 3/4       | 3     | 10.13 | 13.06 | 1.5  | 1.25 | 1.41 | 3.13  | 16             |
| 15           | GG-252HP        | 1         | 4     | 15.13 | 19.38 | 2.13 | 2    | 2.03 | 4.91  | 43             |
| 35           | HH-252HP        | 1 1/2     | 5     | 18.19 | 22.94 | 2.38 | 2.25 | 2.31 | 5.25  | 79             |
| 45           | I-252HP         |           | 6     | 22.56 | 28.56 | 3    | 2.5  | 2.53 | 7     | 142            |
| 60           | JJ-252HP        |           | 7     | 24    | 31    | 3.5  | 2.94 | 2.88 | 7     | 231            |
| 75           | K-252HP         |           | 8     | 27    | 35    | 4    | 3.5  | 3.38 | 8.25  | 340            |
| 100          | KK-252HP        |           | 10    | 36.5  | 47.5  | 5.5  | 4.5  | 4.03 | 11.38 | 704            |
| 200          | L-252HP         |           | 11.25 | 35.56 | 48.31 | 6.38 | 5    | 4.81 | 13.5  | 875            |
| 300          | M-252HP         |           | 14    | 43.2  | 59.2  | 8    | 6    | 6.06 | 17    | 1600           |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

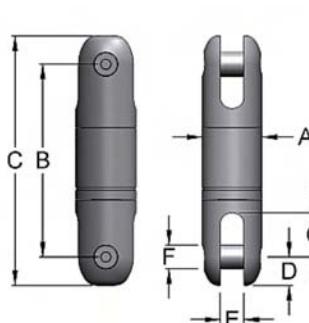
## STUD TO CLEVIS - TYPE 351HP, STAINLESS STEEL



| WLL*<br>Tons | Model<br>Number | Rope Size | A    | B    | C     | D    | E    | F    | G    | H    | I    | J    | K     | Weight<br>Lbs. |
|--------------|-----------------|-----------|------|------|-------|------|------|------|------|------|------|------|-------|----------------|
| 0.75         | BB-351HP        | 1/4       | 1.31 | 0.22 | 5.81  | .44  | 0.31 | .38  | 0.63 | 0.56 | 2    | 1.5  | 4.38  | 1              |
| 1.5          | B-351HP         | 3/8       | 1.63 | 0.31 | 7     | .69  | 0.5  | .5   | 0.75 | 0.78 | 2    | 1.5  | 4.31  | 2              |
| 3            | C-351HP         | 1/2       | 2    | 0.38 | 10.44 | .88  | 0.75 | .75  | 0.88 | 1.19 | 3    | 2.63 | 5.25  | 5              |
| 5            | D-351HP         | 5/8       | 2.5  | 0.56 | 11.19 | 1.13 | 1    | .88  | 1.25 | 1.56 | 3.5  | 3.13 | 6.56  | 11             |
| 8.5          | EE-351HP        | 3/4       | 3    | 0.53 | 13.78 | 1.34 | 1.56 | 1.19 | 1.5  | 2.09 | 4    | 3    | 8.44  | 15             |
| 15           | GG-351HP        | 1         | 4    | 0.81 | 18.69 | 1.75 | 1.75 | 1.5  | 2    | 3.5  | 5.5  | 3    | 11.44 | 40             |
| 35           | HH-351HP        | 1 1/2     | 5    | 1.13 | 25.56 | 2.38 | 2    | 2    | 2.5  | 3.69 | 8.5  | 4.25 | 14.69 | 84             |
| 45           | I-351HP         |           | 6    | 1.25 | 28    | 3    | 2.5  | 2.25 | 3    | 4    | 8    | 4    | 17    | 141            |
| 60           | JJ-351HP        |           | 7    | 1.5  | 31.5  | 3.5  | 3    | 2.5  | 3.25 | 4.5  | 8    | 4    | 20    | 219            |
| 75           | K-351HP         |           | 8    | 1.75 | 36.5  | 4    | 3.5  | 3    | 3.75 | 5    | 10   | 5    | 22.5  | 295            |
| 100          | KK-351HP        |           | 10   | 2    | 54.75 | 5.5  | 4.06 | 4    | 6.25 | 6.75 | 20.5 | 7.25 | 28.75 | 699            |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

## BULLET NOSE TO BULLET NOSE - TYPE 454HP, STAINLESS STEEL



| WLL*<br>Tons | Model<br>Number | Rope Size | A    | B     | C     | D    | E    | F   | G    | Weight<br>Lbs. |
|--------------|-----------------|-----------|------|-------|-------|------|------|-----|------|----------------|
| 0.75         | BB-454HP        | 1/4       | 1.31 | 4.88  | 5.63  | .44  | 0.31 | .38 | 0.56 | 1              |
| 1.5          | B-454HP         | 3/8       | 1.63 | 5     | 6.25  | .56  | 0.5  | .44 | 0.81 | 2              |
| 3            | C-454HP         | 1/2       | 2    | 6.5   | 8.13  | .81  | 0.75 | .63 | 0.94 | 4              |
| 5            | D-454HP         | 5/8       | 2.5  | 9.25  | 11.38 | 1.13 | 1    | .88 | 1.56 | 9              |
| 8.5          | EE-454HP        | 3/4       | 3    | 10.56 | 13.13 | 1.25 | 1.28 | 1   | 2.13 | 16             |
| 15           | GG-454HP        | 1         | 4    | 15    | 18.5  | 1.75 | 1.75 | 1.5 | 3.25 | 42             |
| 35           | HH-454HP        | 1 1/2     | 5    | 18.16 | 22.91 | 2.38 | 2    | 2   | 3.69 | 87             |

\* Design factors for WLL=35T and below are 5:1; for 45T and above 4:1

**MILLER CUSTOM SWIVELS****CUSTOM Y-LINK SWIVEL  
QUOTE REQUEST****Requestor**

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Quantity: \_\_\_\_\_

Company: \_\_\_\_\_ Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

**SWIVEL CONFIGURATION****CAP**

CLEVIS\_\_ EYE\_\_ STUD\_\_ BULLET\_\_ SOCKET\_\_ THIMBLE\_\_ WEDGE\_\_ HOOK\_\_ EYEBOLT\_\_

**BARREL**

STANDARD\_\_ HEAVY DUTY\_\_ HIGH PRESSURE\_\_

**SHANK**

CLEVIS\_\_ EYE\_\_ STUD\_\_ BULLET\_\_ HOOK\_\_ EYE BOLT\_\_

**SWIVEL MATERIAL**

STANDARD\_\_ STAINLESS STEEL\_\_

**SWIVEL CAPACITY & DIMENSIONS, WIRE ROPE**

WORKING CAPACITY (LOAD LIMIT)\_\_\_\_\_

(INDICATE US / METRIC TONS)

DESIGN FACTOR\_\_\_\_\_ WIRE ROPE SIZE\_\_\_\_\_

CLEVIS DIMENSIONS A\_\_\_\_\_ B\_\_\_\_\_ C\_\_\_\_\_

D\_\_\_\_\_

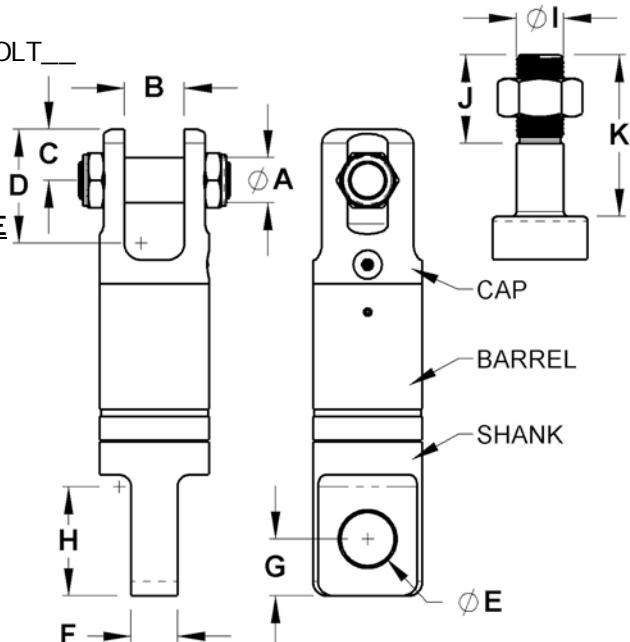
EYE DIMENSIONS E\_\_\_\_\_ F\_\_\_\_\_ G\_\_\_\_\_

H\_\_\_\_\_

STUD DIMENSIONS I\_\_\_\_\_ J\_\_\_\_\_ K\_\_\_\_\_

**OTHER REQUIREMENTS**

ENVIRONMENT\_\_\_\_\_



SPECIAL TESTING, THIRD PARTY INSPECTION, ETC:

**Miller Lifting Products**

100A Sturbridge Rd.  
 Charlton, MA USA 01507  
 Tel.: (508) 248-3941 / Fax: (508) 248-0639  
 E-mail: [sales@millerproducts.net](mailto:sales@millerproducts.net)  
[www.millerproducts.net](http://www.millerproducts.net)

## SWIVELS- PENGOMILLER, FOR LINE STRINGING

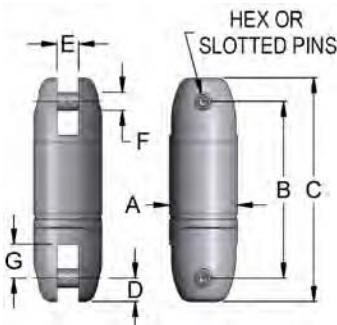


- The original PENGOMILLER tension line stringing swivels and 90° connectors.
- Designed specifically for horizontal pulling of tension lines and passage over sheaves. Overhead or through conduit.
- Swivels have Working Loads to 100,000 lbs with a 3:1 design factor.
- Equipped with low friction angular contact ball bearings.
- Machined, heat treated from solid forged alloy steel bar.
- Zinc plating inside and out for effective protection against corrosion.
- Hex socket pins are standard. Optional slotted pins are available for sizes A thru D.
- Factory lubricated and sealed with neoprene seals.
- 90° Connectors permit limited movement of connected cables in two perpendicular planes. Short, bullet shape accommodates passage through blocks. Mean Breaking Load (MBL) up to 150,000 lbs.

**\*Safety Note:** These swivels are designed for straight line pulling and will not support side loads as would be encountered traveling over a bull wheel. Miller line stringing swivels are not intended for general lifting applications. For general lifting see Miller Y-Link or Econo-Link swivels. Line stringing swivel selection should be based on pulling line diameter, grip size, opening dimensions, pin sizes, working load, and sheave groove diameter.

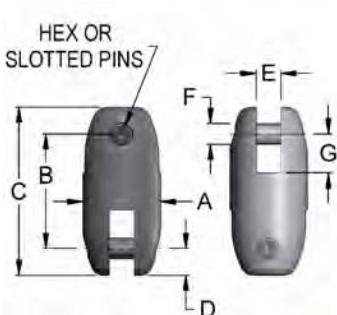
Order spare pins by type (hex or slotted), and by model number of the swivel or connector. For example, "two hex pins for A-13-L" or "two slotted pins for B-13-L-SL".

## LINE STRINGING SWIVELS



| Model # Hex Pin | Model # Slotted Pin | WLL* Tons | A     | B     | C     | D     | E    | F   | G    | Weight Lbs. |
|-----------------|---------------------|-----------|-------|-------|-------|-------|------|-----|------|-------------|
| A-13-L          | A-13-L-SL           | 0.9       | .875  | 2.34  | 3.09  | 0.375 | 0.31 | .31 | 0.47 | 0.38        |
| BB-13-L         | BB-13-L-SL          | 2         | 1.25  | 3.66  | 4.34  | 0.44  | 0.59 | .38 | 0.69 | 1           |
| B-13-L          | B-13-L-SL           | 3.75      | 1.44  | 4     | 5.13  | 0.56  | 0.59 | .44 | 0.81 | 1.38        |
| C-13-L          | C-13-L-SL           | 5         | 1.875 | 5.44  | 7.06  | 0.81  | 0.75 | .62 | 0.94 | 3.63        |
| D-13-L          | D-13-L-SL           | 8         | 2.44  | 7.88  | 10.19 | 1.125 | 1    | .88 | 1.56 | 8           |
| EE-13-L         | N/A                 | 12.5      | 2.875 | 9.81  | 12.31 | 1.25  | 1.28 | 1   | 2.13 | 15          |
| D13-4BL         | N/A                 | 15        | 2.5   | 8.91  | 11.16 | 1.125 | 1    | .88 | 1.56 | 9           |
| GG-13-L         | N/A                 | 25        | 3.875 | 13.25 | 16.75 | 1.75  | 1.75 | 1.5 | 3.5  | 40          |
| HH-13-L         | N/A                 | 50        | 4.875 | 15.81 | 20.56 | 2.375 | 2    | 2   | 3.69 | 78          |

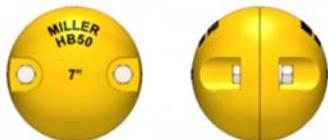
## 90° CONNECTORS



| Model # Hex Pin | Model # Slotted Pin | MBL Tons | ROPE | A    | B    | C    | D    | E    | F   | G    | Weight Lbs. |
|-----------------|---------------------|----------|------|------|------|------|------|------|-----|------|-------------|
| PL 1/4          | PL 1/4-SL           | 2.7      | 1/4  | .88  | 1.31 | 2.06 | .38  | 0.31 | .31 | 0.47 | 0.19        |
| PL 3/8          | PL 3/8-SL           | 6        | 3/8  | 1.25 | 1.75 | 2.63 | .44  | 0.59 | .38 | 0.69 | 0.38        |
| PL 1/2          | PL 1/2-SL           | 11.25    | 1/2  | 1.44 | 2.13 | 3.25 | .56  | 0.59 | .44 | 0.81 | 0.69        |
| PL 5/8          | PL 5/8-SL           | 15       | 5/8  | 1.88 | 2.5  | 4.13 | .81  | 0.75 | .62 | 0.94 | 1.69        |
| PL 3/4          | PL 3/4-SL           | 30       | 3/4  | 2.44 | 3.38 | 5.63 | 1.13 | 1    | .88 | 1.31 | 3.75        |
| PL 7/8          | N/A                 | 37.5     | 7/8  | 2.63 | 3.88 | 6.38 | 1.25 | 1    | 1   | 1.5  | 6.5         |
| PL 1            | N/A                 | 75       | 1    | 3.88 | 8    | 11.5 | 1.75 | 1.75 | 1.5 | 3.5  | 18.5        |

## OVERHAUL BALLS- SPLIT BALL

- Miller's Split Headache Balls provide a convenient way to add weight to wire rope at any point.**
- Split halves bolt together for clamping on the rope.
- Sizes for rope from 3/8" to 7/8".
- Overhaul weights of 20, 50 and 100 lbs.
- Cast iron with Miller Yellow enamel finish



| Model Number | Rope Size     | Diameter (in.) | Weight Lbs. |
|--------------|---------------|----------------|-------------|
| HB20         | 3/8           | 5              | 20          |
| HB50         | 1/2, 5/8      | 7              | 50          |
| HB100        | 5/8, 3/4, 7/8 | 9              | 100         |

## OVERHAUL BALLS- ASSEMBLIES Y-LINK

### TOP SWIVELING OVERHAUL BALL ASSEMBLIES WITH ANGULAR CONTACT BALL BEARINGS

- Miller's highest performance overhaul ball assemblies are uniquely equipped with Miller Y-Link angular contact ball bearing swivels for maximum response to wire rope movement and long term durability.**
- Top swiveling- ball remains stationary if wire rope twists.
- Available with four upper fittings styles: clevis, eye, wedge, and thimble.
- Overhaul weights to 1450 lbs. Special heavier weights and bottom swiveling are available.
- Working Loads from 3 to 35 tons, for 5/8" to 1 1/2" wire rope.
- Easy, quick replacement of component parts- swivel replaced with appropriate standard Miller Y-Link model.
- Drop Forged alloy steel hook with safety latch.
- Design factor 5:1.
- Note: Type 5 (only) is a non-swiveling model.

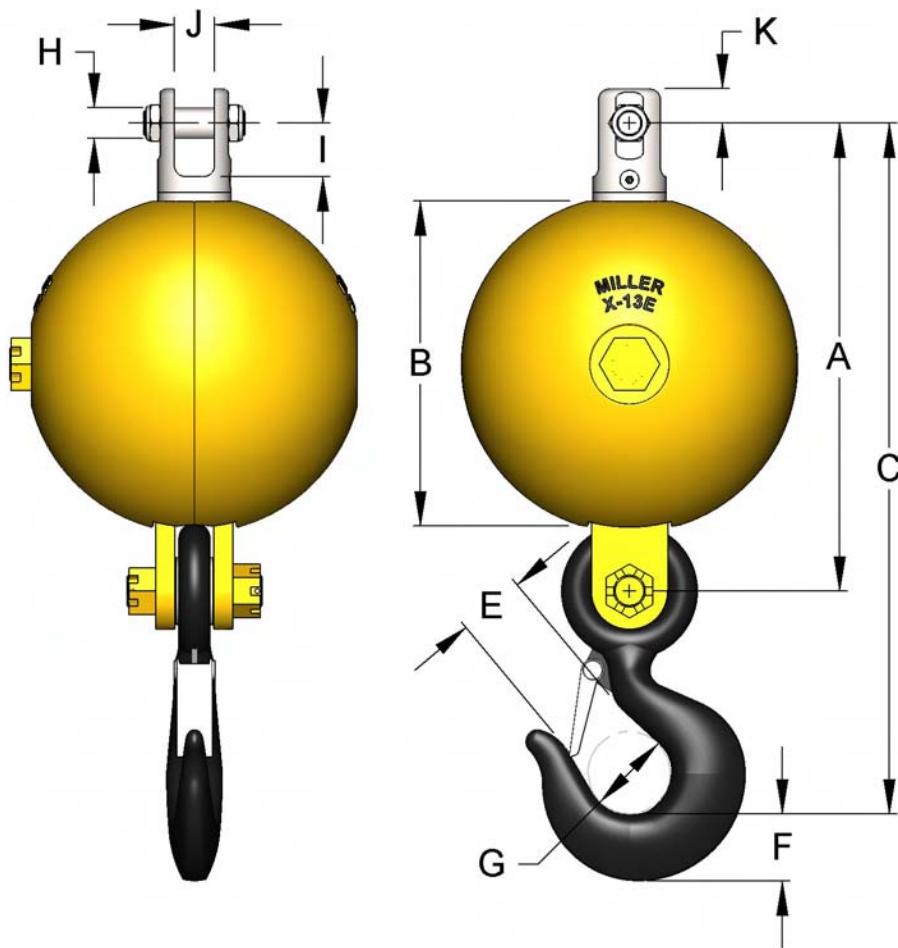


Top Swivel

Bottom Swivel  
3000 lbs.

# OVERHAUL BALLS- ASSEMBLIES Y-LINK

## CLEVIS TO HOOK - TYPE 1

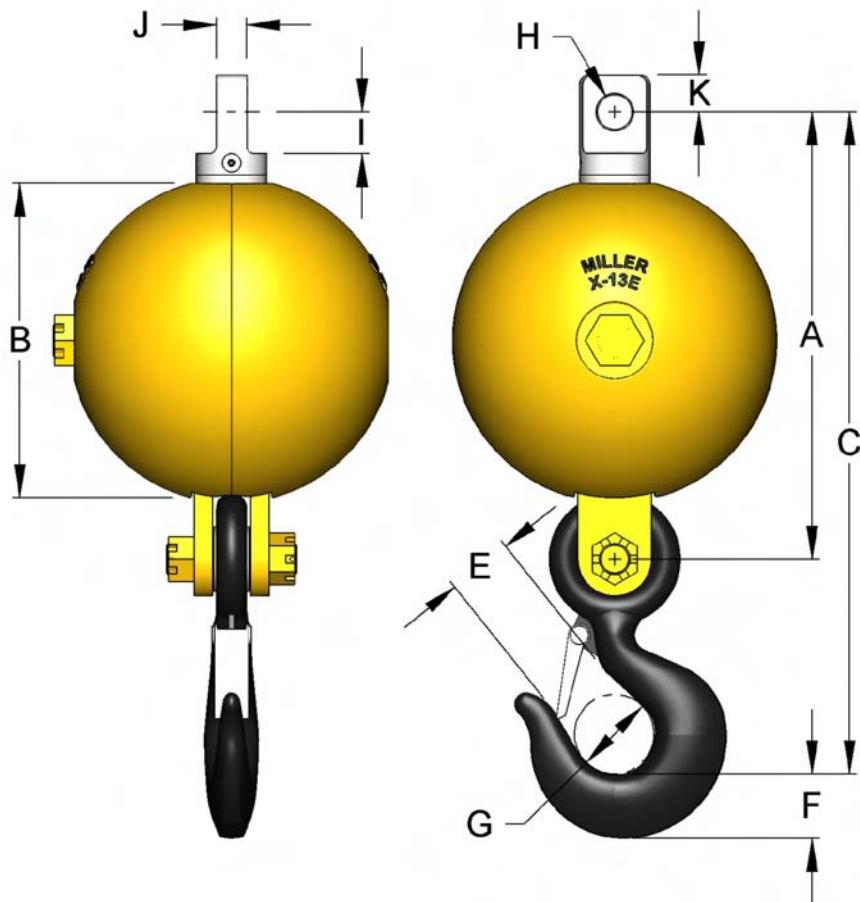


| WLL*<br>Tons | Model<br>Number | Rope Size | A     | B  | C     | E    | F    | G    | H    | I    | J    | K    | Weight<br>Lbs. | SWIVEL |
|--------------|-----------------|-----------|-------|----|-------|------|------|------|------|------|------|------|----------------|--------|
| 5            | HB7-1           | 5/8       | 13.63 | 7  | 20.44 | 1.61 | 1.81 | 2.5  | 0.88 | 1.56 | 1    | 1.13 | 65             | D-112  |
| 5            | HB8-1           | 5/8       | 13.63 | 8  | 20.44 | 1.61 | 1.81 | 2.5  | 0.88 | 1.56 | 1    | 1.13 | 100            | D-112  |
| 8.5          | HB9B-1          | 3/4       | 16.5  | 9  | 25.75 | 2.27 | 2.59 | 3.25 | 1.19 | 2.19 | 1.56 | 1.34 | 130            | EE-112 |
| 8.5          | HB10B-1         | 3/4       | 16.5  | 10 | 25.75 | 2.27 | 2.59 | 3.25 | 1.19 | 2.19 | 1.56 | 1.34 | 170            | EE-112 |
| 8.5          | HB11B-1         | 3/4       | 17.38 | 11 | 26.63 | 2.27 | 2.59 | 3.25 | 1.19 | 2.19 | 1.56 | 1.34 | 215            | EE-112 |
| 8.5          | HB12-1          | 3/4       | 17.38 | 12 | 26.63 | 2.27 | 2.59 | 3.25 | 1.19 | 2.19 | 1.56 | 1.34 | 265            | EE-112 |
| 8.5          | HB13B-1         | 3/4       | 17.38 | 12 | 27.63 | 2.27 | 2.59 | 3.25 | 1.19 | 2.19 | 1.56 | 1.34 | 330            | EE-112 |
| 10           | HB13C-1         | 7/8       | 22.13 | 13 | 32.88 | 3.02 | 3.00 | 4.25 | 1.5  | 3.5  | 1.75 | 1.75 | 364            | GG-112 |
| 15           | HB13D-1         | 1         | 22.13 | 13 | 32.88 | 3.02 | 3.00 | 4.25 | 1.5  | 3.5  | 1.75 | 1.75 | 364            | GG-112 |
| 25           | HB13E-1         | 1-1/2     | 25.44 | 13 | 37.75 | 3.25 | 3.62 | 5    | 2    | 3.69 | 2    | 2.38 | 416            | H-112  |
| 35           | HB13F-1         | 1-1/2     | 25.44 | 13 | 41.5  | 3    | 4.56 | 5.38 | 2    | 3.69 | 2    | 2.38 | 490            | HH-112 |
| 10           | HB16-1          | 7/8       | 24.63 | 16 | 35.38 | 3.02 | 3.00 | 4.25 | 1.5  | 3.5  | 1.75 | 1.75 | 600            | GG-112 |
| 15           | HB16B-1         | 1         | 24.63 | 16 | 35.38 | 3.02 | 3.00 | 4.25 | 1.5  | 3.5  | 1.75 | 1.75 | 600            | GG-112 |
| 25           | HB16C-1         | 1-1/2     | 26.94 | 16 | 39.63 | 3.25 | 3.62 | 5    | 2    | 3.69 | 2    | 2.38 | 650            | H-112  |
| 35           | HB16D-1         | 1-1/2     | 26.94 | 16 | 44    | 3    | 4.56 | 5.38 | 2    | 3.69 | 2    | 2.38 | 720            | HH-112 |
| 10           | HB18G-1         | 7/8       | 24.93 | 18 | 42.21 | 3.02 | 3.00 | 4.25 | 1.5  | 3.5  | 1.75 | 1.75 | 800            | G-112  |
| 15           | HB18GG-1        | 1         | 24.93 | 18 | 42.21 | 3.02 | 3.00 | 4.25 | 1.5  | 3.5  | 1.75 | 1.75 | 800            | GG-112 |
| 15           | HB22GG-1        | 1         | 30    | 22 | 40.78 | 3.02 | 3.00 | 4.25 | 1.5  | 3.5  | 1.75 | 1.75 | 1300           | GG-112 |
| 25           | HB22H-1         | 1-1/2     | 32.19 | 22 | 44.5  | 3.25 | 3.62 | 5    | 2    | 3.69 | 2    | 2.38 | 1400           | H-112  |
| 35           | HB22HH-1        | 1-1/2     | 32.19 | 22 | 48.13 | 3    | 4.56 | 5.38 | 2    | 3.69 | 2    | 2.38 | 1450           | HH-112 |

\* Design factor 5:1

# OVERHAUL BALLS- ASSEMBLIES Y-LINK

## EYE TO HOOK - TYPE 2

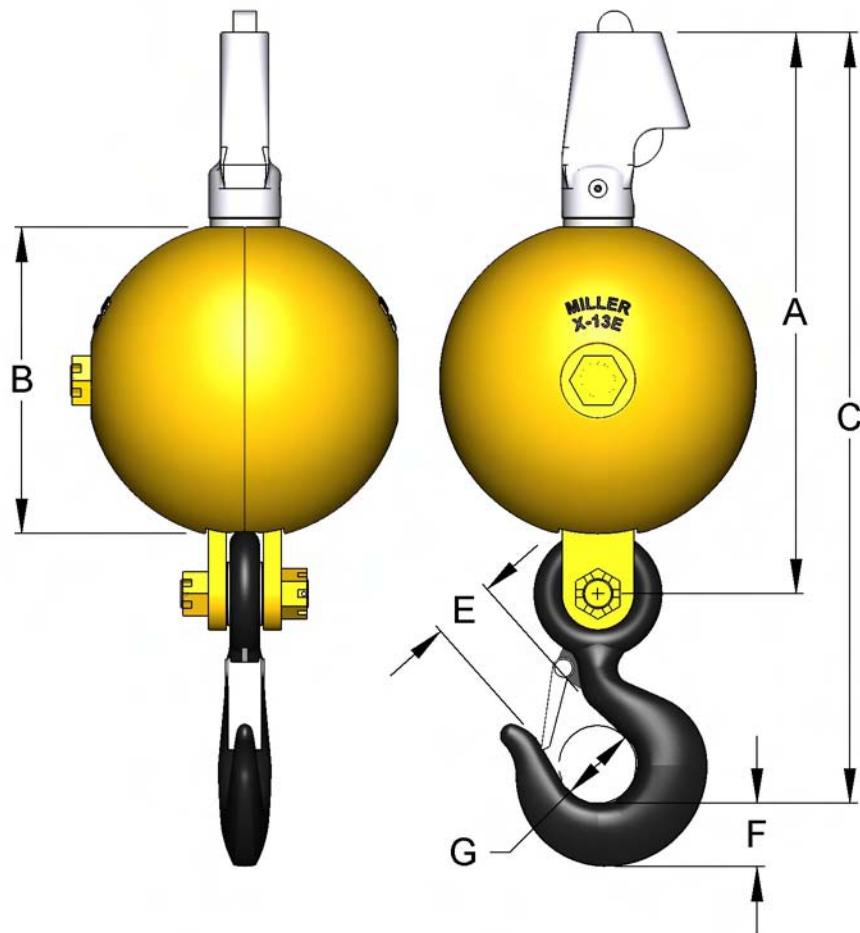


| WLL*<br>Tons | Model<br>Number | Rope Size       | A     | B  | C     | E    | F    | G    | H    | I    | J    | K    | Weight<br>Lbs. | SWIVEL   |
|--------------|-----------------|-----------------|-------|----|-------|------|------|------|------|------|------|------|----------------|----------|
| 5            | HB7-2           | 5/8             | 13.56 | 7  | 20.38 | 1.61 | 1.81 | 2.5  | 1.28 | 1.56 | 1    | 1.19 | 65             | D-212    |
| 5            | HB8-2           | 5/8             | 13.56 | 8  | 20.38 | 1.61 | 1.81 | 2.5  | 1.28 | 1.56 | 1    | 1.19 | 100            | D-212    |
| 8.5          | HB9B-2          | 3/4             | 16.31 | 9  | 25.56 | 2.27 | 2.59 | 3.25 | 1.41 | 1.94 | 1.25 | 1.50 | 130            | EE-212   |
| 8.5          | HB10B-2         | 3/4             | 16.31 | 10 | 25.56 | 2.27 | 2.59 | 3.25 | 1.41 | 1.94 | 1.25 | 1.50 | 170            | EE-212   |
| 8.5          | HB11B-2         | 3/4             | 17.19 | 11 | 26.44 | 2.27 | 2.59 | 3.25 | 1.41 | 1.94 | 1.25 | 1.50 | 215            | EE-212   |
| 8.5          | HB12-2          | 3/4             | 17.19 | 12 | 26.44 | 2.27 | 2.59 | 3.25 | 1.41 | 1.94 | 1.25 | 1.50 | 265            | EE-212   |
| 8.5          | HB13B-2         | 3/4             | 18.19 | 12 | 27.44 | 2.27 | 2.59 | 3.25 | 1.41 | 1.94 | 1.25 | 1.50 | 330            | EE-212   |
| 10           | HB13C-2         | 7/8             | 22.06 | 13 | 32.81 | 3.02 | 3.00 | 4.25 | 1.66 | 2.84 | 1.72 | 1.81 | 363            | G3GG     |
| 10           | HB13-2G         | 9/16 THRU 1-1/4 | 21.84 | 13 | 32.59 | 3.02 | 3    | 4.25 | 1.78 | 2.75 | 1.25 | 2.00 | 363            | G-212-2  |
| 15           | HB13-2GG        | 9/16 THRU 1-1/4 | 21.88 | 13 | 32.63 | 3.02 | 3    | 4.25 | 1.78 | 2.75 | 1.25 | 2.00 | 363            | GG-212-2 |
| 15           | HB13D-2         | 1               | 21.75 | 13 | 32.5  | 3.02 | 3.00 | 4.25 | 2.03 | 2.78 | 1.94 | 2.13 | 363            | GG-212   |
| 25           | HB13E-2         | 1-1/2           | 25.56 | 13 | 37.75 | 3.25 | 3.62 | 5    | 2.31 | 2.88 | 2.25 | 2.38 | 413            | H-212    |
| 35           | HB13F-2         | 1-1/2           | 25.56 | 13 | 41.5  | 3    | 4.56 | 5.38 | 2.31 | 2.88 | 2.25 | 2.38 | 487            | HH-212   |
| 10           | HB16-2          | 7/8             | 24.56 | 16 | 35.31 | 3.02 | 3.00 | 4.25 | 1.66 | 2.84 | 1.72 | 1.81 | 600            | G3GG     |
| 10           | HB16-2G         | 9/16 THRU 1-1/4 | 24.34 | 16 | 35.09 | 3.02 | 3    | 4.25 | 1.78 | 2.75 | 1.25 | 2.00 | 600            | G-212-2  |
| 15           | HB16-2GG        | 9/16 THRU 1-1/4 | 24.38 | 16 | 35.13 | 3.02 | 3    | 4.25 | 1.78 | 2.75 | 1.25 | 2.00 | 600            | GG-212-2 |
| 15           | HB16B-2         | 1               | 24.25 | 16 | 35    | 3.02 | 3.00 | 4.25 | 2.03 | 2.78 | 1.94 | 2.13 | 600            | GG-212   |
| 25           | HB16C-2         | 1-1/2           | 26.94 | 16 | 39.63 | 3.25 | 3.62 | 5    | 2.31 | 2.88 | 2.25 | 2.38 | 650            | H-212    |
| 35           | HB16D-2         | 1-1/2           | 26.94 | 16 | 44    | 3    | 4.56 | 5.38 | 2.31 | 2.88 | 2.25 | 2.38 | 720            | HH-212   |
| 10           | HB18G-2         | 7/8             | 25.19 | 18 | 37.71 | 3.02 | 3.00 | 4.25 | 1.66 | 2.84 | 1.72 | 1.81 | 800            | G3GG     |
| 10           | HB18-2G         | 9/16 THRU 1-1/4 | 24.97 | 18 | 37.49 | 3.02 | 3    | 4.25 | 1.78 | 2.75 | 1.25 | 2.00 | 800            | G-212-2  |
| 15           | HB18GG-2        | 1               | 24.87 | 18 | 37.4  | 3.02 | 3.00 | 4.25 | 2.03 | 2.78 | 1.94 | 2.13 | 800            | GG-212   |
| 15           | HB18-2GG        | 9/16 THRU 1-1/4 | 25    | 18 | 37.53 | 3.02 | 3    | 4.25 | 1.78 | 2.75 | 1.25 | 2.00 | 800            | GG-212-2 |
| 15           | HB22GG-2        | 1               | 29.25 | 22 | 40.03 | 3.02 | 3.00 | 4.25 | 2.03 | 2.78 | 1.94 | 2.13 | 1300           | GG-212   |
| 15           | HB22-2GG        | 9/16 THRU 1-1/4 | 29.38 | 22 | 40.16 | 3.02 | 3    | 4.25 | 1.78 | 2.75 | 1.25 | 2.00 | 1300           | GG-212-2 |
| 25           | HB22H-2         | 1-1/2           | 32.19 | 22 | 44.5  | 3.25 | 3.62 | 5    | 2.31 | 2.88 | 2.25 | 2.38 | 1400           | H-212    |
| 35           | HB22HH-2        | 1-1/2           | 32.19 | 22 | 48.13 | 3    | 4.56 | 5.38 | 2.31 | 2.88 | 2.25 | 2.38 | 1450           | HH-212   |

\* Design factor 5:1

# OVERHAUL BALLS- ASSEMBLIES Y-LINK

## WEDGE TO HOOK - TYPE 3

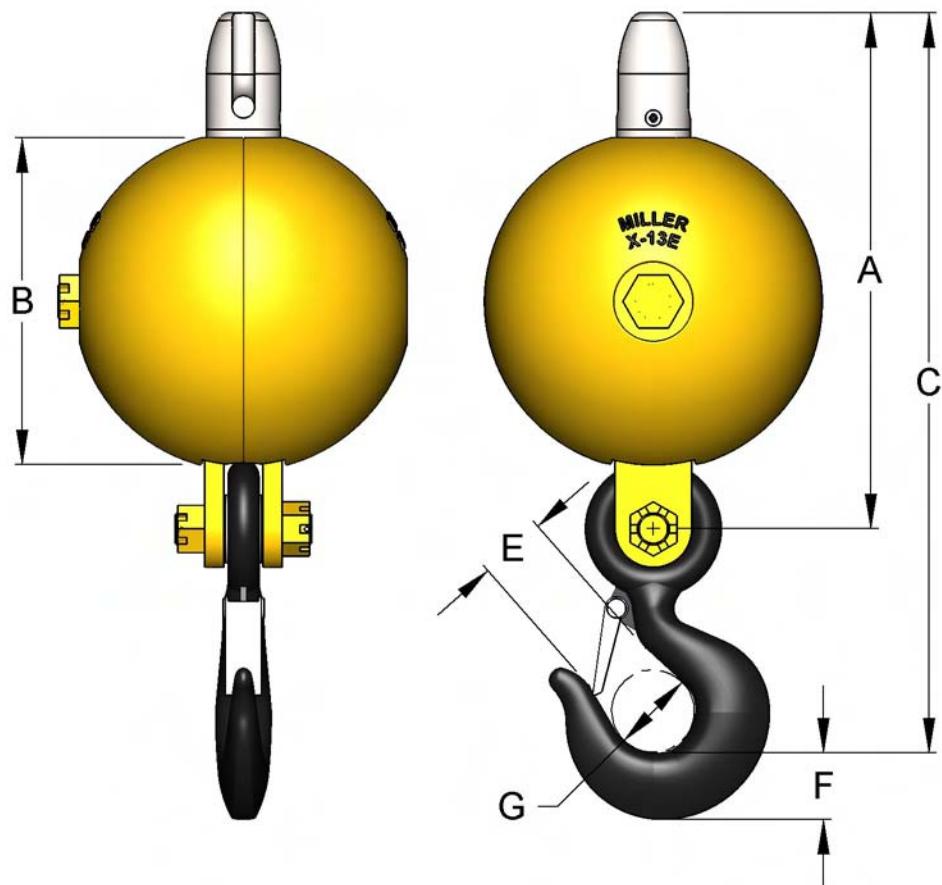


| WLL*<br>Tons | Model Number | Rope Size     | A     | B  | C     | E    | F    | G    | Weight Lbs. | SWIVEL |
|--------------|--------------|---------------|-------|----|-------|------|------|------|-------------|--------|
| 5            | HB7-3        | 1/2, 5/8      | 18.25 | 7  | 25.06 | 1.61 | 1.81 | 2.5  | 65          | D-712  |
| 5            | HB8-3        | 1/2, 5/8      | 18.25 | 8  | 25.06 | 1.61 | 1.81 | 2.5  | 100         | D-712  |
| 8.5          | HB9B-3       | 1/2, 5/8, 3/4 | 21.25 | 9  | 30.5  | 2.27 | 2.59 | 3.25 | 130         | EE-712 |
| 8.5          | HB10B-3      | 1/2, 5/8, 3/4 | 21.25 | 10 | 30.5  | 2.27 | 2.59 | 3.25 | 170         | EE-712 |
| 8.5          | HB11B-3      | 1/2, 5/8, 3/4 | 22.13 | 11 | 31.38 | 2.27 | 2.59 | 3.25 | 215         | EE-712 |
| 8.5          | HB12-3       | 1/2, 5/8, 3/4 | 22.13 | 12 | 31.38 | 2.27 | 2.59 | 3.25 | 265         | EE-712 |
| 8.5          | HB13B-3      | 1/2, 5/8, 3/4 | 23.13 | 12 | 32.38 | 2.27 | 2.59 | 3.25 | 336         | E-712  |
| 10           | HB13C-3      | 3/4, 7/8, 1   | 27.88 | 13 | 38.63 | 3.02 | 3.00 | 4.25 | 370         | GG-712 |
| 15           | HB13D-3      | 3/4, 7/8, 1   | 27.88 | 13 | 38.63 | 3.02 | 3.00 | 4.25 | 370         | GG-712 |
| 25           | HB13E-3      | 1 1/8, 1 1/4  | 34.31 | 13 | 46.63 | 3.25 | 3.62 | 5    | 439         | H-712  |
| 35           | HB13F-3      | 1 1/8, 1 1/4  | 34.31 | 13 | 50.38 | 3    | 4.56 | 5.38 | 513         | HH-712 |
| 10           | HB16-3       | 3/4, 7/8, 1   | 28.31 | 16 | 39.56 | 3.02 | 3.00 | 4.25 | 600         | GG-712 |
| 15           | HB16B-3      | 3/4, 7/8, 1   | 28.31 | 16 | 39.56 | 3.02 | 3.00 | 4.25 | 600         | GG-712 |
| 10           | HB18G-3      | 3/4, 7/8, 1   | 24.93 | 18 | 45.03 | 3.02 | 3.00 | 4.25 | 800         | G-712  |
| 15           | HB22GG-3     | 1             | 33.88 | 22 | 44.66 | 3.02 | 3.00 | 4.25 | 1300        | GG-712 |
| 25           | HB22H-3      | 1-1/2         | 41.68 | 22 | 53.99 | 3.25 | 3.62 | 5    | 1400        | H-712  |
| 35           | HB22HH-3     | 1-1/2         | 41.68 | 22 | 57.62 | 3    | 4.56 | 5.38 | 1450        | HH-712 |

