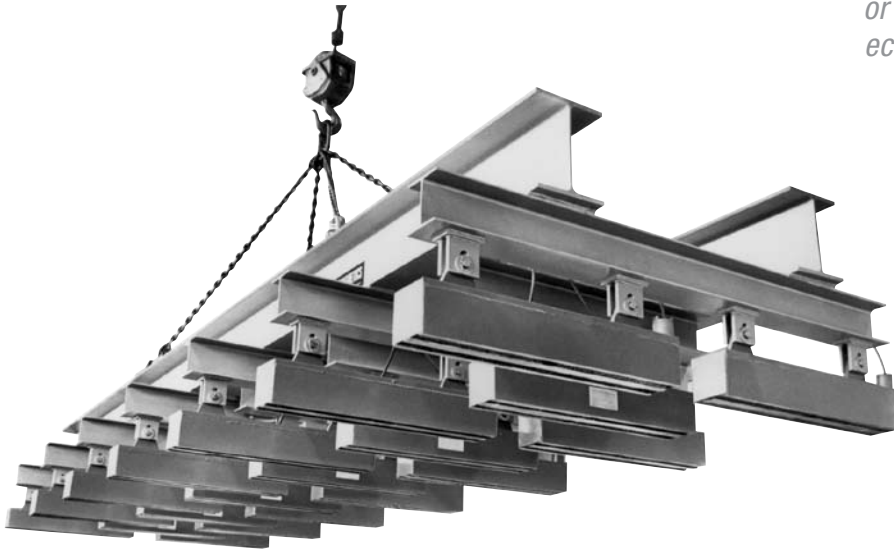




# LIFTING MAGNETS

## COMPLETE LINE

*Lift, move or position regardless of size, weight or shape — in fewer man hours — reliably and economically. Lifting magnets make quick work of difficult, time-consuming steel handling.*



### FEATURES & BENEFITS

#### Permanent Lift Magnets

- Available in capacities up to 10,000 lbs (4,535 kgs)
- Lift flat or round material
- Unique APL model for remote operation with no power supply required

#### Electric Lift Magnets

- Available in capacities up to 59,000 lbs (26,761 kgs)
- Wide range of models to lift various shapes and sizes

#### Lift Systems

- Complete systems available, including lift beams with multiple magnets and controls

**NEW**  
ONLY FROM ERIEZ

Magnets possess a unique property of attraction which can be harnessed to ease and speed one's work. The payoff is an immediate improvement in efficiency and operating economy.

Magnets lift and transfer steel and iron of any weight and shape without slings, hooks or cables. And without marring the surface. They require fewer operators and helpers, and when properly installed and operated, provide greater safety than many other mechanical materials handling devices.

# ERIEZ LIFTING MAGNETS

Making the most efficient and economical selection of lifting magnets (whether electro or permanent—whether single magnet or multiple arrangement of magnets) to pile, to unpile or to lift and move steel plate and shapes requires a full knowledge of the application.

The factors that have bearing on the lifting magnet selection for any specific application are:

- Weight, shape and area to be lifted
- Surface condition of load and magnet

- Stiffness or flexibility of load
- Range of sizes and shapes to be lifted by the magnet or magnets
- Interpretation of magnet lifting power when less than full magnet face is utilized

Eriez specialists are always available to consult on your specific needs—whether it's for a single magnet or a series of magnets engineered into an efficient materials-handling system that reduces your costs.



Multiple Selecto Magnets on a lift beam efficiently handle large steel sheets. In this installation, plates up to 10' x 50' x 4" (3 m x 15 m x 102 mm) are sorted and transported. The operator has precise remote control of every magnet so those not in use can be turned off, and single sheets can be dropped when desired from multiple-sheet lifts.

Eriez Bi-Polar Magnets, with a wide range of optional pole-plate configurations, are ideally suited for handling pipe, rounds, bundles, angles and shapes. They can be used in single- or multiple-magnet applications.



Heavy-Duty Rectangular Magnets provide maximum efficiency in multiple-plate handling applications like this.

A Safehold® Permanent Magnet makes many lifts practical even with only minimum contact.



The Eriez Heavy-Duty Rectangular Magnet is effective in single or multiple-magnet applications for handling heavy fabrications or for lifting several thicknesses of sheet or plate at one time.

# SAFEHOLD® APL SERIES LIFTING MAGNETS



Lift, move or position in less time, efficiently and economically, without having to manually release the magnet. SafeHold® Lifting Magnets make quick work of difficult, time-consuming steel handling.

Eriez' new SafeHold® APL Series Permanent Lifting Magnets can lift and transfer steel and iron without slings, hooks or cables – and, without marring the surface. They require fewer operators and helpers, and when properly installed and operated, provide greater safety than many other mechanical material-handling devices.

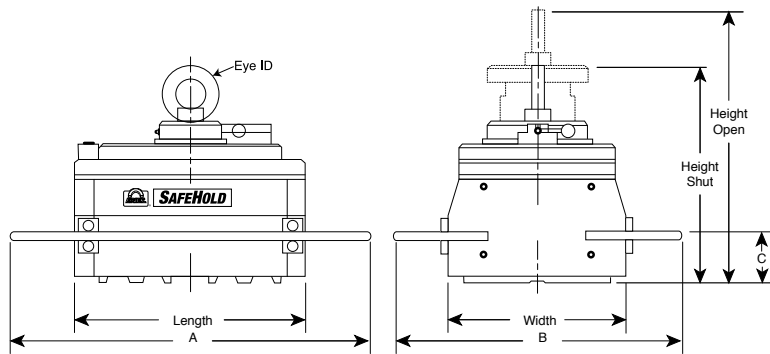
The SafeHold APL Series is ideal for loading and unloading steel sheets from burning tables or anywhere that limits operator access. They can be used singly or in multiples on a spreader beam.

## Features

SafeHold APL Series permanent magnets turn off and on automatically to provide smooth operation for hundreds of lifting-positioning applications.

- No manual-magnet activation required
- No electricity needed, so power failures don't interrupt operation
- Continuous magnet power until magnet is turned off
- No costly D.C. power supply
- No batteries to recharge or replace

## SPECIFICATIONS



| Model Number | A        |     | B        |     | C      |    |
|--------------|----------|-----|----------|-----|--------|----|
|              | in       | mm  | in       | mm  | in     | mm |
| APL-150      | —        | —   | —        | —   | —      | —  |
| APL-152      | —        | —   | —        | —   | —      | —  |
| APL-154      | 22 13/16 | 580 | 18 11/16 | 474 | 3 9/16 | 90 |
| APL-156      | 29 5/8   | 753 | 20 5/8   | 524 | 3 9/16 | 90 |

| Model Number | Max Lifting Capacity w/2:1 Safety Factor |       | Maximum Breakaway Force |       | Plate Thickness |    | Length   |     | Width    |     | Height (Shut) |     | Height (Open) |     | Eye ID |    | Weight |     |
|--------------|------------------------------------------|-------|-------------------------|-------|-----------------|----|----------|-----|----------|-----|---------------|-----|---------------|-----|--------|----|--------|-----|
|              | lbs                                      | kg    | lbs                     | kg    | in              | mm | in       | mm  | in       | mm  | in            | mm  | in            | mm  | in     | mm | lbs    | kg  |
| APL-150      | 900                                      | 425   | 1800                    | 850   | 1-1/4           | 32 | 10-5/16  | 262 | 9-9/16   | 243 | 13-3/4        | 349 | 17-3/16       | 436 | 2      | 51 | 167    | 76  |
| APL-152      | 1,650                                    | 750   | 3,300                   | 1,500 | 1-1/4           | 32 | 10-13/16 | 275 | 12       | 304 | 16-15/16      | 430 | 21-1/2        | 546 | 1-7/8  | 48 | 291    | 132 |
| APL-154      | 3,600                                    | 1,630 | 7,200                   | 3,265 | 2               | 51 | 17-1/4   | 438 | 12       | 304 | 17-5/8        | 449 | 22-1/4        | 566 | 2-3/8  | 60 | 463    | 210 |
| APL-156      | 5,800                                    | 2,630 | 11,600                  | 5,260 | 2               | 51 | 23       | 583 | 13-15/16 | 354 | 18-9/16       | 471 | 23-1/8        | 588 | 2-3/8  | 60 | 727    | 330 |

Note:

1. These are actual ratings on flat, clean, polished steel plate.
2. Maximum attractive force of each model is approximately twice the Lifting Capacity.
3. Thin sheets, rough and irregular surfaces, odd shapes and scale all affect holding power adversely and must be considered in establishing a safety factor.

# SAFEHOLD® EPL SERIES LIFTING MAGNETS



EPL Series SafeHold® Magnets are ideal for many machine-shop operations including the loading and unloading of this burn table.



Lift, move or position in less time, efficiently and economically. SafeHold Lifting Magnets make quick work of difficult, time-consuming steel handling.

Eriez' new SafeHold® EPL Series Permanent Lifting Magnets can lift and transfer steel and iron without slings, hooks or cables. And without marring the surface. They require fewer operators and helpers, and when properly installed and operated, provide greater safety than other mechanical materials handling devices.

SafeHold® EPL Series permanent magnets turn on and off manually to provide smooth operation for hundreds of lifting and positioning applications.

- No electricity needed, so power failures don't interrupt operation

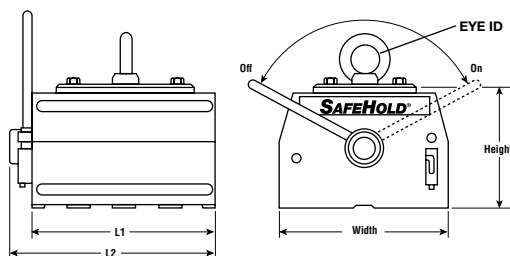
- Continuous magnet power until magnet is turned off
- No costly D.C. power supply
- No batteries to recharge or replace

Ideal for carrying semi-finished products with flat surfaces such as machine parts, press molds for forming, steel plate, etc. Permanent magnetic type, requiring no power supply, thus eliminating hazards due to failure of wiring system or service interruptions. Small, lightweight magnet features powerful magnetic force.

Operation is easy. Internal on/off change-over mechanism eliminates possible scratches on the work surface when loading/unloading.

Combine several SafeHold lift magnets to conform to the specific shape and weight of complex work pieces.

## SPECIFICATIONS



| Model Number | Max Lifting Capacity w/2:1 Safety Factor |      | Maximum Breakaway Force |      | Test Plate Thickness |    | Dimensions |     |          |     |       |     |        |     |        |    |        |     |
|--------------|------------------------------------------|------|-------------------------|------|----------------------|----|------------|-----|----------|-----|-------|-----|--------|-----|--------|----|--------|-----|
|              | lbs                                      | kg   | lbs                     | kg   | in                   | mm | L1         |     | L2       |     | Width |     | Height |     | Eye ID |    | Weight |     |
|              |                                          |      |                         |      |                      |    | in         | mm  | in       | mm  | in    | mm  | in     | mm  | in     | mm | lbs    | kg  |
| EPL-121      | 650                                      | 295  | 1300                    | 590  | 1-1/4                | 32 | 2-7/8      | 73  | 4-11/16  | 119 | 9-1/2 | 241 | 7-1/8  | 181 | 1-3/8  |    | 37     | 17  |
| EPL-154      | 4000                                     | 1814 | 8000                    | 3629 | 1-1/4                | 32 | 11-7/16    | 291 | 14-3/8   | 365 | 12    | 305 | 9      | 229 | 2-1/4  |    | 225    | 102 |
| EPL-157      | 7500                                     | 3402 | 15000                   | 6804 | 1-3/4                | 45 | 20         | 508 | 22-15/16 | 583 | 12    | 305 | 9      | 229 | 2-1/2  |    | 400    | 182 |
| EPL-197      | 10000                                    | 4536 | 20000                   | 9072 | 2                    | 51 | 21-3/8     | 543 | 24-5/16  | 618 | 14    | 356 | 10-5/8 | 270 | 2-1/2  |    | 640    | 290 |

- Note:
1. These are actual ratings on flat, clean, polished steel plate.
  2. Maximum attractive force of each model is approximately twice the Lifting Capacity.
  3. Thin sheets, rough and irregular surfaces, odd shapes and scale all affect holding power adversely and must be considered in establishing a safety factor.