\* Design factor 5:1

# OVERHAUL BALLS- ASSEMBLIES Y-LINK

## THIMBLE TO HOOK - TYPE 4

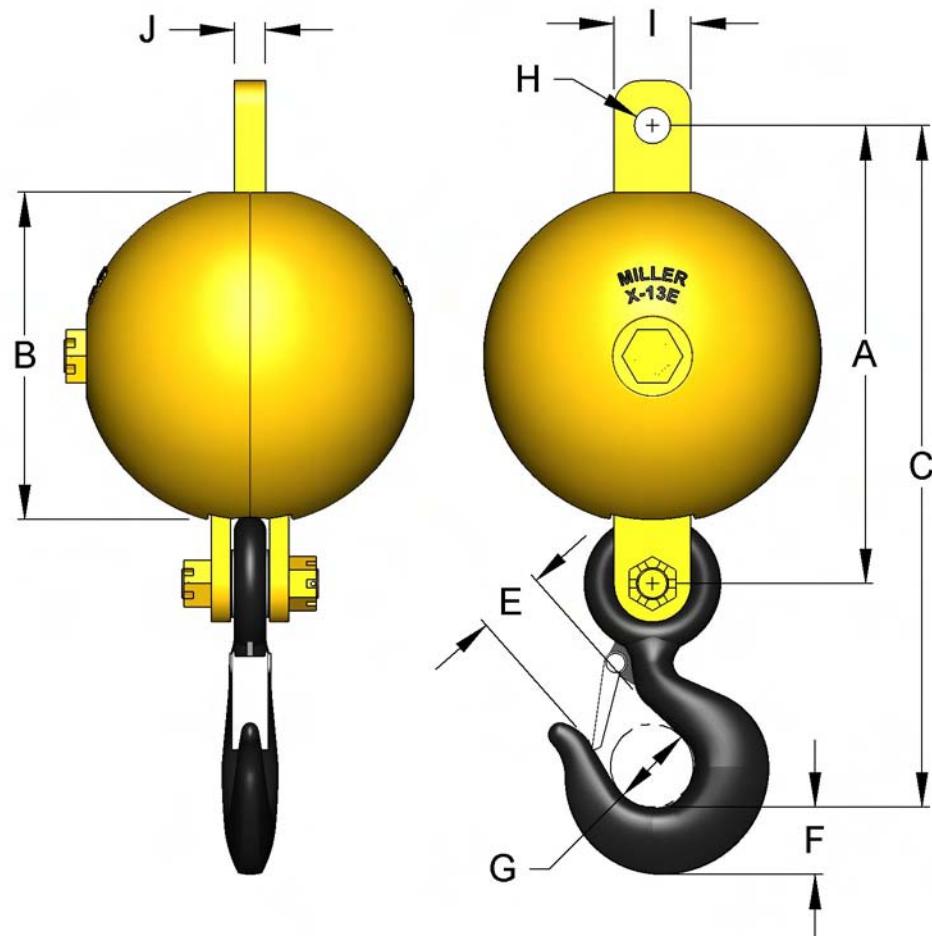


| WLL*<br>Tons | Model Number | Rope Size | A     | B  | C     | E    | F    | G    | Weight Lbs. | SWIVEL |
|--------------|--------------|-----------|-------|----|-------|------|------|------|-------------|--------|
| 5            | HB7-4        | 5/8       | 15    | 7  | 23.38 | 1.61 | 1.81 | 2.5  | 65          | D-612  |
| 5            | HB8-4        | 5/8       | 15    | 8  | 23.38 | 1.61 | 1.81 | 2.5  | 100         | D-612  |
| 8.5          | HB9B-4       | 3/4       | 18.44 | 9  | 27.1  | 2.27 | 2.59 | 3.25 | 130         | EE-612 |
| 8.5          | HB10B-4      | 3/4       | 18.44 | 10 | 27.1  | 2.27 | 2.59 | 3.25 | 170         | EE-612 |
| 8.5          | HB11B-4      | 3/4       | 19.19 | 11 | 27.85 | 2.27 | 2.59 | 3.25 | 215         | EE-612 |
| 8.5          | HB12-4       | 3/4       | 19.44 | 12 | 28.1  | 2.27 | 2.59 | 3.25 | 265         | EE-612 |
| 8.5          | HB13B-4      | 3/4       | 20.19 | 12 | 28.85 | 2.27 | 2.59 | 3.25 | 332         | EE-612 |
| 10           | HB13C-4      | 7/8       | 23.63 | 13 | 34.38 | 3.02 | 3.00 | 4.25 | 366         | G-612  |
| 15           | HB13D-4      | 1         | 23.63 | 13 | 34.38 | 3.02 | 3.00 | 4.25 | 366         | GG-612 |
| 25           | HB13E-4      | 1-1/2     | 27.56 | 13 | 39.88 | 3.25 | 3.62 | 5    | 420         | H-612  |
| 35           | HB13F-4      | 1-1/2     | 27.56 | 13 | 44.13 | 3    | 4.56 | 5.38 | 500         | HH-612 |
| 10           | HB16-4       | 7/8       | 26.13 | 16 | 36.88 | 3.02 | 3.00 | 4.25 | 600         | GG-612 |
| 15           | HB16B-4      | 1         | 26.13 | 16 | 36.88 | 3.02 | 3.00 | 4.25 | 600         | GG-612 |
| 25           | HB16C-4      | 1-1/2     | 29.44 | 16 | 41.63 | 3.25 | 3.62 | 5    | 650         | H-612  |
| 35           | HB16D-4      | 1-1/2     | 29.31 | 16 | 45.88 | 3    | 4.56 | 5.38 | 720         | HH-612 |
| 10           | HB18G-4      | 7/8       | 26.44 | 18 | 37.5  | 3.02 | 3.00 | 4.25 | 800         | G-612  |
| 15           | HB18GG-4     | 1         | 26.44 | 18 | 37.5  | 3.02 | 3.00 | 4.25 | 800         | GG-612 |
| 15           | HB22GG-4     | 1         | 31.38 | 22 | 42.16 | 3.02 | 3.00 | 4.25 | 1300        | GG-612 |
| 25           | HB22H-4      | 1-1/2     | 34.56 | 22 | 46.87 | 3.25 | 3.62 | 5    | 1400        | H-612  |
| 35           | HB22HH-4     | 1-1/2     | 34.56 | 22 | 50.5  | 3    | 4.56 | 5.38 | 1450        | HH-612 |

\* Design factor 5:1

# OVERHAUL BALLS- ASSEMBLIES Y-LINK

## NON-SWIVELING EYE TO HOOK - TYPE 5



| WLL* Tons | Model Number | A     | B  | C     | E    | F    | G    | H    | I   | J    | Weight Lbs. |
|-----------|--------------|-------|----|-------|------|------|------|------|-----|------|-------------|
| 5         | HB8-5        | 13.5  | 8  | 19.88 | 1.61 | 1.81 | 2.5  | 1.03 | 2.5 | 0.88 | 95          |
| 8.5       | HB10-5       | 16.5  | 10 | 22.81 | 2.27 | 2.59 | 3.25 | 1.53 | 3   | 1.25 | 165         |
| 8.5       | HB11-5       | 17.13 | 11 | 26.78 | 2.27 | 2.59 | 3.25 | 1.53 | 3   | 1.25 | 215         |
| 5         | HB12-5       | 16.31 | 12 | 22.81 | 1.61 | 1.81 | 2.5  | 1.44 | 3   | 1.25 | 250         |
| 8.5       | HB12B-5      | 18.19 | 12 | 26.88 | 2.27 | 2.59 | 3.25 | 1.44 | 3   | 1.25 | 250         |
| 8.5       | HB13-5       | 17.38 | 13 | 26.03 | 2.27 | 2.59 | 3.25 | 1.53 | 3   | 1.25 | 328         |
| 15        | HB13B-5      | 21.75 | 13 | 32.5  | 3.02 | 3    | 4.25 | 1.81 | 3   | 1.5  | 364         |
| 10        | HB16-5       | 24.25 | 16 | 35    | 3.02 | 3    | 4.25 | 1.81 | 4   | 1.5  | 550         |
| 15        | HB16B-5      | 24.41 | 16 | 35.16 | 3.02 | 3    | 4.25 | 1.63 | 4   | 2    | 550         |
| 25        | HB16C-5      | 24.25 | 16 | 35    | 3.25 | 3.62 | 5    | 2.31 | 5   | 2.25 | 600         |
| 35        | HB16D-5      | 26.94 | 16 | 44    | 3    | 4.56 | 5.38 | 2.31 | 5   | 2.25 | 720         |
| 10        | HB18G-5      | 24.88 | 18 | 35.63 | 3.02 | 3    | 4.25 | 1.63 | 4   | 1.72 | 800         |
| 15        | HB22GG-5     | 28.25 | 22 | 39.03 | 3.02 | 3    | 4.25 | 2.03 | 4   | 1.94 | 1285        |
| 25        | HB22H-5      | 30.19 | 22 | 42.5  | 3.25 | 3.62 | 5    | 2.31 | 5   | 2.25 | 1375        |
| 35        | HB22HH-5     | 30.19 | 22 | 46.13 | 3    | 4.56 | 5.38 | 2.31 | 5   | 2.25 | 1425        |

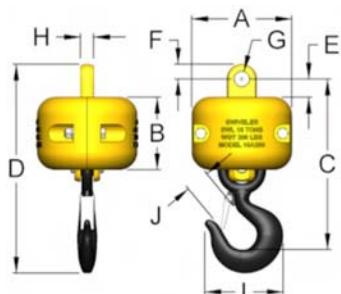
\* Design factor 5:1

## OVERHAUL BALLS- ECONO-LINK SWIVELER

- Compact headache ball assemblies using Miller Econo-Link thrust bearing swivels are ideal for low head-room applications.
- Top swiveling- ball remains stationary if wire rope twists.
- Overhaul weights from 35 to 575 lbs.
- Working Loads from 3 to 15 tons, for  $\frac{1}{2}$ " to 1" wire rope.
- Easy replacement of swivel with standard Miller Econo-Link Type 181 or 281 models.
- Drop forged carbon steel hook with safety latch.
- Design factor 4:1



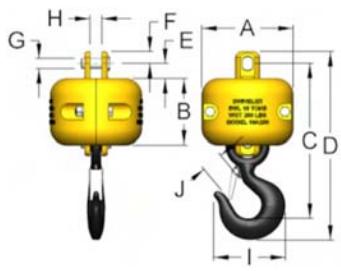
### TYPE A



| WLL*<br>Tons | Model<br>Number | ROPE    | A    | B   | C     | D     | E    | F    | G    | H    | I    | J    | Weight<br>Lbs. |
|--------------|-----------------|---------|------|-----|-------|-------|------|------|------|------|------|------|----------------|
| 3            | 3A35            | 1/2     | 6    | 5   | 10.38 | 12.88 | 1.25 | 1.13 | 1.06 | 1    | 4.88 | 1.34 | 35             |
| 6            | 6A100           | 5/8-3/4 | 9    | 6.5 | 14.06 | 17.38 | 1.31 | 1.5  | 1.41 | 1.19 | 6.5  | 1.34 | 100            |
| 6            | 6A250           | 5/8-3/4 | 12.5 | 8   | 14.06 | 17.38 | 1.31 | 1.5  | 1.41 | 1.19 | 6.5  | 1.34 | 250            |
| 10           | 10A200          | 3/4-7/8 | 11   | 8   | 18.63 | 22.88 | 2    | 1.63 | 1.66 | 1.44 | 8.69 | 2.25 | 200            |
| 10           | 10A325          | 3/4-7/8 | 13   | 10  | 18.63 | 22.88 | 2    | 1.63 | 1.66 | 1.44 | 8.69 | 2.25 | 325            |
| 15           | 15A320          | 1       | 13   | 9   | 22.5  | 27.31 | 2.5  | 1.87 | 2.06 | 1.88 | 11   | 3    | 320            |
| 15           | 15A575          | 1       | 15   | 12  | 22.5  | 27.31 | 2.5  | 1.87 | 2.06 | 1.88 | 11   | 3    | 575            |

\* Design factor 4:1

### TYPE O



| WLL*<br>Tons | Model<br>Number | ROPE    | A    | B   | C     | D     | E    | F    | G    | H    | I    | J    | Weight<br>Lbs. |
|--------------|-----------------|---------|------|-----|-------|-------|------|------|------|------|------|------|----------------|
| 3            | 3O35            | 1/2     | 6    | 5   | 10.5  | 13.13 | 1.38 | 1.19 | 0.75 | 1    | 4.94 | 1.34 | 35             |
| 6            | 6O100           | 5/8-3/4 | 9    | 6.5 | 14.75 | 18    | 1.75 | 1.5  | 1    | 1.13 | 6.5  | 1.69 | 100            |
| 6            | 6O250           | 5/8-3/4 | 12.5 | 8   | 14.75 | 18    | 1.75 | 1.5  | 1    | 1.13 | 6.5  | 1.69 | 250            |
| 10           | 10O200          | 3/4-7/8 | 11   | 8   | 18.75 | 23    | 2.13 | 1.63 | 1.25 | 1.38 | 8.69 | 2.25 | 200            |
| 10           | 10O325          | 3/4-7/8 | 13   | 10  | 18.75 | 23    | 2.13 | 1.63 | 1.25 | 1.38 | 8.69 | 2.25 | 325            |
| 15           | 15O320          | 1       | 13   | 9   | 22.5  | 27.31 | 2.5  | 1.88 | 1.38 | 1.75 | 11   | 3    | 320            |
| 15           | 15O575          | 1       | 15   | 12  | 22.5  | 27.31 | 2.5  | 1.88 | 1.38 | 1.75 | 11   | 3    | 575            |

\* Design factor 4:1

## BLOCKS- HI-LIFT BLOCKS

### Wide capacity range available

- Standard capacities to 300T
- Design factor 4:1
- Larger capacities available
- Sheaves from 8" to 36"
- Wire rope sizes to 1 3/4"

### Hooks- high quality forged alloy steel

- Per DIN 15401 or DIN 15402
- Other hook standards available
- Heavy duty thrust bearing
- Dual motion- swing plus 360° rotation
- Safety latch on all hooks
- Double and other hooks available

### Heavy welded steel plate construction

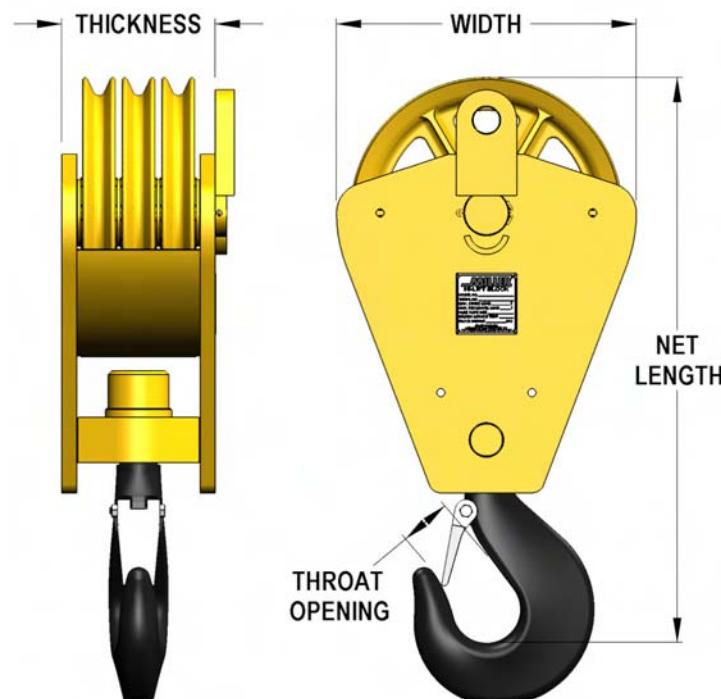
- provides rigidity and strength for longer life
- Designed for shortest possible overall length
- Enclosed sheave guard for easier threading- eliminates possibility of rope jumping sheave
- "H" models provide additional overhaul weight with detachable steel cheek plates
- "T" and "TF", extended or standard side plates- on 24" sheave models

### Bearings and sheaves

- For sheave sizes 20" and below, hardened and ground sheave pin with roller bearings
- For sheaves 24" and higher, tapered roller bearings with lip seals on alloy steel sheave pin
- Bronze bushings optional
- Individual sheave lubrication for assured grease penetration.
- Heavy duty cast steel sheaves standard, roll formed/welded sheaves available
- Bronze spacers between sheaves eliminate galling

### Options available

- Double hooks
- Higher load capacities
- Fittings other than hook
- Hook rotation locking device
- Third party certifications
- Cast hooks (quad)
- Custom



## BLOCKS- HI-LIFT BLOCKS

| MILLER Block Model Number Key  |  |                         |   |                                      |   |                                    |
|--|--|-------------------------|---|--------------------------------------|---|------------------------------------|
| #<br>(Number<br>of<br>Sheaves)   | ##<br>(Sheave<br>Outside<br>Diameter<br>(in))* | XX<br>(Configuration)** | - | ###<br>(Working<br>load<br>limit)*** | - | XX<br>(Special<br>Designation)**** |
| *Standard Outside Diameter Sheave Range from 8 to 36"                      |  |                         |   |                                      |   |                                    |
| **Block Configuration Options:   |  |                         |   |                                      |   |                                    |
| F - Roller Bearing Mounted Sheaves, Low Profile Side Plates                |  |                         |   |                                      |   |                                    |
| H - Roller Bearing Mounted Sheaves, Low Profile Side Plates, Cheek weights |  |                         |   |                                      |   |                                    |
| TF - Tapered Roller Bearing Mounted Sheaves, Low Profile Side Plates       |  |                         |   |                                      |   |                                    |
| T - Tapered Roller Bearing Mounted Sheaves, Extended Side Plates           |  |                         |   |                                      |   |                                    |
| ***Working Load Limit Range from 5 to 300T                                 |  |                         |   |                                      |   |                                    |
| ****Special Designations:  |  |                         |   |                                      |   |                                    |
| RT - Round Top Side Plates   |  |                         |   |                                      |   |                                    |
| LD - Locking Device, 4 Positions   |  |                         |   |                                      |   |                                    |
| <b>*****Specify Wire Rope Size When Ordering*****</b>                      |  |                         |   |                                      |   |                                    |



MODEL NO: 318F40  
-3 SHEAVES, 18" DIAMETER  
-LOW PROFILE SIDE PLATES  
-40 TON WLL

MODEL NO: 520H80  
-5 SHEAVES, 20" DIAMETER  
-CHEEK WEIGHTS  
-80 TON WLL

MODEL NO: 224T50  
-2 SHEAVES, 24" DIAMETER  
-EXTENDED SIDE PLATES  
-50 TON WLL



## BLOCKS- HI-LIFT BLOCKS

### 5 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 5         | 108F5        | 8                 | 1            | 5.75            | 9.5         | 17.5             | 1.88                 | 1.63                  | 7/16                     | 70          |
| 5         | 108H5        | 8                 | 1            | 8.75            | 9.5         | 17.5             | 1.88                 | 1.63                  | 7/16                     | 120         |
| 5         | 110F5        | 10                | 1            | 9.5             | 11.5        | 19               | 1.88                 | 1.63                  | 9/16                     | 90          |
| 5         | 110H5        | 10                | 1            | 13              | 11.5        | 19               | 1.88                 | 1.63                  | 9/16                     | 160         |
| 5         | 112F5        | 12                | 1            | 7.5             | 13.5        | 22.5             | 1.88                 | 2.5                   | 5/8                      | 140         |
| 5         | 112H5        | 12                | 1            | 10.5            | 13.5        | 22.5             | 1.88                 | 2.5                   | 5/8                      | 240         |
| 5         | 114F5        | 14                | 1            | 7.5             | 15.5        | 27.06            | 1.88                 | 2.5                   | 3/4                      | 160         |
| 5         | 114H5        | 14                | 1            | 11              | 15.5        | 27.06            | 1.88                 | 2.5                   | 3/4                      | 320         |
| 5         | 208F5        | 8                 | 2            | 5.75            | 9.5         | 19.75            | 1.88                 | 1.63                  | 7/16                     | 80          |
| 5         | 208H5        | 8                 | 2            | 8.75            | 9.5         | 19.75            | 1.88                 | 1.63                  | 7/16                     | 130         |

### 10 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 10        | 108F10       | 8                 | 1            | 5.75            | 9.5         | 19.75            | 2.5                  | 1.63                  | 7/16                     | 80          |
| 10        | 108H10       | 8                 | 1            | 8.75            | 9.5         | 19.75            | 2.5                  | 1.63                  | 7/16                     | 130         |
| 10        | 110F10       | 10                | 1            | 6               | 11.5        | 22               | 2.5                  | 1.63                  | 9/16                     | 100         |
| 10        | 110H10       | 10                | 1            | 9.5             | 11.5        | 22               | 2.5                  | 1.63                  | 9/16                     | 170         |
| 10        | 112F10       | 12                | 1            | 7.5             | 13.5        | 24.75            | 2.5                  | 2.5                   | 5/8                      | 150         |
| 10        | 112H10       | 12                | 1            | 10.5            | 13.5        | 24.75            | 2.5                  | 2.5                   | 5/8                      | 250         |
| 10        | 114F10       | 14                | 1            | 7.5             | 15.5        | 27.75            | 2.5                  | 2.5                   | 3/4                      | 170         |
| 10        | 114H10       | 14                | 1            | 11              | 15.5        | 27.75            | 2.5                  | 2.5                   | 3/4                      | 330         |
| 10        | 116F10       | 16                | 1            | 8.75            | 17.5        | 30.56            | 2.5                  | 3                     | 7/8                      | 250         |
| 10        | 116H10       | 16                | 1            | 13.75           | 17.5        | 30.56            | 2.5                  | 3                     | 7/8                      | 490         |
| 10        | 118F10       | 18                | 1            | 8.75            | 19.5        | 32.75            | 2.5                  | 3                     | 7/8                      | 285         |
| 10        | 118H10       | 18                | 1            | 12.75           | 19.5        | 32.75            | 2.5                  | 3                     | 7/8                      | 585         |
| 10        | 208F10       | 8                 | 2            | 5.75            | 9.5         | 19.75            | 2.5                  | 1.63                  | 7/16                     | 85          |
| 10        | 208H10       | 8                 | 2            | 8.75            | 9.5         | 19.75            | 2.5                  | 1.63                  | 7/16                     | 135         |
| 10        | 210F10       | 10                | 2            | 6               | 11.5        | 22               | 2.5                  | 1.63                  | 9/16                     | 110         |
| 10        | 210H10       | 10                | 2            | 9.5             | 11.5        | 22               | 2.5                  | 1.63                  | 9/16                     | 180         |
| 10        | 212F10       | 12                | 2            | 7.5             | 13.5        | 24.75            | 2.5                  | 2.5                   | 5/8                      | 165         |
| 10        | 212H10       | 12                | 2            | 10.5            | 13.5        | 24.75            | 2.5                  | 2.5                   | 5/8                      | 265         |
| 10        | 214F10       | 14                | 2            | 7.5             | 15.5        | 28               | 2.5                  | 2.5                   | 3/4                      | 215         |
| 10        | 214H10       | 14                | 2            | 11              | 15.5        | 28               | 2.5                  | 2.5                   | 3/4                      | 365         |
| 10        | 308F10       | 8                 | 3            | 7.25            | 9.5         | 19.75            | 2.5                  | 1.63                  | 7/16                     | 95          |
| 10        | 308H10       | 8                 | 3            | 10.25           | 9.5         | 19.75            | 2.5                  | 1.63                  | 7/16                     | 145         |
| 10        | 310F10       | 10                | 3            | 7.5             | 11.5        | 22               | 2.5                  | 1.63                  | 9/16                     | 125         |
| 10        | 310H10       | 10                | 3            | 11              | 11.5        | 22               | 2.5                  | 1.63                  | 9/16                     | 195         |
| 10        | 312F10       | 12                | 3            | 9.75            | 13.5        | 24.75            | 2.5                  | 2.5                   | 5/8                      | 210         |
| 10        | 312H10       | 12                | 3            | 12.75           | 13.5        | 24.75            | 2.5                  | 2.5                   | 5/8                      | 310         |

# BLOCKS- HI-LIFT BLOCKS

## 15 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 15        | 114F15       | 14                | 1            | 7.5             | 15.5        | 29.63            | 3.38                 | 2.5                   | 3/4                      | 215         |
| 15        | 114H15       | 14                | 1            | 11              | 15.5        | 29.63            | 3.38                 | 2.5                   | 3/4                      | 365         |
| 15        | 116F15       | 16                | 1            | 8.75            | 17.5        | 32.5             | 3.38                 | 3                     | 7/8                      | 265         |
| 15        | 116H15       | 16                | 1            | 13.75           | 17.5        | 32.5             | 3.38                 | 3                     | 7/8                      | 585         |
| 15        | 118F15       | 18                | 1            | 8.75            | 19.5        | 34.5             | 3.38                 | 3                     | 7/8                      | 305         |
| 15        | 118H15       | 18                | 1            | 12.75           | 19.5        | 34.5             | 3.38                 | 3                     | 7/8                      | 605         |
| 15        | 210F15       | 10                | 2            | 7.5             | 11.5        | 25               | 3.38                 | 1.63                  | 9/16                     | 120         |
| 15        | 212F15       | 12                | 2            | 7.5             | 11.5        | 26.88            | 3.38                 | 2.5                   | 5/8                      | 185         |
| 15        | 212H15       | 12                | 2            | 10.5            | 13.5        | 26.88            | 3.38                 | 2.5                   | 5/8                      | 285         |
| 15        | 214F15       | 14                | 2            | 7.5             | 15.5        | 27.06            | 3.38                 | 2.5                   | 3/4                      | 220         |
| 15        | 214H15       | 14                | 2            | 11              | 15.5        | 27.06            | 3.38                 | 2.5                   | 3/4                      | 380         |
| 15        | 216F15       | 16                | 2            | 8.75            | 17.5        | 32.5             | 3.38                 | 3                     | 7/8                      | 315         |
| 15        | 216H15       | 16                | 2            | 13.75           | 17.5        | 32.5             | 3.38                 | 3                     | 7/8                      | 555         |
| 15        | 310F15       | 10                | 3            | 7.5             | 11.5        | 22               | 3.38                 | 1.63                  | 9/16                     | 125         |
| 15        | 310H15       | 10                | 3            | 11              | 11.5        | 22               | 3.38                 | 1.63                  | 9/16                     | 195         |
| 15        | 312F15       | 12                | 3            | 9.75            | 13.5        | 27.06            | 3.38                 | 2.5                   | 5/8                      | 220         |
| 15        | 312H15       | 12                | 3            | 12.75           | 13.5        | 27.06            | 3.38                 | 2.5                   | 5/8                      | 320         |
| 15        | 314F15       | 14                | 3            | 9.75            | 15.5        | 29.5             | 3.38                 | 2.5                   | 3/4                      | 255         |
| 15        | 314H15       | 14                | 3            | 13              | 15.5        | 29.5             | 3.38                 | 2.5                   | 3/4                      | 415         |

## 20 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (IN.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 20        | 114F20       | 14                | 1            | 7.5             | 15.5        | 29.5             | 3.38                 | 2.5                   | 3/4                      | 215         |
| 20        | 114H20       | 14                | 1            | 11              | 15.5        | 29.5             | 3.38                 | 2.5                   | 3/4                      | 365         |
| 20        | 116F20       | 16                | 1            | 8.75            | 17.5        | 32.69            | 3                    | 3                     | 7/8                      | 265         |
| 20        | 116H20       | 16                | 1            | 13.75           | 17.5        | 32.69            | 3                    | 3                     | 7/8                      | 505         |
| 20        | 118F20       | 18                | 1            | 8.75            | 19.5        | 34.25            | 3                    | 3                     | 7/8                      | 305         |
| 20        | 118H20       | 18                | 1            | 12.75           | 19.5        | 34.25            | 3                    | 3                     | 7/8                      | 605         |
| 20        | 214F20       | 14                | 2            | 7.5             | 15.5        | 29.5             | 3                    | 2.5                   | 3/4                      | 220         |
| 20        | 214H20       | 14                | 2            | 11              | 15.5        | 29.5             | 3                    | 2.5                   | 3/4                      | 380         |
| 20        | 216F20       | 16                | 2            | 8.75            | 17.5        | 32.69            | 3                    | 3                     | 7/8                      | 315         |
| 20        | 216H20       | 16                | 2            | 13.75           | 17.5        | 32.69            | 3                    | 3                     | 7/8                      | 555         |
| 20        | 218F20       | 18                | 2            | 8.75            | 19.5        | 34.25            | 3                    | 3                     | 7/8                      | 340         |
| 20        | 218H20       | 18                | 2            | 12.75           | 19.5        | 34.25            | 3                    | 3                     | 7/8                      | 640         |
| 20        | 312F20       | 12                | 3            | 9.75            | 13.5        | 27.06            | 3                    | 2.5                   | 5/8                      | 220         |
| 20        | 312H20       | 12                | 3            | 12.75           | 13.5        | 27.06            | 3                    | 2.5                   | 5/8                      | 320         |
| 20        | 314F20       | 14                | 3            | 9.75            | 15.5        | 29.5             | 3                    | 2.5                   | 3/4                      | 255         |
| 20        | 314H20       | 14                | 3            | 13.25           | 15.5        | 29.5             | 3                    | 2.5                   | 3/4                      | 415         |



## BLOCKS- HI-LIFT BLOCKS

### 25 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 25        | 116F25       | 16                | 1            | 8.75            | 17.5        | 33.5             | 3.63                 | 3                     | 7/8                      | 310         |
| 25        | 116H25       | 16                | 1            | 13.75           | 17.5        | 33.5             | 3.63                 | 3                     | 7/8                      | 460         |
| 25        | 118F25       | 18                | 1            | 8.75            | 19.5        | 34.5             | 3                    | 3                     | 7/8                      | 330         |
| 25        | 118H25       | 18                | 1            | 12.75           | 19.5        | 34.5             | 3                    | 3                     | 7/8                      | 630         |
| 25        | 120F25       | 20                | 1            | 9               | 21.5        | 38.5             | 4                    | 3                     | 1                        | 400         |
| 25        | 120H25       | 20                | 1            | 13              | 21.5        | 38.5             | 4                    | 3                     | 1                        | 765         |
| 25        | 214F25       | 14                | 2            | 7.5             | 15.5        | 29.5             | 3                    | 2.5                   | 3/4                      | 250         |
| 25        | 214H25       | 14                | 2            | 11              | 15.5        | 29.5             | 3                    | 2.5                   | 3/4                      | 415         |
| 25        | 216F25       | 16                | 2            | 8.75            | 17.5        | 33.75            | 3.63                 | 3                     | 7/8                      | 340         |
| 25        | 216H25       | 16                | 2            | 13.75           | 17.5        | 33.75            | 3.63                 | 3                     | 7/8                      | 580         |
| 25        | 218F25       | 18                | 2            | 8.75            | 19.5        | 35.75            | 3.63                 | 3                     | 7/8                      | 365         |
| 25        | 218H25       | 18                | 2            | 12.75           | 19.5        | 35.75            | 3.63                 | 3                     | 7/8                      | 665         |
| 25        | 220F25       | 20                | 2            | 9               | 21.5        | 38.5             | 3                    | 3.25                  | 1                        | 445         |
| 25        | 220H25       | 20                | 2            | 13              | 21.5        | 38.5             | 3                    | 3.25                  | 1                        | 810         |
| 25        | 314F25       | 14                | 3            | 9.75            | 15.5        | 29.88            | 3.63                 | 2.5                   | 3/4                      | 285         |
| 25        | 314H25       | 14                | 3            | 13.25           | 15.5        | 29.88            | 3.63                 | 2.5                   | 3/4                      | 445         |
| 25        | 316F25       | 16                | 3            | 8.75            | 17.5        | 33.75            | 3.63                 | 3                     | 7/8                      | 415         |
| 25        | 316H25       | 16                | 3            | 13.75           | 17.5        | 33.75            | 3.63                 | 3                     | 7/8                      | 655         |
| 25        | 318F25       | 18                | 3            | 11.38           | 19.5        | 35.75            | 3                    | 3                     | 7/8                      | 425         |
| 25        | 318H25       | 18                | 3            | 15.38           | 19.5        | 35.75            | 3                    | 3                     | 7/8                      | 725         |
| 25        | 414F25       | 14                | 4            | 12.88           | 15.5        | 31.19            | 3.5                  | 2.5                   | 3/4                      | 425         |
| 25        | 414H25       | 14                | 4            | 16.38           | 15.5        | 31.19            | 3.5                  | 2.5                   | 3/4                      | 645         |

### 30 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 30        | 120F30       | 20                | 1            | 9               | 21.5        | 38.5             | 3                    | 3.25                  | 1                        | 400         |
| 30        | 120H30       | 20                | 1            | 13              | 21.5        | 38.5             | 3                    | 3.25                  | 1                        | 765         |
| 30        | 130T30       | 30                | 1            | 14.88           | 33          | 62.25            | 3.63                 | 5                     | 1 1/4                    | 1750        |
| 30        | 214F30       | 14                | 2            | 7.5             | 15.5        | 31               | 3.63                 | 2.5                   | 3/4                      | 250         |
| 30        | 214H30       | 14                | 2            | 11              | 15.5        | 31               | 3.63                 | 2.5                   | 3/4                      | 410         |
| 30        | 216F30       | 16                | 2            | 8.75            | 17.5        | 33.75            | 3.63                 | 3                     | 7/8                      | 340         |
| 30        | 216H30       | 16                | 2            | 13.75           | 17.5        | 33.75            | 3.63                 | 3                     | 7/8                      | 580         |
| 30        | 314F30       | 14                | 3            | 9.75            | 15.5        | 29.88            | 3.63                 | 3                     | 3/4                      | 285         |
| 30        | 314H30       | 14                | 3            | 13.25           | 15.5        | 29.88            | 3.63                 | 3                     | 3/4                      | 445         |
| 30        | 316F30       | 16                | 3            | 11.38           | 17.5        | 33.75            | 3.63                 | 3                     | 7/8                      | 415         |
| 30        | 316H30       | 16                | 3            | 16.38           | 17.5        | 33.75            | 3.63                 | 3                     | 7/8                      | 655         |
| 30        | 318F30       | 18                | 3            | 11.38           | 19.5        | 35.34            | 3                    | 3                     | 7/8                      | 425         |
| 30        | 318H30       | 18                | 3            | 15.38           | 19.5        | 35.34            | 3                    | 3                     | 7/8                      | 725         |
| 30        | 320F30       | 20                | 3            | 11.75           | 21.5        | 38.5             | 3                    | 3.25                  | 1                        | 515         |
| 30        | 320H30       | 20                | 3            | 15.75           | 21.5        | 38.5             | 3                    | 3.25                  | 1                        | 880         |
| 30        | 414F30       | 14                | 4            | 12.88           | 15.5        | 31.19            | 3.5                  | 2.5                   | 3/4                      | 425         |
| 30        | 414H30       | 14                | 4            | 16.38           | 15.5        | 31.19            | 3.5                  | 2.5                   | 3/4                      | 645         |
| 30        | 516F30       | 16                | 5            | 17.63           | 17.5        | 33.81            | 3.5                  | 3                     | 7/8                      | 520         |
| 30        | 516H30       | 16                | 5            | 22.63           | 17.5        | 33.81            | 3.5                  | 3                     | 7/8                      | 760         |

# BLOCKS- HI-LIFT BLOCKS

## 35 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 35        | 124T35       | 24                | 1            | 11.5            | 26.63       | 56.81            | 3.75                 | 3.5                   | 1 1/8                    | 1255        |
| 35        | 124TF35      | 24                | 1            | 12              | 26.63       | 50.81            | 3.75                 | 3.5                   | 1 1/8                    | 830         |
| 35        | 216F35       | 16                | 2            | 8.75            | 17.5        | 36.38            | 3.75                 | 3                     | 7/8                      | 385         |
| 35        | 216H35       | 16                | 2            | 13.75           | 17.5        | 36.38            | 3.75                 | 3                     | 7/8                      | 625         |
| 35        | 218F35       | 18                | 2            | 8.75            | 19.5        | 38.5             | 3.75                 | 3                     | 7/8                      | 410         |
| 35        | 218H35       | 18                | 2            | 12.75           | 19.5        | 38.5             | 3.75                 | 3                     | 7/8                      | 710         |
| 35        | 220F35       | 20                | 2            | 9               | 21.5        | 41.13            | 3.75                 | 3.25                  | 1                        | 495         |
| 35        | 220H35       | 20                | 2            | 13              | 21.5        | 41.13            | 3.75                 | 3.25                  | 1                        | 860         |
| 35        | 224T35       | 24                | 2            | 11.5            | 26          | 56.81            | 3.75                 | 3.5                   | 1 1/8                    | 1360        |
| 35        | 224TF35      | 24                | 2            | 12              | 26.63       | 50.81            | 3.75                 | 3.5                   | 1 1/8                    | 945         |
| 35        | 314F35       | 14                | 3            | 975             | 15.5        | 33.5             | 3.63                 | 2.5                   | 3/4                      | 365         |
| 35        | 314H35       | 14                | 3            | 13.25           | 15.5        | 33.5             | 3.63                 | 2.5                   | 3/4                      | 585         |
| 35        | 316F35       | 16                | 3            | 11.38           | 17.5        | 36.38            | 3.75                 | 3                     | 7/8                      | 455         |
| 35        | 316H35       | 16                | 3            | 16.38           | 17.5        | 36.38            | 3.75                 | 3                     | 7/8                      | 695         |
| 35        | 318F35       | 18                | 3            | 11.38           | 19.5        | 38.38            | 3.75                 | 3                     | 7/8                      | 465         |
| 35        | 318H35       | 18                | 3            | 15.38           | 19.5        | 38.38            | 3.75                 | 3                     | 7/8                      | 765         |
| 35        | 320F35       | 20                | 3            | 11.75           | 21.5        | 41.38            | 3.75                 | 3.25                  | 1                        | 565         |
| 35        | 320H35       | 20                | 3            | 15.75           | 21.5        | 41.38            | 3.75                 | 3.25                  | 1                        | 930         |
| 35        | 414F35       | 14                | 4            | 12.88           | 15.5        | 34.06            | 3.75                 | 2.5                   | 3/4                      | 465         |
| 35        | 414H35       | 14                | 4            | 16.38           | 15.5        | 34.06            | 3.75                 | 2.5                   | 3/4                      | 685         |
| 35        | 416F35       | 16                | 4            | 14.75           | 17.5        | 36.38            | 3.75                 | 3                     | 7/8                      | 585         |
| 35        | 416H35       | 16                | 4            | 19.75           | 17.5        | 36.38            | 3.75                 | 3                     | 7/8                      | 825         |
| 35        | 514F35       | 14                | 5            | 15.75           | 15.5        | 33.94            | 3.75                 | 2.5                   | 3/4                      | 600         |
| 35        | 514H35       | 14                | 5            | 19.25           | 15.5        | 33.94            | 3.75                 | 2.5                   | 3/4                      | 820         |
| 35        | 516F35       | 16                | 5            | 17.63           | 17.5        | 37.94            | 3.75                 | 3                     | 7/8                      | 780         |
| 35        | 516H35       | 16                | 5            | 22.63           | 17.5        | 37.94            | 3.75                 | 3                     | 7/8                      | 1020        |