# SAFEHOLD® XPL SERIES LIFTING MAGNETS

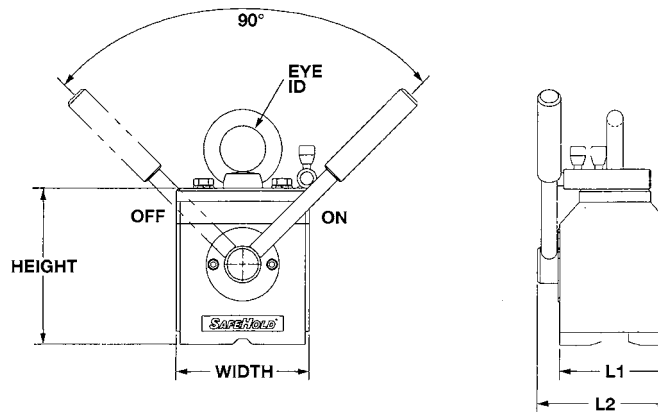


Eriez' XPL Series SafeHold makes easy work of this round bar stock. It handles flat sheet and plate steel with equal ease.



XPL Series of SafeHold Magnets is ideal for many machine shop operations, including the loading and unloading of this machining center.

## SPECIFICATIONS



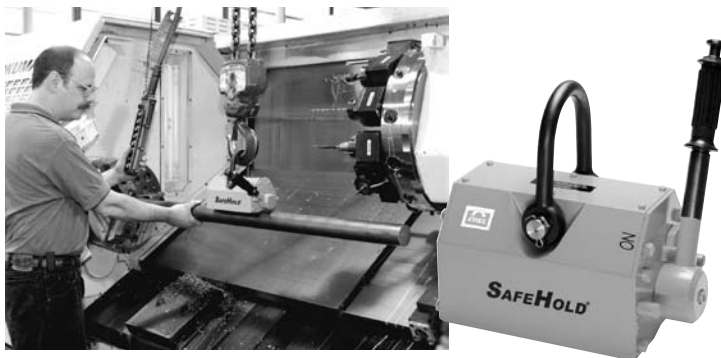
| Model Number | Dimensions |     |         |     |        |     |         |     |         |    |        |    |
|--------------|------------|-----|---------|-----|--------|-----|---------|-----|---------|----|--------|----|
|              | L1         |     | L2      |     | Width  |     | Height  |     | Eye ID  |    | Weight |    |
|              | in         | mm  | in      | mm  | in     | mm  | in      | mm  | in      | mm | lbs    | kg |
| XPL-4/3      | 3-3/8      | 85  | 4       | 102 | 4      | 102 | 4-11/16 | 119 | 1-3/8   | 35 | 16     | 7  |
| XPL-8/6      | 4-1/2      | 115 | 5-13/16 | 147 | 6-1/16 | 154 | 4-11/16 | 119 | 1-3/8   | 35 | 33     | 15 |
| XPL-15/9     | 5-5/16     | 135 | 6-5/8   | 167 | 7-1/4  | 184 | 5-7/8   | 149 | 1-1/2   | 40 | 55     | 25 |
| XPL-24/16    | 5-5/16     | 135 | 7       | 178 | 9-1/2  | 242 | 6-7/8   | 175 | 1-15/16 | 50 | 88     | 40 |
| XPL-30/24    | 5-5/16     | 135 | 7       | 178 | 10-3/8 | 263 | 7-13/16 | 199 | 2-5/16  | 60 | 111    | 50 |
| XPL-50/40    | 6-1/8      | 155 | 8-1/4   | 210 | 13-1/2 | 343 | 9-7/8   | 251 | 2-3/4   | 70 | 212    | 96 |

| Model Number | Max Lifting Capacities |       |                      |       | Max Breakaway Force |       |              |       | Minimum Dia. When Lifting Rounds w/o Pole Shoes |     | Maximum Dia. When Lifting Rounds w/o Pole Shoes |     | Test Plate Thickness |    |
|--------------|------------------------|-------|----------------------|-------|---------------------|-------|--------------|-------|-------------------------------------------------|-----|-------------------------------------------------|-----|----------------------|----|
|              | Flat Steel (2:1 SF)    |       | Round Steel (2:1 SF) |       | Flat Steel          |       | Round Steel* |       |                                                 |     |                                                 |     |                      |    |
|              | lbs                    | kg    | lbs                  | kg    | lbs                 | kg    | lbs          | kg    | in                                              | mm  | in                                              | mm  | in                   | mm |
| XPL-4/3      | 400                    | 181   | 300                  | 136   | 800                 | 362   | 600          | 272   | 2-1/2                                           | 64  | 5                                               | 127 | 1-1/4                | 32 |
| XPL-8/6      | 800                    | 362   | 600                  | 272   | 1,600               | 724   | 1,200        | 543   | 3                                               | 76  | 9                                               | 229 | 1-1/4                | 32 |
| XPL-15/9     | 1,500                  | 680   | 900                  | 408   | 3,00                | 1,360 | 1,800        | 815   | 3                                               | 76  | 10                                              | 254 | 1                    | 25 |
| XPL-24/16    | 2,400                  | 1,088 | 1,600                | 725   | 4,800               | 2,177 | 3,200        | 1,448 | 4                                               | 102 | 15                                              | 381 | 2                    | 51 |
| XPL-30/24    | 3,000                  | 1,360 | 2,400                | 1,088 | 6,000               | 2,721 | 4,800        | 2,177 | 4                                               | 102 | 15                                              | 381 | 2                    | 51 |
| XPL-50/40    | 5,000                  | 2,268 | 3,700                | 1,678 | 10,000              | 4,536 | 8,000        | 3,629 | 6                                               | 152 | 18                                              | 457 | 2                    | 51 |

Note:

1. These are actual ratings on flat, clean, polished steel plate.
  2. Maximum attractive force of each model is approximately twice the Lifting Capacity.
  3. Thin sheets, rough and irregular surfaces, odd shapes and scale all affect holding power adversely and must be considered in establishing a safety factor.
- \* Based on maximum recommended material diameter.

# SAFEHOLD® RPL SERIES LIFTING MAGNETS



Lift, move or position round or flat materials with the same magnet. Specially designed poles on this new series of magnets allow the user to lift round materials up to 2,200 pounds. SafeHold® Lifting Magnets make quick work of difficult, time-consuming steel handling.

Eriez' new SafeHold RPL Series Permanent Lifting Magnets can lift and transfer steel and iron without slings, hooks or cables – and, without marring the surface. They require fewer operators and helpers, and when properly installed and operated, provide greater safety than many other mechanical material-handling devices.

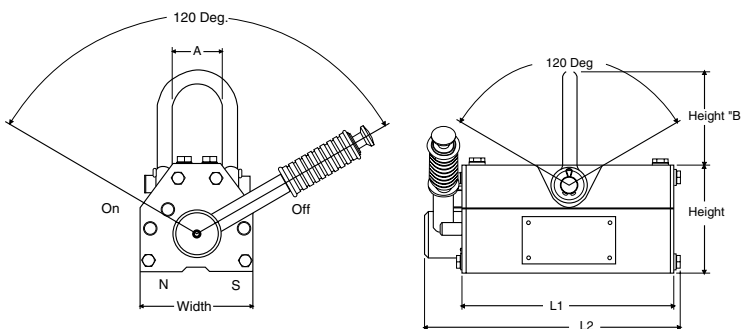
They can be used singly or in multiples on a spreader beam.

## Features

SafeHold® RPL Series permanent magnets turn off and on manually to provide smooth operation for hundreds of lifting-positioning applications.

- Two pole design
- Handle round and flat material with the same magnet
- Continuous magnet power until magnet is turned off
- No costly D.C. power supply
- No batteries to recharge or replace

## SPECIFICATIONS



| Model Number | Dimensions |     |          |     |         |     |         |     |          |     |         |     |        |     |
|--------------|------------|-----|----------|-----|---------|-----|---------|-----|----------|-----|---------|-----|--------|-----|
|              | L1         |     | L2       |     | Width   |     | Height  |     | Height B |     | A       |     | Weight |     |
|              | in         | mm  | in       | mm  | in      | mm  | in      | mm  | in       | mm  | in      | mm  | lbs    | kg  |
| RPL-3        | 3-9/16     | 90  | 4-3/4    | 121 | 2-1/2   | 64  | 2-5/8   | 67  | 2-3/16   | 56  | 1-1/4   | 32  | 7      | 3   |
| RPL-11       | 6-3/8      | 162 | 7-3/4    | 197 | 3-5/8   | 92  | 3-9/16  | 91  | 3-17/32  | 90  | 1-13/16 | 46  | 22     | 10  |
| RPL-22       | 9-1/8      | 232 | 10-23/32 | 272 | 4-13/16 | 122 | 4-5/8   | 117 | 4        | 102 | 2-9/32  | 58  | 53     | 24  |
| RPL-35       | 10-5/8     | 270 | 12-1/2   | 318 | 6-15/16 | 176 | 6-13/32 | 163 | 5-1/8    | 131 | 3-13/16 | 97  | 110    | 50  |
| RPL-70       | 14-7/8     | 378 | 16-27/32 | 428 | 9-7/32  | 234 | 8-11/32 | 212 | 6-11/16  | 170 | 5-1/32  | 128 | 276    | 125 |

# SAFEHOLD® RPL SERIES LIFTING MAGNETS (CONT.)



## SPECIFICATIONS

| Model Number | Max Lifting Capacities |       |                      |     | Max Breakaway Force |       |              |       | Maximum Dia. When Lifting Rounds w/o Pole Shoes |     | Test Plate Thickness |    |
|--------------|------------------------|-------|----------------------|-----|---------------------|-------|--------------|-------|-------------------------------------------------|-----|----------------------|----|
|              | Flat Steel (2:1 SF)    |       | Round Steel (2:1 SF) |     | Flat Steel          |       | Round Steel* |       |                                                 |     |                      |    |
|              | lbs                    | kg    | lbs                  | kg  | lbs                 | kg    | lbs          | kg    | in                                              | mm  | in                   | mm |
| RPL-3        | 300                    | 136   | 150                  | 68  | 600                 | 272   | 300          | 136   | 3                                               | 76  | 1                    | 25 |
| RPL-11       | 1,100                  | 500   | 550                  | 250 | 2,200               | 1,000 | 1,100        | 500   | 5                                               | 127 | 1                    | 25 |
| RPL-22       | 2,200                  | 1,000 | 1,100                | 500 | 4,400               | 2,000 | 2,200        | 1,000 | 6.5                                             | 165 | 1-1/4                | 32 |
| RPL-35       | 3,500                  | 1,588 | 1,750                | 795 | 7,000               | 3,175 | 3,500        | 1,588 | 10                                              | 254 | 2                    | 51 |
| RPL-70       | 7,000                  | 3,175 | NR                   | NR  | 14,000              | 6,350 | NR           | NR    | NR                                              | NR  | 2                    | 51 |

Note:

1. These are actual ratings on flat, clean, polished steel plate.
2. Maximum attractive force of each model is approximately twice the Lifting Capacity.
3. Thin sheets, rough and irregular surfaces, odd shapes and scale all affect holding power adversely and must be considered in establishing a safety factor.

\* Based on maximum recommended material diameter.

# SELECTO<sup>®</sup> CONTINUOUS- DUTY ELECTRO LIFTING MAGNETS



Lightweight, power packed to provide reliable, fast lifts for hundreds of applications

- Easy to install, easy to use
- Eliminate hooks, slings or grabs
- Use individually or in multiples
- 100-percent duty cycle
- Fully encapsulated moisture-proof coil
- Built-in solid-state rectifier and drop-control circuit (Model ST)
- Standard voltage of the SL Selecto Magnet is 115VDC; standard voltage of the ST Selecto Magnet is 115VAC; other voltages available upon request
- Copper-wound coil

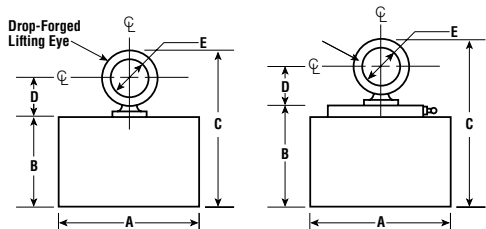
## SL Series

The SL Series requires a compact Eriez variable-voltage rectifier controller or a fixed-voltage rectifier to furnish the desired D.C. power from any A.C. source. The controller can be mounted in any convenient location near the area where the lifting magnet is used.