## 40 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 40        | 124T40       | 24                | 1            | 11.5            | 26.63       | 56.68            | 3.75                 | 3.5                   | 1 1/8                    | 1255        |
| 40        | 124TF40      | 24                | 1            | 12              | 26.63       | 56.68            | 3.75                 | 3.5                   | 1 1/8                    | 830         |
| 40        | 130T40       | 30                | 1            | 14.88           | 33          | 65.81            | 3.75                 | 5                     | 1 1/4                    | 1750        |
| 40        | 220F40       | 20                | 2            | 9               | 21.5        | 41.88            | 3.75                 | 3.25                  | 1                        | 495         |
| 40        | 220H40       | 20                | 2            | 13              | 21.5        | 41.88            | 3.75                 | 3.25                  | 1                        | 860         |
| 40        | 224T40       | 24                | 2            | 11.5            | 26          | 56.81            | 3.75                 | 3.5                   | 1 1/8                    | 1360        |
| 40        | 224TF40      | 24                | 2            | 12              | 26.63       | 50.81            | 3.75                 | 3.5                   | 1 1/8                    | 945         |
| 40        | 230T40       | 30                | 2            | 14.88           | 33          | 65.81            | 3.75                 | 5                     | 1 1/4                    | 1900        |
| 40        | 316F40       | 16                | 3            | 11.38           | 17.5        | 35.38            | 3.75                 | 3                     | 7/8                      | 455         |
| 40        | 316H40       | 16                | 3            | 16.38           | 17.5        | 35.38            | 3.75                 | 3                     | 7/8                      | 695         |
| 40        | 318F40       | 18                | 3            | 11.38           | 19.5        | 38.88            | 3.75                 | 3                     | 7/8                      | 465         |
| 40        | 318H40       | 18                | 3            | 15.38           | 19.5        | 38.88            | 3.75                 | 3                     | 7/8                      | 765         |
| 40        | 320F40       | 20                | 3            | 11.75           | 21.5        | 42.06            | 3.75                 | 3.25                  | 1                        | 565         |
| 40        | 320H40       | 20                | 3            | 15.75           | 21.5        | 42.06            | 3.75                 | 3.25                  | 1                        | 930         |
| 40        | 414F40       | 14                | 4            | 13              | 15.5        | 35.25            | 3.75                 | 2.5                   | 3/4                      | 465         |
| 40        | 414H40       | 14                | 4            | 16.5            | 15.5        | 35.25            | 3.75                 | 2.5                   | 3/4                      | 685         |
| 40        | 416F40       | 16                | 4            | 14.75           | 17.5        | 37.88            | 3.75                 | 3                     | 7/8                      | 585         |
| 40        | 416H40       | 16                | 4            | 19.75           | 17.5        | 37.88            | 3.75                 | 3                     | 7/8                      | 825         |
| 40        | 418F40       | 18                | 4            | 14.75           | 19.5        | 39.63            | 3.75                 | 3                     | 7/8                      | 640         |
| 40        | 418H40       | 18                | 4            | 18.75           | 19.5        | 39.63            | 3.75                 | 3                     | 7/8                      | 940         |
| 40        | 514F40       | 14                | 5            | 15.75           | 15.5        | 34.06            | 3.75                 | 2.5                   | 3/4                      | 600         |
| 40        | 514H40       | 14                | 5            | 19.25           | 15.5        | 34.06            | 3.75                 | 2.5                   | 3/4                      | 820         |
| 40        | 516F40       | 16                | 5            | 17.63           | 17.5        | 37.88            | 3.75                 | 3                     | 7/8                      | 770         |
| 40        | 516H40       | 16                | 5            | 22.63           | 17.5        | 37.88            | 3.75                 | 3                     | 7/8                      | 1040        |
| 40        | 616F40       | 16                | 6            | 20              | 17.5        | 37.88            | 3.75                 | 3                     | 7/8                      | 830         |
| 40        | 616H40       | 16                | 6            | 25              | 17.5        | 37.88            | 3.75                 | 3                     | 7/8                      | 1100        |



## BLOCKS- HI-LIFT BLOCKS

### 45 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 45        | 220F45       | 20                | 2            | 9               | 21.5        | 41.88            | 4.25                 | 3.25                  | 1                        | 640         |
| 45        | 220H45       | 20                | 2            | 13              | 21.5        | 41.88            | 4.25                 | 3.25                  | 1                        | 900         |
| 45        | 224T45       | 24                | 2            | 11.5            | 26.63       | 58.69            | 4.25                 | 3.5                   | 1 1/8                    | 1000        |
| 45        | 224TF45      | 24                | 2            | 12              | 26.63       | 52.69            | 4.25                 | 3.5                   | 1 1/8                    | 1375        |
| 45        | 318F45       | 18                | 3            | 11.38           | 19.5        | 39.38            | 4.25                 | 3                     | 7/8                      | 525         |
| 45        | 318H45       | 18                | 3            | 15.38           | 19.5        | 39.38            | 4.25                 | 3                     | 7/8                      | 825         |
| 45        | 320F45       | 20                | 3            | 11.75           | 21.5        | 42.13            | 4.25                 | 3.25                  | 1                        | 535         |
| 45        | 320H45       | 20                | 3            | 15.75           | 21.5        | 42.13            | 4.25                 | 3.25                  | 1                        | 900         |
| 45        | 416F45       | 16                | 4            | 14.75           | 17.5        | 37.5             | 4.25                 | 3                     | 7/8                      | 705         |
| 45        | 416H45       | 16                | 4            | 19.75           | 17.5        | 38.5             | 4.25                 | 3                     | 7/8                      | 975         |
| 45        | 418F45       | 18                | 4            | 15.25           | 19.5        | 41.63            | 4.25                 | 3                     | 7/8                      | 760         |
| 45        | 418H45       | 18                | 4            | 19.25           | 19.5        | 41.63            | 4.25                 | 3                     | 7/8                      | 1050        |
| 45        | 514F45       | 14                | 5            | 15.75           | 15.5        | 35.5             | 4.25                 | 2.5                   | 3/4                      | 605         |
| 45        | 514H45       | 14                | 5            | 19.25           | 15.5        | 35.5             | 4.25                 | 2.5                   | 3/4                      | 970         |
| 45        | 516F45       | 16                | 5            | 17.63           | 17.5        | 37.5             | 4.25                 | 3                     | 7/8                      | 820         |
| 45        | 516H45       | 16                | 5            | 22.63           | 17.5        | 37.5             | 4.25                 | 3                     | 7/8                      | 1090        |

### 50 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 50        | 130T50       | 30                | 1            | 14.88           | 33          | 67.69            | 4.25                 | 5                     | 1 1/4                    | 2000        |
| 50        | 136T50       | 36                | 1            | 14.88           | 39          | 74.25            | 4.25                 | 5                     |                          | 2500        |
| 50        | 220F50       | 20                | 2            | 9               | 21.5        | 41.88            | 4.25                 | 3.25                  | 1                        | 535         |
| 50        | 220H50       | 20                | 2            | 13              | 21.5        | 41.88            | 4.25                 | 3.25                  | 1                        | 900         |
| 50        | 224T50       | 24                | 2            | 11.5            | 26.63       | 58.69            | 4.25                 | 3.5                   | 1 1/8                    | 1375        |
| 50        | 224TF50      | 24                | 2            | 12              | 26.63       | 52.69            | 4.25                 | 3.5                   | 1 1/8                    | 1000        |
| 50        | 230T50       | 30                | 2            | 14.88           | 33          | 67.69            | 4.25                 | 5                     | 1 1/4                    | 2160        |
| 50        | 318F50       | 18                | 3            | 11.38           | 19.5        | 39.38            | 4.25                 | 3                     | 7/8                      | 525         |
| 50        | 318H50       | 18                | 3            | 15.38           | 19.5        | 39.38            | 4.25                 | 3                     | 7/8                      | 825         |
| 50        | 320F50       | 20                | 3            | 11.75           | 21.5        | 42.13            | 4.25                 | 3.25                  | 1                        | 605         |
| 50        | 320H50       | 20                | 3            | 15.75           | 21.5        | 42.13            | 4.25                 | 3.25                  | 1                        | 970         |
| 50        | 324T50       | 24                | 3            | 16.38           | 26.63       | 62.31            | 4.25                 | 3.5                   | 1 1/8                    | 1740        |
| 50        | 324TF50      | 24                | 3            | 12              | 26.63       | 52.69            | 4.25                 | 3.5                   | 1 1/8                    | 1000        |
| 50        | 416F50       | 16                | 4            | 14.75           | 17.5        | 37.5             | 4.25                 | 3                     | 7/8                      | 705         |
| 50        | 416H50       | 16                | 4            | 19.75           | 17.5        | 37.5             | 4.25                 | 3                     | 7/8                      | 975         |
| 50        | 418F50       | 18                | 4            | 15.25           | 19.5        | 41.63            | 4.25                 | 3                     | 7/8                      | 760         |
| 50        | 418H50       | 18                | 4            | 19.25           | 19.5        | 41.63            | 4.25                 | 3                     | 7/8                      | 1050        |
| 50        | 420F50       | 20                | 4            | 15.5            | 22          | 42.13            | 4.25                 | 3.25                  | 1                        | 800         |
| 50        | 420H50       | 20                | 4            | 19.5            | 22          | 42.13            | 4.25                 | 3.25                  | 1                        | 1200        |
| 50        | 516F50       | 16                | 5            | 17.63           | 17.5        | 37.5             | 4.25                 | 3                     | 7/8                      | 820         |
| 50        | 516H50       | 16                | 5            | 22.63           | 17.5        | 37.5             | 4.25                 | 3                     | 7/8                      | 1090        |
| 50        | 518F50       | 18                | 5            | 16.63           | 20          | 41.63            | 4.25                 | 3                     | 7/8                      | 1010        |
| 50        | 518H50       | 18                | 5            | 20.63           | 20          | 41.63            | 4.25                 | 3                     | 7/8                      | 1300        |
| 50        | 616F50       | 16                | 6            | 20              | 17.5        | 37.5             | 4.25                 | 3                     | 7/8                      | 930         |
| 50        | 616H50       | 16                | 6            | 25              | 17.5        | 37.5             | 4.25                 | 3                     | 7/8                      | 1200        |

# BLOCKS- HI-LIFT BLOCKS

## 60 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 60        | 130T60       | 30                | 1            | 14.88           | 33          | 71.75            | 5.13                 | 5                     | 1 1/4                    | 2100        |
| 60        | 224T60       | 24                | 2            | 11.5            | 26.63       | 65.75            | 5.13                 | 3.5                   | 1 1/8                    | 1650        |
| 60        | 224TF60      | 24                | 2            | 12              | 26.63       | 59.75            | 5.13                 | 3.5                   | 1 1/8                    | 1100        |
| 60        | 230T60       | 30                | 2            | 14.88           | 33          | 71.75            | 5.13                 | 5                     | 1 1/4                    | 2250        |
| 60        | 320F60       | 20                | 3            | 11.75           | 21.5        | 45.88            | 5.13                 | 3.5                   | 1                        | 945         |
| 60        | 320H60       | 20                | 3            | 15.75           | 21.5        | 45.88            | 5.13                 | 3.5                   | 1                        | 1345        |
| 60        | 324T60       | 24                | 3            | 16.38           | 26.63       | 65.75            | 5.13                 | 3.5                   | 1 1/8                    | 1950        |
| 60        | 324TF60      | 24                | 3            | 15.38           | 26.63       | 59.75            | 5.13                 | 3.5                   | 1 1/8                    | 1450        |
| 60        | 330T60       | 30                | 3            | 19.94           | 33          | 71.75            | 5.13                 | 5                     | 1 1/4                    | 2735        |
| 60        | 418F60       | 18                | 4            | 16.25           | 19.75       | 45.88            | 5.13                 | 3                     | 7/8                      | 1010        |
| 60        | 418H60       | 18                | 4            | 20.25           | 19.75       | 45.88            | 5.13                 | 3                     | 7/8                      | 1300        |
| 60        | 420F60       | 20                | 4            | 17.25           | 22          | 48.38            | 5.13                 | 3.5                   | 1                        | 1110        |
| 60        | 420H60       | 20                | 4            | 21.25           | 22          | 48.38            | 5.13                 | 3.5                   | 1                        | 1510        |
| 60        | 516F60       | 16                | 5            | 18.63           | 17.5        | 43.5             | 5.13                 | 3                     | 7/8                      | 1060        |
| 60        | 516H60       | 16                | 5            | 23.63           | 17.5        | 43.5             | 5.13                 | 3                     | 7/8                      | 1330        |
| 60        | 518F60       | 18                | 5            | 18.63           | 20          | 56.5             | 5.13                 | 3                     | 7/8                      | 1110        |
| 60        | 518H60       | 18                | 5            | 18.63           | 20          | 56.5             | 5.13                 | 3                     | 7/8                      | 1400        |
| 60        | 520F60       | 20                | 5            | 19.75           | 22          | 48.38            | 5.13                 | 3.5                   | 1                        | 1315        |
| 60        | 520H60       | 20                | 5            | 23.75           | 22          | 48.38            | 5.13                 | 4                     | 1                        | 1715        |

## 65 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 65        | 420F65       | 20                | 4            | 17.25           | 22          | 48.38            | 5.13                 | 3.5                   | 1                        | 1110        |
| 65        | 420H65       | 20                | 4            | 21.25           | 22          | 48.38            | 5.13                 | 3.5                   | 1                        | 1510        |
| 65        | 516F65       | 16                | 5            | 18.63           | 17.5        | 43.5             | 5.13                 | 3                     | 7/8                      | 830         |
| 65        | 516H65       | 16                | 5            | 23.63           | 17.5        | 43.5             | 5.13                 | 3                     | 7/8                      | 1100        |
| 65        | 518F65       | 18                | 5            | 18.63           | 20          | 56.5             | 5.13                 | 3                     | 7/8                      | 1100        |
| 65        | 518H65       | 18                | 5            | 22.63           | 20          | 56.5             | 5.13                 | 3                     | 7/8                      | 1400        |
| 65        | 520F65       | 20                | 5            | 19.75           | 22          | 48.38            | 5.13                 | 3.5                   | 1                        | 1315        |
| 65        | 520H65       | 20                | 5            | 23.75           | 22          | 48.38            | 5.13                 | 3.5                   | 1                        | 1715        |
| 65        | 620F65       | 20                | 6            | 22.25           | 22          | 48.13            | 5.38                 | 3.5                   | 1                        | 1450        |
| 65        | 620H65       | 20                | 6            | 26.25           | 22          | 48.13            | 5.38                 | 3.5                   | 1                        | 1850        |

## 75 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 75        | 136T75       | 36                | 1            | 14.88           | 42.5        | 80.81            | 5.88                 | 5                     |                          | 2800        |
| 75        | 230T75       | 30                | 2            | 14.88           | 33          | 74.31            | 5.88                 | 5                     | 1 1/4                    | 2500        |
| 75        | 236T75       | 36                | 2            | 14.88           | 42.5        | 80.81            | 5.88                 | 5                     |                          | 3000        |
| 75        | 320F75       | 20                | 3            | 11.75           | 21.5        | 50.25            | 5.88                 | 3.5                   | 1                        | 1045        |
| 75        | 320H75       | 20                | 3            | 15.75           | 21.5        | 50.25            | 5.88                 | 3.5                   | 1                        | 1445        |
| 75        | 324T75       | 24                | 3            | 16.38           | 26.56       | 68.31            | 5.88                 | 3.5                   | 1 1/8                    | 2220        |
| 75        | 324TF75      | 24                | 3            | 15.38           | 26.63       | 62.44            | 5.88                 | 3.5                   | 1 1/8                    | 1550        |
| 75        | 330T75       | 30                | 3            | 19.94           | 33          | 74.31            | 5.88                 | 5                     | 1 1/4                    | 2835        |
| 75        | 420F75       | 20                | 4            | 16.75           | 22          | 50.63            | 5.88                 | 3.5                   | 1                        | 1275        |
| 75        | 420H75       | 20                | 4            | 20.75           | 22          | 50.63            | 5.88                 | 3.5                   | 1                        | 1675        |
| 75        | 424T75       | 24                | 4            | 19.75           | 26.5        | 68.31            | 5.88                 | 3.5                   | 1 1/8                    | 2200        |
| 75        | 424TF75      | 24                | 4            | 20.25           | 26.63       | 62.44            | 5.88                 | 3.5                   | 1 1/8                    | 1770        |
| 75        | 430T75       | 30                | 4            | 23.31           | 33          | 74.31            | 5.88                 | 5                     | 1 1/4                    | 3625        |
| 75        | 520F75       | 20                | 5            | 19.75           | 22          | 51               | 5.88                 | 3.5                   | 1                        | 1435        |
| 75        | 520H75       | 20                | 5            | 23.75           | 22          | 51               | 5.88                 | 3.5                   | 1                        | 1835        |
| 75        | 620F75       | 20                | 6            | 22.25           | 22          | 49.5             | 5.88                 | 3.5                   | 1                        | 1550        |
| 75        | 620H75       | 20                | 6            | 26.25           | 22          | 49.5             | 5.88                 | 3.5                   | 1                        | 1950        |



## BLOCKS- HI-LIFT BLOCKS

### 80 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 80        | 324T80       | 24                | 3            | 16.38           | 26.63       | 68.31            | 5.88                 | 3.5                   | 1 1/8                    | 2220        |
| 80        | 324TF80      | 24                | 3            | 15.38           | 26.63       | 62.44            | 5.88                 | 3.5                   | 1 1/8                    | 1550        |
| 80        | 420F80       | 20                | 4            | 16.75           | 21.5        | 50.5             | 5.88                 | 3.5                   | 1                        | 1275        |
| 80        | 420H80       | 20                | 4            | 20.75           | 21.5        | 50.5             | 5.88                 | 3.5                   | 1                        | 1675        |
| 80        | 424T80       | 24                | 4            | 19.75           | 26.5        | 68.44            | 5.88                 | 3.5                   | 1 1/8                    | 2200        |
| 80        | 424TF80      | 24                | 4            | 20.25           | 26.63       | 62.44            | 5.88                 | 3.5                   | 1 1/8                    | 1770        |
| 80        | 520F80       | 20                | 5            | 19.75           | 22          | 51               | 5.88                 | 3.5                   | 1                        | 1435        |
| 80        | 520H80       | 20                | 5            | 23.75           | 22          | 51               | 5.88                 | 3.5                   | 1                        | 1835        |
| 80        | 524T80       | 24                | 5            | 24.38           | 26.63       | 68.81            | 5.88                 | 3.5                   | 1 1/8                    | 2450        |
| 80        | 524TF80      | 24                | 5            | 24.88           | 26.63       | 62.81            | 5.88                 | 3.5                   | 1 1/8                    | 2140        |

### 90 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 90        | 324T90       | 24                | 3            | 16.38           | 26.63       | 70.31            | 5.38                 | 3.5                   | 1 1/8                    | 2385        |
| 90        | 324TF90      | 24                | 3            | 15.38           | 26.63       | 30.75            | 5.38                 | 3.5                   | 1 1/8                    | 1715        |
| 90        | 424T90       | 24                | 4            | 19.75           | 26.5        | 70.18            | 5.38                 | 3.5                   | 1 1/8                    | 2365        |
| 90        | 424TF90      | 24                | 4            | 20.25           | 26.63       | 60.75            | 5.38                 | 3.5                   | 1 1/8                    | 1935        |
| 90        | 520F90       | 20                | 5            | 19.75           | 22          | 53.5             | 5.38                 | 3.5                   | 1                        | 1600        |
| 90        | 520H90       | 20                | 5            | 23.75           | 22          | 53.5             | 5.38                 | 3.5                   | 1                        | 2000        |
| 90        | 524TF90      | 24                | 5            | 24.88           | 26.63       | 64.88            | 5.38                 | 3.5                   | 1 1/8                    | 2615        |
| 90        | 620F90       | 20                | 5            | 22.25           | 22          | 53.5             | 5.38                 | 3.5                   | 1                        | 1750        |
| 90        | 620H90       | 20                | 6            | 26.25           | 22          | 53.5             | 5.38                 | 3.5                   | 1                        | 2150        |
| 90        | 624T90       | 24                | 6            | 28              | 26          | 70.25            | 5.38                 | 3.5                   | 1 1/8                    | 3170        |
| 90        | 624TF90      | 24                | 6            | 27              | 26.63       | 64.75            | 5.38                 | 3.5                   | 1 1/8                    | 2800        |

### 100 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 100       | 136T100      | 36                | 1            | 14.88           | 42.5        | 86.38            | 5.38                 | 5                     |                          | 3250        |
| 100       | 236T100      | 36                | 2            | 14.88           | 42.5        | 86.38            | 5.38                 | 5                     |                          | 3450        |
| 100       | 324T100      | 24                | 3            | 16.38           | 26.63       | 73.88            | 5.38                 | 3.5                   | 1 1/8                    | 2535        |
| 100       | 324TF100     | 24                | 3            | 15.38           | 26.63       | 67.75            | 5.38                 | 3.5                   | 1 1/8                    | 1800        |
| 100       | 330T100      | 30                | 3            | 19.94           | 33          | 79.88            | 5.38                 | 5                     | 1 1/4                    | 3175        |
| 100       | 336T100      | 36                | 3            | 19.94           | 42.5        | 86.38            | 5.38                 | 5                     |                          | 3900        |
| 100       | 424T100      | 24                | 4            | 19.75           | 26.5        | 73.75            | 5.38                 | 3.5                   | 1 1/8                    | 2515        |
| 100       | 424TF100     | 24                | 4            | 20.25           | 26.63       | 67.75            | 5.38                 | 3.5                   | 1 1/8                    | 2015        |
| 100       | 430T100      | 30                | 4            | 23.31           | 36          | 79.88            | 5.38                 | 5                     | 1 1/4                    | 3725        |
| 100       | 436T100      | 36                | 4            | 23.31           | 42.5        | 86.38            | 5.38                 | 5                     |                          | 4490        |
| 100       | 520F100      | 20                | 5            | 19.75           | 22          | 54.13            | 5.38                 | 3.5                   | 1                        | 2110        |
| 100       | 520H100      | 20                | 5            | 23.75           | 22          | 54.13            | 5.38                 | 3.5                   | 1                        | 2575        |
| 100       | 524T100      | 24                | 5            | 24.38           | 26.63       | 74.25            | 5.38                 | 3.5                   | 1 1/8                    | 2970        |
| 100       | 524TF100     | 24                | 5            | 24.88           | 26.63       | 67.75            | 5.38                 | 3.5                   | 1 1/8                    | 2500        |
| 100       | 530T100      | 30                | 5            | 28              | 36          | 79.88            | 5.38                 | 5                     | 1 1/4                    | 4530        |
| 100       | 536T100      | 36                | 5            | 28              | 42.5        | 86.38            | 5.38                 | 5                     |                          | 5340        |
| 100       | 620F100      | 20                | 6            | 22.25           | 22          | 54.13            | 5.38                 | 3.5                   | 1                        | 2000        |
| 100       | 620H100      | 20                | 6            | 26.25           | 22          | 54.13            | 5.38                 | 3.5                   | 1                        | 2400        |
| 100       | 624T100      | 24                | 6            | 28              | 26          | 74.25            | 5.38                 | 3.5                   | 1 1/8                    | 3320        |
| 100       | 624TF100     | 24                | 6            | 27              | 26.63       | 64.75            | 5.38                 | 3.5                   | 1 1/8                    | 2875        |

## BLOCKS- HI-LIFT BLOCKS

### 115 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 115       | 424T115      | 24                | 4            | 19.75           | 26.5        | 73.75            | 5.38                 | 3.5                   | 1 1/8                    | 2515        |
| 115       | 424TF115     | 24                | 4            | 20.25           | 26.63       | 67.75            | 5.38                 | 3.5                   | 1 1/8                    | 2015        |
| 115       | 524TF115     | 24                | 5            | 24.88           | 26.63       | 67.75            | 5.38                 | 3.5                   | 1 1/8                    | 2500        |
| 115       | 620F115      | 20                | 6            | 22.25           | 22          | 54.13            | 5.38                 | 3.5                   | 1                        | 2000        |
| 115       | 620H115      | 20                | 6            | 26.25           | 22          | 54.13            | 5.38                 | 3.5                   | 1                        | 2400        |
| 115       | 624T115      | 24                | 6            | 28              | 26          | 74.25            | 5.38                 | 3.5                   | 1 1/8                    | 3320        |
| 115       | 624TF115     | 24                | 6            | 27              | 26.63       | 64.75            | 5.38                 | 3.5                   | 1 1/8                    | 2875        |

### 125 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 125       | 236T125      | 36                | 2            | 14.88           | 42.5        | 87.38            | 5.5                  | 5                     |                          | 3600        |
| 125       | 330T125      | 30                | 3            | 19.94           | 33          | 80.88            | 5.5                  | 5                     | 1 1/4                    | 3200        |
| 125       | 336T125      | 36                | 3            | 19.94           | 42.5        | 87.38            | 5.5                  | 5                     |                          | 3930        |
| 125       | 424T125      | 24                | 4            | 19.75           | 26.5        | 74.88            | 5.5                  | 3.5                   | 1 1/8                    | 2670        |
| 125       | 424TF125     | 24                | 4            | 20.25           | 26.63       | 68.88            | 5.5                  | 3.5                   | 1 1/8                    | 2150        |
| 125       | 430T125      | 30                | 4            | 23.31           | 36          | 80.88            | 5.5                  | 5                     | 1 1/4                    | 3825        |
| 125       | 436T125      | 36                | 4            | 23.31           | 42.5        | 87.38            | 5.5                  | 5                     |                          | 4590        |
| 125       | 524T125      | 24                | 5            | 24.38           | 26.63       | 75.38            | 5.5                  | 3.5                   | 1 1/8                    | 3000        |
| 125       | 524TF125     | 24                | 5            | 27              | 26.63       | 69.38            | 5.5                  | 3.5                   | 1 1/8                    | 2530        |
| 125       | 624T125      | 24                | 6            | 28              | 26          | 75.38            | 5.5                  | 3.5                   | 1 1/8                    | 3350        |
| 125       | 624TF125     | 24                | 6            | 27              | 26.63       | 69.38            | 5.5                  | 3.5                   | 1 1/8                    | 2975        |

### 135 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 135       | 424T135      | 24                | 4            | 19.75           | 26.5        | 74.88            | 5.5                  | 3.5                   | 1 1/8                    | 2670        |
| 135       | 424TF135     | 24                | 4            | 20.25           | 26.63       | 68.88            | 5.5                  | 3.5                   | 1 1/8                    | 2150        |

### 150 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 150       | 330T150      | 30                | 3            | 19.94           | 33          | 80.88            | 5.5                  | 5                     | 1 1/4                    | 3200        |
| 150       | 336T150      | 36                | 3            | 19.94           | 42.5        | 87.88            | 5.5                  | 5                     |                          | 3930        |
| 150       | 424T150      | 24                | 4            | 19.75           | 26.5        | 74.88            | 5.5                  | 3.5                   | 1 1/8                    | 2670        |
| 150       | 424TF150     | 24                | 4            | 20.25           | 26.63       | 68.88            | 5.5                  | 3.5                   | 1 1/8                    | 2150        |
| 150       | 430T150      | 30                | 4            | 23.31           | 36          | 80.88            | 5.5                  | 5                     | 1 1/4                    | 3825        |
| 150       | 436T150      | 36                | 4            | 23.31           | 42.5        | 87.88            | 5.5                  | 5                     |                          | 4590        |
| 150       | 524T150      | 24                | 5            | 24.38           | 26.63       | 75.38            | 5.5                  | 3.5                   | 1 1/8                    | 3000        |
| 150       | 524TF150     | 24                | 5            | 24.88           | 26.63       | 69.38            | 5.5                  | 3.5                   | 1 1/8                    | 2530        |
| 150       | 530T150      | 30                | 5            | 28              | 36          | 86.75            | 5.5                  | 5                     | 1 1/4                    | 4560        |
| 150       | 536T150      | 36                | 5            | 28              | 42.5        | 87.88            | 5.5                  | 5                     |                          | 5370        |
| 150       | 624T150      | 24                | 6            | 28              | 26          | 75.38            | 5.5                  | 3.5                   | 1 1/8                    | 3350        |
| 150       | 624TF150     | 24                | 6            | 27              | 26.63       | 69.38            | 5.5                  | 3.5                   | 1 1/8                    | 2975        |
| 150       | 630T150      | 30                | 6            | 31.75           | 36          | 86.75            | 5.5                  | 5                     | 1 1/4                    | 4650        |
| 150       | 636T150      | 36                | 6            | 31.75           | 42.5        | 87.88            | 5.5                  | 5                     |                          | 5600        |

## BLOCKS- HI-LIFT BLOCKS

### 200 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 200       | 430T200      | 30                | 4            | 23.31           | 36          | 89               | 6                    | 5                     | 1 1/4                    | 4200        |
| 200       | 436T200      | 36                | 4            | 23.31           | 42.5        | 95.5             | 6                    | 5                     |                          | 4965        |
| 200       | 530T200      | 30                | 5            | 28              | 36          | 89               | 6                    | 5                     | 1 1/4                    | 4700        |
| 200       | 536T200      | 36                | 5            | 28              | 42.5        | 95.5             | 6                    | 5                     |                          | 5600        |
| 200       | 630T200      | 30                | 6            | 31.75           | 36          | 89               | 6                    | 5                     | 1 1/4                    | 4900        |
| 200       | 636T200      | 36                | 6            | 31.75           | 42.5        | 95.5             | 6                    | 5                     |                          | 5900        |

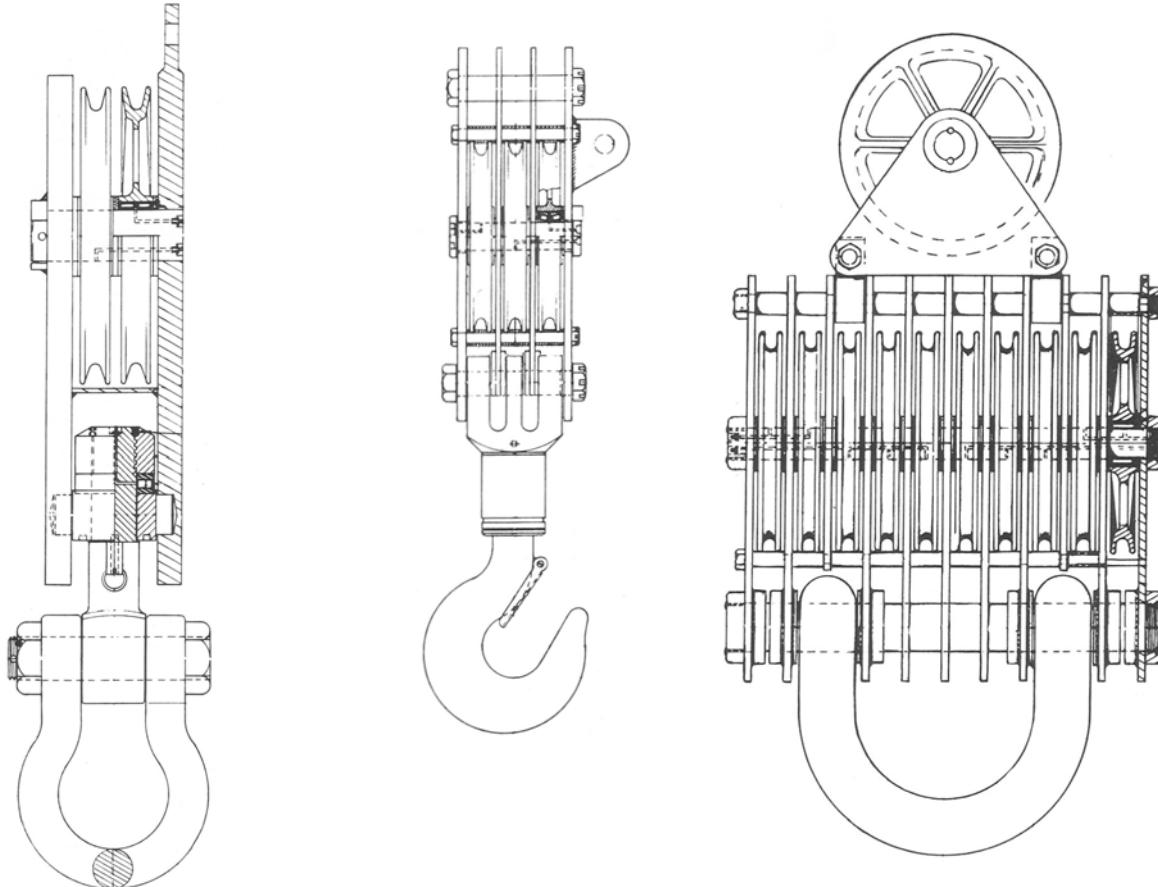
### 250 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 250       | 630T250      | 30                | 6            | 31.75           | 36          | 93.5             | 7.5                  | 5                     | 1 1/4                    | 5120        |
| 250       | 636T250      | 36                | 6            | 31.75           | 42.5        | 99.75            | 7.5                  | 5                     |                          | 6125        |

### 300 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | THROAT OPENING (in.) | SHEAVE PIN DIA. (in.) | STD WIRE ROPE DIA. (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|----------------------|-----------------------|--------------------------|-------------|
| 300       | 530T300      | 30                | 5            | 30              | 36          | 94.25            | 8                    | 5                     | 1 1/4                    | 6400        |
| 300       | 536T300      | 36                | 5            | 28              | 42.5        | 100.75           | 7.5                  | 5                     |                          | 7025        |
| 300       | 630T300      | 30                | 6            | 33.75           | 36          | 94.25            | 7.5                  | 5                     | 1 1/4                    | 6700        |
| 300       | 636T300      | 36                | 6            | 31.75           | 42.5        | 100.75           | 7.5                  | 5                     |                          | 7370        |

Custom Miller Blocks are available to suit your special requirements.  
Contact us for more information.



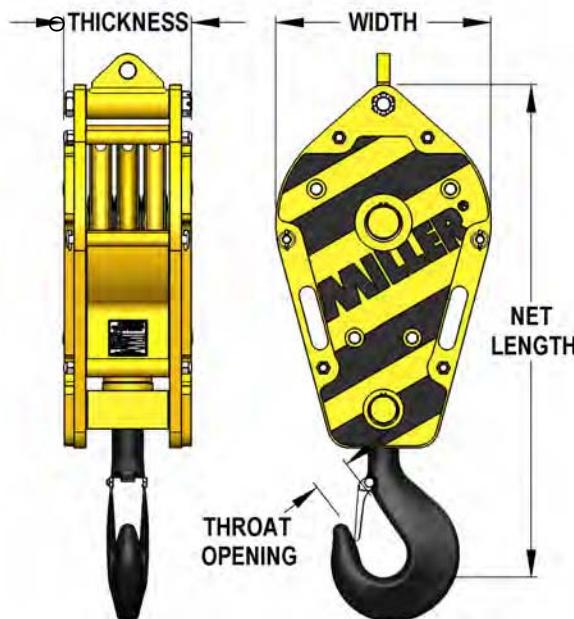
## BLOCKS- MOBILE CRANE BLOCKS

- **Product Range**

- **Capacity** 15 to 80 tons standard with higher capacities available
- **Sheave** sizes, to 24" for up to 1 ¼" wire rope, 1 to 7 sheaves

- **Technical Features**

- **Quick-reeving** configuration with drop-away sheave guards allows easy passage of rope with end fitting in place. Dead end centered above the sheaves on 1-4 sheave blocks, 5 and up dead end to side plate.
- **Hooks** are forged alloy steel, single or duplex, in accordance with DIN15401 or DIN15402. Single hook blocks include heavy-duty locking latches. Locking latches optional for duplex hooks. All hooks are individually certified for mechanical and physical properties including Charpy impact test, and include ultrasonic and magnetic particle evaluation.
- **Design Factor** 4 to 1 minimum.
- **Bearings** for sheaves are low-friction, double-row, full complement cylindrical roller type for tight sheave alignment and high resistance to axial forces caused by variation in fleet angles and require no friction spacers between sheaves. Hook bearings are tapered roller thrust type as used in all Miller Hi-Lift blocks.
- **Lubrication** for sheave bearings via channels in the sheave pin. Hook bearing grease fitting is located in the hook upper end.
- **Hook-locking** device is available for all models over 40 tons. Allows user to lock hook every 90°.
- **Side plates** and cheek weights are full-length and provided for a range of overhaul weights.



**Model Number Key**

| #                       | ##             | MC                       | ###                      | - | #                | XX              |
|-------------------------|----------------|--------------------------|--------------------------|---|------------------|-----------------|
| Number<br>of<br>Sheaves | Sheave<br>O.D. | Mobile<br>Crane<br>Block | Working<br>Load<br>Limit |   | Cheek<br>Weights | Option<br>Code* |

\*Option Codes

D - Duplex Hook

DL - Duplex Hook, Locking Latches

LD - Hook Locking Device, 4 Position

DLD - Duplex Hook, 4 Position Locking Device

DLLD - Duplex Hook, Locking Latches, 4 Position Locking Device



## BLOCKS- MOBILE CRANE BLOCKS

### 15 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 15            | 110MC15      | 10                         | 1                    | 8.44              | 14.25      | 31.13              | 2.48                      | 1/2 to 5/8"             | 240             |
| 15            | 110MC15-1    | 10                         | 1                    | 10.44             | 14.25      | 31.13              | 2.48                      | 1/2 to 5/8"             | 310             |
| 15            | 112MC15      | 12                         | 1                    | 8.44              | 16.25      | 33.13              | 2.48                      | 1/2 to 3/4"             | 265             |
| 15            | 112MC15-1    | 12                         | 1                    | 10.44             | 16.25      | 33.13              | 2.48                      | 1/2 to 3/4"             | 340             |
| 15            | 114MC15      | 14                         | 1                    | 8.44              | 18.25      | 35.13              | 2.48                      | 1/2 to 3/4"             | 290             |
| 15            | 114MC15-1    | 14                         | 1                    | 10.44             | 18.25      | 35.13              | 2.48                      | 1/2 to 3/4"             | 375             |
| 15            | 116MC15      | 16                         | 1                    | 9.16              | 20.31      | 37.38              | 2.48                      | 9/16 to 7/8"            | 340             |
| 15            | 116MC15-1    | 16                         | 1                    | 11.16             | 20.31      | 37.38              | 2.48                      | 9/16 to 7/8"            | 470             |
| 15            | 118MC15      | 18                         | 1                    | 9.98              | 22.5       | 39.38              | 2.48                      | 5/8 to 1"               | 365             |
| 15            | 118MC15-1    | 18                         | 1                    | 11.98             | 22.5       | 39.38              | 2.48                      | 5/8 to 1"               | 535             |
| 15            | 210MC15      | 10                         | 2                    | 8.44              | 14.25      | 31.13              | 2.48                      | 1/2 to 5/8"             | 280             |
| 15            | 210MC15-1    | 10                         | 2                    | 10.44             | 14.25      | 31.13              | 2.48                      | 1/2 to 5/8"             | 350             |
| 15            | 212MC15      | 12                         | 2                    | 8.44              | 16.25      | 33.13              | 2.48                      | 1/2 to 3/4"             | 285             |
| 15            | 212MC15-1    | 12                         | 2                    | 10.44             | 16.25      | 33.13              | 2.48                      | 1/2 to 3/4"             | 360             |
| 15            | 214MC15      | 14                         | 2                    | 8.44              | 18.25      | 35.13              | 2.48                      | 1/2 to 3/4"             | 315             |
| 15            | 214MC15-1    | 14                         | 2                    | 10.44             | 18.25      | 35.13              | 2.48                      | 1/2 to 3/4"             | 400             |
| 15            | 216MC15      | 16                         | 2                    | 9.16              | 20.31      | 37.38              | 2.48                      | 9/16 to 7/8"            | 370             |
| 15            | 216MC15-1    | 16                         | 2                    | 11.16             | 20.31      | 37.38              | 2.48                      | 9/16 to 7/8"            | 500             |
| 15            | 218MC15      | 18                         | 2                    | 9.98              | 22.5       | 39.38              | 2.48                      | 5/8 to 1"               | 405             |
| 15            | 218MC15-1    | 18                         | 2                    | 11.98             | 22.5       | 39.38              | 2.48                      | 5/8 to 1"               | 575             |
| 15            | 310MC15      | 10                         | 3                    | 8.44              | 14.25      | 31.13              | 2.48                      | 1/2 to 5/8"             | 290             |
| 15            | 310MC15-1    | 10                         | 3                    | 10.44             | 14.25      | 31.13              | 2.48                      | 1/2 to 5/8"             | 360             |
| 15            | 312MC15      | 12                         | 3                    | 8.44              | 16.25      | 33.13              | 2.48                      | 1/2 to 3/4"             | 305             |
| 15            | 312MC15-1    | 12                         | 3                    | 10.44             | 16.25      | 33.13              | 2.48                      | 1/2 to 3/4"             | 380             |
| 15            | 314MC15      | 14                         | 3                    | 8.44              | 18.25      | 35.13              | 2.48                      | 1/2 to 3/4"             | 340             |
| 15            | 314MC15-1    | 14                         | 3                    | 10.44             | 18.25      | 35.13              | 2.48                      | 1/2 to 3/4"             | 425             |
| 15            | 316MC15      | 16                         | 3                    | 9.16              | 20.31      | 37.38              | 2.48                      | 9/16 to 7/8"            | 400             |
| 15            | 316MC15-1    | 16                         | 3                    | 11.16             | 20.31      | 37.38              | 2.48                      | 9/16 to 7/8"            | 530             |
| 15            | 318MC15      | 18                         | 3                    | 9.98              | 22.5       | 39.38              | 2.48                      | 5/8 to 1"               | 445             |
| 15            | 318MC15-1    | 18                         | 3                    | 11.98             | 22.5       | 39.38              | 2.48                      | 5/8 to 1"               | 615             |
| 15            | 412MC15      | 12                         | 4                    | 10.56             | 16.25      | 33.13              | 2.48                      | 1/2 to 3/4"             | 380             |
| 15            | 412MC15-1    | 12                         | 4                    | 12.56             | 16.25      | 33.13              | 2.48                      | 1/2 to 3/4"             | 455             |
| 15            | 414MC15      | 14                         | 4                    | 10.56             | 18.25      | 35.13              | 2.48                      | 1/2 to 3/4"             | 420             |
| 15            | 414MC15-1    | 14                         | 4                    | 12.56             | 18.25      | 35.13              | 2.48                      | 1/2 to 3/4"             | 505             |

# BLOCKS- MOBILE CRANE BLOCKS

## 20 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 20            | 110MC20-1    | 10                         | 1                    | 10.44             | 14.25      | 32.13              | 2.8                       | 1/2 to 5/8"             | 300             |
| 20            | 112MC20      | 12                         | 1                    | 8.44              | 16.25      | 34.13              | 2.8                       | 1/2 to 3/4"             | 275             |
| 20            | 112MC20-1    | 12                         | 1                    | 10.44             | 16.25      | 34.13              | 2.8                       | 1/2 to 3/4"             | 330             |
| 20            | 114MC20      | 14                         | 1                    | 8.44              | 18.25      | 36.13              | 2.8                       | 1/2 to 3/4"             | 300             |
| 20            | 114MC20-1    | 14                         | 1                    | 10.44             | 18.25      | 36.13              | 2.8                       | 1/2 to 3/4"             | 365             |
| 20            | 116MC20      | 16                         | 1                    | 9.16              | 20.31      | 38.38              | 2.8                       | 9/16 to 7/8"            | 350             |
| 20            | 116MC20-1    | 16                         | 1                    | 11.16             | 20.31      | 38.38              | 2.8                       | 9/16 to 7/8"            | 460             |
| 20            | 118MC20      | 18                         | 1                    | 9.98              | 22.5       | 40.38              | 2.8                       | 5/8 to 1"               | 375             |
| 20            | 118MC20-1    | 18                         | 1                    | 11.98             | 22.5       | 40.38              | 2.8                       | 5/8 to 1"               | 525             |
| 20            | 210MC20      | 10                         | 2                    | 8.44              | 14.25      | 32.13              | 2.8                       | 1/2 to 5/8"             | 290             |
| 20            | 210MC20-1    | 10                         | 2                    | 10.44             | 14.25      | 32.13              | 2.8                       | 1/2 to 5/8"             | 340             |
| 20            | 212MC20      | 12                         | 2                    | 8.44              | 16.25      | 34.13              | 2.8                       | 1/2 to 3/4"             | 295             |
| 20            | 212MC20-1    | 12                         | 2                    | 10.44             | 16.25      | 34.13              | 2.8                       | 1/2 to 3/4"             | 350             |
| 20            | 214MC20      | 14                         | 2                    | 8.44              | 18.25      | 36.13              | 2.8                       | 1/2 to 3/4"             | 325             |
| 20            | 214MC20-1    | 14                         | 2                    | 10.44             | 18.25      | 36.13              | 2.8                       | 1/2 to 3/4"             | 390             |
| 20            | 216MC20      | 16                         | 2                    | 9.16              | 20.31      | 38.38              | 2.8                       | 9/16 to 7/8"            | 380             |
| 20            | 216MC20-1    | 16                         | 2                    | 11.16             | 20.31      | 38.38              | 2.8                       | 9/16 to 7/8"            | 490             |
| 20            | 218MC20      | 18                         | 2                    | 9.98              | 22.5       | 40.38              | 2.8                       | 5/8 to 1"               | 415             |
| 20            | 218MC20-1    | 18                         | 2                    | 11.98             | 22.5       | 40.38              | 2.8                       | 5/8 to 1"               | 565             |
| 20            | 310MC20      | 10                         | 3                    | 8.44              | 14.25      | 32.13              | 2.8                       | 1/2 to 5/8"             | 300             |
| 20            | 310MC20-1    | 10                         | 3                    | 10.44             | 14.25      | 32.13              | 2.8                       | 1/2 to 5/8"             | 350             |
| 20            | 312MC20      | 12                         | 3                    | 8.44              | 16.25      | 34.13              | 2.8                       | 1/2 to 3/4"             | 315             |
| 20            | 312MC20-1    | 12                         | 3                    | 10.44             | 16.25      | 34.13              | 2.8                       | 1/2 to 3/4"             | 370             |
| 20            | 314MC20      | 14                         | 3                    | 8.44              | 18.25      | 36.13              | 2.8                       | 1/2 to 3/4"             | 350             |
| 20            | 314MC20-1    | 14                         | 3                    | 10.44             | 18.25      | 36.13              | 2.8                       | 1/2 to 3/4"             | 415             |
| 20            | 316MC20      | 16                         | 3                    | 9.16              | 20.31      | 38.38              | 2.8                       | 9/16 to 7/8"            | 410             |
| 20            | 316MC20-1    | 16                         | 3                    | 11.16             | 20.31      | 38.38              | 2.8                       | 9/16 to 7/8"            | 520             |
| 20            | 318MC20      | 18                         | 3                    | 9.98              | 22.5       | 40.38              | 2.8                       | 5/8 to 1"               | 455             |
| 20            | 318MC20-1    | 18                         | 3                    | 11.98             | 22.5       | 40.38              | 2.8                       | 5/8 to 1"               | 605             |
| 20            | 412MC20      | 12                         | 4                    | 10.56             | 16.25      | 34.13              | 2.8                       | 1/2 to 3/4"             | 390             |
| 20            | 412MC20-1    | 12                         | 4                    | 12.56             | 16.25      | 34.13              | 2.8                       | 1/2 to 3/4"             | 445             |
| 20            | 414MC20      | 14                         | 4                    | 10.56             | 18.25      | 36.13              | 2.8                       | 1/2 to 3/4"             | 430             |
| 20            | 414MC20-1    | 14                         | 4                    | 12.56             | 18.25      | 36.13              | 2.8                       | 1/2 to 3/4"             | 495             |

## 25 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 25            | 116MC25-1    | 16                         | 1                    | 11.16             | 20.31      | 42.56              | 3.15                      | 9/16 to 7/8"            | 525             |
| 25            | 118MC25      | 18                         | 1                    | 9.98              | 22.5       | 44.56              | 3.15                      | 5/8 to 1"               | 450             |
| 25            | 118MC25-1    | 18                         | 1                    | 11.98             | 22.5       | 44.56              | 3.15                      | 5/8 to 1"               | 630             |
| 25            | 120MC25      | 20                         | 1                    | 9.98              | 24.63      | 46.56              | 3.15                      | 3/4 to 1-1/8"           | 550             |
| 25            | 120MC25-1    | 20                         | 1                    | 11.98             | 24.63      | 46.56              | 3.15                      | 3/4 to 1-1/8"           | 770             |
| 25            | 214MC25      | 14                         | 2                    | 8.44              | 18.25      | 36.88              | 3.15                      | 1/2 to 3/4"             | 375             |
| 25            | 214MC25-1    | 14                         | 2                    | 10.44             | 18.25      | 36.88              | 3.15                      | 1/2 to 3/4"             | 475             |
| 25            | 216MC25      | 16                         | 2                    | 9.16              | 20.31      | 42.56              | 3.15                      | 9/16 to 7/8"            | 405             |
| 25            | 216MC25-1    | 16                         | 2                    | 11.16             | 20.31      | 42.56              | 3.15                      | 9/16 to 7/8"            | 555             |
| 25            | 218MC25      | 18                         | 2                    | 9.98              | 22.5       | 44.56              | 3.15                      | 5/8 to 1"               | 490             |
| 25            | 218MC25-1    | 18                         | 2                    | 11.98             | 22.5       | 44.56              | 3.15                      | 5/8 to 1"               | 670             |
| 25            | 220MC25      | 20                         | 2                    | 9.98              | 24.63      | 46.56              | 3.15                      | 3/4 to 1-1/8"           | 600             |
| 25            | 220MC25-1    | 20                         | 2                    | 11.98             | 24.63      | 46.56              | 3.15                      | 3/4 to 1-1/8"           | 820             |
| 25            | 314MC25      | 14                         | 3                    | 8.44              | 18.25      | 36.88              | 3.15                      | 1/2 to 3/4"             | 425             |
| 25            | 314MC25-1    | 14                         | 3                    | 10.44             | 18.25      | 36.88              | 3.15                      | 1/2 to 3/4"             | 525             |
| 25            | 316MC25      | 16                         | 3                    | 9.16              | 20.31      | 42.56              | 3.15                      | 9/16 to 7/8"            | 435             |
| 25            | 316MC25-1    | 16                         | 3                    | 11.16             | 20.31      | 42.56              | 3.15                      | 9/16 to 7/8"            | 585             |
| 25            | 318MC25      | 18                         | 3                    | 9.98              | 22.5       | 44.56              | 3.15                      | 5/8 to 1"               | 530             |
| 25            | 318MC25-1    | 18                         | 3                    | 11.98             | 22.5       | 44.56              | 3.15                      | 5/8 to 1"               | 710             |
| 25            | 320MC25      | 20                         | 3                    | 9.98              | 24.63      | 46.56              | 3.15                      | 3/4 to 1-1/8"           | 650             |
| 25            | 320MC25-1    | 20                         | 3                    | 11.98             | 24.63      | 46.56              | 3.15                      | 3/4 to 1-1/8"           | 870             |
| 25            | 414MC25      | 14                         | 4                    | 10.56             | 18.25      | 36.88              | 3.15                      | 1/2 to 3/4"             | 480             |
| 25            | 414MC25-1    | 14                         | 4                    | 12.56             | 18.25      | 36.88              | 3.15                      | 1/2 to 3/4"             | 580             |



## BLOCKS- MOBILE CRANE BLOCKS

### 30 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 30            | 116MC30-1    | 16                         | 1                    | 11.16             | 20.31      | 43.56              | 3.15                      | 9/16 to 7/8"            | 525             |
| 30            | 118MC30      | 18                         | 1                    | 9.98              | 22.5       | 45.56              | 3.15                      | 5/8 to 1"               | 450             |
| 30            | 118MC30-1    | 18                         | 1                    | 11.98             | 22.5       | 45.56              | 3.15                      | 5/8 to 1"               | 630             |
| 30            | 120MC30      | 20                         | 1                    | 9.98              | 24.63      | 47.56              | 3.15                      | 3/4 to 1-1/8"           | 550             |
| 30            | 120MC30-1    | 20                         | 1                    | 11.98             | 24.63      | 47.56              | 3.15                      | 3/4 to 1-1/8"           | 770             |
| 30            | 214MC30      | 14                         | 2                    | 8.44              | 18.25      | 37.88              | 3.15                      | 1/2 to 3/4"             | 375             |
| 30            | 214MC30-1    | 14                         | 2                    | 10.44             | 18.25      | 37.88              | 3.15                      | 1/2 to 3/4"             | 475             |
| 30            | 216MC30      | 16                         | 2                    | 9.16              | 20.31      | 43.56              | 3.15                      | 9/16 to 7/8"            | 405             |
| 30            | 216MC30-1    | 16                         | 2                    | 11.16             | 20.31      | 43.56              | 3.15                      | 9/16 to 7/8"            | 555             |
| 30            | 218MC30      | 18                         | 2                    | 9.98              | 22.5       | 45.56              | 3.15                      | 5/8 to 1"               | 490             |
| 30            | 218MC30-1    | 18                         | 2                    | 11.98             | 22.5       | 45.56              | 3.15                      | 5/8 to 1"               | 670             |
| 30            | 220MC30      | 20                         | 2                    | 9.98              | 24.63      | 47.56              | 3.15                      | 3/4 to 1-1/8"           | 600             |
| 30            | 220MC30-1    | 20                         | 2                    | 11.98             | 24.63      | 47.56              | 3.15                      | 3/4 to 1-1/8"           | 820             |
| 30            | 314MC30      | 14                         | 3                    | 8.44              | 18.25      | 37.88              | 3.15                      | 1/2 to 3/4"             | 425             |
| 30            | 314MC30-1    | 14                         | 3                    | 10.44             | 18.25      | 37.88              | 3.15                      | 1/2 to 3/4"             | 525             |
| 30            | 316MC30      | 16                         | 3                    | 9.16              | 20.31      | 43.56              | 3.15                      | 9/16 to 7/8"            | 435             |
| 30            | 316MC30-1    | 16                         | 3                    | 11.16             | 20.31      | 43.56              | 3.15                      | 9/16 to 7/8"            | 585             |
| 30            | 318MC30      | 18                         | 3                    | 9.98              | 22.5       | 45.56              | 3.15                      | 5/8 to 1"               | 530             |
| 30            | 318MC30-1    | 18                         | 3                    | 11.98             | 22.5       | 45.56              | 3.15                      | 5/8 to 1"               | 710             |
| 30            | 320MC30      | 20                         | 3                    | 9.98              | 24.63      | 47.56              | 3.15                      | 3/4 to 1-1/8"           | 650             |
| 30            | 320MC30-1    | 20                         | 3                    | 11.98             | 24.63      | 47.56              | 3.15                      | 3/4 to 1-1/8"           | 870             |
| 30            | 414MC30      | 14                         | 4                    | 10.56             | 18.25      | 37.88              | 3.15                      | 1/2 to 3/4"             | 480             |
| 30            | 414MC30-1    | 14                         | 4                    | 12.56             | 18.25      | 37.88              | 3.15                      | 1/2 to 3/4"             | 580             |

### 35 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 35            | 124MC35-1    | 24                         | 1                    | 14.02             | 28.88      | 55.19              | 3.54                      | 7/8 to 1-1/4"           | 1000            |
| 35            | 220MC35      | 20                         | 2                    | 10.48             | 24.63      | 51.19              | 3.54                      | 3/4 to 1-1/8"           | 725             |
| 35            | 220MC35-1    | 20                         | 2                    | 12.48             | 24.63      | 51.19              | 3.54                      | 3/4 to 1-1/8"           | 955             |
| 35            | 224MC35      | 24                         | 2                    | 12.02             | 28.88      | 55.19              | 3.54                      | 7/8 to 1-1/4"           | 780             |
| 35            | 224MC35-1    | 24                         | 2                    | 14.02             | 28.88      | 55.19              | 3.54                      | 7/8 to 1-1/4"           | 1080            |
| 35            | 314MC35      | 14                         | 3                    | 8.94              | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 525             |
| 35            | 314MC35-1    | 14                         | 3                    | 10.94             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 635             |
| 35            | 316MC35      | 16                         | 3                    | 9.66              | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 600             |
| 35            | 316MC35-1    | 16                         | 3                    | 11.66             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 760             |
| 35            | 318MC35      | 18                         | 3                    | 10.48             | 22.5       | 49.19              | 3.54                      | 5/8 to 1"               | 700             |
| 35            | 318MC35-1    | 18                         | 3                    | 12.48             | 22.5       | 49.19              | 3.54                      | 5/8 to 1"               | 900             |
| 35            | 320MC35      | 20                         | 3                    | 10.48             | 24.63      | 51.19              | 3.54                      | 3/4 to 1-1/8"           | 775             |
| 35            | 320MC35-1    | 20                         | 3                    | 12.48             | 24.63      | 51.19              | 3.54                      | 3/4 to 1-1/8"           | 1005            |
| 35            | 414MC35      | 14                         | 4                    | 11.06             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 580             |
| 35            | 414MC35-1    | 14                         | 4                    | 13.06             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 690             |
| 35            | 416MC35      | 16                         | 4                    | 12.02             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 660             |
| 35            | 416MC35-1    | 16                         | 4                    | 14.02             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 820             |
| 35            | 418MC35      | 18                         | 4                    | 13.13             | 22.5       | 49.19              | 3.54                      | 5/8 to 1"               | 765             |
| 35            | 418MC35-1    | 18                         | 4                    | 15.13             | 22.5       | 49.19              | 3.54                      | 5/8 to 1"               | 965             |
| 35            | 514MC35      | 14                         | 5                    | 13.19             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 645             |
| 35            | 514MC35-1    | 14                         | 5                    | 15.19             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 755             |
| 35            | 516MC35      | 16                         | 5                    | 14.38             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 715             |
| 35            | 516MC35-1    | 16                         | 5                    | 16.38             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 875             |
| 35            | 616MC35      | 16                         | 6                    | 16.75             | 20.31      | 48.19              | 3.54                      | 9/16 to 7/8"            | 790             |
| 35            | 616MC35-1    | 16                         | 6                    | 18.75             | 20.31      | 48.19              | 3.54                      | 9/16 to 7/8"            | 950             |

# BLOCKS- MOBILE CRANE BLOCKS

## 40 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 40            | 124MC40-1    | 24                         | 1                    | 14.02             | 28.88      | 55.19              | 3.54                      | 7/8 to 1-1/4"           | 1000            |
| 40            | 220MC40      | 20                         | 2                    | 10.48             | 24.63      | 51.19              | 3.54                      | 3/4 to 1-1/8"           | 725             |
| 40            | 220MC40-1    | 20                         | 2                    | 12.48             | 24.63      | 51.19              | 3.54                      | 3/4 to 1-1/8"           | 955             |
| 40            | 224MC40      | 24                         | 2                    | 12.02             | 28.88      | 55.19              | 3.54                      | 7/8 to 1-1/4"           | 780             |
| 40            | 224MC40-1    | 24                         | 2                    | 14.02             | 28.88      | 55.19              | 3.54                      | 7/8 to 1-1/4"           | 1080            |
| 40            | 314MC40      | 14                         | 3                    | 8.94              | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 525             |
| 40            | 314MC40-1    | 14                         | 3                    | 10.94             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 635             |
| 40            | 316MC40      | 16                         | 3                    | 9.66              | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 600             |
| 40            | 316MC40-1    | 16                         | 3                    | 11.66             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 760             |
| 40            | 318MC40      | 18                         | 3                    | 10.48             | 22.5       | 49.19              | 3.54                      | 5/8 to 1"               | 700             |
| 40            | 318MC40-1    | 18                         | 3                    | 12.48             | 22.5       | 49.19              | 3.54                      | 5/8 to 1"               | 900             |
| 40            | 320MC40      | 20                         | 3                    | 10.48             | 24.63      | 51.19              | 3.54                      | 3/4 to 1-1/8"           | 775             |
| 40            | 320MC40-1    | 20                         | 3                    | 12.48             | 24.63      | 51.19              | 3.54                      | 3/4 to 1-1/8"           | 1005            |
| 40            | 414MC40      | 14                         | 4                    | 11.06             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 580             |
| 40            | 414MC40-1    | 14                         | 4                    | 13.06             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 690             |
| 40            | 416MC40      | 16                         | 4                    | 12.02             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 660             |
| 40            | 416MC40-1    | 16                         | 4                    | 14.02             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 820             |
| 40            | 418MC40      | 18                         | 4                    | 13.13             | 22.5       | 49.19              | 3.54                      | 5/8 to 1"               | 765             |
| 40            | 418MC40-1    | 18                         | 4                    | 15.13             | 22.5       | 49.19              | 3.54                      | 5/8 to 1"               | 965             |
| 40            | 514MC40      | 14                         | 5                    | 13.19             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 645             |
| 40            | 514MC40-1    | 14                         | 5                    | 15.19             | 18.25      | 43.63              | 3.54                      | 1/2 to 3/4"             | 755             |
| 40            | 516MC40      | 16                         | 5                    | 14.38             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 715             |
| 40            | 516MC40-1    | 16                         | 5                    | 16.38             | 20.31      | 47.19              | 3.54                      | 9/16 to 7/8"            | 875             |
| 40            | 616MC40      | 16                         | 6                    | 16.75             | 20.31      | 48.19              | 3.54                      | 9/16 to 7/8"            | 790             |
| 40            | 616MC40-1    | 16                         | 6                    | 18.75             | 20.31      | 48.19              | 3.54                      | 9/16 to 7/8"            | 950             |

## 45 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 45            | 220MC45-1    | 20                         | 2                    | 12.48             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 1000            |
| 45            | 224MC45      | 24                         | 2                    | 12.02             | 28.88      | 55.38              | 3.94                      | 7/8 to 1-1/4"           | 800             |
| 45            | 224MC45-1    | 24                         | 2                    | 14.02             | 28.88      | 55.38              | 3.94                      | 7/8 to 1-1/4"           | 1110            |
| 45            | 314MC45      | 14                         | 3                    | 8.94              | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 525             |
| 45            | 314MC45-1    | 14                         | 3                    | 10.94             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 655             |
| 45            | 316MC45      | 16                         | 3                    | 9.66              | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 600             |
| 45            | 316MC45-1    | 16                         | 3                    | 11.66             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 775             |
| 45            | 318MC45      | 18                         | 3                    | 10.48             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 700             |
| 45            | 318MC45-1    | 18                         | 3                    | 12.48             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 925             |
| 45            | 320MC45      | 20                         | 3                    | 10.48             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 820             |
| 45            | 320MC45-1    | 20                         | 3                    | 12.48             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 1070            |
| 45            | 324MC45      | 24                         | 3                    | 12.02             | 28.88      | 55.38              | 3.94                      | 7/8 to 1-1/4"           | 885             |
| 45            | 324MC45-1    | 24                         | 3                    | 14.02             | 28.88      | 55.38              | 3.94                      | 7/8 to 1-1/4"           | 1195            |
| 45            | 414MC45      | 14                         | 4                    | 11.06             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 570             |
| 45            | 414MC45-1    | 14                         | 4                    | 13.06             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 700             |
| 45            | 416MC45      | 16                         | 4                    | 12.02             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 670             |
| 45            | 416MC45-1    | 16                         | 4                    | 14.02             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 845             |
| 45            | 418MC45      | 18                         | 4                    | 13.13             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 770             |
| 45            | 418MC45-1    | 18                         | 4                    | 15.13             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 995             |
| 45            | 420MC45      | 20                         | 4                    | 13.13             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 895             |
| 45            | 420MC45-1    | 20                         | 4                    | 15.13             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 1145            |
| 45            | 514MC45      | 14                         | 5                    | 13.19             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 630             |
| 45            | 514MC45-1    | 14                         | 5                    | 15.19             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 760             |
| 45            | 516MC45      | 16                         | 5                    | 14.38             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 720             |
| 45            | 516MC45-1    | 16                         | 5                    | 16.38             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 895             |
| 45            | 518MC45      | 18                         | 5                    | 15.75             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 820             |
| 45            | 518MC45-1    | 18                         | 5                    | 17.75             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 1045            |
| 45            | 616MC45      | 16                         | 6                    | 16.75             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 780             |
| 45            | 616MC45-1    | 16                         | 6                    | 18.75             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 955             |



## BLOCKS- MOBILE CRANE BLOCKS

### 50 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 50            | 220MC50-1    | 20                         | 2                    | 12.48             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 1000            |
| 50            | 224MC50      | 24                         | 2                    | 12.02             | 28.88      | 55.38              | 3.94                      | 7/8 to 1-1/4"           | 800             |
| 50            | 224MC50-1    | 24                         | 2                    | 14.02             | 28.88      | 55.38              | 3.94                      | 7/8 to 1-1/4"           | 1110            |
| 50            | 314MC50      | 14                         | 3                    | 8.94              | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 525             |
| 50            | 314MC50-1    | 14                         | 3                    | 10.94             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 655             |
| 50            | 316MC50      | 16                         | 3                    | 9.66              | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 600             |
| 50            | 316MC50-1    | 16                         | 3                    | 11.66             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 775             |
| 50            | 318MC50      | 18                         | 3                    | 10.48             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 700             |
| 50            | 318MC50-1    | 18                         | 3                    | 12.48             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 925             |
| 50            | 320MC50      | 20                         | 3                    | 10.48             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 820             |
| 50            | 320MC50-1    | 20                         | 3                    | 12.48             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 1070            |
| 50            | 324MC50      | 24                         | 3                    | 12.02             | 28.88      | 55.38              | 3.94                      | 7/8 to 1-1/4"           | 885             |
| 50            | 324MC50-1    | 24                         | 3                    | 14.02             | 28.88      | 55.38              | 3.94                      | 7/8 to 1-1/4"           | 1195            |
| 50            | 414MC50      | 14                         | 4                    | 11.06             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 570             |
| 50            | 414MC50-1    | 14                         | 4                    | 13.06             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 700             |
| 50            | 416MC50      | 16                         | 4                    | 12.02             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 670             |
| 50            | 416MC50-1    | 16                         | 4                    | 14.02             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 845             |
| 50            | 418MC50      | 18                         | 4                    | 13.13             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 770             |
| 50            | 418MC50-1    | 18                         | 4                    | 15.13             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 995             |
| 50            | 420MC50      | 20                         | 4                    | 13.13             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 895             |
| 50            | 420MC50-1    | 20                         | 4                    | 15.13             | 24.63      | 51.38              | 3.94                      | 3/4 to 1-1/8"           | 1145            |
| 50            | 514MC50      | 14                         | 5                    | 13.19             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 630             |
| 50            | 514MC50-1    | 14                         | 5                    | 15.19             | 18.25      | 43.59              | 3.94                      | 1/2 to 3/4"             | 760             |
| 50            | 516MC50      | 16                         | 5                    | 14.38             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 720             |
| 50            | 516MC50-1    | 16                         | 5                    | 16.38             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 895             |
| 50            | 518MC50      | 18                         | 5                    | 15.75             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 820             |
| 50            | 518MC50-1    | 18                         | 5                    | 17.75             | 22.5       | 49.38              | 3.94                      | 5/8 to 1"               | 1045            |
| 50            | 616MC50      | 16                         | 6                    | 16.75             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 780             |
| 50            | 616MC50-1    | 16                         | 6                    | 18.75             | 20.31      | 47.38              | 3.94                      | 9/16 to 7/8"            | 955             |

### 60 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 55            | 224MC55-1    | 24                         | 2                    | 14.52             | 28.88      | 60.06              | 4.41                      | 7/8 to 1-1/4"           | 1475            |
| 55            | 318MC55      | 18                         | 3                    | 10.98             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 990             |
| 55            | 318MC55-1    | 18                         | 3                    | 12.98             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1220            |
| 55            | 320MC55      | 20                         | 3                    | 10.98             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1150            |
| 55            | 320MC55-1    | 20                         | 3                    | 12.98             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1430            |
| 55            | 324MC55      | 24                         | 3                    | 12.52             | 28.88      | 60.06              | 4.41                      | 7/8 to 1-1/4"           | 1250            |
| 55            | 324MC55-1    | 24                         | 3                    | 14.52             | 28.88      | 60.06              | 4.41                      | 7/8 to 1-1/4"           | 1575            |
| 55            | 416MC55      | 16                         | 4                    | 12.52             | 20.31      | 50.13              | 4.41                      | 9/16 to 7/8"            | 1000            |
| 55            | 416MC55-1    | 16                         | 4                    | 14.52             | 20.31      | 50.13              | 4.41                      | 9/16 to 7/8"            | 1185            |
| 55            | 418MC55      | 18                         | 4                    | 13.63             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1080            |
| 55            | 418MC55-1    | 18                         | 4                    | 15.63             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1310            |
| 55            | 420MC55      | 20                         | 4                    | 13.63             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1265            |
| 55            | 420MC55-1    | 20                         | 4                    | 15.63             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1545            |
| 55            | 516MC55      | 16                         | 5                    | 14.88             | 20.31      | 50.13              | 4.41                      | 9/16 to 7/8"            | 1100            |
| 55            | 516MC55-1    | 16                         | 5                    | 16.88             | 20.31      | 50.13              | 4.41                      | 9/16 to 7/8"            | 1285            |
| 55            | 518MC55      | 18                         | 5                    | 16.25             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1160            |
| 55            | 518MC55-1    | 18                         | 5                    | 18.25             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1490            |
| 55            | 520MC55      | 20                         | 5                    | 16.25             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1345            |
| 55            | 520MC55-1    | 20                         | 5                    | 18.25             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1625            |
| 55            | 620MC55      | 20                         | 6                    | 18.89             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1420            |
| 55            | 620MC55-1    | 20                         | 6                    | 20.89             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1700            |

# BLOCKS- MOBILE CRANE BLOCKS

## 65 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 65            | 224MC65-1    | 24                         | 2                    | 14.52             | 28.88      | 60.06              | 4.41                      | 7/8 to 1-1/4"           | 1475            |
| 65            | 318MC65      | 18                         | 3                    | 10.98             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 990             |
| 65            | 318MC65-1    | 18                         | 3                    | 12.98             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1220            |
| 65            | 320MC65      | 20                         | 3                    | 10.98             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1150            |
| 65            | 320MC65-1    | 20                         | 3                    | 12.98             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1430            |
| 65            | 324MC65      | 24                         | 3                    | 12.52             | 28.88      | 60.06              | 4.41                      | 7/8 to 1-1/4"           | 1250            |
| 65            | 324MC65-1    | 24                         | 3                    | 14.52             | 28.88      | 60.06              | 4.41                      | 7/8 to 1-1/4"           | 1575            |
| 65            | 416MC65      | 16                         | 4                    | 12.52             | 20.31      | 50.13              | 4.41                      | 9/16 to 7/8"            | 1000            |
| 65            | 416MC65-1    | 16                         | 4                    | 14.52             | 20.31      | 50.13              | 4.41                      | 9/16 to 7/8"            | 1185            |
| 65            | 418MC65      | 18                         | 4                    | 13.63             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1080            |
| 65            | 418MC65-1    | 18                         | 4                    | 15.63             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1310            |
| 65            | 420MC65      | 20                         | 4                    | 13.63             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1265            |
| 65            | 420MC65-1    | 20                         | 4                    | 15.63             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1545            |
| 65            | 516MC65      | 16                         | 5                    | 14.88             | 20.31      | 50.13              | 4.41                      | 9/16 to 7/8"            | 1100            |
| 65            | 516MC65-1    | 16                         | 5                    | 16.88             | 20.31      | 50.13              | 4.41                      | 9/16 to 7/8"            | 1285            |
| 65            | 518MC65      | 18                         | 5                    | 16.25             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1160            |
| 65            | 518MC65-1    | 18                         | 5                    | 18.25             | 22.5       | 52.88              | 4.41                      | 5/8 to 1"               | 1490            |
| 65            | 520MC65      | 20                         | 5                    | 16.25             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1345            |
| 65            | 520MC65-1    | 20                         | 5                    | 18.25             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1625            |
| 65            | 620MC65      | 20                         | 6                    | 18.89             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1420            |
| 65            | 620MC65-1    | 20                         | 6                    | 20.89             | 24.63      | 56.06              | 4.41                      | 3/4 to 1-1/8"           | 1700            |

## 75 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 70            | 320MC70-1    | 20                         | 3                    | 13.48             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1675            |
| 70            | 324MC70      | 24                         | 3                    | 13.02             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1500            |
| 70            | 324MC70-1    | 24                         | 3                    | 15.02             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1850            |
| 70            | 418MC70      | 18                         | 4                    | 14.13             | 22.5       | 58.75              | 4.92                      | 5/8 to 1"               | 1430            |
| 70            | 418MC70-1    | 18                         | 4                    | 16.13             | 22.5       | 58.75              | 4.92                      | 5/8 to 1"               | 1680            |
| 70            | 420MC70      | 20                         | 4                    | 14.13             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1480            |
| 70            | 420MC70-1    | 20                         | 4                    | 16.13             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1780            |
| 70            | 424MC70      | 24                         | 4                    | 16.16             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1640            |
| 70            | 424MC70-1    | 24                         | 4                    | 18.16             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1990            |
| 70            | 518MC70      | 18                         | 5                    | 16.75             | 22.5       | 58.75              | 4.92                      | 5/8 to 1"               | 1540            |
| 70            | 518MC70-1    | 18                         | 5                    | 18.75             | 22.5       | 58.75              | 4.92                      | 5/8 to 1"               | 1790            |
| 70            | 520MC70      | 20                         | 5                    | 16.75             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1615            |
| 70            | 520MC70-1    | 20                         | 5                    | 18.75             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1915            |
| 70            | 524MC70      | 24                         | 5                    | 19.31             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1770            |
| 70            | 524MC70-1    | 24                         | 5                    | 21.31             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 2120            |
| 70            | 620MC70      | 20                         | 6                    | 19.39             | 22.5       | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1785            |
| 70            | 620MC70-1    | 20                         | 6                    | 21.39             | 22.5       | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 2085            |

## BLOCKS- MOBILE CRANE BLOCKS

### 80 TON

| WWL *<br>Tons | Model Number | Sheave<br>Diameter<br>(in) | Number of<br>Sheaves | Thickness<br>(in) | Width (in) | Net Length<br>(in) | Throat<br>Opening<br>(in) | Wire Rope<br>Range (in) | Weight<br>(lbs) |
|---------------|--------------|----------------------------|----------------------|-------------------|------------|--------------------|---------------------------|-------------------------|-----------------|
| 80            | 320MC80-1    | 20                         | 3                    | 13.48             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1675            |
| 80            | 324MC80      | 24                         | 3                    | 13.02             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1500            |
| 80            | 324MC80-1    | 24                         | 3                    | 15.02             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1850            |
| 80            | 418MC80      | 18                         | 4                    | 14.13             | 22.5       | 58.75              | 4.92                      | 5/8 to 1"               | 1430            |
| 80            | 418MC80-1    | 18                         | 4                    | 16.13             | 22.5       | 58.75              | 4.92                      | 5/8 to 1"               | 1680            |
| 80            | 420MC80      | 20                         | 4                    | 14.13             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1480            |
| 80            | 420MC80-1    | 20                         | 4                    | 16.13             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1780            |
| 80            | 424MC80      | 24                         | 4                    | 16.16             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1640            |
| 80            | 424MC80-1    | 24                         | 4                    | 18.16             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1990            |
| 80            | 518MC80      | 18                         | 5                    | 16.75             | 22.5       | 58.75              | 4.92                      | 5/8 to 1"               | 1540            |
| 80            | 518MC80-1    | 18                         | 5                    | 18.75             | 22.5       | 58.75              | 4.92                      | 5/8 to 1"               | 1790            |
| 80            | 520MC80      | 20                         | 5                    | 16.75             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1615            |
| 80            | 520MC80-1    | 20                         | 5                    | 18.75             | 24.63      | 62.31              | 4.92                      | 3/4 to 1-1/8"           | 1915            |
| 80            | 524MC80      | 24                         | 5                    | 19.31             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 1770            |
| 80            | 524MC80-1    | 24                         | 5                    | 21.31             | 28.88      | 66.28              | 4.92                      | 7/8 to 1-1/4"           | 2120            |
| 80            | 620MC80      | 20                         | 6                    | 19.39             | 22.5       | 64.31              | 4.92                      | 3/4 to 1-1/8"           | 1785            |
| 80            | 620MC80-1    | 20                         | 6                    | 21.39             | 22.5       | 64.31              | 4.92                      | 3/4 to 1-1/8"           | 2085            |

**MILLER**

## Load Handling SOLUTIONS

- ▶ Hook Products
- ▶ Swivels
- ▶ Blocks
- ▶ Sheaves

PLET Anchoring Hook Assembly  
300 metric tons working load

[www.millerproducts.net](http://www.millerproducts.net)

## BLOCKS- OVERHEAD CRANE



### OVERHEAD BRIDGE CRANE BLOCKS

**Wide capacity range, made to application, new or replacement**

- Working loads from 15 tons to 300 tons
- Design factor 4:1 and up per specification
- All CMAA service classes (also FEM, DIN, ISO)
- Hooks are forged alloy in accord with DIN 15041 or 15402, single or duplex on thrust bearing and crosshead
- Hook lock or motorized hook available
- Fabricated, roll-formed or cast sheaves with roller bearings or bronze bushings
- Optional lubrication through sheave shaft
- Heavy duty sheave guards
- Optional slotted covers over sheaves
- Special configurations, sheave spacings
- Optional insulated hook



*See next page  
for  
Quote Request  
form...*

## BLOCKS- OVERHEAD CRANE

OVERHEAD CRANE BLOCKS  
QUOTE REQUEST**Requestor**

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Quantity \_\_\_\_\_

Company: \_\_\_\_\_ Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

**SHEAVES**

NUMBER OF SHEAVES: \_\_\_\_\_ OUTSIDE DIAMETER: \_\_\_\_\_ WIRE ROPE SIZE: \_\_\_\_\_

**SHEAVE BUSHINGS**

BRONZE BUSHING \_\_\_\_\_ ROLLER BEARING \_\_\_\_\_

**BLOCK CAPACITY & DIMENSIONS, WEIGHT**

DIMENSIONS: A \_\_\_\_\_ B \_\_\_\_\_ C \_\_\_\_\_

WORKING CAPACITY (LOAD LIMIT) \_\_\_\_\_  
(INDICATE US / METRIC TONS)

DESIGN FACTOR \_\_\_\_\_

OVERHAUL WEIGHT \_\_\_\_\_

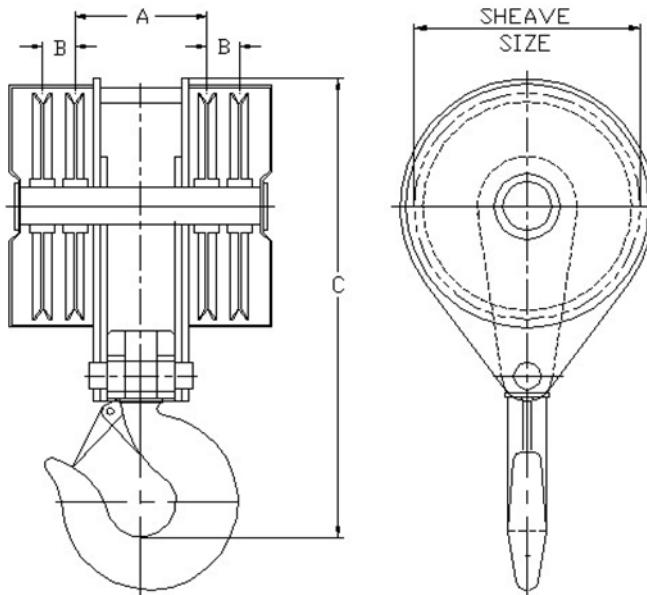
**HOOK / FITTING TYPE**

HOOK \_\_\_\_\_ SINGLE \_\_\_\_\_ DOUBLE \_\_\_\_\_

LOCKING HOOK \_\_\_\_\_

MOTORIZED HOOK \_\_\_\_\_

OTHER FITTINGS \_\_\_\_\_

**OTHER REQUIREMENTS**

CMAA SERVICE CLASS: \_\_\_\_\_

SPECIAL TESTING, THIRD PARTY INSPECTION,

ETC: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Miller Lifting Products**

100A Sturbridge Rd.

Charlton, MA USA 01507

Tel.: (508) 248-3941 / Fax: (508) 248-0639

E-mail: [sales@millerproducts.net](mailto:sales@millerproducts.net)[www.millerproducts.net](http://www.millerproducts.net)

# FORGED HOOKS

Our forged hooks are produced to exacting standards:

- **DIN 15400**- Lifting hooks, materials, mechanical properties, lifting capacity, stresses
- **DIN 15401**- Single hooks
- **DIN 15402**- Rams horn hooks (double hooks) with and without bottom hole and quad.
- **DIN 7540**- Eye hook class 8 (grade 80)



*DIN is the German Institute for Standardization (Deutsches Institut für Normung) and has been based in Berlin since 1917. DIN has historically developed the detailed and exacting standards used in German engineering and is the body that represents Germany in international standards organizations.*



## Shank Hooks

Hooks are identified by hook number and material. Each hook number maintains identical dimensions across a range of different materials with its load capacity dependent on the material used. Shank hooks are forged and heat-treated for optimal strength and toughness and are available in single, double or quad (4-point) configurations.