## ST Series

The STD Series units have a miniaturized rectifier/drop control circuit with a “Lift-Off-Drop” switch attached to the magnet. This eliminates the need for a separate rectifier and can briefly cancel out any residual magnetism to allow the load to be easily discharged from the magnet.

## SPECIFICATIONS



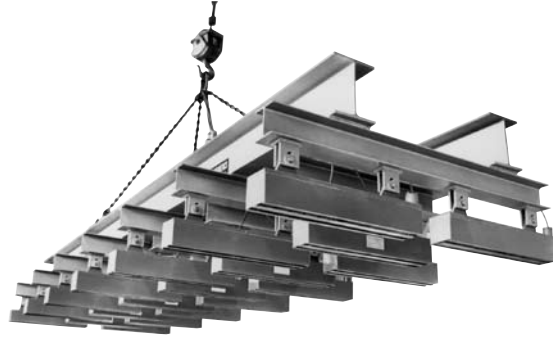
### NOTES:

\* Taken with magnet in hot condition

\*\* 230VDC Optional - Wattage may vary with voltages

| Model Number | Max Lifting Capacity w/2:1 Safety Factor* |       | Maximum Breakaway Force* |        | Test Plate Thickness |    | A      |     | B       |     | C        |     | D       |    | E       |    | 115 VDC** | Weight |       |
|--------------|-------------------------------------------|-------|--------------------------|--------|----------------------|----|--------|-----|---------|-----|----------|-----|---------|----|---------|----|-----------|--------|-------|
|              | lb                                        | kg    | lb                       | kg     | in                   | mm | in     | mm  | in      | mm  | in       | mm  | in      | mm | in      | mm | Watts     | lb     | kg    |
| SL-4         | 375                                       | 170   | 750                      | 340    | 1                    | 25 | 4      | 102 | 2-3/4   | 70  | 4-7/16   | 113 | 1       | 25 | 7/8     | 22 | 38        | 9      | 4.1   |
| SL-5         | 1,030                                     | 468   | 2,060                    | 934    | 1                    | 25 | 5-9/16 | 141 | 4-1/8   | 105 | 7-1/8    | 181 | 1-3/4   | 44 | 1-3/8   | 35 | 72        | 22     | 10.0  |
| SL-8         | 2,800                                     | 1,270 | 5,600                    | 2,540  | 2                    | 50 | 8-5/8  | 219 | 5       | 127 | 9-1/4    | 235 | 2-3/8   | 60 | 1-13/16 | 46 | 150       | 74     | 33.5  |
| SL-10        | 4,500                                     | 2,042 | 9,000                    | 4,082  | 2                    | 50 | 10-3/4 | 273 | 5-1/4   | 133 | 10-7/16  | 265 | 2-15/16 | 75 | 2-3/16  | 56 | 228       | 139    | 63.0  |
| SL-12        | 8,600                                     | 3,900 | 17,200                   | 7,802  | 3                    | 76 | 12-3/4 | 324 | 6-9/16  | 167 | 11-3/4   | 298 | 2-15/16 | 75 | 2-3/16  | 56 | 250       | 240    | 109.0 |
| SL-14        | 9,800                                     | 4,442 | 19,600                   | 8,891  | 3                    | 76 | 14     | 356 | 7-1/4   | 184 | 12-3/4   | 324 | 3-1/8   | 79 | 2-1/2   | 64 | 307       | 320    | 145   |
| SL-16        | 12,125                                    | 5,500 | 24,250                   | 11,000 | 3-3/4                | 95 | 16     | 406 | 8-1/8   | 206 | 14       | 356 | 3-1/8   | 79 | 2-1/2   | 64 | 382       | 470    | 213   |
| ST-4D        | 375                                       | 170   | 750                      | 340    | 1                    | 25 | 4      | 102 | 4-1/2   | 114 | 5-5/8    | 143 | 1       | 25 | 7/8     | 22 | 38        | 10     | 5     |
| ST-5D        | 1,030                                     | 468   | 2,060                    | 934    | 1                    | 25 | 5-9/16 | 141 | 5-5/16  | 135 | 8-5/16   | 211 | 1-3/4   | 44 | 1-3/8   | 35 | 72        | 25     | 11    |
| ST-8D        | 2,800                                     | 1,270 | 5,600                    | 2,540  | 2                    | 50 | 8-5/8  | 219 | 6-1/4   | 159 | 10-1/2   | 267 | 2-3/8   | 60 | 1-13/16 | 46 | 150       | 80     | 36    |
| ST-10D       | 4,500                                     | 2,042 | 9,000                    | 4,082  | 2                    | 50 | 10-3/4 | 273 | 6-1/2   | 165 | 11-11/16 | 297 | 2-15/16 | 75 | 2-3/16  | 56 | 228       | 145    | 66    |
| ST-12D       | 8,600                                     | 3,900 | 17,200                   | 7,802  | 3                    | 76 | 12-3/4 | 324 | 7-13/16 | 198 | 13       | 330 | 2-15/16 | 75 | 2-3/16  | 56 | 250       | 247    | 112   |
| ST-14D       | 9,800                                     | 4,442 | 19,600                   | 8,891  | 3                    | 76 | 14     | 356 | 9-1/4   | 235 | 14       | 356 | 1-1/8   | 29 | 2-1/2   | 64 | 307       | 330    | 150   |
| ST-16D       | 12,125                                    | 5,500 | 24,250                   | 11,000 | 3-3/4                | 95 | 16     | 406 | 10-1/8  | 257 | 15-1/4   | 387 | 1-1/8   | 29 | 2-1/2   | 64 | 382       | 480    | 218   |

# RECTANGULAR ELECTRO LIFTING MAGNETS

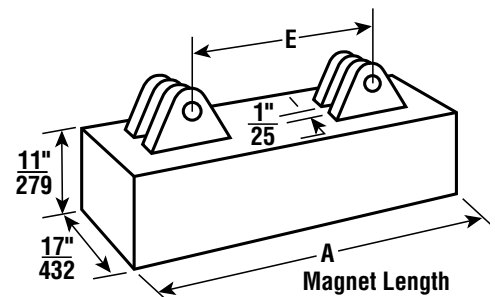
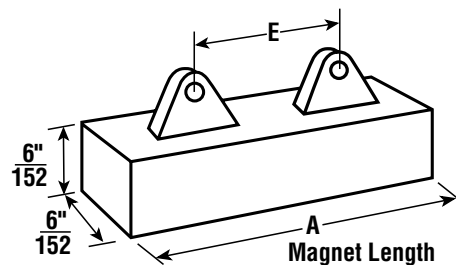
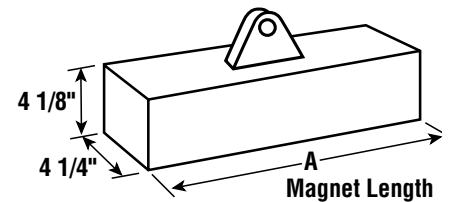
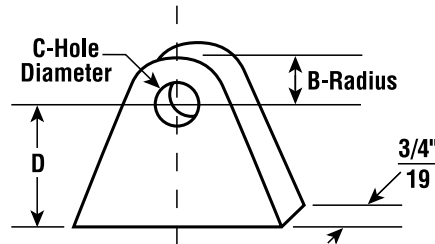


Eliminate slings, hooks, cables and the manpower needed for dangerous attaching work

- Heavy-duty welded-steel magnet body
- Magnet coil sealed against moisture
- Weather-resistant outlet box
- 50-percent duty cycle: 15 minutes maximum "on" time
- 100-percent duty cycle available
- Shallow, three-pole field for thin, flat loads
- Copper-wound coil

Three standard models and lengths from nine inches (229 mm) to 96 inches (2438 mm) allow you to size the magnet to the job. Eriez' smallest single unit has a holding power (with no safety factor) of 1860 pounds (845 kg); the largest, 38.8 tons (35,240 kg).

## SPECIFICATIONS





## SPECIFICATIONS

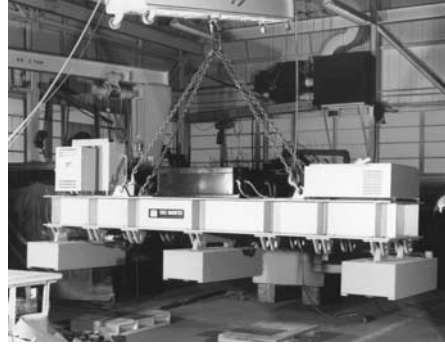
| Model Number | Max Lifting Capacity w/2:1 Safety Factor* |        | Maximum Breakaway Force* |        | Test Plate Thickness |    | Lifting Lugs | A  |       | B     |    | C      |    | D     |    | E  |       | 115 VDC** |      | Weight |         |
|--------------|-------------------------------------------|--------|--------------------------|--------|----------------------|----|--------------|----|-------|-------|----|--------|----|-------|----|----|-------|-----------|------|--------|---------|
|              | lb                                        | kg     | lb                       | kg     | in                   | mm |              | in | mm    | in    | mm | in     | mm | in    | mm | in | mm    | Watts     | Amps | lb     | kg      |
| 449          | 930                                       | 422    | 1,860                    | 845    | 1/2                  | 13 | 1            | 9  | 229   | 1     | 25 | 3/4    | 19 | 1-1/2 | 38 | —  | —     | 162       | 1.41 | 30     | 13.6    |
| 4412         | 1,250                                     | 568    | 2,500                    | 1,135  | 1/2                  | 13 | 1            | 12 | 305   | 1     | 25 | 3/4    | 19 | 1-1/2 | 38 | —  | —     | 210       | 1.9  | 40     | 18.1    |
| 4418         | 1,870                                     | 850    | 3,740                    | 1,698  | 1/2                  | 13 | 1            | 18 | 457   | 1-1/4 | 32 | 1      | 25 | 2     | 51 | —  | —     | 302       | 2.6  | 60     | 27.2    |
| 4424         | 2,500                                     | 1,130  | 5,000                    | 2,220  | 1/2                  | 13 | 1            | 24 | 610   | 1-1/4 | 32 | 1      | 25 | 2     | 51 | —  | —     | 396       | 3.5  | 80     | 36.3    |
| 4430         | 3,120                                     | 1,416  | 6,240                    | 2,834  | 1/2                  | 13 | 1            | 30 | 762   | 1-1/4 | 32 | 1      | 25 | 2     | 51 | —  | —     | 489       | 4.3  | 100    | 45.4    |
| 4436         | 3,750                                     | 1,700  | 7,500                    | 3,405  | 1/2                  | 13 | 2            | 36 | 914   | 1-1/4 | 32 | 1      | 25 | 2     | 51 | 18 | 457   | 604       | 5.3  | 120    | 54.4    |
| 4448         | 5,000                                     | 2,270  | 10,000                   | 4,541  | 1/2                  | 13 | 2            | 48 | 1,219 | 1-1/4 | 32 | 1      | 25 | 2     | 51 | 30 | 762   | 792       | 6.9  | 160    | 72.6    |
| 669          | 1,200                                     | 546    | 2,400                    | 1,092  | 1                    | 25 | 1            | 9  | 229   | 1     | 25 | 3/4    | 19 | 1-1/2 | 38 | —  | —     | 250       | 2.2  | 65     | 29.5    |
| 6612         | 1,650                                     | 750    | 3,300                    | 1,500  | 1                    | 25 | 1            | 12 | 305   | 1     | 25 | 3/4    | 19 | 1-1/2 | 38 | —  | —     | 325       | 2.9  | 95     | 43.1    |
| 6618         | 2,470                                     | 1,120  | 4,940                    | 2,243  | 1                    | 25 | 1            | 18 | 457   | 1-1/4 | 32 | 1      | 25 | 2     | 51 | —  | —     | 450       | 3.9  | 140    | 63.5    |
| 6624         | 3,300                                     | 1,498  | 6,600                    | 2,997  | 1                    | 25 | 1            | 24 | 610   | 1-1/4 | 32 | 1      | 25 | 2     | 51 | —  | —     | 650       | 5.7  | 185    | 83.9    |
| 6630         | 4,120                                     | 1,870  | 8,240                    | 3,742  | 1                    | 25 | 1            | 30 | 762   | 1-1/4 | 32 | 1      | 25 | 2     | 51 | —  | —     | 740       | 6.5  | 235    | 106.6   |
| 6636         | 4,950                                     | 2,248  | 9,900                    | 4,496  | 1                    | 25 | 2            | 36 | 914   | 1-1/4 | 32 | 1      | 25 | 2     | 51 | 24 | 610   | 880       | 7.7  | 280    | 127.0   |
| 6642         | 5,770                                     | 2,620  | 11,540                   | 5,240  | 1                    | 25 | 2            | 42 | 1,067 | 1-1/4 | 32 | 1      | 25 | 2     | 51 | 30 | 762   | 950       | 8.3  | 325    | 147.4   |
| 6648         | 6,600                                     | 2,996  | 13,200                   | 5,995  | 1                    | 25 | 2            | 48 | 1,219 | 1-1/4 | 32 | 1      | 25 | 2     | 51 | 36 | 914   | 1,100     | 9.6  | 370    | 167.8   |
| 111718       | 7,250                                     | 3,300  | 14,500                   | 6,603  | 3                    | 76 | 1            | 18 | 457   | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | —  | —     | 746       | 6.5  | 690    | 313.0   |
| 111724       | 9,700                                     | 4,404  | 19,400                   | 8,810  | 3                    | 76 | 1            | 24 | 610   | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | —  | —     | 1,230     | 10.7 | 945    | 428.6   |
| 111736       | 14,550                                    | 6,608  | 29,100                   | 13,215 | 3                    | 76 | 2            | 36 | 762   | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | 24 | 610   | 1,836     | 16.0 | 1,460  | 662.2   |
| 111742       | 16,974                                    | 7,708  | 33,948                   | 15,416 | 3                    | 76 | 2            | 42 | 914   | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | 30 | 762   | 2,265     | 19.7 | 1,720  | 780.2   |
| 111748       | 19,400                                    | 8,810  | 38,800                   | 17,620 | 3                    | 76 | 2            | 48 | 1,067 | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | 36 | 914   | 2,540     | 22.1 | 1,975  | 895.8   |
| 111754       | 21,800                                    | 9,910  | 43,600                   | 19,820 | 3                    | 76 | 2            | 54 | 1,219 | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | 42 | 1,067 | 2,645     | 23.0 | 2,230  | 1,011.5 |
| 111760       | 24,250                                    | 11,012 | 48,500                   | 22,025 | 3                    | 76 | 2            | 60 | 1,524 | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | 48 | 1,219 | 2,930     | 25.5 | 2,485  | 1,127.2 |
| 111772       | 29,100                                    | 13,214 | 58,200                   | 26,428 | 3                    | 76 | 2            | 72 | 1,829 | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | 60 | 1,524 | 3,500     | 30.5 | 2,930  | 1,329.0 |
| 111784       | 33,950                                    | 15,418 | 67,900                   | 30,836 | 3                    | 76 | 2            | 84 | 2,134 | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | 72 | 1,829 | 4,000     | 34.8 | 3,440  | 1,560.4 |
| 111796       | 38,800                                    | 17,620 | 77,600                   | 35,240 | 3                    | 76 | 2            | 96 | 2,438 | 1-3/4 | 45 | 1-1/16 | 27 | 3     | 76 | 84 | 2,134 | 4,500     | 39.2 | 3,960  | 1,796.2 |