Available in standard working loads to 1,200 tons. Design factor is 5:1

Standard hook forgings are generally available in three increasingly stronger, carbon and alloy steel materials with forgings available in bronze, or stainless steel for non-sparking and other special applications:

**DIN class P** is a fine-grained carbon steel, St-E355/St-E420, very similar to ASTMA573 Gr. 65

**DIN class T** is a structural low alloy steel, 34CrMo4 or 34CrNiMo6, very similar to SAE 4135/4340

**DIN class V** as a super alloy steel, 34CrNiMo6 or 30CrNiMo8, similar to SAE 4340/4337

**Stainless steel** hooks are forged to order from ANSI 304 or 316L stainless steel

**Bronze** hooks are forged to order from a non-sparking aluminum-nickel bronze alloy (CuAl10Ni/C95500)

In the succeeding selection tables, working load limits (WLL) are indicated for each hook number depending on the material selected. Safety latches are included. Longer shanks are available with upon request. For single hooks, stainless steel models are also shown in the selection table. Custom hooks of any configuration are offered in stainless and bronze.

**Certified quality:** All hooks are available with certifications by serial number for mechanical and chemical properties including Charpy testing, and also include 100% ultrasonic and magnetic particle non-destructive examination. Hooks include markings of fixed distances ("y" dimension) which allow confirmation that no deformation has occurred in use or during proof testing.

## Eye Hooks

See detailed eye hook tables immediately following the shank hook tables. Specializing in high-quality, heavy eye hooks for a wide variety of applications.

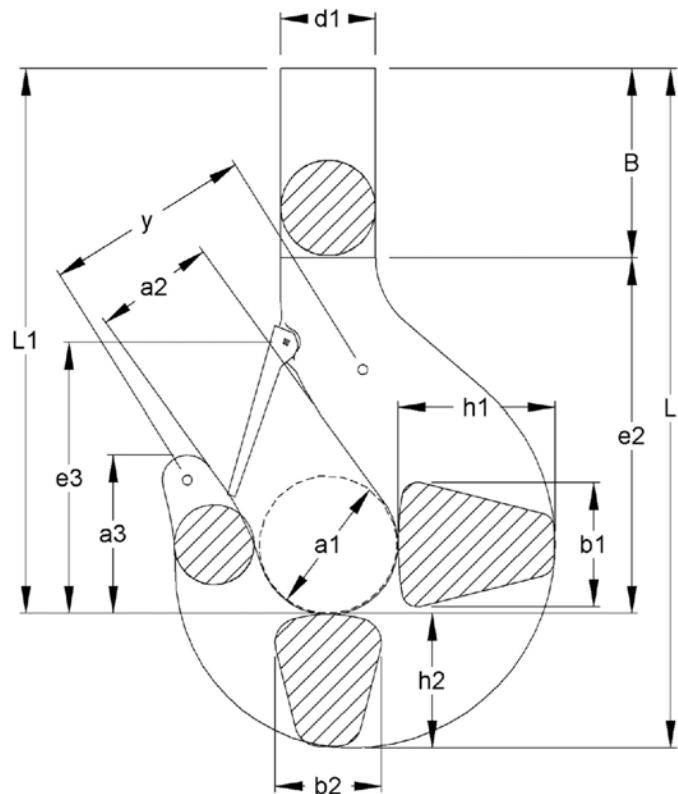
Our **DIN 7540 Grade 80 Eye Hook** (RIGHT) features the traditional eye-ring of circular cross section allowing the maximum degree of motion in the connection and is available standard in working loads up to 400 metric tons (440 short tons). These are forged from 34CrNiMo6V alloy steel, include a safety latch, and can be adapted for ROV use. Design factor is 4:1.



Our **Shackle Eye Hook** (LEFT) features an eye of cylindrical section for a close fit onto the shackle pin, limiting motion relative to the shackle, or other pin and evenly distributing the load. Shackle eye hooks are similar to DIN 15401 shank hooks and are forged from the class V alloy steel material noted above. Design factor is 5:1. Shackle Eye Hooks include a locking safety latch and can also be adapted for ROV (remote-operated vehicle) use.

# FORGED HOOKS- SINGLE HOOKS DIN 15401

## Metric Dimensions

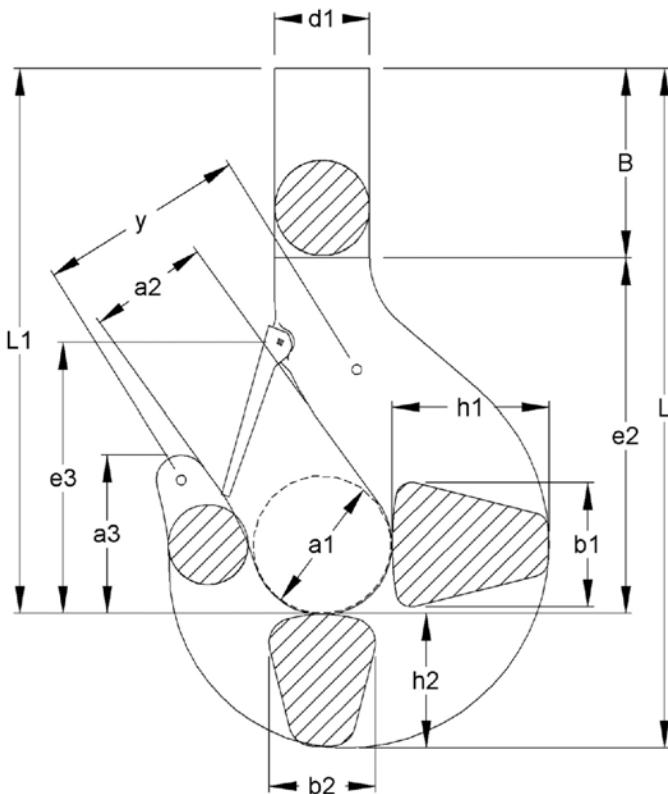


| Model Number | Capacity Metric Tons Carbon Class P | Capacity Metric Tons Alloy Class T | Capacity Metric Tons Super Alloy Class V | Capacity Metric Tons STAINLESS STEEL | a1  | a2  | a3  | B   | b1  | b2  | d1  | e2   | e3  | h1  | h2  | L    | L1   | y   | Weight Kg |
|--------------|-------------------------------------|------------------------------------|--|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|------|-----|-----------|
| GS 1,6       | 3                                   | 5                                  | 6.5                                      | 2.5                                  | 56  | 45  | 64  | 78  | 45  | 38  | 36  | 146  | 118 | 56  | 48  | 272  | 224  |     | 4.5       |
| GS 2,5       | 5                                   | 8                                  | 10                                       | 3                                    | 63  | 50  | 72  | 86  | 53  | 45  | 42  | 167  | 132 | 67  | 58  | 311  | 253  |     | 6.3       |
| GS 4         | 8                                   | 12                                 | 16                                       | 5                                    | 71  | 56  | 80  | 95  | 63  | 53  | 48  | 190  | 148 | 80  | 67  | 352  | 285  |     | 8.8       |
| GS 5         | 10                                  | 16                                 | 20                                       | 8                                    | 80  | 63  | 90  | 103 | 71  | 60  | 53  | 215  | 165 | 90  | 75  | 393  | 318  |     | 12.3      |
| GS 6         | 12.5                                | 20                                 | 25                                       | 10                                   | 90  | 71  | 101 | 140 | 80  | 67  | 60  | 240  | 185 | 100 | 85  | 465  | 380  | 130 | 17.1      |
| GS 8         | 16                                  | 25                                 | 32                                       | 12.5                                 | 100 | 80  | 113 | 150 | 90  | 75  | 67  | 268  | 210 | 112 | 95  | 513  | 418  | 145 | 24        |
| GS 10        | 20                                  | 32                                 | 40                                       | 16                                   | 112 | 90  | 127 | 166 | 100 | 85  | 75  | 286  | 221 | 125 | 106 | 558  | 452  | 160 | 34        |
| GS 12        | 25                                  | 40                                 | 50                                       | 20                                   | 125 | 100 | 143 | 209 | 112 | 95  | 85  | 316  | 252 | 140 | 118 | 643  | 525  | 180 | 55        |
| GS 16        | 32                                  | 50                                 | 63                                       | 25                                   | 140 | 112 | 160 | 238 | 125 | 106 | 95  | 357  | 280 | 160 | 132 | 727  | 595  | 200 | 77        |
| GS 20        | 40                                  | 63                                 | 80                                       | 32                                   | 160 | 125 | 180 | 260 | 140 | 118 | 106 | 405  | 330 | 180 | 150 | 815  | 665  | 225 | 112       |
| GS 25        | 50                                  | 80                                 | 100                                      | 40                                   | 180 | 140 | 202 | 280 | 160 | 132 | 118 | 455  | 360 | 200 | 170 | 905  | 735  | 255 | 160       |
| GS 32        | 63                                  | 100                                | 125                                      | 50                                   | 200 | 160 | 225 | 300 | 180 | 150 | 132 | 510  | 400 | 224 | 190 | 1000 | 810  | 290 | 220       |
| GS 40        | 80                                  | 125                                | 160                                      | 63                                   | 224 | 180 | 252 | 338 | 200 | 170 | 150 | 567  | 447 | 250 | 212 | 1117 | 905  | 320 | 310       |
| GS 50        | 100                                 | 160                                | 200                                      | 80                                   | 250 | 200 | 285 | 355 | 224 | 190 | 170 | 635  | 485 | 280 | 236 | 1226 | 990  | 355 | 430       |
| GS 63        | 125                                 | 200                                | 250                                      | 100                                  | 280 | 224 | 320 | 410 | 250 | 212 | 190 | 710  | 550 | 315 | 265 | 1385 | 1120 | 400 | 600       |
| GS 80        | 160                                 | 250                                | 320                                      | 125                                  | 315 | 250 | 358 | 468 | 280 | 236 | 212 | 802  | 598 | 355 | 300 | 1570 | 1270 | 450 | 860       |
| GS 100       | 200                                 | 320                                | 400                                      | 160                                  | 355 | 280 | 402 | 513 | 315 | 265 | 235 | 902  | 688 | 400 | 335 | 1750 | 1415 | 505 | 1220      |
| GS 125       | 250                                 | 400                                | 500                                      | n/a                                  | 400 | 315 | 450 | 570 | 355 | 300 | 265 | 1020 | 750 | 450 | 375 | 1965 | 1590 | 570 | 1740      |
| GS 160       | 320                                 | 500                                | 640                                      | n/a                                  | 450 | 350 | 505 | 645 | 400 | 335 | 300 | 1145 | 825 | 500 | 425 | 2215 | 1790 | 640 | 2480      |
| GS 200       | 400                                 | 640                                | 800                                      | n/a                                  | 500 | 400 | 565 | 771 | 450 | 375 | 335 | 1275 | 900 | 560 | 475 | 2523 | 2048 | 720 | 3420      |

• Design factor is 5:1 • For dimensional tolerances and extended shank options see page 70

# FORGED HOOKS- SINGLE HOOKS DIN 15401

## Imperial Dimensions

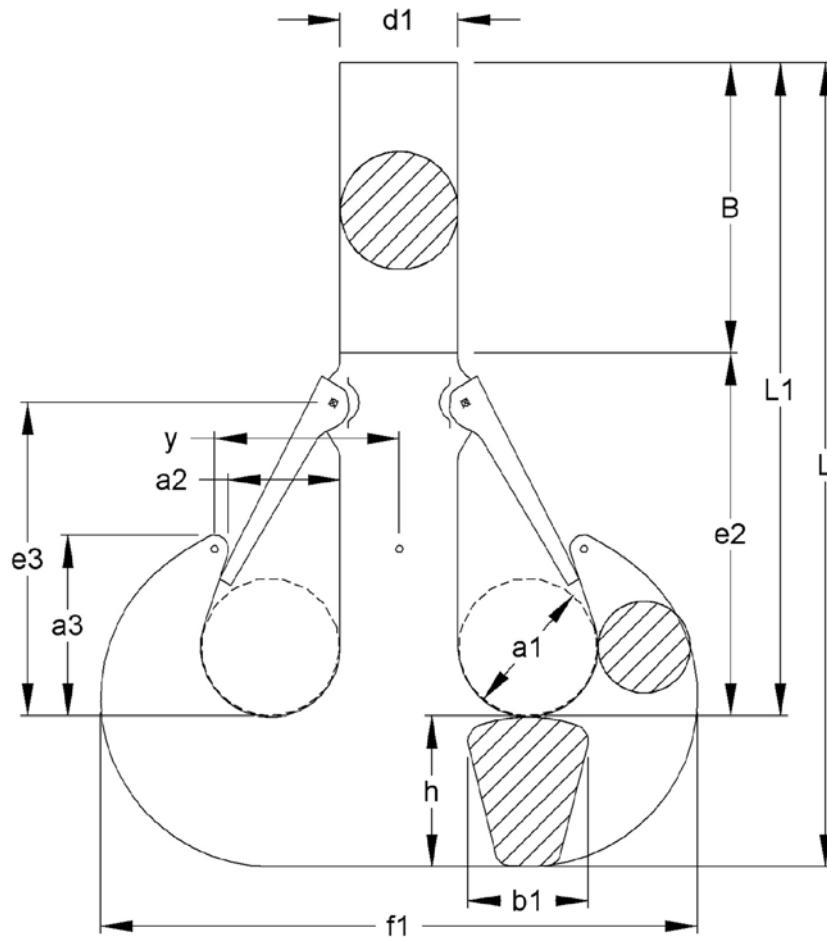


| Model Number | Capacity Short Tons Carbon Class P | Capacity Short Tons Alloy Class T | Capacity Short Tons Super Alloy Class V | Capacity Short Tons STAINLESS STEEL | a1    | a2    | a3    | B     | b1    | b2    | d1    | e2    | e3    | h1    | h2    | L     | L1    | y     | Weight Lbs. |
|--------------|------------------------------------|-----------------------------------|---|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|
| GS 1,6       | 3                                  | 6                                 | 7                                       | 3                                   | 2.21  | 1.77  | 2.52  | 3.07  | 1.77  | 1.50  | 1.42  | 5.75  | 4.65  | 2.21  | 1.89  | 10.72 | 8.83  |       | 10          |
| GS 2,5       | 6                                  | 9                                 | 11                                      | 3                                   | 2.48  | 1.97  | 2.84  | 3.39  | 2.09  | 1.77  | 1.65  | 6.58  | 5.20  | 2.64  | 2.29  | 12.25 | 9.97  |       | 14          |
| GS 4         | 9                                  | 13                                | 18                                      | 6                                   | 2.80  | 2.21  | 3.15  | 3.74  | 2.48  | 2.09  | 1.89  | 7.49  | 5.83  | 3.15  | 2.64  | 13.87 | 11.23 |       | 19          |
| GS 5         | 11                                 | 18                                | 22                                      | 9                                   | 3.15  | 2.48  | 3.55  | 4.06  | 2.80  | 2.36  | 2.09  | 8.47  | 6.50  | 3.55  | 2.96  | 15.48 | 12.53 |       | 27          |
| GS 6         | 14                                 | 22                                | 28                                      | 11                                  | 3.55  | 2.80  | 3.98  | 5.52  | 3.15  | 2.64  | 2.36  | 9.46  | 7.29  | 3.94  | 3.35  | 18.32 | 14.97 | 5.12  | 38          |
| GS 8         | 18                                 | 28                                | 35                                      | 14                                  | 3.94  | 3.15  | 4.45  | 5.91  | 3.55  | 2.96  | 2.64  | 10.56 | 8.27  | 4.41  | 3.74  | 20.21 | 16.47 | 5.71  | 53          |
| GS 10        | 22                                 | 35                                | 44                                      | 18                                  | 4.41  | 3.55  | 5.00  | 6.54  | 3.94  | 3.35  | 2.96  | 11.27 | 8.71  | 4.93  | 4.18  | 21.99 | 17.81 | 6.30  | 75          |
| GS 12        | 28                                 | 44                                | 55                                      | 22                                  | 4.93  | 3.94  | 5.63  | 8.23  | 4.41  | 3.74  | 3.35  | 12.45 | 9.93  | 5.52  | 4.65  | 25.33 | 20.69 | 7.09  | 121         |
| GS 16        | 35                                 | 55                                | 69                                      | 28                                  | 5.52  | 4.41  | 6.30  | 9.38  | 4.93  | 4.18  | 3.74  | 14.07 | 11.03 | 6.30  | 5.20  | 28.64 | 23.44 | 7.88  | 170         |
| GS 20        | 44                                 | 69                                | 88                                      | 35                                  | 6.30  | 4.93  | 7.09  | 10.24 | 5.52  | 4.65  | 4.18  | 15.96 | 13.00 | 7.09  | 5.91  | 32.11 | 26.20 | 8.87  | 247         |
| GS 25        | 55                                 | 88                                | 110                                     | 44                                  | 7.09  | 5.52  | 7.96  | 11.03 | 6.30  | 5.20  | 4.65  | 17.93 | 14.18 | 7.88  | 6.70  | 35.66 | 28.96 | 10.05 | 353         |
| GS 32        | 69                                 | 110                               | 138                                     | 55                                  | 7.88  | 6.30  | 8.87  | 11.82 | 7.09  | 5.91  | 5.20  | 20.09 | 15.76 | 8.83  | 7.49  | 39.40 | 31.91 | 11.43 | 485         |
| GS 40        | 88                                 | 138                               | 176                                     | 69                                  | 8.83  | 7.09  | 9.93  | 13.32 | 7.88  | 6.70  | 5.91  | 22.34 | 17.61 | 9.85  | 8.35  | 44.01 | 35.66 | 12.61 | 683         |
| GS 50        | 110                                | 176                               | 220                                     | 88                                  | 9.85  | 7.88  | 11.23 | 13.99 | 8.83  | 7.49  | 6.70  | 25.02 | 19.11 | 11.03 | 9.30  | 48.30 | 39.01 | 13.99 | 948         |
| GS 63        | 138                                | 220                               | 276                                     | 110                                 | 11.03 | 8.83  | 12.61 | 16.15 | 9.85  | 8.35  | 7.49  | 27.97 | 21.67 | 12.41 | 10.44 | 54.57 | 44.13 | 15.76 | 1323        |
| GS 80        | 176                                | 276                               | 353                                     | 138                                 | 12.41 | 9.85  | 14.11 | 18.44 | 11.03 | 9.30  | 8.35  | 31.6  | 23.56 | 13.99 | 11.82 | 61.86 | 50.04 | 17.73 | 1896        |
| GS 100       | 220                                | 353                               | 441                                     | 176                                 | 13.99 | 11.03 | 15.84 | 20.21 | 12.41 | 10.44 | 9.26  | 35.54 | 27.11 | 15.76 | 13.20 | 68.95 | 55.75 | 19.90 | 2690        |
| GS 125       | 276                                | 441                               | 551                                     | n/a                                 | 15.76 | 12.41 | 17.73 | 22.46 | 13.99 | 11.82 | 10.44 | 40.19 | 29.55 | 17.73 | 14.78 | 77.42 | 62.65 | 22.46 | 3836        |
| GS 160       | 353                                | 551                               | 705                                     | n/a                                 | 17.73 | 13.99 | 19.90 | 25.41 | 15.76 | 13.20 | 11.82 | 45.11 | 32.51 | 19.70 | 16.75 | 87.27 | 70.53 | 25.22 | 5467        |
| GS 200       | 441                                | 705                               | 882                                     | n/a                                 | 19.70 | 15.76 | 22.26 | 30.38 | 17.73 | 14.78 | 13.20 | 50.24 | 35.46 | 22.06 | 18.72 | 99.41 | 80.69 | 28.37 | 7540        |

\* Design factor is 5:1 • For dimensional tolerances and extended shank options see page 70

# FORGED HOOKS- DUPLEX HOOK DIN 15402

## Metric Dimensions

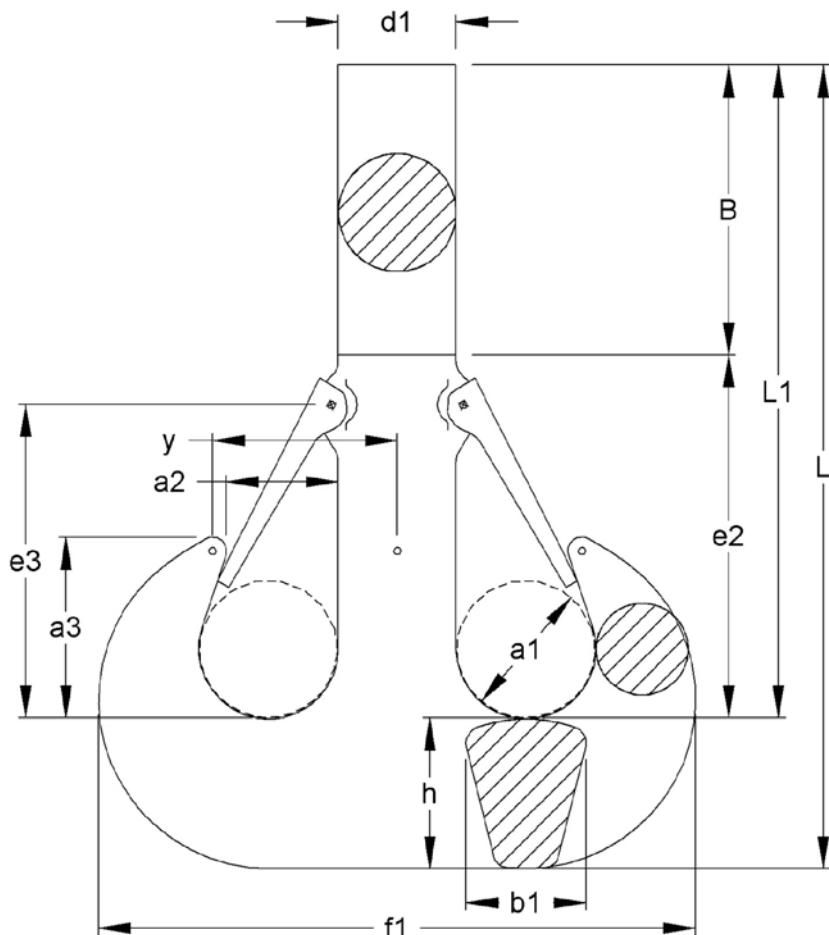


| Model Number | Capacity Metric Tons Carbon Class P | Capacity Metric Tons Alloy Class T | Capacity Metric Tons Super Alloy Class V | a1  | a2  | a3  | B    | f1   | b1  | e2   | d1  | e3  | h   | L    | L1   | y     | Weight Kg |
|--------------|-------------------------------------|------------------------------------|--|-----|-----|-----|------|------|-----|------|-----|-----|-----|------|------|-------|-----------|
| GD 6         | 12.5                                | 20                                 | 25                                       | 71  | 56  | 92  | 183  | 301  | 60  | 192  | 60  | 160 | 75  | 450  | 375  | 93    | 16.8      |
| GD 8         | 16                                  | 25                                 | 32                                       | 80  | 63  | 103 | 197  | 337  | 67  | 218  | 67  | 182 | 85  | 500  | 415  | 104.5 | 25.3      |
| GD 10        | 20                                  | 32                                 | 40                                       | 90  | 71  | 116 | 220  | 377  | 75  | 230  | 75  | 192 | 95  | 545  | 450  | 117.5 | 35.3      |
| GD 12        | 25                                  | 40                                 | 50                                       | 100 | 80  | 130 | 258  | 421  | 85  | 252  | 85  | 210 | 106 | 616  | 510  | 132.5 | 50        |
| GD 16        | 32                                  | 50                                 | 63                                       | 112 | 90  | 146 | 296  | 471  | 95  | 284  | 95  | 237 | 118 | 698  | 580  | 148.5 | 71        |
| GD 20        | 40                                  | 63                                 | 80                                       | 125 | 100 | 163 | 332  | 531  | 106 | 318  | 106 | 265 | 132 | 782  | 650  | 165.5 | 100       |
| GD 25        | 50                                  | 80                                 | 100                                      | 140 | 112 | 182 | 347  | 598  | 118 | 378  | 118 | 315 | 150 | 865  | 715  | 185   | 138       |
| GD 32        | 63                                  | 100                                | 125                                      | 160 | 125 | 205 | 388  | 672  | 132 | 402  | 132 | 335 | 170 | 960  | 790  | 207   | 197       |
| GD 40        | 80                                  | 125                                | 160                                      | 180 | 140 | 230 | 435  | 754  | 150 | 450  | 150 | 375 | 190 | 1075 | 885  | 233   | 286       |
| GD 50        | 100                                 | 160                                | 200                                      | 200 | 160 | 260 | 461  | 842  | 170 | 504  | 170 | 420 | 212 | 1177 | 965  | 265   | 394       |
| GD 63        | 125                                 | 200                                | 250                                      | 224 | 180 | 292 | 538  | 944  | 190 | 552  | 190 | 460 | 236 | 1326 | 1090 | 297   | 547       |
| GD 80        | 160                                 | 250                                | 320                                      | 250 | 200 | 325 | 617  | 1062 | 212 | 618  | 212 | 515 | 265 | 1500 | 1235 | 331   | 760       |
| GD 100       | 200                                 | 320                                | 400                                      | 280 | 224 | 364 | 685  | 1186 | 235 | 690  | 235 | 575 | 300 | 1675 | 1375 | 370   | 1060      |
| GD 125       | 250                                 | 400                                | 500                                      | 315 | 250 | 408 | 776  | 1330 | 265 | 774  | 265 | 645 | 335 | 1885 | 1550 | 414.5 | 1491      |
| GD 160       | 320                                 | 500                                | 500                                      | 355 | 280 | 458 | 875  | 1505 | 300 | 870  | 300 | 725 | 375 | 2120 | 1745 | 466   | 2115      |
| GD 200       | 400                                 | 640                                | 800                                      | 400 | 315 | 515 | 1037 | 1685 | 335 | 961  | 335 | 800 | 425 | 2423 | 1998 | 522.5 | 3015      |
| GD 250       | 500                                 | 800                                | 1000                                     | 450 | 355 | 580 | 1195 | 1885 | 375 | 1055 | 375 | 875 | 475 | 2725 | 2250 | 587.5 | 4268      |

• Design factor is 5:1 • For dimensional tolerances and extended shank options see page 70

# FORGED HOOKS- DUPLEX HOOK DIN 15402

## Imperial Dimensions

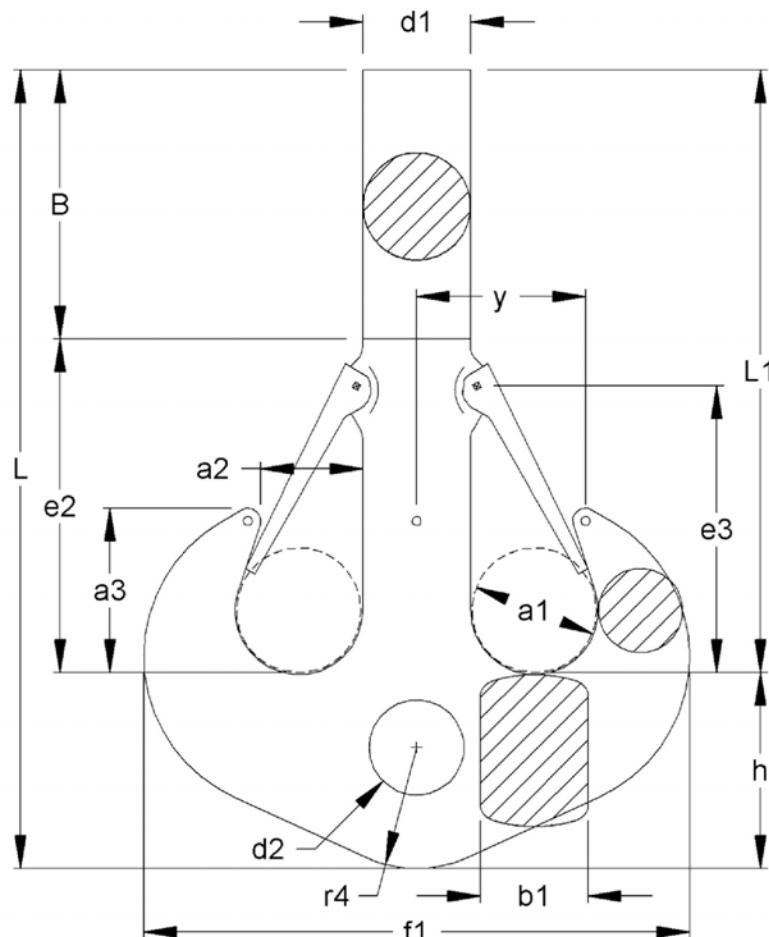


| Model Number | Capacity Short Tons Carbon Class P | Capacity Short Tons Alloy Class T | Capacity Short Tons Super Alloy Class V | a1    | a2    | a3    | B     | f1    | b1    | e2    | d1    | e3    | h     | L     | L1    | y     | Weight Lbs. |
|--------------|------------------------------------|-----------------------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|
| GD 6         | 14                                 | 22                                | 28                                      | 2.80  | 2.21  | 3.62  | 7.21  | 11.86 | 2.36  | 7.56  | 2.36  | 6.30  | 2.96  | 17.73 | 14.78 | 3.66  | 37          |
| GD 8         | 18                                 | 28                                | 35                                      | 3.15  | 2.48  | 4.06  | 7.76  | 13.28 | 2.64  | 8.59  | 2.64  | 7.17  | 3.35  | 19.70 | 16.35 | 4.12  | 56          |
| GD 10        | 22                                 | 35                                | 44                                      | 3.55  | 2.80  | 4.57  | 8.67  | 14.85 | 2.96  | 9.06  | 2.96  | 7.56  | 3.74  | 21.47 | 17.73 | 4.63  | 80          |
| GD 12        | 28                                 | 44                                | 55                                      | 3.94  | 3.15  | 5.12  | 10.17 | 16.59 | 3.35  | 9.93  | 3.35  | 8.27  | 4.18  | 24.27 | 20.09 | 5.22  | 111         |
| GD 16        | 35                                 | 55                                | 69                                      | 4.41  | 3.55  | 5.75  | 11.66 | 18.56 | 3.74  | 11.19 | 3.74  | 9.34  | 4.65  | 27.50 | 22.85 | 5.85  | 157         |
| GD 20        | 44                                 | 69                                | 88                                      | 4.93  | 3.94  | 6.42  | 13.08 | 20.92 | 4.18  | 12.53 | 4.18  | 10.44 | 5.20  | 30.81 | 25.61 | 6.52  | 219         |
| GD 25        | 55                                 | 88                                | 110                                     | 5.52  | 4.41  | 7.17  | 13.67 | 23.56 | 4.65  | 14.89 | 4.65  | 12.41 | 5.91  | 34.08 | 28.17 | 7.29  | 304         |
| GD 32        | 69                                 | 110                               | 138                                     | 6.30  | 4.93  | 8.08  | 15.29 | 26.48 | 5.20  | 15.84 | 5.20  | 13.20 | 6.70  | 37.82 | 31.13 | 8.16  | 434         |
| GD 40        | 88                                 | 138                               | 176                                     | 7.09  | 5.52  | 9.06  | 17.14 | 29.71 | 5.91  | 17.73 | 5.91  | 14.78 | 7.49  | 42.36 | 34.87 | 9.18  | 631         |
| GD 50        | 110                                | 176                               | 220                                     | 7.88  | 6.30  | 10.24 | 18.16 | 33.17 | 6.70  | 19.86 | 6.70  | 16.55 | 8.35  | 46.37 | 38.02 | 10.44 | 869         |
| GD 63        | 138                                | 220                               | 276                                     | 8.83  | 7.09  | 11.50 | 21.20 | 37.19 | 7.49  | 21.75 | 7.49  | 18.12 | 9.30  | 52.24 | 42.95 | 11.70 | 1206        |
| GD 80        | 176                                | 276                               | 353                                     | 9.85  | 7.88  | 12.81 | 24.31 | 41.84 | 8.35  | 24.35 | 8.35  | 20.29 | 10.44 | 59.10 | 48.66 | 13.04 | 1673        |
| GD 100       | 220                                | 353                               | 441                                     | 11.03 | 8.83  | 14.34 | 26.99 | 46.73 | 9.26  | 27.19 | 9.26  | 22.66 | 11.82 | 66.00 | 54.18 | 14.58 | 2337        |
| GD 125       | 276                                | 441                               | 551                                     | 12.41 | 9.85  | 16.08 | 30.57 | 52.40 | 10.44 | 30.50 | 10.44 | 25.41 | 13.20 | 74.27 | 61.07 | 16.33 | 3287        |
| GD 160       | 353                                | 551                               | 705                                     | 13.99 | 11.03 | 18.05 | 34.45 | 59.30 | 11.82 | 34.25 | 11.82 | 28.57 | 14.78 | 83.53 | 68.75 | 18.36 | 4663        |
| GD 200       | 441                                | 705                               | 882                                     | 15.76 | 12.41 | 20.29 | 40.82 | 66.39 | 13.20 | 37.83 | 13.20 | 31.52 | 16.75 | 95.47 | 78.72 | 20.59 | 6647        |
| GD 250       | 551                                | 882                               | 1102                                    | 17.73 | 13.99 | 22.85 | 47.05 | 74.27 | 14.78 | 41.53 | 14.78 | 34.48 | 18.72 | 107.3 | 88.65 | 23.15 | 9409        |

\* Design factor is 5:1 • For dimensional tolerances and extended shank options see page 70

# FORGED HOOKS- DUPLEX HOOK DIN 15402-B

## Metric Dimensions



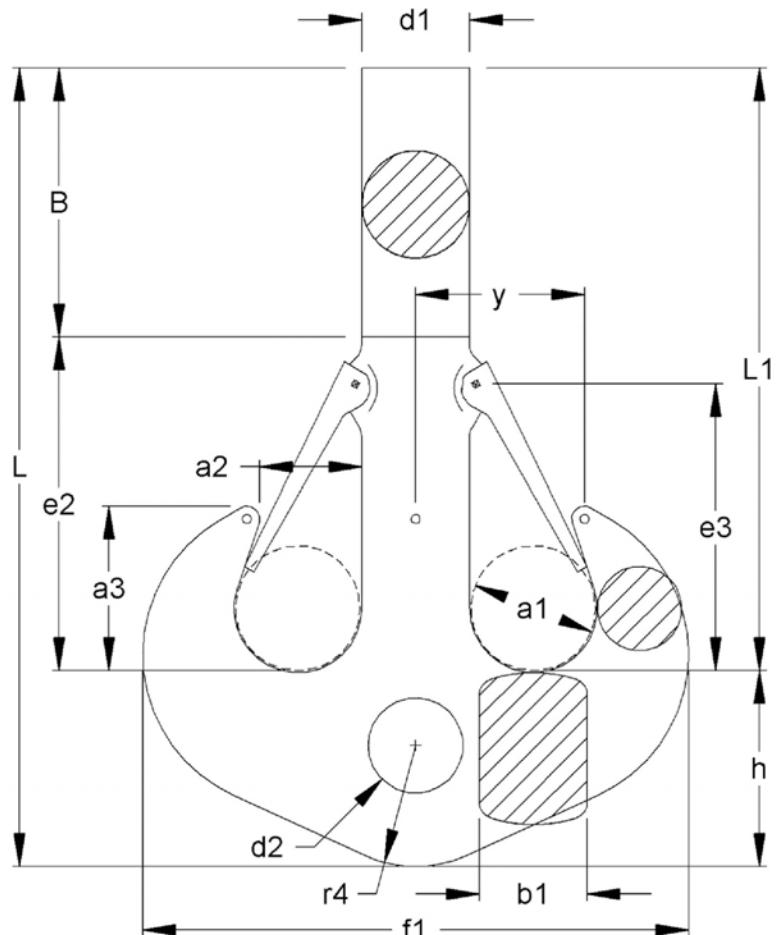
| Model Number | Capacity Metric Tons Carbon Class P | Capacity Metric Tons Alloy Class T | Capacity Metric Tons Super Alloy Class V | a1  | a2  | a3  | B    | f1   | b1  | d2  | e2   | d1  | e3  | h   | L    | L1   | r4  | y     | Weight Kg |
|--------------|-------------------------------------|------------------------------------|--|-----|-----|-----|------|------|-----|-----|------|-----|-----|-----|------|------|-----|-------|-----------|
| GDB 10       | 20                                  | 32                                 | 40                                       | 90  | 71  | 116 | 220  | 377  | 75  | 74  | 230  | 75  | 192 | 130 | 580  | 450  | 85  | 117.5 | 41        |
| GDB 12       | 25                                  | 40                                 | 50                                       | 100 | 80  | 130 | 258  | 421  | 85  | 78  | 252  | 85  | 210 | 150 | 660  | 510  | 95  | 132.5 | 57        |
| GDB 16       | 32                                  | 50                                 | 63                                       | 112 | 90  | 146 | 296  | 471  | 95  | 86  | 284  | 95  | 237 | 170 | 750  | 580  | 106 | 148.5 | 82        |
| GDB 20       | 40                                  | 63                                 | 80                                       | 125 | 100 | 163 | 332  | 531  | 106 | 96  | 318  | 106 | 265 | 190 | 840  | 650  | 118 | 165.5 | 115       |
| GDB 25       | 50                                  | 80                                 | 100                                      | 140 | 112 | 182 | 347  | 598  | 118 | 106 | 378  | 118 | 315 | 212 | 927  | 715  | 132 | 185   | 160       |
| GDB 32       | 63                                  | 100                                | 125                                      | 160 | 125 | 205 | 388  | 672  | 132 | 116 | 402  | 132 | 335 | 236 | 1026 | 790  | 150 | 207   | 229       |
| GDB 40       | 80                                  | 125                                | 160                                      | 180 | 140 | 230 | 435  | 754  | 150 | 131 | 450  | 150 | 375 | 265 | 1150 | 885  | 170 | 233   | 330       |
| GDB 50       | 100                                 | 160                                | 200                                      | 200 | 160 | 260 | 461  | 842  | 170 | 146 | 504  | 170 | 420 | 300 | 1265 | 965  | 190 | 265   | 458       |
| GDB 63       | 125                                 | 200                                | 250                                      | 224 | 180 | 292 | 538  | 944  | 190 | 168 | 552  | 190 | 460 | 335 | 1425 | 1090 | 212 | 297   | 638       |
| GDB 80       | 160                                 | 250                                | 320                                      | 250 | 200 | 325 | 617  | 1062 | 212 | 188 | 618  | 212 | 515 | 375 | 1610 | 1235 | 236 | 331   | 892       |
| GDB 100      | 200                                 | 320                                | 400                                      | 280 | 224 | 364 | 685  | 1186 | 235 | 208 | 690  | 235 | 575 | 425 | 1800 | 1375 | 265 | 370   | 1248      |
| GDB 125      | 250                                 | 400                                | 500                                      | 315 | 250 | 408 | 776  | 1330 | 265 | 235 | 774  | 265 | 645 | 475 | 2025 | 1550 | 300 | 414.5 | 1757      |
| GDB 160      | 320                                 | 500                                | 640                                      | 355 | 280 | 458 | 875  | 1505 | 300 | 260 | 875  | 300 | 725 | 530 | 2275 | 1745 | 335 | 466   | 2500      |
| GDB 200      | 400                                 | 640                                | 800                                      | 400 | 315 | 515 | 1037 | 1685 | 335 | 282 | 1037 | 335 | 800 | 600 | 2560 | 1960 | 375 | 522.5 | 3560      |
| GDB 250      | 500                                 | 800                                | 1000                                     | 450 | 355 | 580 | 1195 | 1885 | 375 | 312 | 1195 | 375 | 875 | 670 | 2880 | 2210 | 425 | 587.5 | 5030      |

• For dimensional tolerances and extended shank length options see page 70. • Hole tolerance is H15 (approx. +2%/-0)