**NOTES:**

\* Taken with magnet in hot condition

\*\* 230VDC Optional - Wattage may vary with voltage

# HEAVY-DUTY RECTANGULAR ELECTRO LIFTING MAGNETS



Powerful, computer-designed magnets up to 8' (2.4 m) long to lift, move and position heavy beams, channels, bars and flat steel plate

- All models are of hefty 12-3/4" x 21" (324 mm x 533 mm) cross section
- Three-pole magnet for reliable, positive grip on flat surface
- Heavy duty
- Deep field
- Computer-designed aluminum coil
- Weatherproof welded construction
- Class H insulation
- 100-percent duty cycle
- Multiple-plate capacity
- Optional high-temperature models available

This Heavy-Duty Rectangular Magnet is designed to give maximum efficiency in multiple-plate handling applications, such as load-

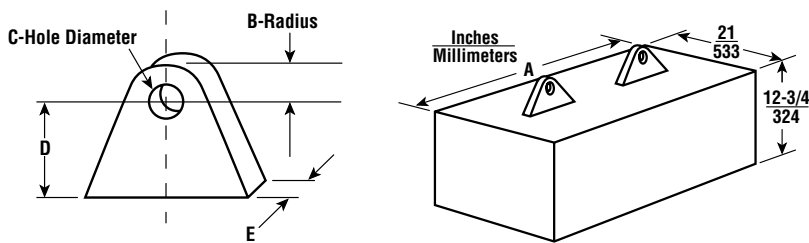
ing and unloading ships, barges, rail cars and trucks; and for transfer operations in storage yards, shipyards, steel mills and warehouses.

The rugged, deep-field construction also makes the magnet especially effective in handling billets, slabs and large fabrications.

The Model 1321 lends itself to either single-magnet application or multiple-magnet lifting-beam installations.

Eriez Magnetics has the capability to design and build complete Lifting-Magnet Systems, including magnets, lift beams, power supplies, controls and battery back-up systems which automatically take over and provide emergency handling in the event of electrical power failure.

## SPECIFICATIONS



**NOTES:**

\* Taken with magnet in hot condition

\*\* 230VDC Optional - Wattage may vary with voltage

| Model Number | Max Lifting Capacity w/2:1 Safety Factor* |        | Maximum Breakaway Force* |        | Test Plate Thickness |    | A  |       | B     |    | C       |    | D     |    | E     |    | 115 VDC** |      | Weight |       |
|--------------|-------------------------------------------|--------|--------------------------|--------|----------------------|----|----|-------|-------|----|---------|----|-------|----|-------|----|-----------|------|--------|-------|
|              | lb                                        | kg     | lb                       | kg     | in                   | mm | in | mm    | in    | mm | in      | mm | in    | mm | in    | mm | Watts     | Amps | lb     | kg    |
| 132124       | 14,750                                    | 6,690  | 29,500                   | 13,380 | 3                    | 76 | 24 | 610   | 2-7/8 | 73 | 1-3/16  | 30 | 2-5/8 | 66 | 1-1/2 | 38 | 675       | 5.9  | 1,230  | 559   |
| 132136       | 22,130                                    | 10,036 | 44,260                   | 20,072 | 3                    | 76 | 36 | 914   | 2-7/8 | 73 | 1-11/16 | 43 | 2-5/8 | 66 | 2-1/4 | 57 | 1,000     | 8.7  | 1,900  | 864   |
| 132148       | 29,500                                    | 13,378 | 59,000                   | 26,756 | 3                    | 76 | 48 | 1,219 | 2-7/8 | 73 | 1-11/16 | 43 | 2-5/8 | 66 | 2-1/4 | 57 | 1,350     | 11.7 | 2,435  | 1,107 |
| 132160       | 36,880                                    | 16,726 | 73,760                   | 33,452 | 3                    | 76 | 60 | 1,524 | 2-7/8 | 73 | 1-11/16 | 43 | 2-5/8 | 66 | 2-1/4 | 57 | 1,450     | 12.6 | 2,995  | 1,361 |
| 132172       | 44,250                                    | 20,068 | 88,500                   | 40,136 | 3                    | 76 | 72 | 1,829 | 3-1/2 | 89 | 2-1/8   | 54 | 3-1/2 | 89 | 2-3/4 | 70 | 2,000     | 17.4 | 3,745  | 1,702 |
| 132184       | 51,630                                    | 23,414 | 103,260                  | 46,828 | 3                    | 76 | 84 | 2,134 | 3-1/2 | 89 | 2-1/8   | 54 | 3-1/2 | 89 | 2-3/4 | 70 | 2,250     | 19.6 | 4,245  | 1,930 |
| 132196       | 59,000                                    | 26,758 | 118,000                  | 53,516 | 3                    | 76 | 96 | 2,438 | 3-1/2 | 89 | 2-1/8   | 54 | 3-1/2 | 89 | 2-3/4 | 70 | 2,700     | 23.5 | 4,815  | 2,189 |

# SQUARE BI-POLAR LIFTING MAGNETS



Specifically designed to provide greater holding on coils, bundles of bar, re-bar, tubes or pipes.

- Six sizes available
- For handling of various bundled materials
- Special-shaped pole shoes available
- Deep, two-pole field for maximum holding on irregular shapes
- Computer-designed coil
- Weather-tight welded construction
- 50-percent duty cycle: 15 minutes maximum “on” time
- 100-percent duty cycle available

Eriez’ line of Square Bi-Polar Magnets provides for lifting of banded coils and miscellaneous bundled shapes.

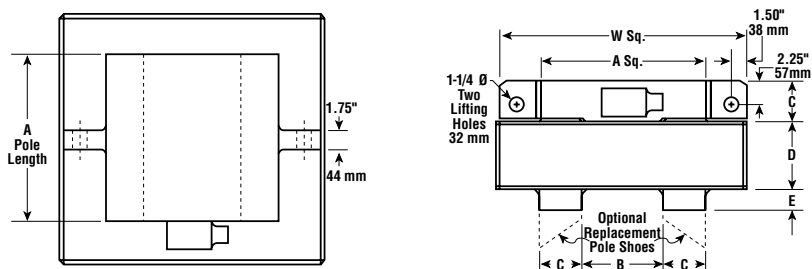
Bi-Polar magnets can be used in either single-magnet or multiple-magnet applications and with a variety of suspension systems. Eriez designs and builds complete systems including magnets, lift beams, power supplies, controls and battery back-up units.

When the application is lifting bundles of pipe or re-bar, tapered pole shoes can be added.

### Optional Pole Configurations Available

Radiused or contoured poles for large rounds. Extended poles for high-temperature applications. Flat poles for thin and heavy loads.

## SPECIFICATIONS



NOTES:  
 \* Taken with magnet in hot condition  
 \*\* 230VDC Optional - Wattage may vary with voltage

| Model Number | Max Lifting Capacity w/2:1 Safety Factor* |        | Maximum Breakaway Force* |        | Test Plate Thickness |     | W      |       | A      |     | B      |     | C     |     | D     |     | E     |    | 115 VDC** |      | Weight |       |
|--------------|-------------------------------------------|--------|--------------------------|--------|----------------------|-----|--------|-------|--------|-----|--------|-----|-------|-----|-------|-----|-------|----|-----------|------|--------|-------|
|              | lb                                        | kg     | lb                       | kg     | in                   | mm  | in     | mm    | in     | mm  | in     | mm  | in    | mm  | in    | mm  | in    | mm | Watts     | Amps | lb     | kg    |
| 1616         | 5,000                                     | 2,268  | 10,000                   | 4,536  | 2-1/2                | 64  | 16-1/2 | 419   | 10-1/2 | 267 | 5-1/2  | 140 | 2-1/2 | 64  | 4.7   | 119 | 1     | 25 | 1,300     | 11.3 | 260    | 118   |
| 2020         | 7,500                                     | 3,402  | 15,000                   | 6,804  | 3                    | 76  | 20     | 508   | 13     | 330 | 7      | 178 | 3     | 76  | 5.7   | 145 | 1-1/2 | 38 | 1,800     | 15.7 | 550    | 249   |
| 2424         | 12,000                                    | 5,443  | 24,000                   | 10,886 | 4                    | 102 | 24     | 610   | 16     | 406 | 8      | 203 | 4     | 102 | 6.7   | 170 | 2     | 51 | 3,200     | 27.9 | 980    | 445   |
| 3030         | 22,500                                    | 10,206 | 45,000                   | 20,412 | 5-3/4                | 146 | 30     | 762   | 21     | 533 | 9-1/2  | 241 | 5-3/4 | 146 | 7.1   | 180 | 2     | 51 | 5,400     | 47.0 | 2,450  | 1,111 |
| 3737         | 33,000                                    | 14,969 | 66,000                   | 29,938 | 6-3/4                | 171 | 37-1/2 | 953   | 26     | 660 | 12-1/2 | 318 | 6-3/4 | 171 | 7-3/4 | 197 | 2     | 51 | 7,800     | 67.9 | 3,400  | 1,542 |
| 4141         | 45,000                                    | 20,412 | 90,000                   | 40,824 | 8                    | 203 | 41-1/2 | 1,054 | 30     | 762 | 14     | 356 | 8     | 203 | 8-3/4 | 222 | 2     | 51 | 9,600     | 83.5 | 4,800  | 2,177 |

# RECTANGULAR BI-POLAR LIFTING MAGNETS



Specifically designed to provide greater contact and holding strength on castings, forgings, plates and structural shapes

- Three widths; 13 sizes
- For pipe handling, round bars, angles, flats and shapes
- Special-shaped pole shoes are available
- Deep, two-pole field provides better holding on round and irregular shapes
- Computer-designed coil
- Weather-tight welded construction
- 50-percent duty cycle (15 minutes maximum “on” time)
- 100-percent duty cycle available

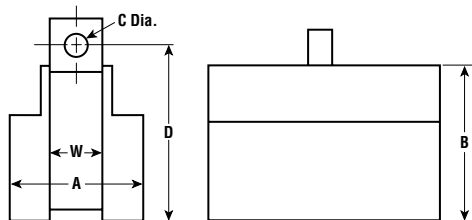
Eriez Magnetics’ line of Rectangular Bi-Polar Magnets provides an optional variety of pole-plate configurations which permit maximum contact areas for pipe, rounds and odd shapes.

Bi-polar magnets can be used in either single-magnet or multiple-magnet applications and with a variety of suspension systems. Eriez designs and builds complete systems including magnets, lift beams, power supplies, controls and battery back-up units.

### Optional Pole Configurations Available

Radiused or contoured poles for large rounds. Extended poles for high-temperature applications. Flat poles for thin and heavy loads.

## SPECIFICATIONS



Models over 24" (610 mm) long have two lifting lugs; all others have one.

| Model Number | A Magnet Width |     | B Magnet Height |     | C Lifting Lug Hole Diameter |    | D      |     | W     |     |
|--------------|----------------|-----|-----------------|-----|-----------------------------|----|--------|-----|-------|-----|
|              | lb             | kg  | lb              | kg  | in                          | mm | in     | mm  | in    | mm  |
| 5 XX         | 5-1/4          | 133 | 8-3/8           | 213 | 1                           | 25 | 9-5/8  | 245 | 2-1/4 | 57  |
| 10 XX        | 10-1/4         | 260 | 14-1/8          | 359 | 1-5/16                      | 32 | 15-7/8 | 403 | 4-1/4 | 108 |
| 15 XX        | 15-1/4         | 387 | 22              | 559 | 1-3/4                       | 44 | 22-1/2 | 572 | 6-1/4 | 159 |



## SPECIFICATIONS

| Model Number | Max Lifting Capacity w/2:1 Safety Factor* |        | Maximum Breakaway Force* |        | Test Plate Thickness |     | Width  |     | Length** |       | 115 VDC** |      | Weight |       |
|--------------|-------------------------------------------|--------|--------------------------|--------|----------------------|-----|--------|-----|----------|-------|-----------|------|--------|-------|
|              | lb                                        | kg     | lb                       | kg     | in                   | mm  | in     | mm  | in       | mm    | Watts     | Amps | lb     | kg    |
| 512          | 2,620                                     | 1,188  | 5,240                    | 2,377  | 4-1/2                | 114 | 5-1/4  | 133 | 12       | 305   | 390       | 3.4  | 95     | 43    |
| 518          | 3,930                                     | 1,784  | 7,875                    | 3,572  | 4-1/2                | 114 | 5-1/4  | 133 | 18       | 457   | 550       | 4.8  | 145    | 66    |
| 524          | 5,250                                     | 2,382  | 10,500                   | 4,763  | 4-1/2                | 114 | 5-1/4  | 133 | 24       | 610   | 700       | 6.0  | 195    | 87    |
| 536          | 7,870                                     | 3,570  | 15,740                   | 7,140  | 4-1/2                | 114 | 5-1/4  | 133 | 36       | 914   | 1,000     | 8.7  | 295    | 134   |
| 548          | 10,500                                    | 4,762  | 21,000                   | 9,526  | 4-1/2                | 114 | 5-1/4  | 133 | 48       | 1,219 | 1,325     | 11.5 | 395    | 176   |
| 1018         | 8,880                                     | 4,028  | 17,760                   | 8,056  | 4-1/2                | 114 | 10-1/4 | 260 | 18       | 457   | 1,125     | 9.8  | 435    | 198   |
| 1024         | 11,850                                    | 5,376  | 23,700                   | 10,750 | 4-1/2                | 114 | 10-1/4 | 260 | 24       | 610   | 1,425     | 12.4 | 600    | 273   |
| 1036         | 17,770                                    | 8,060  | 35,540                   | 16,121 | 4-1/2                | 114 | 10-1/4 | 260 | 36       | 914   | 2,000     | 17.4 | 925    | 420   |
| 1048         | 23,700                                    | 10,750 | 47,400                   | 21,501 | 4-1/2                | 114 | 10-1/4 | 260 | 48       | 1,219 | 2,500     | 21.7 | 1,125  | 511   |
| 1524         | 16,800                                    | 7,620  | 33,600                   | 15,241 | 4-1/2                | 114 | 15-1/4 | 387 | 24       | 610   | 2,400     | 20.9 | 1,335  | 607   |
| 1536         | 25,200                                    | 11,430 | 50,400                   | 22,861 | 4-1/2                | 114 | 15-1/4 | 387 | 36       | 914   | 3,300     | 28.7 | 2,065  | 939   |
| 1548         | 33,600                                    | 15,240 | 67,200                   | 30,482 | 4-1/2                | 114 | 15-1/4 | 387 | 48       | 1,219 | 4,200     | 36.5 | 2,685  | 1,220 |
| 1560         | 42,000                                    | 19,052 | 84,000                   | 38,102 | 4-1/2                | 114 | 15-1/4 | 387 | 60       | 1,524 | 5,100     | 44.3 | 3,410  | 1,550 |

**NOTES:**

\* Taken with magnet in hot condition

\*\* 230VDC Optional - Wattage may vary with voltage

# CIRCULAR LIFTING MAGNETS



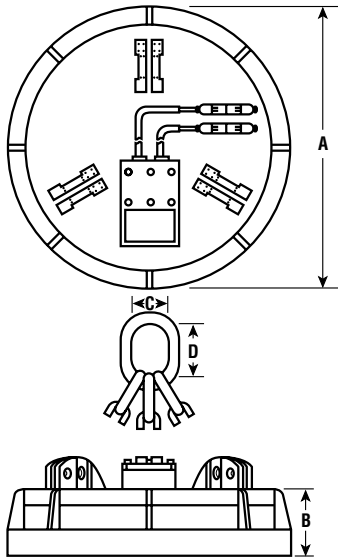
Eriez' Circular Lifting Magnets, with computer-designed magnetic circuitry, offer a high lift-to-weight capability in many applications: in steel mills, ball mills; for furnace charging and other materials-handling jobs.

Magnets to handle all kinds of steel, especially scrap, efficiently and inexpensively

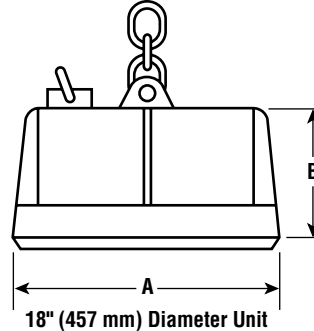
- Computer-designed aluminum coil
- Fabricated construction
- Ribbed, manganese-steel bottom plate
- Weatherproof construction
- Class H insulation
- Standard models 18" and 24" (457 mm and 610 mm) in diameter
- 75-percent duty cycle; 15 minutes maximum "on" time

Eriez' Circular Lifting Magnets are general-purpose magnets with many applications: in steel mills, steel service centers, ball mills; for furnace charging and other material-handling jobs. The computer design provides a 75-percent duty cycle with a high lift-to-weight ratio. A triple-sealed terminal box and super-alloy steel chains are standard. Rectifiers, drop controllers and cable reels are available as accessories.

## SPECIFICATIONS



24" (610 mm) Diameter Unit



18" (457 mm) Diameter Unit

The 18" diameter unit is furnished with a single-chain suspension assembly and single-lead two-conductor powercord.

| Model Number | A  |     | B     |     | C     |    | D     |     |
|--------------|----|-----|-------|-----|-------|----|-------|-----|
|              | in | mm  | in    | mm  | in    | mm | in    | mm  |
| 18           | 18 | 457 | 9     | 229 | 2-3/4 | 70 | 5-1/2 | 140 |
| 24           | 24 | 610 | 9-1/2 | 241 | 3-1/2 | 89 | 7     | 178 |

| Magnet Diameter |     | Approximate Weight |     | Current Rating (Amps) |           | Recommended |           |            |      | Lifting Capacities - Approximate (All Day) Average |       |                  |     |                  |    |                 |     |                   |    |
|-----------------|-----|--------------------|-----|-----------------------|-----------|-------------|-----------|------------|------|----------------------------------------------------|-------|------------------|-----|------------------|----|-----------------|-----|-------------------|----|
|                 |     |                    |     |                       |           | Generator   | Rectifier | Cable Size |      | Plates & Slabs                                     |       | #1 Heavy Melting |     | #2 Heavy Melting |    | Plate Punchings |     | Cast Iron Borings |    |
| in              | mm  | lb                 | kg  | Cold                  | Operating |             |           |            |      | kw*                                                | kw    | lb               | kg  | lb               | kg | lb              | kg  | lb                | kg |
| 18              | 457 | 405                | 184 | 7                     | 4         | 1.5         | 1.5       | 14/3       | 1.80 | 4,000                                              | 1,814 | 175              | 79  | 100              | 45 | 250             | 113 | 90                | 41 |
| 24              | 610 | 725                | 329 | 9                     | 5         | 2.5         | 2.5       | 14/3       | 1.80 | 10,000                                             | 4,536 | 280              | 127 | 200              | 91 | 425             | 193 | 170               | 77 |

**NOTES:**

Magnets operate on 230 VDC

\* Based on operating current. For light duty use, size generator for the cold amperes.

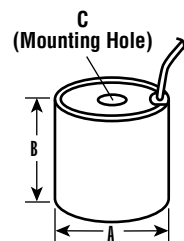
# MAG-GRIP MAGNETIC GRIPPING DEVICES

## SPECIFICATIONS

### ELECTRO MODELS SL-1-1/2 AND SL-3

Ultra-lightweight, but powerful, electro magnets for robot applications

- 100-percent duty cycle

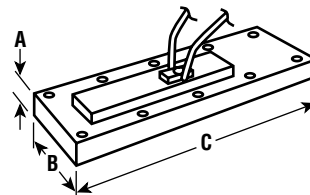


| Model Number | *Max Lifting Capacity w/2:1 Safety Factor |    | *Maximum Breakaway Force |    | Test Plate Thickness |    | A     |    | B       |    | C       | Current |     | Weight |      |
|--------------|-------------------------------------------|----|--------------------------|----|----------------------|----|-------|----|---------|----|---------|---------|-----|--------|------|
|              | lb                                        | kg | lb                       | kg | in                   | mm | in    | mm | in      | mm |         | Watts   | VDC | lb     | kg   |
| SL-1-1/2     | 38                                        | 17 | 76                       | 34 | 1/4                  | 6  | 1-5/8 | 42 | 1-11/16 | 43 | 1/4-20  | 3       | 12  | 3/4    | .345 |
| SL-3         | 92                                        | 42 | 185                      | 84 | 1/2                  | 13 | 3     | 76 | 3-3/16  | 81 | 5/16-18 | 15      | 12  | 3      | 1.4  |

### ELECTRO MODELS RAM-1 AND RAM-2

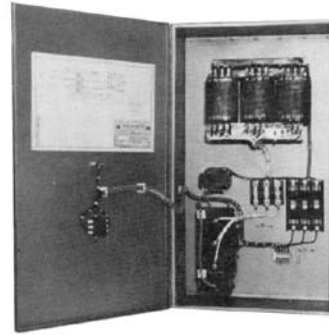
Ultra-lightweight, but powerful, electro magnets for robot applications

- 100-percent duty cycle



| Model Number | *Max Lifting Capacity w/2:1 Safety Factor |     | *Maximum Breakaway Force |     | Test Plate Thickness |    | A   |    | B     |     | C     |     | Current |     | Weight |       |
|--------------|-------------------------------------------|-----|--------------------------|-----|----------------------|----|-----|----|-------|-----|-------|-----|---------|-----|--------|-------|
|              | lb                                        | kg  | lb                       | kg  | in                   | mm | in  | mm | in    | mm  | in    | mm  | Watts   | VDC | lb     | kg    |
| RAM-1        | 100                                       | 46  | 200                      | 91  | 1/4                  | 6  | 1/2 | 13 | 2     | 51  | 7-5/8 | 194 | 17      | 12  | 2-1/4  | 1     |
| RAM-2        | 250                                       | 114 | 500                      | 227 | 1/4                  | 6  | 1/2 | 13 | 5-1/4 | 133 | 7-5/8 | 194 | 46      | 12  | 5-1/2  | 2-1/2 |

# FIXED-VOLTAGE SILICON RECTIFIERS



Silicon Rectifier units specially designed for use with all types of electromagnets

Eriez' fixed-voltage rectifiers provide fixed voltage D.C. power for all types of electromagnets. Their design uses full-wave bridge silicon rectifiers with avalanche characteristics, eliminating the need for other components to reduce voltage spikes.