• Design factor is 5:1

# FORGED HOOKS- DUPLEX HOOK DIN 15402-B

## Imperial Dimensions



| Model Number | Capacity Short Tons Carbon Class P | Capacity Short Tons Alloy Class T | Capacity Short Tons Super Alloy Class V | a1    | a2    | a3    | B     | f1    | b1    | d2    | e2    | d1    | e3    | h     | L     | L1    | r4   | y     | Weight Lbs. |
|--------------|------------------------------------|-----------------------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------------|
| GDB 10       | 22                                 | 35                                | 44                                      | 3.55  | 2.80  | 4.57  | 8.67  | 14.85 | 2.96  | 2.92  | 9.06  | 2.96  | 7.56  | 5.12  | 22.85 | 17.73 | 3.35 | 4.63  | 90          |
| GDB 12       | 28                                 | 44                                | 55                                      | 3.94  | 3.15  | 5.12  | 10.17 | 16.59 | 3.35  | 3.07  | 9.93  | 3.35  | 8.27  | 5.91  | 26.00 | 20.09 | 3.74 | 5.22  | 126         |
| GDB 16       | 35                                 | 55                                | 69                                      | 4.41  | 3.55  | 5.75  | 11.66 | 18.56 | 3.74  | 3.39  | 11.19 | 3.74  | 9.34  | 6.70  | 29.55 | 22.85 | 4.17 | 5.85  | 181         |
| GDB 20       | 44                                 | 69                                | 88                                      | 4.93  | 3.94  | 6.42  | 13.08 | 20.92 | 4.18  | 3.78  | 12.53 | 4.18  | 10.44 | 7.49  | 33.10 | 25.61 | 4.65 | 6.52  | 254         |
| GDB 25       | 55                                 | 88                                | 110                                     | 5.52  | 4.41  | 7.17  | 13.67 | 23.56 | 4.65  | 4.18  | 14.89 | 4.65  | 12.41 | 8.35  | 36.52 | 28.17 | 5.2  | 7.29  | 353         |
| GDB 32       | 69                                 | 110                               | 138                                     | 6.30  | 4.93  | 8.08  | 15.29 | 26.48 | 5.20  | 4.57  | 15.84 | 5.20  | 13.20 | 9.30  | 40.42 | 31.13 | 5.9  | 8.16  | 505         |
| GDB 40       | 88                                 | 138                               | 176                                     | 7.09  | 5.52  | 9.06  | 17.14 | 29.71 | 5.91  | 5.16  | 17.73 | 5.91  | 14.78 | 10.44 | 45.31 | 34.87 | 6.7  | 9.18  | 728         |
| GDB 50       | 110                                | 176                               | 220                                     | 7.88  | 6.30  | 10.24 | 18.16 | 33.17 | 6.70  | 5.75  | 19.86 | 6.70  | 16.55 | 11.82 | 49.84 | 38.02 | 7.48 | 10.44 | 1010        |
| GDB 63       | 138                                | 220                               | 276                                     | 8.83  | 7.09  | 11.50 | 21.20 | 37.19 | 7.49  | 6.62  | 21.75 | 7.49  | 18.12 | 13.20 | 56.15 | 42.95 | 8.35 | 11.70 | 1407        |
| GDB 80       | 176                                | 276                               | 353                                     | 9.85  | 7.88  | 12.81 | 24.31 | 41.84 | 8.35  | 7.41  | 24.35 | 8.35  | 20.29 | 14.78 | 63.43 | 48.66 | 9.29 | 13.04 | 1967        |
| GDB 100      | 220                                | 353                               | 441                                     | 11.03 | 8.83  | 14.34 | 26.99 | 46.73 | 9.26  | 8.20  | 27.19 | 9.26  | 22.66 | 16.75 | 70.92 | 54.18 | 10.4 | 14.58 | 2751        |
| GDB 125      | 276                                | 441                               | 551                                     | 12.41 | 9.85  | 16.08 | 30.57 | 52.40 | 10.44 | 9.26  | 30.50 | 10.44 | 25.41 | 18.72 | 79.79 | 61.07 | 11.8 | 16.33 | 3873        |
| GDB 160      | 353                                | 551                               | 705                                     | 13.99 | 11.03 | 18.05 | 34.45 | 59.30 | 11.82 | 10.24 | 34.25 | 11.82 | 28.57 | 20.88 | 89.64 | 68.75 | 13.2 | 18.36 | 5512        |
| GDB 200      | 441                                | 705                               | 882                                     | 15.76 | 12.41 | 20.29 | 40.82 | 66.39 | 13.20 | 11.11 | 37.83 | 13.20 | 31.52 | 23.64 | 100.8 | 77.22 | 14.8 | 20.59 | 7848        |
| GDB 250      | 551                                | 882                               | 1102                                    | 17.73 | 13.99 | 22.85 | 47.05 | 74.27 | 14.78 | 12.29 | 41.54 | 14.78 | 34.48 | 26.40 | 113.4 | 87.07 | 16.7 | 23.15 | 11096       |

\*For dimensional tolerances and extended shank length options see page 70. •Hole tolerance +2%/-0

•Design factor is 5:1

# DIN SHANK HOOKS- TOLERANCES & OPTIONAL LONG SHANKS



## DIN SHANK HOOKS- TOLERANCES AND OPTIONAL EXTENDED LENGTH SHANKS

### METRIC DIMENSIONS

Single hooks per DIN 15401

| Single Hook Number | Long Shank Add Value to L1 (mm) |
|--------------------|---------------------------------|
| 2.5                | 62                              |
| 4                  | 100                             |
| 5                  | 92                              |
| 6                  | 50                              |
| 8                  | 102                             |
| 10 to 20           | 150                             |
| 25 to 125          | 200                             |
| 160 and 200        | Per Order                       |

| Single Hook Number | Dimensional Tolerances (mm) |        |          |          |        |          |    |    |    |    |
|--------------------|-----------------------------|--------|----------|----------|--------|----------|----|----|----|----|
|                    | a1                          | a2     | a3       | b1       | b2     | d1       | e3 | h1 | h2 | L1 |
| 1.6 and 2.5        |                             |        |          |          |        | +3 / -0  |    |    |    |    |
| 4 and 5            |                             |        |          |          |        | +4 / -0  |    |    |    |    |
| 6 and 8            |                             |        |          |          |        | +5 / -0  |    |    |    |    |
| 10 to 16           |                             |        |          |          |        | +6 / -0  |    |    |    |    |
| 20                 |                             |        |          |          |        | +8 / -0  |    |    |    |    |
| 25 and 32          | +12 / -0                    | +/- 10 | +16 / -0 | +12 / -0 | +/- 10 | +20 / -0 |    |    |    |    |
| 40 to 63           | +16 / -0                    | +/- 12 | +20 / -0 | +16 / -0 | +/- 12 | +24 / -0 |    |    |    |    |
| 80 to 125          | +20 / -0                    | +/- 16 | +25 / -0 | +20 / -0 | +/- 16 | +32 / -0 |    |    |    |    |
| 160 to 200         | +25 / -0                    | +/- 20 | +32 / -0 | +25 / -0 | +/- 20 | +40 / -0 |    |    |    |    |

Duplex hooks per DIN 15402

| Duplex Hook Number | Long Shank Add Value to L1 (mm) |
|--------------------|---------------------------------|
| 6                  | 115                             |
| 8                  | 120                             |
| 10 and 12          | 110                             |
| 16 and 20          | N/A                             |
| 25                 | 150                             |
| 32 to 160          | 200                             |
| 200 and 250        | Per Order                       |

| Duplex Hook Number | Dimensional Tolerances (mm) |        |          |          |          |          |   |    |
|--------------------|-----------------------------|--------|----------|----------|----------|----------|---|----|
|                    | a1                          | a2     | a3       | b1       | d1       | e        | h | L1 |
| 6 and 8            |                             |        |          |          | +5 / -0  |          |   |    |
| 10 to 16           |                             |        |          |          | +6 / -0  |          |   |    |
| 20 and 25          |                             |        |          |          | +8 / -0  |          |   |    |
| 32                 | +12 / -0                    | +/- 10 | +16 / -0 | +12 / -0 | +5 / -0  | +20 / -0 |   |    |
| 40 to 63           | +16 / -0                    | +/- 12 | +20 / -0 | +16 / -0 | +6 / -0  | +24 / -0 |   |    |
| 80 to 125          | +20 / -0                    | +/- 16 | +25 / -0 | +20 / -0 | +8 / -0  | +32 / -0 |   |    |
| 160 to 250         | +25 / -0                    | +/- 20 | +32 / -0 | +25 / -0 | +10 / -0 | +40 / -0 |   |    |

### IMPERIAL DIMENSIONS

Single hooks per DIN 15401

| Single Hook Number | Long Shank Add Value to L1 (in) |
|--------------------|---------------------------------|
| 2.5                | 2.44                            |
| 4                  | 3.94                            |
| 5                  | 3.62                            |
| 6                  | 1.97                            |
| 8                  | 4.02                            |
| 10 to 20           | 5.91                            |
| 25 to 125          | 7.88                            |
| 160 and 200        | Per Order                       |

| Single Hook Number | Dimensional Tolerances (inches) |         |           |          |         |           |    |    |    |    |
|--------------------|---------------------------------|---------|-----------|----------|---------|-----------|----|----|----|----|
|                    | a1                              | a2      | a3        | b1       | b2      | d1        | e3 | h1 | h2 | L1 |
| 1.6 and 2.5        |                                 |         |           |          |         | +.12 / -0 |    |    |    |    |
| 4 and 5            |                                 |         |           |          |         | .16 / -0  |    |    |    |    |
| 6 and 8            |                                 |         |           |          |         | .2 / -0   |    |    |    |    |
| 10 to 16           |                                 |         |           |          |         | .24 / -0  |    |    |    |    |
| 20                 |                                 |         |           |          |         | .32 / -0  |    |    |    |    |
| 25 and 32          | +.47 / -0                       | +/- .39 | .63 / -0  | .47 / -0 | +/- .39 | .79 / -0  |    |    |    |    |
| 40 to 63           | .63 / -0                        | +/- .47 | .79 / -0  | .63 / -0 | +/- .47 | .95 / -0  |    |    |    |    |
| 80 to 125          | .79 / -0                        | +/- .63 | .99 / -0  | .79 / -0 | +/- .63 | 1.26 / -0 |    |    |    |    |
| 160 to 200         | .99 / -0                        | +/- .79 | 1.26 / -0 | .99 / -0 | +/- .79 | 1.58 / -0 |    |    |    |    |

Duplex hooks per DIN 15402

| Duplex Hook Number | Long Shank Add Value to L1 (in) |
|--------------------|---------------------------------|
| 6                  | 4.53                            |
| 8                  | 4.73                            |
| 10 and 12          | 4.33                            |
| 16 and 20          | N/A                             |
| 25                 | 5.91                            |
| 32 to 160          | 7.88                            |
| 200 and 250        | Per Order                       |

| Duplex Hook Number | Dimensional Tolerances (inches) |         |           |          |          |           |   |    |
|--------------------|---------------------------------|---------|-----------|----------|----------|-----------|---|----|
|                    | a1                              | a2      | a3        | b1       | d1       | e         | h | L1 |
| 6 and 8            |                                 |         |           |          | .2 / -0  |           |   |    |
| 10 to 16           |                                 |         |           |          | .24 / -0 |           |   |    |
| 20 and 25          |                                 |         |           |          | .32 / -0 |           |   |    |
| 32                 | +.47 / -0                       | +/- .39 | .63 / -0  | .47 / -0 | .2 / -0  | .79 / -0  |   |    |
| 40 to 63           | .63 / -0                        | +/- .47 | .79 / -0  | .63 / -0 | .24 / -0 | .95 / -0  |   |    |
| 80 to 125          | .79 / -0                        | +/- .63 | .99 / -0  | .79 / -0 | .32 / -0 | 1.26 / -0 |   |    |
| 160 to 250         | .99 / -0                        | +/- .79 | 1.26 / -0 | .99 / -0 | .39 / -0 | 1.58 / -0 |   |    |

# LATCH KITS FOR HOOKS



Miller Lifting Products  
100A Sturbridge Rd.  
Charlton MA 01507 USA  
800.733.7071  
[sales@millerproducts.net](mailto:sales@millerproducts.net)

## LATCH KITS FOR STANDARDIZED EUROPEAN SHANK HOOKS

**DIN 15401 SINGLE HOOKS ■ DIN 15402 DOUBLE HOOKS**  
**STANDARD OR HEAVY-DUTY LOCKING TYPE**

\*Attachment hardware included

| <b>Hook Frame Number</b> |               | <b>Standard</b> | <b>Heavy-Duty</b>       |
|--------------------------|---------------|-----------------|-------------------------|
| <b>Single</b>            | <b>Duplex</b> | <b>Flapper</b>  | <b>Positive-Locking</b> |
| 1.6                      | 2.5           | M291805106      | M291807106              |
| 2.5                      | 4             | M291805205      | M291807205              |
| 4                        | 5             | M291805004      | M291807005              |
| 5                        | 6             | M291805005      | M291807007              |
| 6                        | 8             | M291805006      | M291807006              |
| 8                        | 10            | M291805008      | M291807008              |
| 10                       | 12            | M291805010      | M291807010              |
| 12                       | 16            | M291805012      | M291807012              |
| 16                       | 20            | M291805016      | M291807016              |
| 20                       | 25            | M291805020      | M291807020              |
| 25                       | 32            | M291805025      | M291807025              |
| 32                       | 40            | M291805032      | M291807032              |
| 40                       | 50            | M291805040      | M291807040              |
| 50                       | 63            | M291805050      | M291807050              |
| 63                       | 80            | M291805063      | M291807063              |
| 80                       | 100           | M291805080      | M291807080              |
| 100                      | 125           | M291805100      | M291807100              |
| 125                      | 160           | M291805125      | M291807125              |
| 160                      | 200           | M291805160      | M291807160              |
| 200                      | 250           | M291805200      | M291807200              |

### Standard HD Pos Lock



\*Lock Pin  
Not Shown

#### How to locate hook frame number:

See hook markings located as indicated below. Hook frame number is followed by a single letter P, T, V, S, or M



## LATCH KITS FOR EUROPEAN EYE HOOKS

**DIN 7540 Standard Flapper Latch Kits**

\*Attachment hardware included

| <b>Hook Frame Number</b> | <b>Part Number</b> |
|--------------------------|--------------------|
| 34                       | M291991034         |
| 35                       | M291991035         |
| 36                       | M291991036         |
| 37 and 38                | M291991037         |
| 39, 40 and 41            | M291991039         |
| 42                       | M291991042         |

\* Positive locking latches by special order

#### How to locate hook frame number:

See hook markings located as indicated below. Hook frame number is a two-digit number 34 through 42



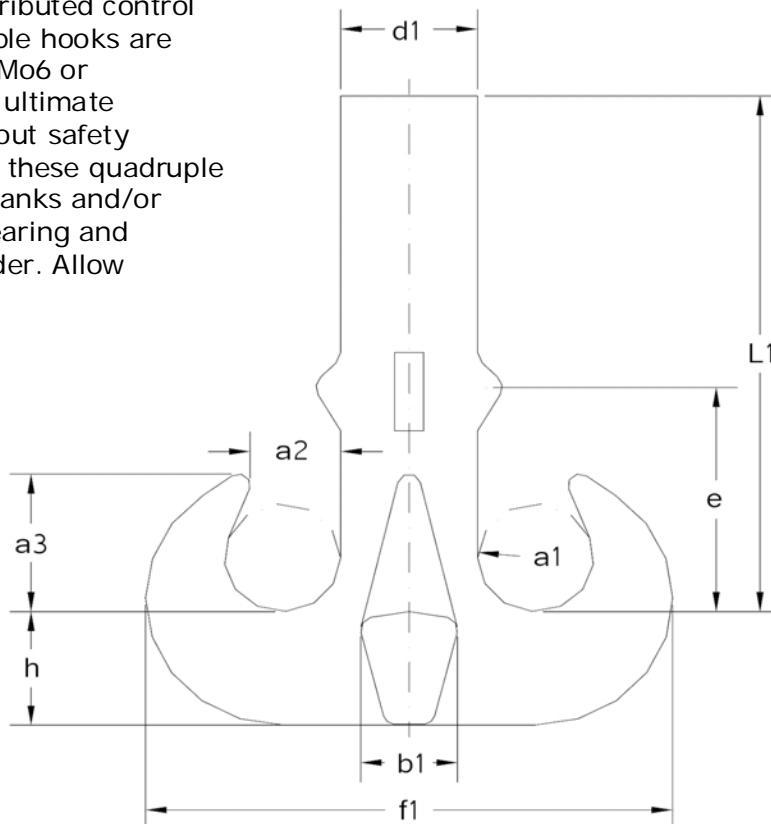
## LATCH KITS FOR ELD EYE HOOKS

\*Attachment hardware included

| <b>Working Load &amp; Material</b> | <b>Part Number</b> |
|------------------------------------|--------------------|
| 3 TON CARBON                       | M291803000         |
| 5 TON CARBON / 7.5 TON ALLOY       | M291804005         |
| 7.5 TON CARBON / 11.5 TON ALLOY    | M291804007         |
| 10 TON CARBON / 16 TON ALLOY       | M291804004         |
| 22 TON ALLOY                       | M291804009         |

# FORGED HOOKS- QUADRUPLE HOOK - BASED ON DIN 15402

For heavy lift activity where more distributed control of the load is necessary, these quadruple hooks are forged from class V superalloy, 34CrNiMo6 or 30CrNiMo8. The static design factor to ultimate strength is 5:1. Available with or without safety latches. Shown here as a raw forging, these quadruple hooks are also available with longer shanks and/or machined with matching nut, thrust bearing and trunnion. Quad hooks are forged to order. Allow adequate time for delivery.



## Metric Dimensions

| Model Number | Capacity (SWL)<br>Metric Tons* | a1  | a2  | a3  | b1  | d1  | e   | f1  | h   | L1** | Weight<br>Kg |
|--------------|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|--------------|
| GQ16V        | 160                            | 112 | 90  | 146 | 95  | 132 | 237 | 508 | 118 | 580  | 146          |
| GQ20V        | 200                            | 125 | 100 | 163 | 106 | 150 | 265 | 575 | 132 | 650  | 208          |
| GQ25V        | 250                            | 140 | 112 | 182 | 118 | 170 | 315 | 650 | 150 | 715  | 300          |
| GQ32V        | 320                            | 160 | 125 | 205 | 132 | 190 | 335 | 730 | 170 | 790  | 418          |
| GQ40V        | 400                            | 180 | 140 | 230 | 150 | 212 | 375 | 816 | 190 | 885  | 604          |
| GQ50V        | 500                            | 200 | 160 | 260 | 170 | 236 | 420 | 908 | 212 | 965  | 785          |

## Imperial Dimensions

| Model Number | Capacity (SWL)<br>Short Tons* | a1   | a2   | a3    | b1   | d1   | e     | f1    | h    | L1**  | Weight<br>Lbs. |
|--------------|-------------------------------|------|------|-------|------|------|-------|-------|------|-------|----------------|
| GQ16V        | 176                           | 4.41 | 3.54 | 5.75  | 3.74 | 5.20 | 9.33  | 20.00 | 4.65 | 22.83 | 322            |
| GQ20V        | 220                           | 4.92 | 3.94 | 6.42  | 4.17 | 5.91 | 10.43 | 22.64 | 5.20 | 25.59 | 459            |
| GQ25V        | 275                           | 5.51 | 4.41 | 7.17  | 4.65 | 6.69 | 12.40 | 25.59 | 5.91 | 28.15 | 661            |
| GQ32V        | 352                           | 6.30 | 4.92 | 8.07  | 5.20 | 7.48 | 13.19 | 28.74 | 6.69 | 31.10 | 922            |
| GQ40V        | 440                           | 7.09 | 5.51 | 9.06  | 5.91 | 8.35 | 14.76 | 32.13 | 7.48 | 34.84 | 1332           |
| GQ50V        | 551                           | 7.87 | 6.30 | 10.24 | 6.69 | 9.29 | 16.54 | 35.75 | 8.35 | 37.99 | 1731           |

▪ Tolerance per DIN15402

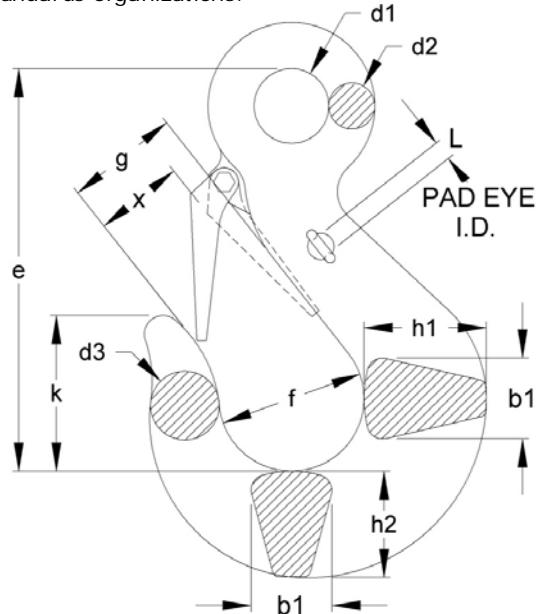
\* Capacities based on FEM 1Bm/ISO M3 service class    \*\* Additional length, L1 is available

# FORGED EYE HOOKS- DIN 7540 GRADE 80



DIN is the German Institute for Standardization (Deutsches Institut für Normung) and has been based in Berlin since 1917. DIN has historically developed the detailed and exacting standards used in German engineering and is the body that represents Germany in international standards organizations.

- Forged from high-strength alloy steel 34CrNiMo6V
- Safe Working Loads from 40 to 400 metric tons
- Design factor 4:1 to ultimate strength
- Proof load is 2.5 times Safe Working Load
- Includes safety latch
- ROV modification (addition of pad eyes) available upon request
- Higher load capacities available upon request



## Metric Dimensions

| Model Number | Capacity (SWL) Metric Tons | MBL Metric ton | b1  | d1  | d1 Tolerance | d2  | d3  | e    | f   | g   | h1  | h2  | K   | L  | X   | Weight Kg |
|--------------|----------------------------|----------------|-----|-----|--------------|-----|-----|------|-----|-----|-----|-----|-----|----|-----|-----------|
| EH34         | 40                         | 160            | 78  | 72  | +1.9 / -3.7  | 44  | 66  | 388  | 140 | 109 | 118 | 103 | 80  | 19 | 90  | 31.5      |
| EH35         | 50                         | 200            | 89  | 84  | +1.9 / -3.7  | 50  | 74  | 442  | 158 | 124 | 135 | 116 | 90  | 19 | 103 | 46        |
| EH36         | 63                         | 250            | 99  | 90  | +2.3 / -4.7  | 56  | 83  | 494  | 176 | 138 | 151 | 130 | 101 | 19 | 114 | 63        |
| EH37         | 80                         | 320            | 110 | 102 | +2.3 / -4.7  | 63  | 93  | 610  | 198 | 155 | 168 | 145 | 113 | 19 | 131 | 80        |
| EH38         | 100                        | 400            | 125 | 116 | +/- 5.0      | 74  | 120 | 650  | 225 | 175 | 195 | 172 | 133 | 19 | 147 | 125       |
| EH39         | 150                        | 600            | 140 | 130 | +/- 6.5      | 86  | 140 | 765  | 250 | 200 | 225 | 199 | 160 | 19 | 166 | 250       |
| EH40         | 200                        | 800            | 160 | 150 | +/- 7.5      | 102 | 161 | 850  | 275 | 225 | 260 | 237 | 195 | 25 | *   | 365       |
| EH41         | 250                        | 1000           | 180 | 170 | +/- 8.5      | 120 | 195 | 928  | 310 | 255 | 290 | 269 | 210 | 25 | *   | 515       |
| EH42         | 300                        | 1200           | 200 | 190 | +/- 9.5      | 140 | 223 | 1052 | 350 | 290 | 330 | 310 | 240 | 32 | *   | 730       |
| EH43         | 400                        | 1600           | 240 | 210 | +/- 10.5     | 170 | 240 | 1195 | 400 | 320 | 380 | 345 | 270 | 32 | *   | 1055      |

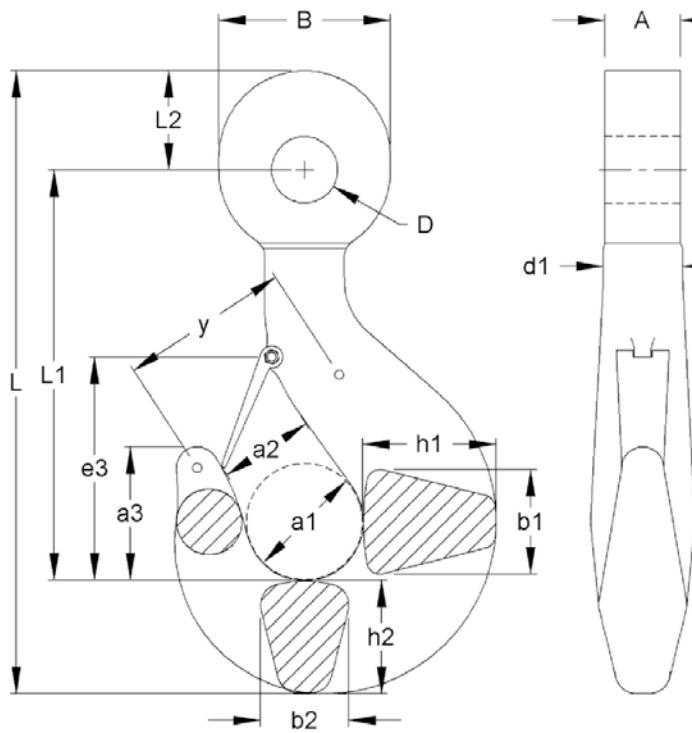
## Imperial Dimensions

| Model Number | Capacity (SWL) Short Tons | MBL Short ton | b1   | d1   | d1 Tolerance | d2   | d3   | e     | f     | g     | h1    | h2    | K     | L    | X    | Weight Lbs. |
|--------------|---------------------------|---------------|------|------|--------------|------|------|-------|-------|-------|-------|-------|-------|------|------|-------------|
| EH34         | 44                        | 176           | 3.07 | 2.83 | +.07 / -.14  | 1.73 | 2.60 | 15.28 | 5.51  | 4.29  | 4.65  | 4.06  | 3.15  | .75  | 3.54 | 69          |
| EH35         | 55                        | 220           | 3.50 | 3.31 | +.07 / -.14  | 1.97 | 2.91 | 17.40 | 6.22  | 4.88  | 5.31  | 4.57  | 3.54  | .75  | 4.06 | 102         |
| EH36         | 69                        | 275           | 3.90 | 3.54 | +.09 / -.18  | 2.20 | 3.27 | 19.45 | 6.93  | 5.43  | 5.94  | 5.12  | 3.98  | .75  | 4.49 | 139         |
| EH37         | 88                        | 353           | 4.33 | 4.02 | +.09 / -.18  | 2.48 | 3.66 | 24.02 | 7.88  | 6.10  | 6.61  | 5.71  | 4.45  | .75  | 5.16 | 176         |
| EH38         | 110                       | 441           | 4.92 | 4.57 | +/- .19      | 2.91 | 4.72 | 25.59 | 8.86  | 6.89  | 7.68  | 6.77  | 5.24  | .75  | 5.79 | 276         |
| EH39         | 165                       | 661           | 5.51 | 5.12 | +/- .25      | 3.39 | 5.51 | 30.12 | 9.84  | 7.87  | 8.86  | 7.83  | 6.30  | .75  | 6.54 | 551         |
| EH40         | 220                       | 882           | 6.30 | 5.91 | +/- .29      | 4.02 | 6.34 | 33.46 | 10.83 | 8.86  | 10.24 | 9.33  | 7.68  | .98  | *    | 805         |
| EH41         | 276                       | 1102          | 7.09 | 6.69 | +/- .33      | 4.72 | 7.68 | 36.54 | 12.20 | 10.04 | 11.42 | 10.59 | 8.27  | .98  | *    | 1135        |
| EH42         | 331                       | 1322          | 7.87 | 7.48 | +/- .37      | 5.51 | 8.78 | 41.42 | 13.78 | 11.42 | 12.99 | 12.20 | 9.45  | 1.26 | *    | 1609        |
| EH43         | 441                       | 1764          | 8.27 | 8.27 | +/- .41      | 6.69 | 9.45 | 47.05 | 15.75 | 12.60 | 14.96 | 13.58 | 10.63 | 1.26 | *    | 2326        |

- Except where otherwise noted, dimensional tolerances for hooks through model EH37 are approximately  $\pm 5\%$ , and increase somewhat for hooks larger than model EH37. Contact Miller for detailed tolerance data.
- Load capacities indicated are for operating temperatures between  $-40^{\circ}\text{C}$  and  $200^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  and  $392^{\circ}\text{F}$ ). Outside this range check with Miller for reduced capacity limits.

\* x dimension please inquire.

## FORGED HOOKS- HEAVY DUTY SHACKLE EYE HOOK



### Heavy Duty Eye Hooks for Shackles

Miller Heavy Duty Eye Hooks are specifically intended for use with shackles or other pin-type connections. The cylindrical cross-section of the eye assures uniform pin loading while limiting relative hook motion.

Based also the DIN norms, they are typically forged from the strongest DIN "V" material class (see above) and carry a 5:1 design safety factor and a positive locking latch. Adaptable for ROV (Remotely Operated Vehicles) use, these eye hooks fit standard shackles and also are available in customized versions. Deformation indicators are also included on these heavy duty models.

#### Metric Dimensions

| Model Number | Capacity Metric Tons | A     | a1  | a2  | a3  | B   | b1  | b2  | D     | d1  | e3  | h1  | h2  | b   | L1   | L2  | L    | y   | Weight Kg |
|--------------|----------------------|-------|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|------|-----|------|-----|-----------|
| GSOJ8T       | 30                   | 52    | 100 | 80  | 113 | 115 | 90  | 75  | 43    | 67  | 210 | 112 | 95  | 51  | 419  | 65  | 569  | 145 | 17        |
| GSOJ8V       | 40                   | 65    | 100 | 80  | 113 | 140 | 90  | 75  | 52.5  | 67  | 210 | 112 | 95  | 59  | 427  | 80  | 602  | 145 | 24        |
| GSOJ12V      | 55                   | 74.5  | 125 | 100 | 143 | 155 | 112 | 95  | 60.5  | 85  | 252 | 140 | 118 | 68  | 484  | 90  | 692  | 180 | 55        |
| GSOJ20V      | 85                   | 96.5  | 160 | 125 | 180 | 195 | 140 | 118 | 73    | 106 | 330 | 180 | 150 | 80  | 585  | 112 | 847  | 225 | 112       |
| GSOJ25V      | 120                  | 119   | 180 | 140 | 202 | 235 | 160 | 132 | 86    | 118 | 360 | 200 | 170 | 91  | 646  | 135 | 951  | 255 | 160       |
| GSOJ32V      | 150                  | 125   | 200 | 160 | 225 | 250 | 180 | 150 | 98.5  | 132 | 400 | 224 | 190 | 112 | 722  | 145 | 1057 | 290 | 220       |
| GSOJ40T      | 175                  | 131.5 | 224 | 180 | 252 | 285 | 200 | 170 | 109.5 | 150 | 447 | 250 | 212 | 126 | 793  | 165 | 1170 | 320 | 310       |
| GSOJ40V      | 200                  | 144.5 | 224 | 180 | 252 | 320 | 200 | 170 | 122.5 | 150 | 447 | 250 | 212 | 147 | 814  | 185 | 1211 | 320 | 310       |
| GSOJ50V      | 250                  | 179   | 250 | 200 | 285 | 340 | 224 | 190 | 135   | 170 | 485 | 280 | 236 | 168 | 903  | 195 | 1334 | 355 | 430       |
| GSOJ63V      | 300                  | 179   | 280 | 224 | 320 | 405 | 250 | 212 | 154   | 190 | 550 | 315 | 265 | 168 | 978  | 235 | 1478 | 400 | 600       |
| GSOJ80V      | 400                  | 201.5 | 315 | 250 | 358 | 460 | 280 | 236 | 179.5 | 212 | 598 | 355 | 300 | 196 | 1098 | 265 | 1663 | 450 | 860       |

• Dimensional Tolerance are, A=+0/-1%, D=+2/-0% and all others are +7/-2%

#### Imperial Dimensions

| Model Number | Capacity Short Tons | A    | a1    | a2   | a3    | B     | b1    | b2   | D    | d1   | e3    | h1    | h2    | b    | L1    | L2    | L     | y     | Weight Lbs. |
|--------------|---------------------|------|-------|------|-------|-------|-------|------|------|------|-------|-------|-------|------|-------|-------|-------|-------|-------------|
| GSOJ8T       | 33                  | 2.05 | 3.94  | 3.15 | 4.45  | 4.53  | 3.55  | 2.96 | 1.69 | 2.64 | 8.27  | 4.41  | 3.74  | 2.01 | 16.51 | 2.56  | 22.42 | 5.71  | 37          |
| GSOJ8V       | 44                  | 2.56 | 3.94  | 3.15 | 4.45  | 5.52  | 3.55  | 2.96 | 2.07 | 2.64 | 8.27  | 4.41  | 3.74  | 2.32 | 16.82 | 3.15  | 23.72 | 5.71  | 53          |
| GSOJ12V      | 61                  | 2.94 | 4.93  | 3.94 | 5.63  | 6.11  | 4.41  | 3.74 | 2.38 | 3.35 | 9.93  | 5.52  | 4.65  | 2.68 | 19.07 | 3.55  | 27.26 | 7.09  | 121         |
| GSOJ20V      | 94                  | 3.80 | 6.30  | 4.93 | 7.09  | 7.68  | 5.52  | 4.65 | 2.88 | 4.18 | 13.00 | 7.09  | 5.91  | 3.15 | 23.05 | 4.41  | 33.37 | 8.87  | 247         |
| GSOJ25V      | 132                 | 4.69 | 7.09  | 5.52 | 7.96  | 9.26  | 6.30  | 5.20 | 3.39 | 4.65 | 14.18 | 7.88  | 6.70  | 3.59 | 25.45 | 5.32  | 37.47 | 10.05 | 353         |
| GSOJ32V      | 165                 | 4.93 | 7.88  | 6.30 | 8.87  | 9.85  | 7.09  | 5.91 | 3.88 | 5.20 | 15.76 | 8.83  | 7.49  | 4.41 | 28.45 | 5.71  | 41.65 | 11.43 | 485         |
| GSOJ40T      | 193                 | 5.18 | 8.83  | 7.09 | 9.93  | 11.23 | 7.88  | 6.70 | 4.31 | 5.91 | 17.61 | 9.85  | 8.35  | 4.96 | 31.24 | 6.50  | 46.10 | 12.61 | 683         |
| GSOJ40V      | 220                 | 5.69 | 8.83  | 7.09 | 9.93  | 12.61 | 7.88  | 6.70 | 4.83 | 5.91 | 17.61 | 9.85  | 8.35  | 5.79 | 32.07 | 7.29  | 47.71 | 12.61 | 683         |
| GSOJ50V      | 276                 | 7.05 | 9.85  | 7.88 | 11.23 | 13.40 | 8.83  | 7.49 | 5.32 | 6.70 | 19.11 | 11.03 | 9.30  | 6.62 | 35.58 | 7.68  | 52.56 | 13.99 | 948         |
| GSOJ63V      | 331                 | 7.05 | 11.03 | 8.83 | 12.61 | 15.96 | 9.85  | 8.35 | 6.07 | 7.49 | 21.67 | 12.41 | 10.44 | 6.62 | 38.53 | 9.26  | 58.23 | 15.76 | 1323        |
| GSOJ80V      | 441                 | 7.94 | 12.41 | 9.85 | 14.11 | 18.12 | 11.03 | 9.30 | 7.07 | 8.35 | 23.56 | 13.99 | 11.82 | 7.72 | 43.26 | 10.44 | 65.52 | 17.73 | 1896        |

• Dimensional Tolerance are, A=+0/-1%, D=+2/-0% and all others are +7/-2%

## HEAVY DUTY SHEAVES - CAST - REPLACEMENT PARTS



### STANDARD SHEAVES

Miller Heavy Duty Sheaves are now available in newly-designed, wear-resistant, cast alloy steel for both **Miller Hi-Lift Standard Crane Blocks** and for **Miller Mobile Crane Blocks**.

Features of the new designs include a selection of D/d ratios by sheave diameter and wire rope size, a new shape for increased structural strength, more weight for today's higher and heavier overhaul requirements, and the ability to alter wire groove details to allow compliance with certain industry standards including API2C.

Miller Hi-Lift Blocks are furnished standard with new-design, cast alloy steel sheaves and with cylindrical roller bearings up to 20" diameter and with tapered roller bearings for 24" and larger diameters.

Miller Mobile Crane Blocks are furnished standard with new-design, cast alloy steel sheaves with full-complement cylindrical double roller bearings.

Cast alloy steel sheaves are available in standard sizes from 8" to 36" in diameter and are listed in the succeeding tables. Sheaves are available with bare bore, or with bearings or SAE 660 bronze bushings. Stainless steel versions of the sheaves in the following tables are also available. Available with grease fitting by request, lubrication through the sheave pin is recommended. Standard groove angle is 30° minimum and groove radii meet API requirements.

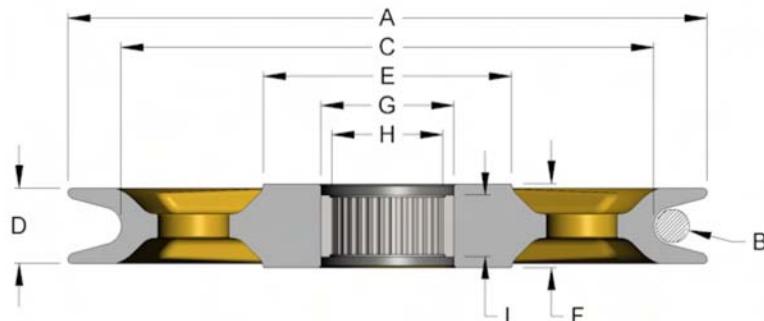
### CUSTOM SHEAVES

Custom cast sheaves weighing up to 4 tons and to 120" diameter are available to your requirements. Roll-formed sheaves are produced to your requirements up to a diameter of 130". See the sheave request for quotation form in this section and specify cast or formed, or include your drawing. All sheaves can be manufactured to accommodate special requirements (e.g., API, ABS).