A wide range of sizes is available for both single-phase and three-phase operation. Single-phase rectifiers operate from 115/230 volts, 50/60 Hz, single-phase A.C. with 120 volt D.C. output. Capacities from 500 watts up to 3,000 watts are available.

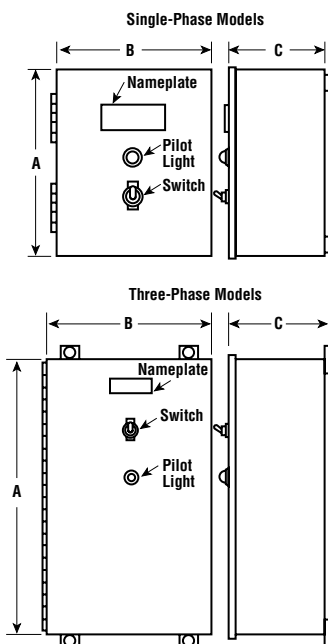
Three-phase rectifiers are suitable for converting 230/460 volt, 50/60 Hz, three-phase A.C. to either 120 volt D.C. or 240 volt D.C.. Capacities range from 500 watts up to 25,000 watts. Other input voltages are available on request.

Standard enclosures are NEMA 1, open ventilated, 14-gauge steel cabinets for wall mounting; NEMA 3, weather-proof; NEMA 4, water-tight; and NEMA 12 or 9, dust-tight constructions are available.

Eriez' fixed-voltage rectifiers are designed for full-capacity operation in ambient temperatures up to 110°F (43°C) and elevations up to 2,000 feet (610 meters) above sea level, with moderate derating required above these levels. The power supplies are protected with dual-element fuses and with current-limiting fuses made specifically for the protection of semiconductor.

Simplicity of design combined with high-quality components provides years of trouble-free operation.

## SPECIFICATIONS



### DIMENSIONS AND WEIGHTS

Single-Phase

| Model Number | A       |     | B       |     | C     |     | Weight |    |
|--------------|---------|-----|---------|-----|-------|-----|--------|----|
|              | in      | mm  | in      | mm  | in    | mm  | lb     | kg |
| 5CS11        | 12-3/16 | 310 | 10-3/16 | 260 | 6-1/4 | 160 | 45     | 20 |
| 10CS11       | 12-3/16 | 310 | 10-3/16 | 260 | 6-1/4 | 160 | 48     | 22 |
| 20CS11       | 16-3/16 | 410 | 12-1/4  | 310 | 8-1/4 | 210 | 55     | 25 |
| 30CS11       | 16-3/16 | 410 | 12-1/4  | 310 | 8-1/4 | 210 | 60     | 27 |

### ELECTRICAL DATA

Single-Phase

| Model Number | AC Input |      | DC Output |       |       |
|--------------|----------|------|-----------|-------|-------|
|              | Volts    | Amps | Volts     | Watts | Amps  |
| 5CS11        | 115      | 4.62 | 120       | 500   | 4.16  |
| 10CS11       | 115      | 9.5  | 120       | 1,000 | 8.34  |
| 20CS11       | 115      | 18.5 | 120       | 2,000 | 16.65 |
| 30CS11       | 115      | 27.5 | 120       | 3,000 | 25.0  |

## SPECIFICATIONS

### DIMENSIONS AND WEIGHTS Three-Phase

| Model Number | A      |     | B      |     | C      |     | Weight |    |
|--------------|--------|-----|--------|-----|--------|-----|--------|----|
|              | in     | mm  | in     | mm  | in     | mm  | lb     | kg |
| 5C           | 20-1/4 | 514 | 16-1/4 | 413 | 8      | 203 | 160    | 72 |
| 10C          | 20-1/4 | 514 | 16-1/4 | 413 | 8      | 203 | 160    | 72 |
| 15C          | 24-1/4 | 615 | 18-1/4 | 464 | 10-3/8 | 265 | 190    | 86 |
| 20C          | 36-1/4 | 920 | 21-1/4 | 540 | 10-3/8 | 265 | 210    | 95 |
| 25C          | 36-1/4 | 920 | 21-1/4 | 540 | 10-3/8 | 265 | 210    | 95 |
| 30C          | 36-1/4 | 920 | 21-1/4 | 540 | 10-3/8 | 265 | 210    | 95 |
| 35C          | 36-1/4 | 920 | 21-1/4 | 540 | 10-3/8 | 265 | 210    | 95 |
| 40C          | 36-1/4 | 920 | 21-1/4 | 540 | 10-3/8 | 265 | 210    | 95 |

### DIMENSIONS AND WEIGHTS Three-Phase

| Model Number | A      |       | B      |     | C      |     | Weight |     |  |
|--------------|--------|-------|--------|-----|--------|-----|--------|-----|--|
|              | in     | mm    | in     | mm  | in     | mm  | lb     | kg  |  |
| 50C          | 36-1/4 | 920   | 21-1/4 | 540 | 10-3/8 | 265 | 210    | 95  |  |
| 60C          | 36-1/4 | 920   | 21-1/4 | 540 | 10-3/8 | 265 | 210    | 95  |  |
| 75C          | 36-1/4 | 920   | 21-1/4 | 540 | 10-3/8 | 265 | 210    | 95  |  |
| 10K          | 36-1/4 | 920   | 21-1/4 | 540 | 12-3/8 | 315 | 312    | 142 |  |
| 12.5K        | 36-1/4 | 920   | 21-1/4 | 540 | 12-3/8 | 315 | 376    | 171 |  |
| 15K          | 36-1/4 | 920   | 21-1/4 | 540 | 12-3/8 | 315 | 376    | 171 |  |
| 20K          | 45-1/4 | 1,150 | 30-1/4 | 770 | 16-3/8 | 415 | 525    | 238 |  |
| 25K          | 45-1/4 | 1,150 | 30-1/4 | 770 | 16-3/8 | 415 | 525    | 238 |  |

### ELECTRICAL DATA Three-Phase

| Model Number | AC Input |      | DC Output |        |       |
|--------------|----------|------|-----------|--------|-------|
|              | Volts    | Amps | Volts     | Watts  | Amps  |
| 5C21         | 230      | 1.51 | 120       | 500    | 4.16  |
| 10C21        | 230      | 3.0  | 120       | 1,000  | 8.3   |
| 15C21        | 230      | 4.3  | 120       | 1,500  | 12.5  |
| 20C21        | 230      | 6.0  | 120       | 2,000  | 16.7  |
| 25C21        | 230      | 7.2  | 120       | 2,500  | 20.9  |
| 30C21        | 230      | 8.4  | 120       | 3,000  | 25.0  |
| 35C21        | 230      | 9.8  | 120       | 3,500  | 29.2  |
| 40C21        | 230      | 11.2 | 120       | 4,000  | 33.3  |
| 50C21        | 230      | 14.2 | 120       | 5,000  | 41.7  |
| 60C21        | 230      | 17.3 | 120       | 6,000  | 50.0  |
| 75C21        | 230      | 22.6 | 120       | 7,500  | 62.5  |
| 10K21        | 230      | 30.5 | 120       | 10,000 | 83.3  |
| 12.5K21      | 230      | 36.1 | 120       | 12,500 | 104.0 |
| 15K21        | 230      | 45.0 | 120       | 15,000 | 125.0 |
| 20K21        | 230      | 61.1 | 120       | 20,000 | 167.0 |
| 25K21        | 230      | 72.2 | 120       | 25,000 | 208.0 |
| 5C22         | 230      | 1.59 | 230       | 500    | 2.17  |
| 10C22        | 230      | 3.0  | 230       | 1,000  | 4.5   |
| 15C22        | 230      | 4.5  | 230       | 1,500  | 6.5   |
| 20C22        | 230      | 6.0  | 230       | 2,000  | 8.4   |
| 25C22        | 230      | 7.2  | 230       | 2,500  | 10.5  |
| 30C22        | 230      | 8.4  | 230       | 3,000  | 12.5  |
| 35C22        | 230      | 9.8  | 230       | 3,500  | 14.6  |
| 40C22        | 230      | 11.2 | 230       | 4,000  | 16.6  |
| 50C22        | 230      | 14.2 | 230       | 5,000  | 20.8  |
| 60C22        | 230      | 18.2 | 230       | 6,000  | 26.0  |
| 75C22        | 230      | 22.6 | 230       | 7,500  | 31.3  |
| 10K22        | 230      | 30.5 | 230       | 10,000 | 41.7  |
| 12.5K22      | 230      | 37.9 | 230       | 12,500 | 54.0  |
| 15K22        | 230      | 45.0 | 230       | 15,000 | 62.5  |
| 20K22        | 230      | 61.1 | 230       | 20,000 | 83.3  |
| 25K22        | 230      | 75.8 | 230       | 25,000 | 108.0 |

### ELECTRICAL DATA Three-Phase

| Model Number | AC Input |       | DC Output |        |       |
|--------------|----------|-------|-----------|--------|-------|
|              | Volts    | Amps  | Volts     | Watts  | Amps  |
| 5C41         | 460      | 0.76  | 120       | 500    | 4.16  |
| 10C41        | 460      | 1.5   | 120       | 1,000  | 8.3   |
| 15C41        | 460      | 2.2   | 120       | 1,500  | 12.5  |
| 20C41        | 460      | 3.0   | 120       | 2,000  | 16.7  |
| 25C41        | 460      | 3.5   | 120       | 2,500  | 20.9  |
| 30C41        | 460      | 4.2   | 120       | 3,000  | 25.0  |
| 35C41        | 460      | 4.9   | 120       | 3,500  | 29.2  |
| 40C41        | 460      | 5.6   | 120       | 4,000  | 33.3  |
| 50C41        | 460      | 7.1   | 120       | 5,000  | 41.7  |
| 60C41        | 460      | 9.0   | 120       | 6,000  | 50.0  |
| 75C41        | 460      | 11.3  | 120       | 7,500  | 62.5  |
| 10K41        | 460      | 15.0  | 120       | 10,000 | 83.3  |
| 12.5K41      | 460      | 18.8  | 120       | 12,500 | 104.0 |
| 15K41        | 460      | 22.6  | 120       | 15,000 | 125.0 |
| 20K41        | 460      | 30.6  | 120       | 20,000 | 167.0 |
| 25K41        | 460      | 37.7  | 120       | 25,000 | 208.0 |
| 5C42         | 460      | 0.80  | 230       | 500    | 2.17  |
| 10C42        | 460      | 1.6   | 230       | 1,000  | 4.5   |
| 15C42        | 460      | 2.4   | 230       | 1,500  | 6.5   |
| 20C42        | 460      | 3.0   | 230       | 2,000  | 8.4   |
| 25C42        | 460      | 3.5   | 230       | 2,500  | 10.5  |
| 30C42        | 460      | 4.2   | 230       | 3,000  | 12.5  |
| 35C42        | 460      | 4.9   | 230       | 3,500  | 14.6  |
| 40C42        | 460      | 5.6   | 230       | 4,000  | 16.6  |
| 50C42        | 460      | 7.1   | 230       | 5,000  | 20.8  |
| 60C42        | 460      | 9.5   | 230       | 6,000  | 26.0  |
| 75C42        | 460      | 11.3  | 230       | 7,500  | 31.3  |
| 10K42        | 460      | 15.0  | 230       | 10,000 | 41.7  |
| 12.5K42      | 460      | 19.8  | 230       | 12,500 | 54.0  |
| 15K42        | 460      | 22.6  | 230       | 15,000 | 62.5  |
| 20K42        | 460      | 30.6  | 230       | 20,000 | 83.3  |
| 25K42        | 460      | 39.69 | 230       | 25,000 | 108.0 |

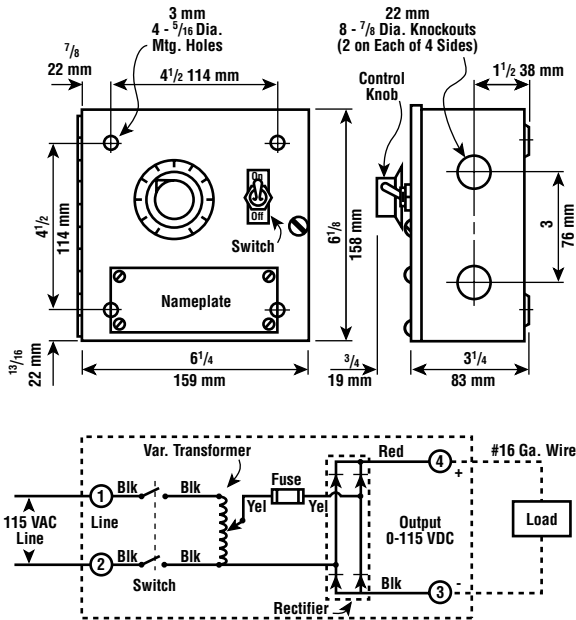
# VARIABLE-VOLTAGE RECTIFIERS

## MODEL/WIRING DIAGRAM

If Drop Control is required, please contact Eriez

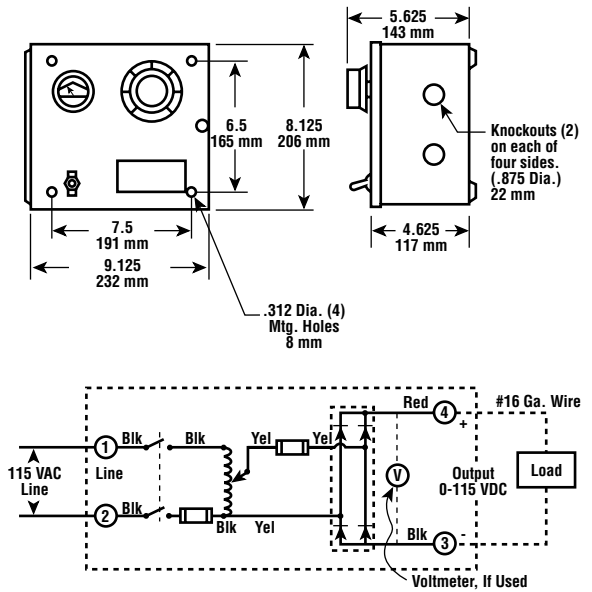
### 200-11-11

Rating: 115 VAC, 200 Watts, 1.7 Amps  
Finish: Gray Weight: 6.5 lb/3 kg



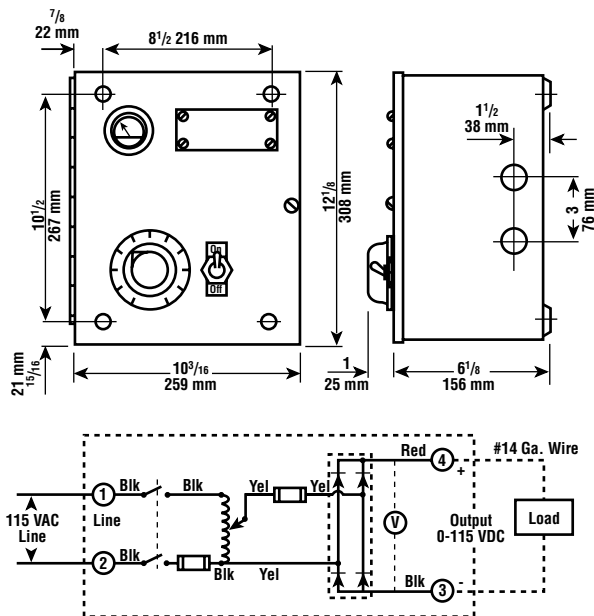
### 500-11-11

Rating: 115 VAC, 500 Watts, 4.3 Amps  
Finish: Gray Weight: 13 lb/5.8 kg



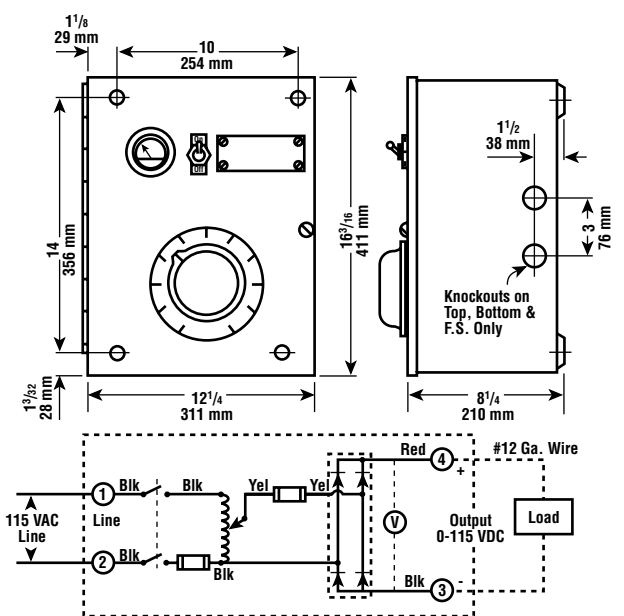
### 1K-11-11

Rating: 115 VAC, 1000 Watts, 8.7 Amps  
Finish: Gray Weight: 23 lb/10 kg



### 2K-11-11

Rating: 115 VAC, 2000 Watts, 17.4 Amps  
Finish: Gray Weight: 45 lb/20 kg



# VARIABLE-VOLTAGE RECTIFIERS

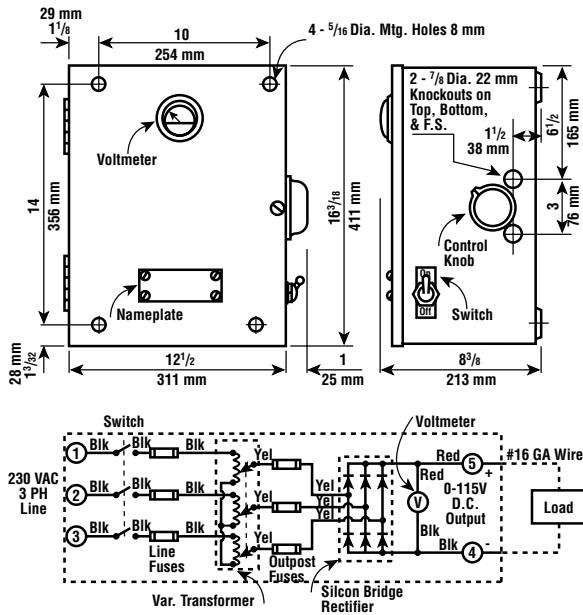
## MODEL/WIRING DIAGRAM

If Drop Control is required, please contact Eriez

### 500-23-11

Rating: 230 VAC, 3 Phase, 500 Watts, 8.7 Amps

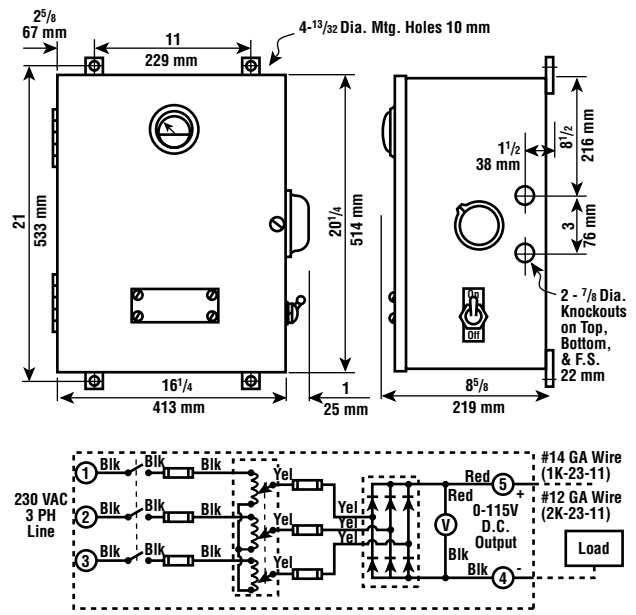
Finish: Gray Weight: 36 lb/16 kg



### 1K-23-11

Rating: 230 VAC, 3 Phase, 1000 Watts, 8.7 Amps

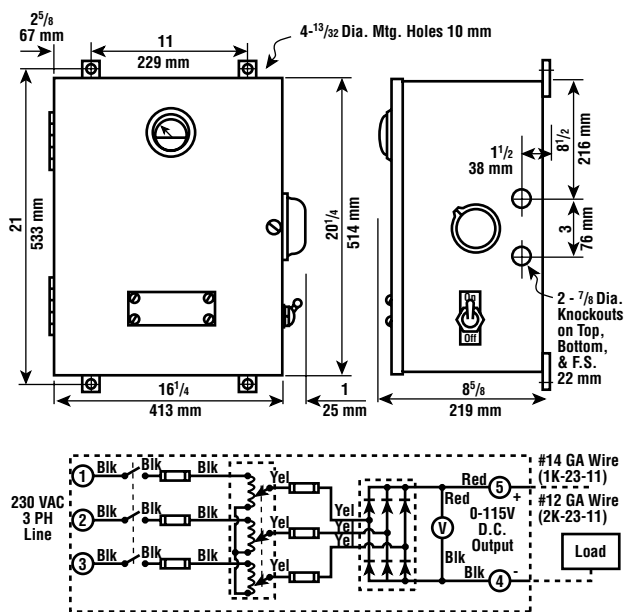
Finish: Gray Weight: 58 lb/26 kg



### 2K-23-11

Rating: 230 VAC, 3 Phase, 2000 Watts, 17.4 Amps

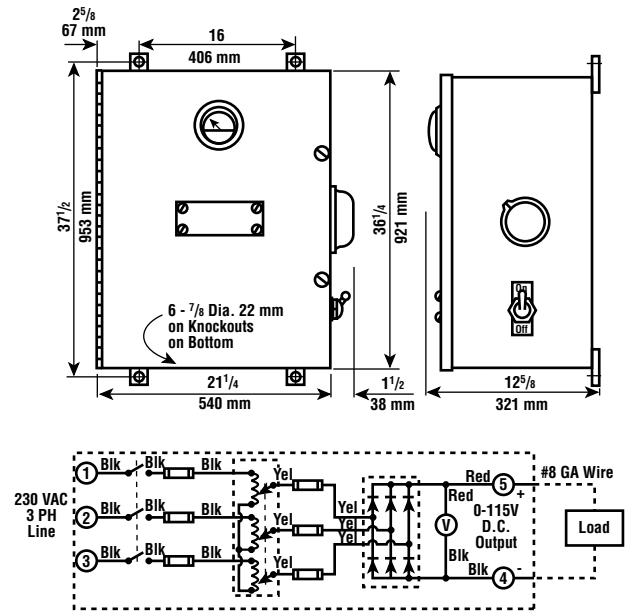
Finish: Gray Weight: 75 lb/34 kg



### 5K-23-11

Rating: 230 VAC, 3 Phase, 5000 Watts, 34.8 Amps

Finish: Gray Weight: 185 lb/84 kg



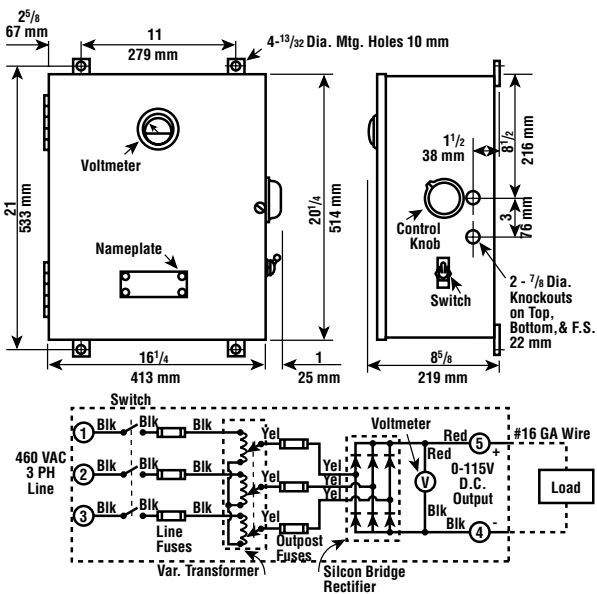
# VARIABLE-VOLTAGE RECTIFIERS

## MODEL/WIRING DIAGRAM

If Drop Control is required, please contact Eriez

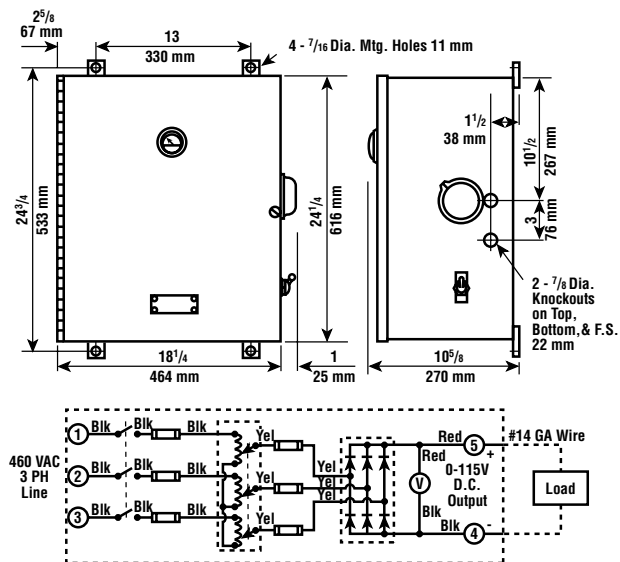
### 500-43-11

Rating: 460 VAC, 3 Phase, 500 Watts, 4.3 Amps  
Finish: Gray Weight: 36 lb/16 kg



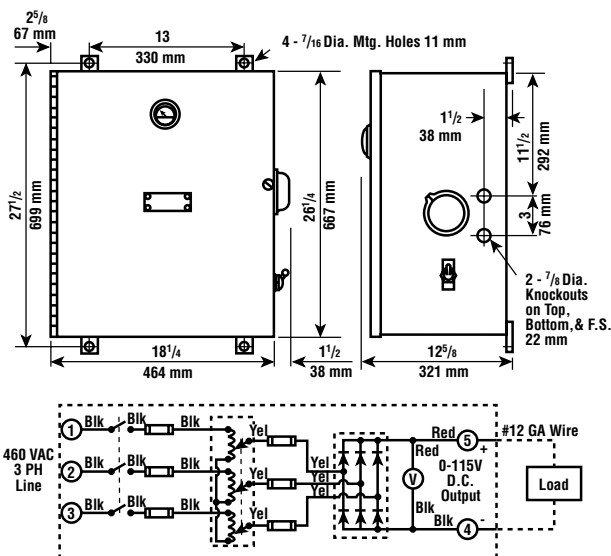
### 1K-43-11

Rating: 460 VAC, 3 Phase, 1000 Watts, 8.7 Amps  
Finish: Gray Weight: 58 lb/26 kg



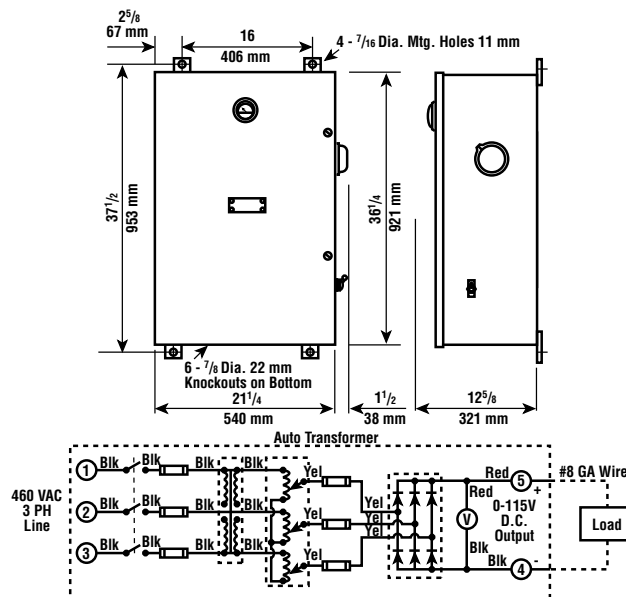
### 2K-43-11

Rating: 460 VAC, 3 Phase, 2000 Watts, 17.4 Amps  
Finish: Gray Weight: 162 lb/73 kg



### 5K-43-11

Rating: 460 VAC, 3 Phase, 5000 Watts, 34.8 Amps  
Finish: Gray Weight: 216 lb/98 kg



# LIFT MAGNET DROP CONTROLLER

## LIFT-MAGNET DROP CONTROLLER

When a D.C. electromagnet is actuated and holds a load, magnetic lines of force are established in the magnet and the load. These lines of force, generated by the magnetomotive force of the magnet, remain in place at full strength while the magnet is on.

When the magnet is turned off, the lines diminish to zero, or near zero. If there are air gaps in the magnetic circuit, the load will be dropped immediately. However, if there is close contact between the magnet and the load, some residual magnetism may remain in the iron circuit for some time after turnoff. This residual magnetism sometimes holds the load after the power to the magnet has been turned off. The residual magnetism can be cancelled out by briefly applying a reverse voltage and current to the magnet, thus disheveling the load. This is the function of the lift-magnet drop controller.

There are two basic types of drop controllers used by Eriez Magnetics for most applications. The first is the manual type which carries out the on-off-reverse functions in full control of the operator. It is best suited for variable loading, especially where it is necessary to drop parts of the load while retaining others.

The second is the automatic-type drop controller which carries out on-off-reverse functions automatically once it has been set up and adjusted for a certain load. The automatic type is best suited for just one kind of a load to be lifted and dropped repeatedly.

## MANUAL-TYPE DROP CONTROLLER

A manual-type drop controller is usually actuated by a three-position drum-type master switch (a three-position push-button master switch is used infrequently). The drum switch usually has positions labeled "on-off-reverse" or "on-off-drop," in that order. It is usually spring loaded so it returns automatically to the "off" position.

While the magnet is energized and holding sheets of steel, the operator may want to drop the bottom sheet while retaining the rest. He would position the load over the desired discharge area, throw the switch quickly through the "off" position and jog the "drop" position once, twice, or enough times to cause the sheet to drop off. He would then quickly throw the switch back through the "off" position to the "on" position in order to hold the rest of the load.

In jogging the "drop" or "reverse" position of the switch, the operator is putting short bursts of reverse current through the poles of the magnet, cancelling the residual magnetic attraction in the magnet and load until the bottom sheet drops. The remaining residual force is enough to hold the balance of the load until the switch is returned to the "on" position, providing this is done quickly.

## AUTOMATIC-TYPE DROP CONTROLLER

The automatic-type drop controller is usually actuated by a drum or maintained-type push-button switch. In either case, the switch would be labeled "lift" and "drop."

This type of drop controller is best suited for just one kind of load. However, by adjusting a rheostat inside the drop-controller enclosure, it is possible to vary the reverse current to meet various loading conditions. Decreasing the amount of reverse current to the magnet holding a particular load will result in holding that load for an increased time period. It is also possible to use certain types of pilot devices or master switches to cause the drop controller to dribble the load like a manual-drop controller.