# HEAVY DUTY SHEAVES - CAST - REPLACEMENT PARTS

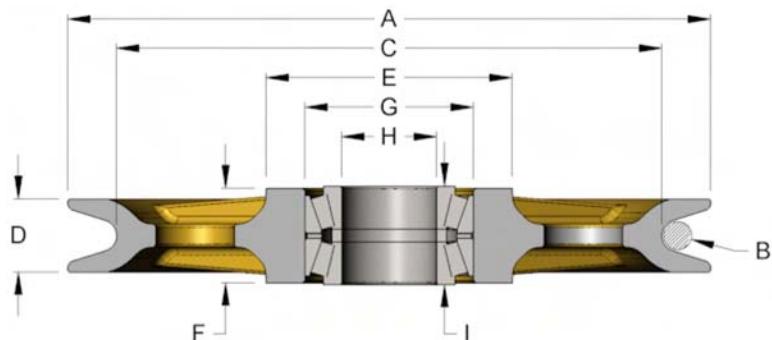
## HI-LIFT BEARING TYPE ROLLER



| A (in.) | B (in.) | C (in.) | D (in.) | E (in.) | F (in.) | G (in.) | H (in.) | I (in.) | D/d RATIO | WEIGHT Lbs. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-------------|
| 8       | 5/16    | 6.91    | 1.16    | 3.38    | 1.25    | 2.19    | 1.63    | 1.25    | 23        | 11          |
| 8       | 3/8     | 6.78    | 1.16    | 3.38    | 1.25    | 2.19    | 1.63    | 1.25    | 19        | 11          |
| 8       | 7/16    | 6.58    | 1.16    | 3.38    | 1.25    | 2.19    | 1.63    | 1.25    | 16        | 10          |
| 8       | 1/2     | 6.5     | 1.16    | 3.38    | 1.25    | 2.19    | 1.63    | 1.25    | 14        | 10          |
| 10      | 7/16    | 8.47    | 1.19    | 3.54    | 1.25    | 2.19    | 1.63    | 1.25    | 20        | 17          |
| 10      | 1/2     | 8.37    | 1.19    | 3.54    | 1.25    | 2.19    | 1.63    | 1.25    | 18        | 17          |
| 10      | 9/16    | 8.31    | 1.19    | 3.54    | 1.25    | 2.19    | 1.63    | 1.25    | 16        | 16          |
| 10      | 5/8     | 8.28    | 1.19    | 3.54    | 1.25    | 2.19    | 1.63    | 1.25    | 14        | 16          |
| 12      | 1/2     | 10.25   | 1.75    | 5.64    | 2       | 3.25    | 2.5     | 1.75    | 22        | 39          |
| 12      | 9/16    | 10.03   | 1.75    | 5.64    | 2       | 3.25    | 2.5     | 1.75    | 19        | 38          |
| 12      | 5/8     | 9.81    | 1.75    | 5.64    | 2       | 3.25    | 2.5     | 1.75    | 17        | 36          |
| 12      | 3/4     | 9.75    | 1.75    | 5.64    | 2       | 3.25    | 2.5     | 1.75    | 14        | 35          |
| 14      | 1/2     | 12.25   | 1.75    | 5.66    | 2       | 3.25    | 2.5     | 1.75    | 26        | 44          |
| 14      | 9/16    | 12.03   | 1.75    | 5.66    | 2       | 3.25    | 2.5     | 1.75    | 22        | 42          |
| 14      | 5/8     | 11.81   | 1.75    | 5.66    | 2       | 3.25    | 2.5     | 1.75    | 20        | 41          |
| 14      | 3/4     | 11.75   | 1.75    | 5.66    | 2       | 3.25    | 2.5     | 1.75    | 17        | 40          |
| 16      | 9/16    | 14.03   | 2       | 6.6     | 2.38    | 3.75    | 3       | 1.75    | 26        | 67          |
| 16      | 5/8     | 13.81   | 2       | 6.6     | 2.38    | 3.75    | 3       | 1.75    | 23        | 65          |
| 16      | 3/4     | 13.56   | 2       | 6.6     | 2.38    | 3.75    | 3       | 1.75    | 19        | 62          |
| 16      | 7/8     | 13.37   | 2       | 6.6     | 2.38    | 3.75    | 3       | 1.75    | 16        | 60          |
| 18      | 5/8     | 15.81   | 2.13    | 6.99    | 2.38    | 3.75    | 3       | 1.75    | 26        | 90          |
| 18      | 3/4     | 15.37   | 2.13    | 6.99    | 2.38    | 3.75    | 3       | 1.75    | 21        | 85          |
| 18      | 7/8     | 15.16   | 2.13    | 6.99    | 2.38    | 3.75    | 3       | 1.75    | 18        | 81          |
| 18      | 1       | 15      | 2.13    | 6.99    | 2.38    | 3.75    | 3       | 1.75    | 16        | 78          |
| 20      | 3/4     | 17.37   | 2.31    | 7.61    | 2.5     | 4.25    | 3.25    | 2       | 24        | 112         |
| 20      | 7/8     | 16.94   | 2.31    | 7.61    | 2.5     | 4.25    | 3.25    | 2       | 20        | 106         |
| 20      | 1       | 16.75   | 2.31    | 7.61    | 2.5     | 4.25    | 3.25    | 2       | 18        | 101         |
| 20      | 1-1/8   | 16.62   | 2.31    | 7.61    | 2.5     | 4.25    | 3.25    | 2       | 16        | 98          |
| 20      | 3/4     | 17.37   | 2.31    | 7.61    | 2.5     | 4.5     | 3.5     | 2       | 24        | 112         |
| 20      | 7/8     | 16.94   | 2.31    | 7.61    | 2.5     | 4.5     | 3.5     | 2       | 20        | 106         |
| 20      | 1       | 16.75   | 2.31    | 7.61    | 2.5     | 4.5     | 3.5     | 2       | 18        | 101         |
| 20      | 1-1/8   | 16.62   | 2.31    | 7.61    | 2.5     | 4.5     | 3.5     | 2       | 16        | 98          |

# HEAVY DUTY SHEAVES - CAST - REPLACEMENT PARTS

## HI-LIFT BEARING TYPE TAPERED ROLLER

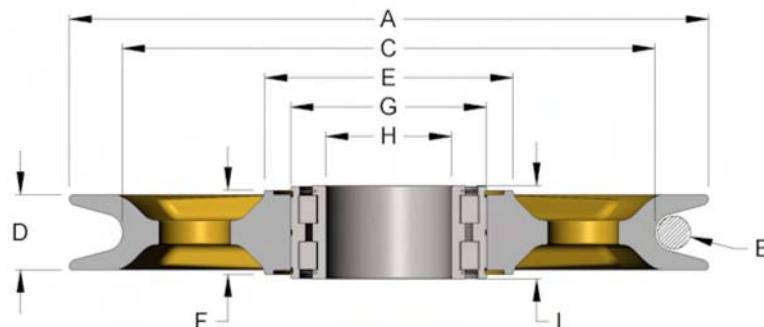


| A (in.) | B (in.) | C (in.) | D (in.) | E (in.) | F (in.) | G (in.) | H (in.) | I (in.) | D/d RATIO | WEIGHT Lbs. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-------------|
| 24      | 7/8     | 20.94   | 2.75    | 9.18    | 3.56    | 6       | 3.5     | 3.625   | 25        | 200         |
| 24      | 1       | 20.5    | 2.75    | 9.18    | 3.56    | 6       | 3.5     | 3.625   | 22        | 189         |
| 24      | 1-1/8   | 20.34   | 2.75    | 9.18    | 3.56    | 6       | 3.5     | 3.625   | 19        | 185         |
| 24      | 1-1/4   | 20.25   | 2.75    | 9.18    | 3.56    | 6       | 3.5     | 3.625   | 17        | 182         |
| 30      | 1-1/8   | 25.63   | 3       | 8.03    | 3.63    | 7.19    | 5       | 3.688   | 22        | 176         |
| 30      | 1-1/4   | 25.63   | 3       | 8.03    | 3.63    | 7.19    | 5       | 3.688   | 21        | 171         |
| 30      | 1-3/8   | 25.63   | 3       | 8.03    | 3.63    | 7.19    | 5       | 3.688   | 20        | 166         |



# HEAVY DUTY SHEAVES - CAST - REPLACEMENT PARTS

## MCB BEARING TYPE FULL COMPLEMENT ROLLER



| A (in.) | B (in.) | C (in.) | D (in.) | E (in.) | F (in.) | G (in.) | H (in.) | I (in.) | D/d RATIO | WEIGHT Lbs. |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-------------|
| 10      | 7/16    | 8.47    | 1.5     | 4.7     | 1.75    | 3.54    | 2.17    | 1.81    | 20        | 23          |
| 10      | 1/2     | 8.37    | 1.5     | 4.7     | 1.75    | 3.54    | 2.17    | 1.81    | 18        | 23          |
| 10      | 9/16    | 8.17    | 1.5     | 4.7     | 1.75    | 3.54    | 2.17    | 1.81    | 16        | 22          |
| 10      | 5/8     | 8.12    | 1.5     | 4.7     | 1.75    | 3.54    | 2.17    | 1.81    | 14        | 21          |
| 12      | 1/2     | 10.25   | 1.75    | 5.64    | 2       | 4.33    | 2.76    | 2.13    | 22        | 38          |
| 12      | 9/16    | 10.03   | 1.75    | 5.64    | 2       | 4.33    | 2.76    | 2.13    | 19        | 37          |
| 12      | 5/8     | 9.81    | 1.75    | 5.64    | 2       | 4.33    | 2.76    | 2.13    | 17        | 35          |
| 12      | 3/4     | 9.75    | 1.75    | 5.64    | 2       | 4.33    | 2.76    | 2.13    | 14        | 34          |
| 14      | 1/2     | 12.25   | 1.75    | 5.66    | 2       | 4.33    | 2.76    | 2.13    | 26        | 43          |
| 14      | 9/16    | 12.03   | 1.75    | 5.66    | 2       | 4.33    | 2.76    | 2.13    | 22        | 41          |
| 14      | 5/8     | 11.81   | 1.75    | 5.66    | 2       | 4.33    | 2.76    | 2.13    | 20        | 40          |
| 14      | 3/4     | 11.75   | 1.75    | 5.66    | 2       | 4.33    | 2.76    | 2.13    | 17        | 38          |
| 16      | 9/16    | 14.03   | 2       | 6.61    | 2.25    | 5.12    | 3.35    | 2.36    | 26        | 65          |
| 16      | 5/8     | 13.81   | 2       | 6.61    | 2.25    | 5.12    | 3.35    | 2.36    | 23        | 63          |
| 16      | 3/4     | 13.56   | 2       | 6.61    | 2.25    | 5.12    | 3.35    | 2.36    | 19        | 60          |
| 16      | 7/8     | 13.37   | 2       | 6.61    | 2.25    | 5.12    | 3.35    | 2.36    | 16        | 57          |
| 18      | 5/8     | 15.81   | 2.13    | 6.99    | 2.38    | 5.51    | 3.54    | 2.64    | 26        | 88          |
| 18      | 3/4     | 15.37   | 2.13    | 6.99    | 2.38    | 5.51    | 3.54    | 2.64    | 21        | 83          |
| 18      | 7/8     | 15.16   | 2.13    | 6.99    | 2.38    | 5.51    | 3.54    | 2.64    | 18        | 79          |
| 18      | 1       | 15      | 2.13    | 6.99    | 2.38    | 5.51    | 3.54    | 2.64    | 16        | 76          |
| 20      | 3/4     | 17.37   | 2.31    | 7.61    | 2.5     | 5.91    | 3.94    | 2.64    | 24        | 109         |
| 20      | 7/8     | 16.94   | 2.31    | 7.61    | 2.5     | 5.91    | 3.94    | 2.64    | 20        | 103         |
| 20      | 1       | 16.75   | 2.31    | 7.61    | 2.5     | 5.91    | 3.94    | 2.64    | 18        | 98          |
| 20      | 1-1/8   | 16.62   | 2.31    | 7.61    | 2.5     | 5.91    | 3.94    | 2.64    | 16        | 95          |
| 24      | 7/8     | 20.94   | 2.75    | 9.2     | 3.11    | 7.09    | 4.72    | 3.15    | 25        | 185         |
| 24      | 1       | 20.5    | 2.75    | 9.2     | 3.11    | 7.09    | 4.72    | 3.15    | 22        | 174         |
| 24      | 1-1/8   | 20.34   | 2.75    | 9.2     | 3.11    | 7.09    | 4.72    | 3.15    | 19        | 170         |
| 24      | 1-1/4   | 20.25   | 2.75    | 9.2     | 3.11    | 7.09    | 4.72    | 3.15    | 17        | 167         |

# HEAVY DUTY SHEAVES - CAST - CUSTOM SHEAVES

## REQUEST FOR QUOTATION

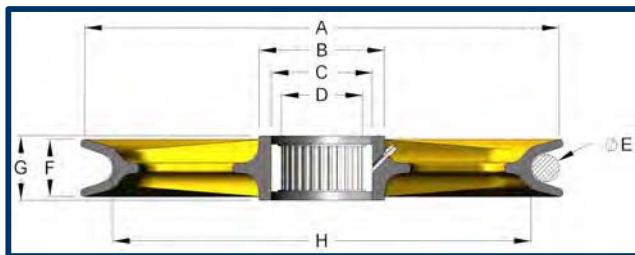
Name \_\_\_\_\_ Company \_\_\_\_\_ Date \_\_\_\_\_

Address \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_ E-mail \_\_\_\_\_

**1.** Specify type & quantity: Cast \_\_\_\_\_ Roll-formed \_\_\_\_\_ Quantity \_\_\_\_\_

**2.** Specify dimensions:



|                        |       |
|------------------------|-------|
| Outside diameter (A)   | _____ |
| Tread diameter (H)     | _____ |
| Shaft diameter (D)     | _____ |
| Rim width max (F)      | _____ |
| Hub O.D. (B)           | _____ |
| Hub Width (G)          | _____ |
| Hub bore dia. (C)      | _____ |
| Rope or chain size (E) | _____ |

**3.** Specific bearing type:

None, plain bore \_\_\_\_\_ Roller \_\_\_\_\_ Tapered roller \_\_\_\_\_ Composite \_\_\_\_\_ Bronze \_\_\_\_\_

**4.** Specify where applicable:

Base material \_\_\_\_\_ Finish \_\_\_\_\_

To industry standard \_\_\_\_\_

Special testing \_\_\_\_\_

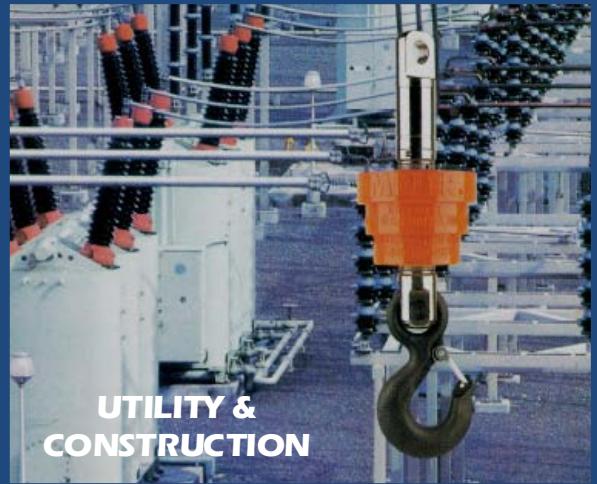
Groove hardness \_\_\_\_\_ Third party inspection \_\_\_\_\_

Other \_\_\_\_\_

**5.** Fax, call or e-mail to:

**Miller Lifting Products**  
100A Sturbridge Rd.  
Charlton, MA 01507 USA

Tel 1.508.248.3941 / 800.733.7071  
Fax 1.508.248.0639  
E-mail [sales@millerproducts.net](mailto:sales@millerproducts.net)

**POWER LINE SAFETY****Standard eye, jaw, or hook****Block-mounted,  
fixed hook****Swivel-mounted,  
eye hook****Custom-fitted****INDUSTRIAL****UTILITY &  
CONSTRUCTION**

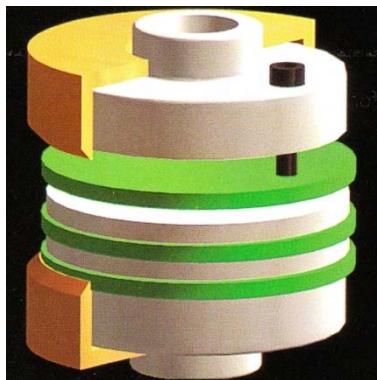
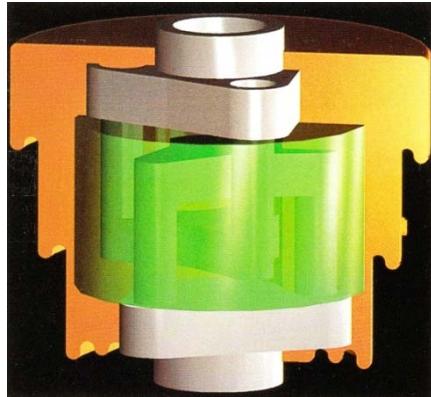
# INSULATING LINKS, ISO/LINK AC & DC

## Proven Performance in Hi-Voltage & Hi-Current Environments

Miller ISO/Link® insulating links are the product of five decades of experience in protection from unwanted electrical discharges in AC or DC environments, while at the same time offering the rugged and secure lifting capability Miller has always been known for.

### ISO/Link-AC® = POWER LINE SAFETY

ISO/Link-AC® insulating links protect workers from the leading cause of electrical injury in the workplace, accidental contact between crane booms and overhead power lines. Made of durable high-performance materials, ISO/Link-AC insulating links are rated for 25,000 AC volts. Permanently sealed construction prevents the absorption of moisture and other contaminants. A low-profile alloy steel interlocking matrix insures reliable performance under the most demanding conditions without requiring excessive length. Designed for use in construction, refineries, utility work, and various manufacturing applications, Miller AC insulating links employ a tough, polyurethane dielectric that surpasses natural rubber in durability and electrical resistance. Available to working loads of 60 tons with a design safety factor of 5:1.



### ISO/Link-DC®

ISO/Link-DC® insulating links are specially designed for use in the smelting industry or wherever high DC current is a threat, e.g., industrial welding. The high temperatures, high duty cycle and strong magnetic fields found in smelting environments were all taken into consideration during the development of this addition to the ISO/Link Series. By incorporating a G-10 glass fiber dielectric, the ISO/Link-DC can withstand continuous temperatures as high as 130°C. Each link is tested to 10,000 Volts DC and rated to 1,000 Volts DC. Factory rebuild is possible. Because of its maintenance-oriented design, the ISO/Link-DC is not sealed and is intended for interior use only. Available to working loads of 60 tons with a design safety factor of 5:1.

### INSU-LINE® TAG LINE INSULATOR

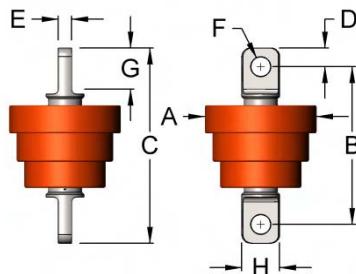
For tag line use in load handling, where high voltage is a safety concern. Adapted by Miller from proven power distribution insulator technology. Fiberglass core for high strength to weight ratio and shatter resistance. Hydrophobic polymer sheath and sheds promote dirt and dust resistance. Every unit is factory proof tested with electrical test certificate available. *Miller INSU-LINE® tag line insulators are not to be used for lifting. Only use tag line insulators with non-conductive tag lines for protection of your ground crew. For lifting applications use Miller's ISO/Link insulating link. ORDER PART NUMBER M135502001.*



| SPECIFICATIONS                               |   |
|--|---|
| Rated Voltage                                | 50 KV rms                                     |
| Dry Flashover                                | 110 KV @ 60 Hz.                               |
| Dry Withstand                                | 100 KV @ 60 Hz.                               |
| Wet Flashover                                | 75 KV @ 60 Hz.                                |
| Wet Withstand                                | 65 KV @ 60 Hz.                                |
| Leakage Current<br>(dry)                     | <0.05 mA<br>at 50 KV                          |
| Leakage Distance                             | 16 in.  |
| Braking Load<br>(information only)           | 15,000 lbs.                                   |
| Operating Load                               | <b>Not for lifting-<br/>Tag line use only</b> |
| Operating TEMP                               | - 50 F to 150 F                               |
| Weight                                       | 2 lbs.  |
| Length<br>(hole to hole)                     | 12 in.  |
| Attachment Hole<br>Size                      | 1 in.   |
| <i>NOT LIGHTNING PROOF / NOT FOR LIFTING</i> |   |

# INSULATING LINKS, NON SWIVELING, ISO/LINK-AC

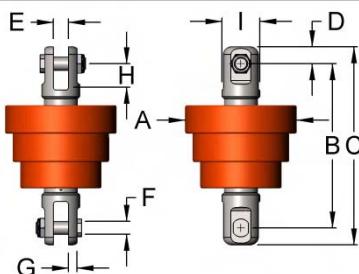
## EYE TO EYE



| WLL*<br>Tons | Model | A**   | B     | C     | D    | E    | F    | G    | H    | Weight<br>Lbs. |
|--------------|-------|-------|-------|-------|------|------|------|------|------|----------------|
| 5            | 2VD2  | 7.38  | 10.50 | 13.00 | 1.25 | 0.88 | 1.28 | 2.75 | 2.50 | 19             |
| 10           | 2VE2  | 8.63  | 14.50 | 17.75 | 1.63 | 1.63 | 1.66 | 3.75 | 3.75 | 60             |
| 25           | 2VG2  | 11.88 | 19.50 | 24.25 | 2.38 | 2.22 | 2.53 | 5.50 | 5.00 | 150            |
| 60           | 2VJJ2 | 12.38 | 22.75 | 29.25 | 3.25 | 3.00 | 2.91 | 7.00 | 6.50 | 250            |

Dimensions in Inches(in), \*5:1 Design Factor , \*\*Link profile varies depending on WLL

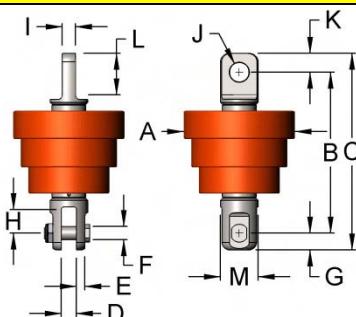
## CLEVIS TO CLEVIS



| WLL*<br>Tons | Model | A**   | B     | C     | D    | E    | F    | G    | H    | I    | Weight<br>Lbs. |
|--------------|-------|-------|-------|-------|------|------|------|------|------|------|----------------|
| 5            | 1VD1  | 7.38  | 10.88 | 13.13 | 1.13 | 1.00 | 0.88 | 0.56 | 1.56 | 2.50 | 21             |
| 10           | 1VE1  | 8.63  | 16.88 | 20.38 | 1.75 | 1.75 | 1.50 | 0.81 | 3.00 | 4.00 | 70             |
| 25           | 1VG1  | 11.88 | 21.13 | 25.88 | 2.38 | 2.00 | 2.00 | 1.13 | 3.69 | 5.00 | 160            |
| 60           | 1VJJ1 | 12.38 | 26.25 | 32.75 | 3.25 | 3.00 | 2.50 | 1.50 | 4.00 | 7.00 | 290            |

Dimensions in Inches(in), \*5:1 Design Factor , \*\*Link profile varies depending on WLL

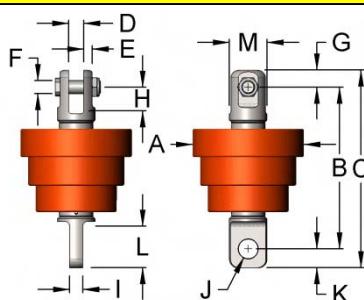
## EYE TO CLEVIS



| WLL*<br>Tons | Model | A**   | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | L    | M    | Weight<br>Lbs. |
|--------------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|----------------|
| 5            | 2VD1  | 7.38  | 10.69 | 13.06 | 1.00 | 0.56 | 0.88 | 1.13 | 1.56 | 0.88 | 1.28 | 1.25 | 2.75 | 2.50 | 20             |
| 10           | 2VE1  | 8.63  | 15.69 | 19.06 | 1.75 | 0.81 | 1.50 | 1.75 | 3.00 | 1.63 | 1.66 | 1.63 | 3.75 | 4.00 | 65             |
| 25           | 2VG1  | 11.88 | 20.31 | 25.06 | 2.00 | 1.13 | 2.00 | 2.38 | 3.69 | 2.22 | 2.53 | 2.38 | 5.50 | 5.00 | 155            |
| 60           | 2VJJ1 | 12.38 | 24.50 | 31.00 | 3.00 | 1.50 | 2.50 | 3.25 | 4.00 | 3.00 | 2.91 | 3.25 | 7.00 | 7.00 | 270            |

Dimensions in Inches(in), \*5:1 Design Factor , \*\*Link profile varies depending on WLL

## CLEVIS TO EYE

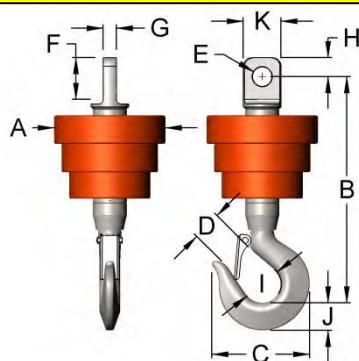


| WLL*<br>Tons | Model | A**   | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | L    | M    | Weight<br>Lbs. |
|--------------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|----------------|
| 5            | 1VD2  | 7.38  | 10.69 | 13.06 | 1.00 | 0.56 | 0.88 | 1.13 | 1.56 | 0.88 | 1.28 | 1.25 | 2.75 | 2.50 | 20             |
| 10           | 1VE2  | 8.63  | 15.69 | 19.06 | 1.75 | 0.81 | 1.50 | 1.75 | 3.00 | 1.63 | 1.66 | 1.63 | 3.75 | 4.00 | 65             |
| 25           | 1VG2  | 11.88 | 20.31 | 25.06 | 2.00 | 1.13 | 2.00 | 2.38 | 3.69 | 2.22 | 2.53 | 2.38 | 5.50 | 5.00 | 155            |
| 60           | 1VJJ2 | 12.38 | 24.50 | 31.00 | 3.00 | 1.50 | 2.50 | 3.25 | 4.00 | 3.00 | 2.91 | 3.25 | 7.00 | 7.00 | 270            |

Dimensions in Inches(in), \*5:1 Design Factor , \*\*Link profile varies depending on WLL

# INSULATING LINKS, NON SWIVELING, ISO/LINK-AC

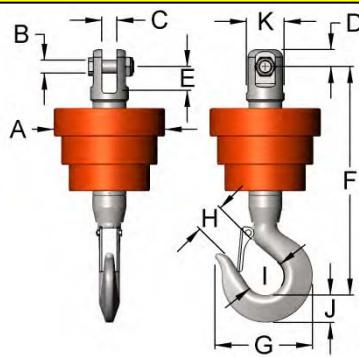
## EYE TO HOOK



| WLL*<br>Tons | Model | A**   | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | Weight<br>Lbs. |
|--------------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|----------------|
| 5            | 2VD5  | 7.38  | 14.94 | 6.28  | 1.78 | 1.28 | 2.75 | 0.88 | 1.25 | 2.50 | 1.82 | 2.50 | 25             |
| 10           | 2VE5  | 8.63  | 18.39 | 8.34  | 2.63 | 1.66 | 3.75 | 1.63 | 1.63 | 3.25 | 2.60 | 3.75 | 70             |
| 25           | 2VG5  | 11.88 | 26.05 | 11.56 | 3.15 | 2.53 | 5.50 | 2.22 | 2.38 | 3.94 | 3.74 | 5.00 | 185            |
| 60           | 2VJJ5 | 12.38 | 33.44 | 17.00 | 4.92 | 2.91 | 7.00 | 3.00 | 3.25 | 6.30 | 5.91 | 6.50 | 420            |

Dimensions in Inches(in), \*5:1 Design Factor , \*\*Link profile varies depending on WLL

## CLEVIS TO HOOK



| WLL*<br>Tons | Model | A**   | B    | C    | D    | E    | F     | G     | H    | I    | J    | K    | Weight<br>Lbs. |
|--------------|-------|-------|------|------|------|------|-------|-------|------|------|------|------|----------------|
| 5            | 1VD5  | 7.38  | 0.88 | 1.00 | 1.13 | 1.56 | 15.06 | 6.28  | 1.78 | 2.50 | 1.82 | 2.50 | 26             |
| 10           | 1VE5  | 8.63  | 1.50 | 1.75 | 1.75 | 3.00 | 19.57 | 8.34  | 2.63 | 3.25 | 2.60 | 4.00 | 75             |
| 25           | 1VG5  | 11.88 | 2.00 | 2.00 | 2.38 | 3.69 | 26.87 | 11.56 | 3.15 | 3.94 | 3.74 | 5.00 | 190            |
| 60           | 1VJJ5 | 12.38 | 2.50 | 3.00 | 3.25 | 4.00 | 35.20 | 17.00 | 4.92 | 6.30 | 5.91 | 7.00 | 440            |

Dimensions in Inches(in), \*5:1 Design Factor , \*\*Link profile varies depending on WLL

## CUSTOM APPLICATIONS



Wire Rope Thimble



Oversized Clevis and Pin for use with Synthetic Slings



Swivel Hoist Ring



Threaded Stud Adaptor with Nut

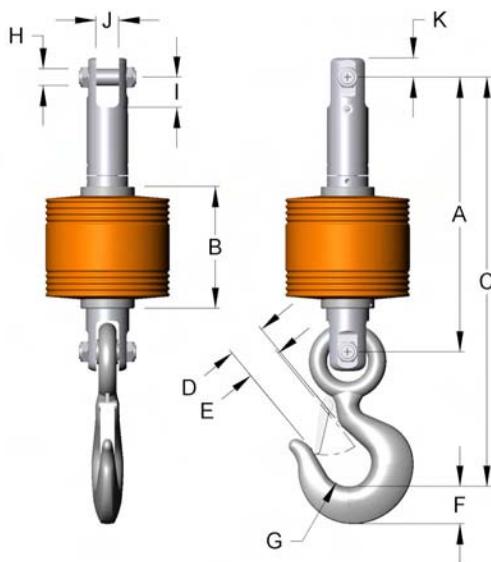


Forged Eye Nut

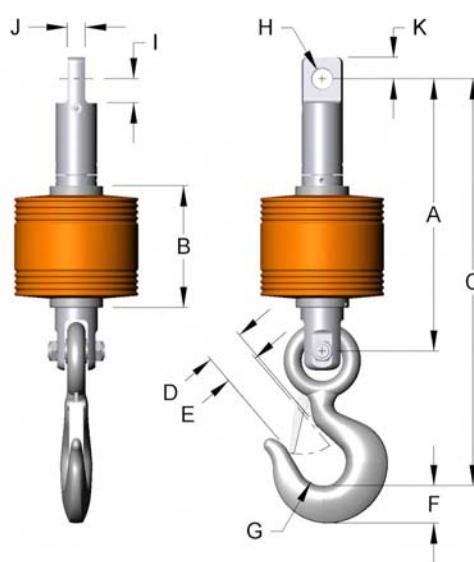
Other configurations available by request. Also available ISO-Blocks and ISO/LINK-AC assemblies using Miller Y-Link Angular Contact Swivel.

# INSULATING LINKS, SWIVELING, ISO/LINK-AC

## CLEVIS TO HOOK – TYPE 1



## EYE TO HOOK – TYPE 2



## CLEVIS TO HOOK, SWIVELING - TYPE 1

| WLL | Model Number | ROPE  | A     | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | WEIGHT | LINK DIA | SWIVEL |
|-----|--------------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|--------|----------|--------|
| 3   | ML6C-1       | 1/2   | 13.03 | 6.13  | 18.44 | 1.47 | 1.36 | 1.44 | 2    | 0.75 | 1.19 | 0.75 | 0.94 | 25     | 7.38     | C-113  |
| 5   | ML6D-1       | 5/8   | 15    | 6.13  | 21.75 | 1.75 | 1.61 | 1.81 | 2.5  | 0.88 | 1.56 | 1    | 1.13 | 33     | 7.38     | D-113  |
| 5   | ML8D-1       | 5/8   | 17.38 | 8.5   | 24.75 | 1.75 | 1.61 | 1.81 | 2.5  | 0.88 | 1.56 | 1    | 1.13 | 77     | 8.63     | D-113  |
| 8.5 | ML8E-1       | 3/4   | 18.94 | 8.5   | 28.25 | 2.5  | 2.27 | 2.59 | 3.25 | 1.19 | 2.13 | 1.56 | 1.25 | 96     | 8.63     | EE-113 |
| 10  | ML8G-1       | 7/8   | 24    | 8.5   | 35.13 | 3.3  | 3.02 | 3.00 | 4.25 | 1.5  | 3.5  | 1.75 | 1.75 | 144    | 8.63     | G-113  |
| 15  | ML12GG-1     | 1     | 26    | 10.5  | 37.13 | 3.3  | 3.02 | 3.00 | 4.25 | 1.5  | 3.5  | 1.75 | 1.75 | 247    | 11.88    | GG-113 |
| 25  | ML12H-1      | 1-1/8 | 28.25 | 10.5  | 45.19 | 4    | 3.25 | 3.62 | 5    | 2    | 3.69 | 2    | 2.38 | 342    | 11.88    | H-113  |
| 35  | ML12.5HH-1   | 1-1/4 | 28.25 | 12.25 | 45.19 | 4.25 | 3    | 4.56 | 5.38 | 2    | 3.69 | 2    | 2.38 | 370    | 12.5     | HH-113 |
| 45  | ML12.5I-1    |       | 32    | 12.25 | 50.94 | 4.75 | 3.38 | 5.06 | 6    | 2.25 | 4    | 2.5  | 3.00 | 475    | 12.5     | I-113  |
| 60  | ML12.5JJ-1   |       | 32.25 | 12.25 | 55    | 5.75 | 4.12 | 6.00 | 7    | 2.5  | 4.5  | 3    | 3.50 | 620    | 12.5     | JJ-113 |

\* Design factor = 5:1 except for units 45T and higher where Design factor = 4:1 minimum

## EYE TO HOOK, SWIVELING - TYPE 2

| WLL | Model Number | ROPE  | A     | B     | C     | D    | E    | F    | G    | H    | I    | J    | K    | WEIGHT | LINK DIA | SWIVEL |
|-----|--------------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|--------|----------|--------|
| 3   | ML6C-2       | 1/2   | 13    | 6.13  | 18.5  | 1.47 | 1.36 | 1.44 | 2    | 0.91 | 4    | 0.75 | 1.00 | 25     | 7.38     | C-213  |
| 5   | ML6D-2       | 5/8   | 14.94 | 6.13  | 21.69 | 1.75 | 1.61 | 1.81 | 2.5  | 1.28 | 1.31 | 1.00 | 1.19 | 33     | 7.38     | D-213  |
| 5   | ML8D-2       | 5/8   | 17.31 | 8.5   | 24.69 | 1.75 | 1.61 | 1.81 | 2.5  | 1.28 | 1.31 | 1    | 1.19 | 77     | 8.63     | D-213  |
| 8.5 | ML8E-2       | 3/4   | 18.75 | 8.5   | 28.06 | 2.5  | 2.27 | 2.59 | 3.25 | 1.41 | 1.63 | 1.25 | 1.50 | 96     | 8.63     | EE-213 |
| 10  | ML8G-2       | 7/8   | 23.94 | 8.5   | 36.06 | 3.3  | 3.02 | 3.00 | 4.25 | 1.66 | 2.84 | 1.75 | 1.81 | 144    | 8.63     | G-213  |
| 15  | ML12GG-2     | 1     | 25.94 | 10.5  | 37.06 | 3.3  | 3.02 | 3.00 | 4.25 | 2.03 | 2.84 | 2    | 2.13 | 247    | 11.88    | GG-213 |
| 25  | ML12H-2      | 1-1/8 | 28.25 | 10.5  | 45.19 | 4    | 3.25 | 3.62 | 5    | 2.31 | 2.88 | 2.25 | 2.38 | 342    | 12.5     | H-213  |
| 35  | ML12.5HH-2   | 1-1/4 | 28.25 | 12.25 | 45.19 | 4.25 | 3    | 4.56 | 5.38 | 2.31 | 2.88 | 2.25 | 2.38 | 370    | 12.5     | HH-213 |
| 45  | ML12.5I-2    |       | 32    | 12.25 | 50.94 | 4.75 | 3.38 | 5.06 | 6    | 2.53 | 3.5  | 2.5  | 3.00 | 475    | 12.5     | I-213  |
| 60  | ML12.5JJ-2   |       | 32.25 | 12.25 | 55    | 5.75 | 4.12 | 6.00 | 7    | 2.88 | 4    | 2.5  | 3.5  | 620    | 12.5     | JJ-213 |

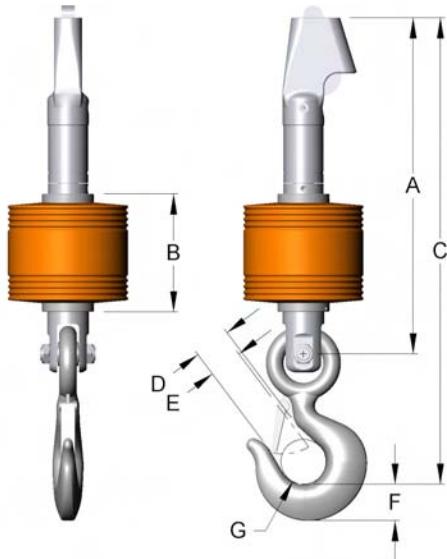
\* Design factor = 5:1 except for units 45T and higher where Design factor = 4:1 minimum

Rated maximum voltage 25KVAC (dry); operating temperature -50° to 150°F.

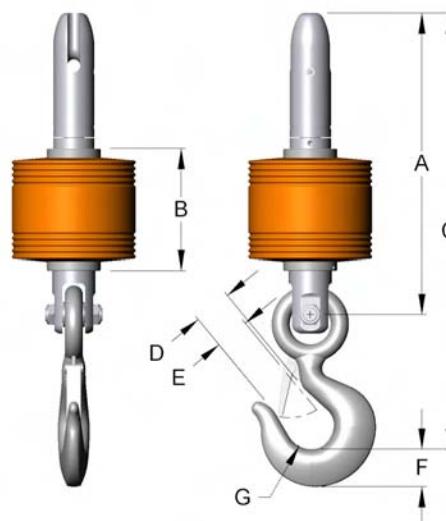
Link cleanliness is very important. Electrical performance degrades when surface is dirty. See maintenance instructions. Use of an insulating link is one of a number of measures required for comprehensive power line safety. Use of an insulating link. Alone, in absence of other required measures is not acceptable. See 29 CFR Part 1926 for the latest OSHA requirements.

# INSULATING LINKS, SWIVELING, ISO/LINK-AC

## WEDGE TO HOOK – TYPE 3



## THIMBLE TO HOOK – TYPE 4



## WEDGE TO HOOK, SWIVELING - TYPE 3

| WLL | Model Number | ROPE          | A     | B    | C     | D    | E    | F    | G    | WEIGHT | LINK DIA | SWIVEL |
|-----|--------------|---------------|-------|------|-------|------|------|------|------|--------|----------|--------|
| 3   | ML6C-3       | 1/2           | 17.19 | 6.13 | 22.56 | 1.47 | 1.36 | 1.44 | 2    | 27     | 7.38     | C-713  |
| 5   | ML6D-3       | 1/2, 5/8      | 19.63 | 6.13 | 27.94 | 1.75 | 1.61 | 1.81 | 2.5  | 36     | 7.38     | D-713  |
| 5   | ML8D-3       | 1/2, 5/8      | 22    | 8.5  | 29.38 | 1.75 | 1.61 | 1.81 | 2.5  | 80     | 8.63     | D-713  |
| 8.5 | ML8E-3       | 1/2, 5/8, 3/4 | 23.94 | 8.5  | 33    | 2.5  | 2.27 | 2.59 | 3.25 | 102    | 8.63     | E-713  |
| 10  | ML8G-3       | 3/4, 7/8, 1   | 27.75 | 8.5  | 38.88 | 3.3  | 3.02 | 3.00 | 4.25 | 151    | 8.63     | G-713  |
| 10  | ML12GG-3     | 3/4, 7/8, 1   | 29.75 | 10.5 | 40.88 | 3.3  | 3.02 | 3.00 | 4.25 | 254    | 11.88    | GG-713 |

\* Design factor = 5:1 except for units 45T and higher where Design factor = 4:1 minimum

## THIMBLE TO HOOK, SWIVELING - TYPE 4

| WLL | Model Number | ROPE | A     | B    | C     | D    | E    | F    | G    | WEIGHT | LINK DIA | SWIVEL |
|-----|--------------|------|-------|------|-------|------|------|------|------|--------|----------|--------|
| 3   | ML6C-4       | 1/2  | 14.84 | 6.13 | 20.25 | 1.47 | 1.36 | 1.44 | 2    | 26     | 7.38     | C-413  |
| 5   | ML6D-4       | 5/8  | 16.38 | 6.13 | 24.81 | 1.75 | 1.61 | 1.81 | 2.5  | 34     | 7.38     | D-613  |
| 5   | ML8D-4       | 5/8  | 16    | 8.5  | 23.38 | 1.75 | 1.61 | 1.81 | 2.5  | 78     | 8.63     | D-613  |
| 8.5 | ML8E-4       | 3/4  | 20.69 | 8.5  | 30    | 2.5  | 2.27 | 2.59 | 3.25 | 98     | 8.63     | E-813  |
| 10  | ML8G-4       | 7/8  | 25.5  | 8.5  | 36.63 | 3.3  | 3.02 | 3.00 | 4.25 | 148    | 8.63     | G-613  |
| 15  | ML12GG-4     | 1    | 27.5  | 10.5 | 38.63 | 3.3  | 3.02 | 3.00 | 4.25 | 251    | 11.88    | GG-613 |

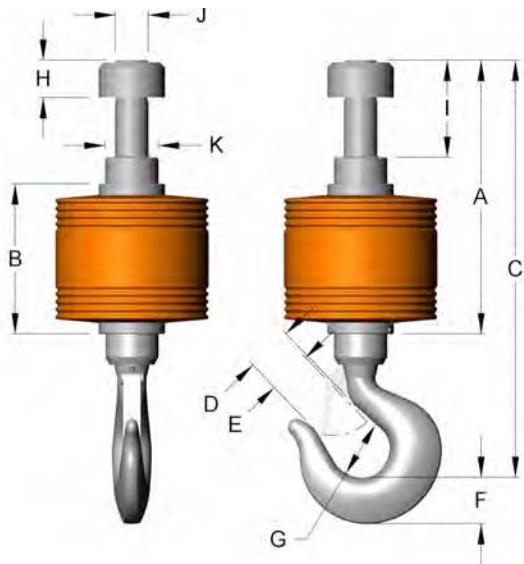
\* Design factor = 5:1 except for units 45T and higher where Design factor = 4:1 minimum

Rated maximum voltage 25KVAC (dry); operating temperature -50° to 150°F.

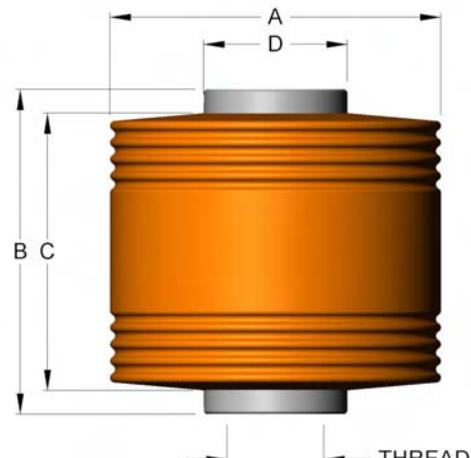
Link cleanliness is very important. Electrical performance degrades when surface is dirty. See maintenance instructions. Use of an insulating link is one of a number of measures required for comprehensive power line safety. Use of an insulating link. Alone, in absence of other required measures is not acceptable. See 29 CFR Part 1926 for the latest OSHA requirements.

# INSULATING LINKS, SWIVELING, ISO/LINK-AC

## NON-SWIVELING STUD TO HOOK – TYPE 14



## LINK ONLY



## NON-SWIVELING, STUD TO HOOK - TYPE 14

| WLL | Model Number | A     | B     | C     | D    | E    | F    | G    | H    | I     | J       | K    |
|-----|--------------|-------|-------|-------|------|------|------|------|------|-------|---------|------|
| 5   | ML6-14-5-11  | 12.13 | 6.25  | 18.38 | 2.5  | 2.25 | 2.6  | 3.25 | 1.38 | 3.38  | 1.62-12 | 2.25 |
| 5   | ML8-14-5-1   | 14.63 | 8.5   | 23.06 | 2.62 | 2.41 | 2.6  | 3.25 | 1.56 | 4.63  | 1.25-7  | 3    |
| 10  | ML8-14-10    | 13.5  | 8.5   | 21.94 | 2.62 | 2.41 | 2.6  | 3.25 | 1.31 | 3.5   | 1.62-12 | 3    |
| 15  | ML12-14-15   | 16.94 | 10.5  | 27.81 | 3.41 | 3.19 | 3.01 | 4.25 | 1.56 | 4.38  | 1.77-12 | 4    |
| 25  | ML12-14-25   | 18.31 | 10.5  | 30.06 | 4.75 | 3.38 | 5.06 | 6    | 2.56 | 5.31  | 2.25-12 | 4    |
| 35  | ML12.5-14-35 | 23    | 12.25 | 35.5  | 4.25 | 3    | 4.56 | 5.38 | 3    | 7.75  | 2.5-12  | 4.75 |
| 60  | ML12.5-14-60 | 25.5  | 12.25 | 38.5  | 6.5  | 5.38 | 6.69 | 7.75 | 5.13 | 10.38 | 4.0-12  | 4.5  |

\* Design factor = 5:1

## AC LINK ONLY

| WLL | Model Number | A     | B     | C    | D    | THREAD    | WEIGHT |
|-----|--------------|-------|-------|------|------|-----------|--------|
| 5   | VD           | 7.38  | 6.25  | 5.5  | 2.25 | 1.68-12UN | 13.7   |
| 10  | VE           | 8.62  | 8.5   | 7.26 | 3.75 | 2.50-8UN  | 41     |
| 25  | VG           | 11.88 | 10.5  | 8.75 | 4.5  | 3.25-8UN  | 95     |
| 60  | VJJ          | 12.38 | 12.25 | 9.75 | 5.75 | 4.00-8UN  | 150    |

\* Design factor = 5:1

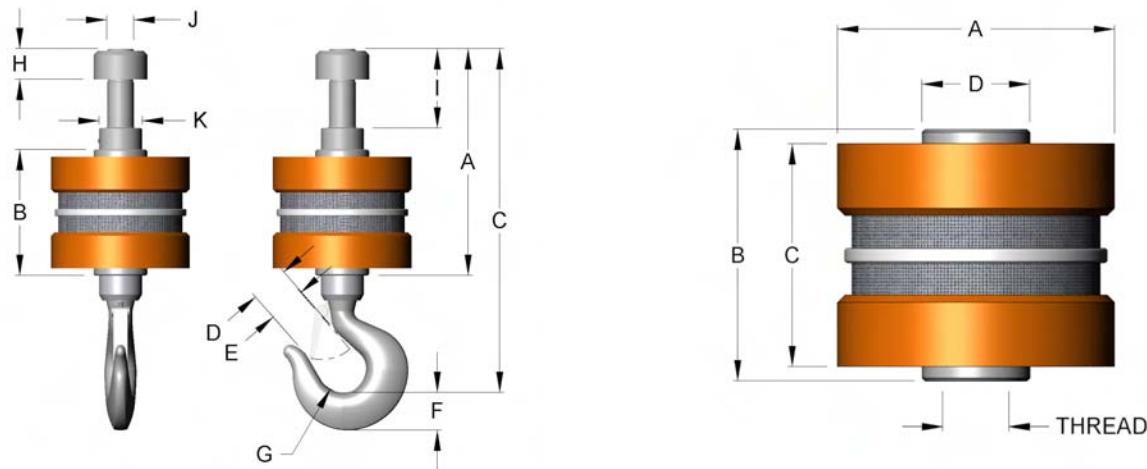
Rated maximum voltage 25KVAC (dry); operating temperature -50° to 150°F.

Link cleanliness is very important. Electrical performance degrades when surface is dirty. See maintenance instructions. Use of an insulating link is one of a number of measures required for comprehensive power line safety. Use of an insulating link. Alone, in absence of other required measures is not acceptable. See 29 CFR Part 1926 for the latest OSHA requirements.

# INSULATING LINKS, DC, ISO/LINK-DC

## NON-SWIVELING STUD TO HOOK – TYPE 14

## LINK ONLY



## DC - NON SWIVELING, STUD TO HOOK - TYPE 14

| WLL | Model Number  | A      | B     | C     | D    | E    | F    | G    | H    | I    | J       | K    |
|-----|---------------|--------|-------|-------|------|------|------|------|------|------|---------|------|
| 5   | MLV8-14-5     | 14.875 | 8.75  | 23.31 | 2.62 | 2.41 | 2.6  | 3.25 | 1.43 | 4.62 | 1.25-7  | 3    |
| 10  | MLV8-14-10    | 13.625 | 8.75  | 22.06 | 2.62 | 2.41 | 2.6  | 3.25 | 1.31 | 3.37 | 1.62-12 | 3    |
| 15  | MLV12-14-15   | 17.18  | 10.5  | 27.06 | 3.41 | 3.19 | 3.01 | 4.25 | 1.56 | 4.18 | 1.77-12 | 4    |
| 25  | MLV12-14-25   | 18.31  | 10.5  | 30.06 | 4.75 | 3.38 | 5.06 | 6    | 2.56 | 5.31 | 2.25-12 | 4    |
| 35  | MLV12.5-14-35 | 21.43  | 12.25 | 33.12 | 4.25 | 3    | 4.56 | 5.38 | 2.68 | 6.18 | 2.5-12  | 4.75 |
| 60  | MLV12.5-14-60 | 26.75  | 12.25 | 42.25 | 6.5  | 5.38 | 6.69 | 7.75 | 3.5  | 14.5 | 4.0-12  | 4.5  |

\* Design factor = 5:1

## DC LINK ONLY

| WLL | Model Number | A     | B     | C    | D    | THREAD   | WEIGHT |
|-----|--------------|-------|-------|------|------|----------|--------|
| 10  | V1000E       | 10    | 8.75  | 7.75 | 3.75 | 2.50-8UN | 90     |
| 25  | V1000G       | 13.3  | 10.5  | 8.75 | 4.5  | 3.25-8UN | 170    |
| 60  | V1000JJ      | 12.38 | 12.25 | 10.2 | 5.75 | 4.00-8UN | 225    |

\* Design factor 5:1 (Link only)

| SPARE BUMPERS FOR ISO\LINK-DC INSULATING LINKS                |                     |              |
|---|---------------------|--------------|
| Each kit includes upper and lower bumper halves plus hardware |                     |              |
| ISO\Link-DC Model   | Bumper Kit Part No. | Weight (lbs) |
| V1000E  | M237000007          | 4            |
| V1000G  | M237000016          | 6            |
| V1000JJ   | M237000037          | 7            |

Rated maximum voltage 1000 VDC (dry); operating temperature -0° to 130°C.

Link cleanliness is very important. Electrical performance degrades when surface is dirty. See maintenance instructions.

## BLOCKS- ISO-BLOCKS

### Miller® ISO/Block™

With the Miller ISO/Block™, exceptional performance also protects workers from high-voltage hazards. **The ISO/Block integrates our Miller HI-LIFT block and Miller ISO/Link-AC into one assembly** designed to protect workers in case of accidental boom or wire line contact with overhead power lines, which is the single leading cause of electrical injury in the workplace and an increasing area of focus of US workplace safety regulators. Also very useful for isolation in in-plant operations or other hazardous locations.

#### Electrical Protection

- Molded polymer insulation
- Weatherproof / durable
- Rated to 25,000 volts AC
- Tested at 50,000 volts AC
- Individually certified

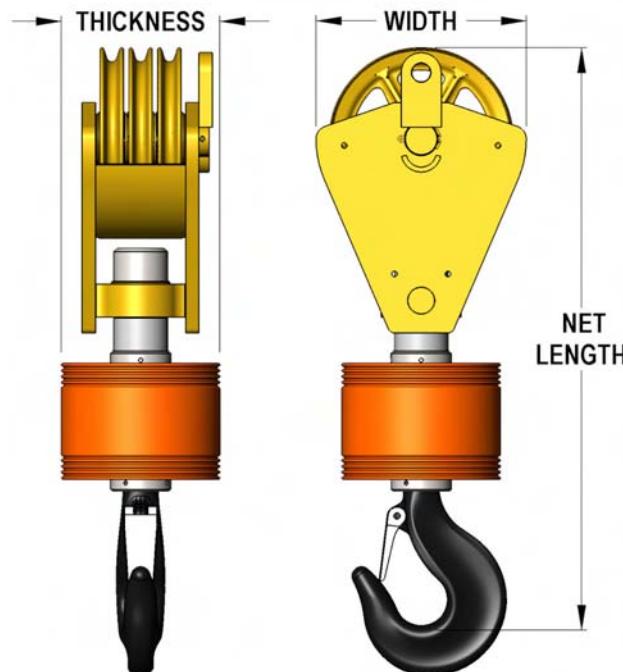


#### Mechanical Integrity

- Load ratings to 120 tons
- Design safety factors
  - ISO/Link, 5:1
  - Block, 4:1
  - ISO/Block, 4:1
- Unique interlocking plate construction

#### Flexibility

- Available in a number of configurations and capacities
- Simple annual electrical certification test by Miller or by customer



## BLOCKS- ISO-BLOCKS

### 5 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|-------------|
| 5         | 108F5VD1     | 8                 | 1            | 7.38            | 9.5         | 26.56            | 110         |
| 5         | 108H5VD1     | 8                 | 1            | 7.38            | 9.5         | 26.56            | 160         |
| 5         | 208F5VD1     | 8                 | 2            | 7.38            | 9.5         | 26.56            | 120         |
| 5         | 208H5VD1     | 8                 | 2            | 7.38            | 9.5         | 26.56            | 170         |
| 5         | 110F5VD1     | 10                | 1            | 7.38            | 11.5        | 29.25            | 130         |
| 5         | 110H5VD1     | 10                | 1            | 7.38            | 11.5        | 29.25            | 200         |
| 5         | 112F5VD1     | 12                | 1            | 7.38            | 13.5        | 32.25            | 180         |
| 5         | 112H5VD1     | 12                | 1            | 7.38            | 13.5        | 32.25            | 280         |
| 5         | 114F5VD1     | 14                | 1            | 7.38            | 15.5        | 34.75            | 200         |
| 5         | 114H5VD1     | 14                | 1            | 7.38            | 15.5        | 34.75            | 360         |

### 10 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|-------------|
| 10        | 108F10VE1    | 8                 | 1            | 8.63            | 9.5         | 31.63            | 170         |
| 10        | 108H10VE1    | 8                 | 1            | 8.63            | 9.5         | 31.63            | 220         |
| 10        | 208F10VE1    | 8                 | 2            | 8.63            | 9.5         | 31.63            | 175         |
| 10        | 208H10VE1    | 8                 | 2            | 8.63            | 9.5         | 31.63            | 225         |
| 10        | 308F10VE1    | 8                 | 3            | 8.63            | 9.5         | 32               | 185         |
| 10        | 308H10VE1    | 8                 | 3            | 8.63            | 9.5         | 32               | 235         |
| 10        | 110F10VE1    | 10                | 1            | 8.63            | 11.5        | 34.25            | 190         |
| 10        | 110H10VE1    | 10                | 1            | 8.63            | 11.5        | 34.25            | 260         |
| 10        | 210F10VE1    | 10                | 2            | 8.63            | 11.5        | 34.25            | 200         |
| 10        | 210H10VE1    | 10                | 2            | 8.63            | 11.5        | 34.25            | 270         |
| 10        | 310F10VE1    | 10                | 3            | 8.63            | 11.5        | 35               | 215         |
| 10        | 310H10VE1    | 10                | 3            | 8.63            | 11.5        | 35               | 285         |
| 10        | 112F10VE1    | 12                | 1            | 8.63            | 13.5        | 36.44            | 240         |
| 10        | 112H10VE1    | 12                | 1            | 8.63            | 13.5        | 36.44            | 340         |
| 10        | 212F10VE1    | 12                | 2            | 8.63            | 13.5        | 36.44            | 255         |
| 10        | 212H10VE1    | 12                | 2            | 8.63            | 13.5        | 36.44            | 355         |
| 10        | 312F10VE1    | 12                | 3            | 5.25            | 13.5        | 31.75            | 300         |
| 10        | 312H10VE1    | 12                | 3            | 5.25            | 13.5        | 31.75            | 400         |
| 10        | 114F10VE1    | 14                | 1            | 8.63            | 15.5        | 37.75            | 260         |
| 10        | 114H10VE1    | 14                | 1            | 8.63            | 15.5        | 37.75            | 420         |
| 10        | 214F10VE1    | 14                | 2            | 8.63            | 15.5        | 37.75            | 305         |
| 10        | 214F10VE1    | 16                | 1            | 8.63            | 17.88       | 42.13            | 340         |
| 10        | 116F10VE1    | 16                | 1            | 8.63            | 17.88       | 42.13            | 340         |
| 10        | 116H10VE1    | 16                | 1            | 8.63            | 17.88       | 42.13            | 580         |
| 10        | 118F10VE1    | 18                | 1            | 8.63            | 19.5        | 44.38            | 375         |
| 10        | 118H10VE1    | 18                | 1            | 8.63            | 19.5        | 44.38            | 675         |

### 15 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|-------------|
| 15        | 210F15VG1    | 10                | 2            | 11.88           | 11.5        | 43               | 320         |
| 15        | 310F15VG1    | 10                | 3            | 11.38           | 11.5        | 43               | 325         |
| 15        | 310H15VG1    | 10                | 3            | 11.88           | 11.5        | 44.13            | 395         |
| 15        | 212F15VG1    | 12                | 2            | 11.88           | 13.5        | 45.25            | 385         |
| 15        | 212H15VG1    | 12                | 2            | 11.88           | 13.5        | 45.25            | 485         |
| 15        | 312F15VG1    | 12                | 3            | 11.88           | 13.5        | 45.25            | 420         |
| 15        | 312H15VG1    | 12                | 3            | 11.88           | 13.5        | 45.25            | 520         |
| 15        | 114F15VG1    | 14                | 1            | 11.88           | 15.5        | 42.63            | 415         |
| 15        | 114H15VG1    | 14                | 1            | 11.88           | 15.5        | 42.63            | 565         |
| 15        | 214F15VG1    | 14                | 2            | 11.88           | 15.5        | 42.63            | 420         |
| 15        | 214H15VG1    | 14                | 2            | 11.88           | 15.5        | 42.63            | 580         |
| 15        | 314F15VG1    | 14                | 3            | 11.88           | 15.5        | 42.63            | 455         |
| 15        | 314H15VG1    | 14                | 3            | 12.25           | 15.5        | 42.63            | 615         |
| 15        | 116F15VG1    | 16                | 1            | 11.88           | 17.5        | 46.5             | 465         |
| 15        | 116H15VG1    | 16                | 1            | 11.88           | 17.5        | 46.5             | 705         |
| 15        | 216F15VG1    | 16                | 2            | 11.88           | 17.5        | 46.5             | 515         |
| 15        | 216H15VG1    | 16                | 2            | 11.88           | 17.5        | 46.5             | 755         |
| 15        | 118F15VG1    | 18                | 1            | 11.88           | 19.5        | 48.5             | 505         |
| 15        | 118H15VG1    | 18                | 1            | 11.88           | 19.5        | 48.5             | 805         |



## BLOCKS- ISO-BLOCKS

### 25 TON

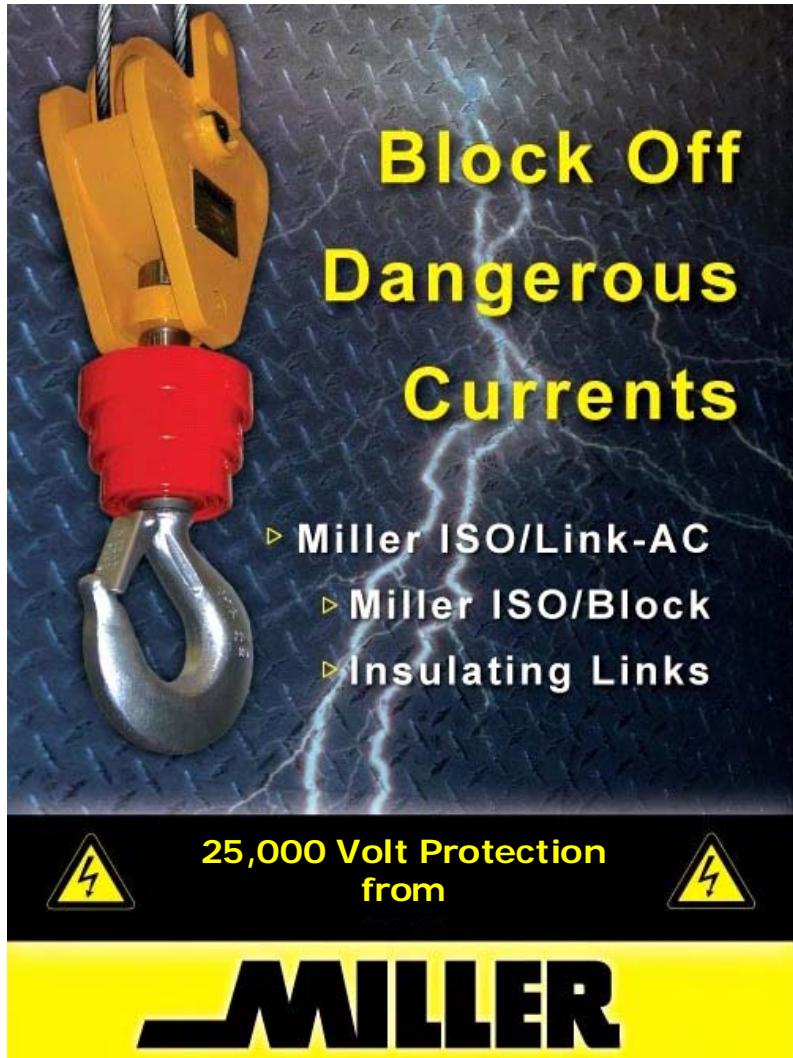
| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | NET LENGTH (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|------------------|-------------|
| 25        | 214F25VG1    | 14                | 2            | 11.88           | 15.5        | 45               | 450         |
| 25        | 214H25VG1    | 14                | 2            | 11.88           | 15.5        | 45               | 610         |
| 25        | 314F25VG1    | 14                | 3            | 11.88           | 15.5        | 45               | 485         |
| 25        | 314H25VG1    | 14                | 3            | 12.25           | 15.5        | 45               | 645         |
| 25        | 414F25VG1    | 14                | 4            | 11.88           | 15.5        | 45               | 625         |
| 25        | 414H25VG1    | 14                | 4            | 11.88           | 15.5        | 45               | 845         |
| 25        | 116F25VG1    | 16                | 1            | 11.88           | 17.5        | 47.88            | 510         |
| 25        | 116H25VG1    | 16                | 1            | 11.88           | 17.5        | 47.88            | 750         |
| 25        | 216F25VG1    | 16                | 2            | 11.88           | 17.5        | 47.88            | 540         |
| 25        | 216H25VG1    | 16                | 2            | 11.88           | 17.5        | 47.88            | 780         |
| 25        | 316F25VG1    | 16                | 3            | 11.88           | 17.5        | 47.88            | 615         |
| 25        | 316H25VG1    | 16                | 3            | 11.88           | 17.5        | 47.88            | 855         |
| 25        | 118F25VG1    | 18                | 1            | 11.88           | 19.5        | 48.5             | 530         |
| 25        | 118H25VG1    | 18                | 1            | 11.88           | 19.5        | 48.5             | 830         |
| 25        | 218F25VG1    | 18                | 2            | 11.88           | 19.5        | 48.5             | 565         |
| 25        | 218H25VG1    | 18                | 2            | 11.88           | 19.5        | 48.5             | 865         |
| 25        | 318F25VG1    | 18                | 3            | 11.88           | 19.5        | 49.75            | 625         |
| 25        | 318H25VG1    | 18                | 3            | 15.88           | 19.5        | 49.75            | 925         |
| 25        | 120F25VG1    | 20                | 1            | 11.88           | 21.5        | 52.13            | 600         |
| 25        | 120H25VG1    | 20                | 1            | 11.88           | 21.5        | 52.13            | 965         |
| 25        | 220F25VG1    | 20                | 2            | 11.88           | 21.5        | 52.13            | 645         |
| 25        | 220H25VG1    | 20                | 2            | 11.88           | 21.5        | 52.13            | 1010        |

### 35 TON

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|-------------|
| 35        | 314F35VJJ1   | 14                | 3            | 12.38           | 15.5        | 590         |
| 35        | 314H35VJJ1   | 14                | 3            | 12.38           | 15.5        | 810         |
| 35        | 414F35VJJ1   | 14                | 4            | 12.38           | 15.5        | 690         |
| 35        | 414H35VJJ1   | 14                | 4            | 12.38           | 15.5        | 910         |
| 35        | 514F35VJJ1   | 14                | 5            | 12.38           | 15.5        | 825         |
| 35        | 514H35VJJ1   | 14                | 5            | 12.38           | 15.5        | 1045        |
| 35        | 216F35VJJ1   | 16                | 2            | 12.38           | 17.5        | 610         |
| 35        | 216H35VJJ1   | 16                | 2            | 12.38           | 17.5        | 850         |
| 35        | 316F35VJJ1   | 16                | 3            | 12.38           | 17.5        | 680         |
| 35        | 316H35VJJ1   | 16                | 3            | 12.38           | 17.5        | 920         |
| 35        | 416F35VJJ1   | 16                | 4            | 12.38           | 17.5        | 810         |
| 35        | 416H35VJJ1   | 14                | 4            | 12.38           | 17.5        | 1050        |
| 35        | 516F35VJJ1   | 16                | 5            | 12.38           | 17.5        | 1005        |
| 35        | 516H35VJJ1   | 14                | 5            | 12.38           | 17.5        | 1245        |
| 35        | 218F35VJJ1   | 18                | 2            | 12.38           | 19.5        | 635         |
| 35        | 218H35VJJ1   | 18                | 2            | 12.38           | 19.5        | 935         |
| 35        | 318F35VJJ1   | 18                | 3            | 12.38           | 19.5        | 690         |
| 35        | 318H35VJJ1   | 18                | 3            | 12.38           | 19.5        | 990         |
| 35        | 220F35VJJ1   | 20                | 2            | 12.38           | 21.5        | 720         |
| 35        | 220H35VJJ1   | 20                | 2            | 12.38           | 21.5        | 1085        |
| 35        | 320F35VJJ1   | 20                | 3            | 12.38           | 21.5        | 790         |
| 35        | 320H35VJJ1   | 20                | 3            | 12.38           | 21.5        | 1155        |
| 35        | 124T35VJJ1   | 24                | 1            | 12.38           | 26.63       | 1480        |
| 35        | 124TF35VJJ1  | 24                | 1            | 12.38           | 26.63       | 1055        |
| 35        | 224T35VJJ1   | 24                | 2            | 12.38           | 26.63       | 1585        |
| 35        | 224TF35VJJ1  | 24                | 2            | 12.38           | 26.63       | 1170        |

**BLOCKS- ISO-BLOCKS****60 TON**

| WLL* Tons | Model Number | SHEAVE DIA. (in.) | # OF SHEAVES | THICKNESS (in.) | WIDTH (in.) | Weight Lbs. |
|-----------|--------------|-------------------|--------------|-----------------|-------------|-------------|
| 60        | 516F60VJJ1   | 16                | 5            | 12.38           | 17.5        | 1285        |
| 60        | 516H60VJJ1   | 16                | 5            | 12.38           | 17.5        | 1555        |
| 60        | 418F60VJJ1   | 18                | 4            | 12.38           | 19.5        | 1235        |
| 60        | 418H60VJJ1   | 18                | 4            | 12.38           | 19.5        | 1525        |
| 60        | 518F60VJJ1   | 18                | 5            | 12.38           | 19.5        | 1335        |
| 60        | 518H60VJJ1   | 18                | 5            | 12.38           | 19.5        | 1625        |
| 60        | 320F60VJJ1   | 20                | 3            | 12.38           | 21.5        | 1170        |
| 60        | 320H60VJJ1   | 20                | 3            | 12.38           | 21.5        | 1570        |
| 60        | 420F60VJJ1   | 20                | 4            | 12.38           | 21.5        | 1335        |
| 60        | 420H60VJJ1   | 20                | 4            | 12.38           | 21.5        | 1735        |
| 60        | 520F60VJJ1   | 20                | 5            | 12.38           | 21.5        | 1540        |
| 60        | 520H60VJJ1   | 20                | 5            | 12.38           | 21.5        | 1940        |
| 60        | 224T60VJJ1   | 24                | 2            | 12.38           | 26.63       | 1875        |
| 60        | 224TF60VJJ1  | 24                | 2            | 12.38           | 26.63       | 1325        |
| 60        | 324T60VJJ1   | 24                | 3            | 12.38           | 26.63       | 2175        |
| 60        | 324TF60VJJ1  | 24                | 3            | 12.38           | 26.63       | 1675        |





## Notes

| FRACTION TO DECIMAL    |        |       |       |        |       |
|------------------------|--------|-------|-------|--------|-------|
| Inches and Millimeters |        |       |       |        |       |
| in.                    | in.    | mm.   | in.   | in.    | mm.   |
| 1/64                   | 0.0156 | 0.40  | 33/64 | 0.5156 | 13.10 |
| 1/32                   | 0.0312 | 0.79  | 17/32 | 0.5312 | 13.49 |
| 3/64                   | 0.0468 | 1.19  | 35/64 | 0.5468 | 13.89 |
| 1/16                   | 0.0625 | 1.59  | 9/16  | 0.5625 | 14.29 |
| 5/64                   | 0.0781 | 1.98  | 37/64 | 0.5781 | 14.68 |
| 3/32                   | 0.0937 | 2.38  | 19/32 | 0.5937 | 15.08 |
| 7/64                   | 0.1093 | 2.78  | 39/64 | 0.6093 | 15.48 |
| 1/8                    | 0.125  | 3.18  | 5/8   | 0.625  | 15.88 |
| 9/64                   | 0.1406 | 3.57  | 41/64 | 0.6406 | 16.27 |
| 5/32                   | 0.1562 | 3.97  | 21/32 | 0.6562 | 16.67 |
| 11/64                  | 0.1718 | 4.36  | 43/64 | 0.6718 | 17.06 |
| 3/16                   | 0.1875 | 4.76  | 11/16 | 0.6875 | 17.46 |
| 13/64                  | 0.2031 | 5.16  | 45/64 | 0.7031 | 17.86 |
| 7/32                   | 0.2187 | 5.55  | 23/32 | 0.7187 | 18.25 |
| 15/64                  | 0.2343 | 5.95  | 47/64 | 0.7343 | 18.65 |
| 1/4                    | 0.25   | 6.35  | 3/4   | 0.75   | 19.05 |
| 17/64                  | 0.2656 | 6.75  | 49/64 | 0.7656 | 19.45 |
| 9/32                   | 0.2812 | 7.14  | 25/32 | 0.7812 | 19.84 |
| 19/64                  | 0.2968 | 7.54  | 51/64 | 0.7968 | 20.24 |
| 5/16                   | 0.3125 | 7.94  | 13/16 | 0.8125 | 20.64 |
| 21/64                  | 0.3281 | 8.33  | 53/64 | 0.8281 | 21.03 |
| 11/32                  | 0.3437 | 8.73  | 27/32 | 0.8437 | 21.43 |
| 23/64                  | 0.3593 | 9.13  | 55/64 | 0.8593 | 21.83 |
| 3/8                    | 0.375  | 9.53  | 7/8   | 0.875  | 22.23 |
| 25/64                  | 0.3906 | 9.92  | 57/64 | 0.8906 | 22.62 |
| 13/32                  | 0.4062 | 10.32 | 29/32 | 0.9062 | 23.02 |
| 27/64                  | 0.4218 | 10.71 | 59/64 | 0.9218 | 23.41 |
| 7/16                   | 0.4375 | 11.11 | 15/16 | 0.9375 | 23.81 |
| 29/64                  | 0.4531 | 11.51 | 61/64 | 0.9531 | 24.21 |
| 15/32                  | 0.4687 | 11.90 | 31/32 | 0.9687 | 24.60 |
| 31/64                  | 0.4843 | 12.30 | 63/64 | 0.9843 | 25.00 |
| 1/2                    | 0.5    | 12.70 | 64/64 | 1      | 25.40 |

| WIRE ROPE NOMINAL STRENGTHS AND WEIGHTS |               |                              |  |                              |   |
|---|---------------|------------------------------|--|------------------------------|---|
| Standard 6 x 19 & 6 x 37 Class Ropes    |               |                              |  |                              |   |
| Size                                    | Fiber Core    |                              | IWRC                                   |                              |   |
|   | Dia.<br>(in.) | Approx.<br>wt./ft.<br>(lbs.) | Nominal Strength<br>(tons of 2000 lbs) | Approx.<br>wt./ft.<br>(lbs.) | Nominal Strength<br>(tons of 2000 lbs.) |
|   |               |                              | IPS                                    | XIP                          | IPS                                     |
| 3/16                                    | 0.059         | 1.55                         | 1.71                                   | --                           | --                                      |
| 1/4                                     | 0.105         | 2.74                         | 3.02                                   | 0.116                        | 2.94                                    |
| 5/16                                    | 0.164         | 4.26                         | 4.69                                   | 0.18                         | 4.58                                    |
| 3/8                                     | 0.236         | 6.1                          | 6.72                                   | 0.26                         | 6.56                                    |
| 7/16                                    | 0.32          | 8.27                         | 9.1                                    | 0.35                         | 8.89                                    |
| 1/2                                     | 0.42          | 10.7                         | 11.8                                   | 0.46                         | 11.5                                    |
| 9/16                                    | 0.53          | 13.5                         | 14.9                                   | 0.59                         | 14.5                                    |
| 5/8                                     | 0.66          | 16.7                         | 18.3                                   | 0.72                         | 17.9                                    |
| 3/4                                     | 0.95          | 23.8                         | 26.2                                   | 1.04                         | 25.6                                    |
| 7/8                                     | 1.29          | 32.2                         | 35.4                                   | 1.42                         | 34.6                                    |
| 1                                       | 1.68          | 41.8                         | 46                                     | 1.85                         | 44.9                                    |
| 1 1/8                                   | 2.13          | 52.6                         | 57.8                                   | 2.34                         | 56.5                                    |
| 1 1/4                                   | 2.63          | Back                         | 71.1                                   | 2.89                         | 69.4                                    |
| 1 3/8                                   | 3.18          | 77.7                         | 85.5                                   | 3.5                          | 83.5                                    |
| 1 1/2                                   | 3.78          | 92                           | 101                                    | 4.16                         | 98.9                                    |
| 1 5/8                                   | 4.44          | 107                          | 118                                    | 4.88                         | 115                                     |
| 1 3/4                                   | 5.15          | 124                          | 137                                    | 5.67                         | 133                                     |
| 1 7/8                                   | 5.91          | 141                          | 156                                    | 6.5                          | 152                                     |
| 2                                       | 6.72          | 160                          | 176                                    | 7.39                         | 172                                     |
| 2 1/8                                   | 7.59          | 179                          | 197                                    | 8.35                         | 192                                     |
| 2 1/4                                   | 8.51          | 200                          | 220                                    | 9.36                         | 215                                     |
|   |               |                              |  | 247                          | 272                                     |

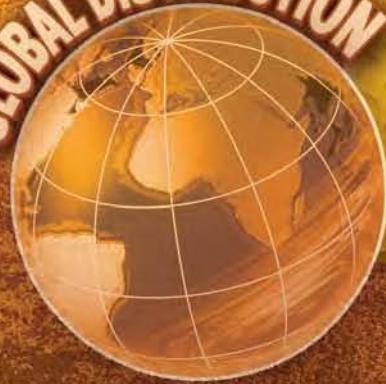
| METRIC-IMPERIAL EQUIVALENTS |                         | 1 inch = 2.54 cm; 1 m = 39.37 in. |                           |
|-----------------------------|-------------------------|-----------------------------------|---------------------------|
| Force                       | 1 short ton =           | 2000 lbs                          | 8896.4 N 907.2 kg         |
| Force                       | 1 metric ton =          | 2204.6 lbs                        | 9806.6 N 1000 kg          |
| Force                       | 1 lb. =                 | 0.4536 kg                         | 4.448 N                   |
| Force                       | 1 kg. =                 | 2.2046 lb                         | 9.807 N                   |
| Stress                      | 1 lb. per square inch = | 6894.8 Pa                         | 703.07 kg/m <sup>2</sup>  |
| Density                     | 1 lb. per cubic foot =  | 27 lb/y <sup>3</sup>              | 0.0703 kg/cm <sup>3</sup> |
|                             |                         | 0.1337 lb/gal                     | 16.018 kg/m <sup>3</sup>  |

| WEIGHTS OF VARIOUS MATERIALS BY VOLUME |                                 |                               |                           |                               |         |
|--|---------------------------------|-------------------------------|---------------------------|-------------------------------|---------|
| APPROXIMATE IN LBS. PER CUBIC FOOT     |                                 |                               |                           |                               |         |
| <b>Metal Alloys, Ores</b>              | <b>Timber, U.S. Seasoned</b>    | <b>Earth, etc., Excavated</b> | <b>Building materials</b> |                               |         |
| Aluminum, cast-hammered                | 165 ( <i>moisture, 15-20%</i> ) | Clay, dry                     | 63                        | Cement, Portland, loose       | 94      |
| Aluminum bronze                        | 481 Ash, white-red              | 40 Clay, damp, plastic        | 110                       | Cement, Portland, set         | 183     |
| Brass, cast-rolled                     | 534 Birch                       | 32 Clay, and gravel, dry      | 100                       | Crushed rock                  | 90-110  |
| Bronze, 7.9 to 14% Sn                  | 509 Cedar, white-red            | 22 Earth, dry, loose          | 76                        | Limé, gypsum, loose           | 53-64   |
| Bronze, Phosphor                       | 554 Cypress                     | 30 Earth, dry, packed         | 95                        | Morter, set                   | 103     |
| Copper, cast-rolled                    | 556 Fir, Douglas spruce         | 32 Earth, mud, packed         | 115                       | <b>Stone, Quarried, Piled</b> |         |
| Copper ore, pyrites                    | 262 Fir, eastern                | 25 Riprap, limestone          | 80-85                     | Basalt, granite, gneiss       | 96      |
| Iron, gray cast                        | 442 Elm, white                  | 45 Riprap, sandstone          | 90                        | Limestone, marble, quartz     | 95      |
| Iron, cast, pig                        | 450 Hemlock                     | 29 Riprap, shale              | 105                       | Sandstone                     | 82      |
| Iron, wrought                          | 485 Hickory                     | 48 Sand, gravel, dry, loose   | 90-105                    | Shale                         | 92      |
| Iron ore, hematite                     | 325 Mahogany                    | 44 Sand, gravel, dry, packed  | 100-120                   | <b>Coal and Coke, Piled</b>   |         |
| Iron ore, limonite                     | 237 Maple, hard                 | 43 Sand, gravel, wet          | 118-120                   | Coal, anthracite              | 47-58   |
| Iron ore, magnetite                    | 315 Maple, white                | 33 Sand or gravel             |                           | Coal, bituminous, ignite      | 40-54   |
| Iron slag                              | 172 Oak, chestnut               | 54 Sand or gravel and clay    | 60                        | Coal, peat, turf              | 20-26   |
| Lead                                   | 710 Oak, live                   | 59 Sand or gravel and clay    | 65                        | <b>Masonry</b>                |         |
| Lead ore, galena                       | 465 Oak, red, black             | 41 Clay                       | 80                        | Ashlar masonry                | 140-160 |
| Manganese                              | 475 Oak, white                  | 46 River mud                  | 90                        | Brick, masonry, common        | 125     |
| Manganese ore, pyrolusite              | 259 Pine, Oregon                | 32 Soil                       | 70                        | Brick, pressed                | 140     |
| Nickel                                 | 537 Pine, red                   | 30 Stone riprap               | 65                        | Clay tile                     | 60      |
| Steel, cold-drawn                      | 489 Pine, white                 | 26 Liquids                    |                           | Concrete, cinder, haydite     | 100-110 |
| Tin, cast-hammered                     | 459 Pine, yellow, long-leaf     | 44 Alcohol, pure              | 49                        | Concrete, slag                | 130     |
| Tin ore, cassiterite                   | 418 Walnut, black               | 42 Gasoline                   | 42                        | Concrete, stone               | 144     |
| Tungsten                               | 1200 Walnut, white              | 28 Oils                       | 58                        | Concrete, stone, reinforced   | 150     |
| Zinc, cast-rolled                      | 440                             | Water, 4°C, max density       | 62,428                    | <b>Miscellaneous</b>          |         |
| Zinc ore, blende                       | 253                             | Water, 100°C                  | 59.83                     | Asphalt                       | 80      |
|  |                                 | Water, ice                    | 56                        | Glass                         | 160     |
|  |                                 | Water, snow, fresh fallen     | 8                         | Paper                         | 50      |
|  |                                 | Water, sea water              | 64                        | Tar                           | 75      |

Rev. 8 8.22.2013



GLOBAL DISTRIBUTION



**MILLER**<sup>TM</sup>  
LIFTING PRODUCTS

High Quality Lifting Products since 1935

Miller Lifting Products  
100A Sturbridge Road  
Charlton, MA 01507 USA  
T. 508.248.3941 / 800.733.7071  
F. 508.248.0639  
E-mail: [sales@millerproducts.net](mailto:sales@millerproducts.net)  
Web: [www.millerproducts.net](http://www.millerproducts.net)

Miller Lifting Products  
Houston Distribution Center  
6134 South Loop East  
Houston, TX 77087 USA  
T. 800.733.7071