There are several types of pilot devices or master switches which are suitable for an automatic-type drop controller. The least expensive is one which will only lift or drop a particular load. That is, when the "drop" button is pushed, the magnet is turned off, and the drop controller reverses polarity to clean the magnet.

The automatic-type drop controller can also be used with a notched-position master switch or maintained-type push-button switch which allows an operator to drop only portions of the load, like the manual-drop controller. This can be done by moving the master switch to the "drop" position (or pushing the "drop" button) only the distance necessary to momentarily de-energize the lift contactor. With the reverse-current rheostat preset for lifting steel sheets, this will cause one sheet at a time to fall from the bottom of the stack. Once the desired portion of the load has been dropped, the operator must quickly remove his hand from the lever or push button to allow the switch to return to the lift position.

Operating either a manual or automatic drop controller as described requires a certain amount of skill—similar to operating an automobile clutch and shift lever. The certain touch required can only be acquired by practice.

## ERIEZ BATTERY STANDBY SYSTEMS

These assemblies, in general, consist of rectifiers, a drop controller, batteries, battery case, battery charger, main switch and alarm system with pendant-control station.

They are used in conjunction with Eriez Electro Lifting Magnets. If A.C. power fails during a lift, this system immediately takes over supplying the necessary power to feed the particular magnets for a period of 10 to 15 minutes, allowing the lift beam to be manually lowered to the ground or the area cleared of equipment and personnel.

An alarm system is furnished with this package. Various alarms are available along with flashing lights, buzzers or horns.

This equipment consists of:

- Main control cabinet containing the rectified direct-current power supply, control relays, electronic-standby switching, circuits and battery-charger contact
- Battery boxes containing lead-acid batteries
- Automatic battery charger to maintain the batteries at maximum capacity
- Drop control for the proper release of the load in the drop mode

Prime power is supplied by the rectifier control unit. Standby power is provided by the lead-acid batteries. Either source is capable of being switched into the magnet load with a remote-control station.

These systems may contain continuous trickle charging of the batteries. This depends on the particular application.

Low charging of the batteries will be automatically regulated in accordance with the condition of the batteries. High-rate charging is also available through a switch on the battery charger for fast charging or for equalizing.

In the event that the batteries become discharged to the point that further load-carrying capacity is reduced or the battery source becomes inoperative for any reason, a low-voltage alarm relay will activate. The alarm relay operates a set of contacts that the customer can wire to an alarm system.

If the A.C. power-line voltage should fail, the battery pack will automatically sustain the lift. Load carrying capability is reduced if the battery source becomes inoperative for any reason.

The control equipment is generally rated NEMA 1 but is available in other NEMA ratings.

The control stations, such as the operator control station, must be conveniently located for both operation and maintenance. The magnet control requires access for maintenance only.

Complete wiring diagrams are furnished with each of these battery-standby systems. Battery-standby systems are designed and built to the particular lift-beam assembly being furnished. Drawings can be furnished upon request.

# ABOUT ERIEZ MAGNETICS



## STATE-OF-THE-ART ENGINEERING

Computerized systems help improve Eriez' efficiency and services through-out the Company. The corporate engineering department's CAD system, with compatible systems in Eriez offices around the world, enables instant access to engineering drawings and information requests from any location. The same designs, drawings and high-quality standards are followed at all plant operations so that, no matter which Eriez manufacturing facility produces the equipment, Eriez customers are assured of quality on a worldwide basis. This is especially important to multi-national users of Eriez equipment who wish to standardize production lines through one supplier.

## THE ERIEZ TECHNICAL CENTER

Eriez maintains industry's largest magnetic, vibratory and metal-detection test laboratory at its Technical Center, adjacent to the headquarters plant, in Erie, Pennsylvania, USA. Here, customer products and raw materials are analyzed confidentially, and ways to separate or move, screen or detect them more efficiently and economically are then suggested. Both feasibility and definitive studies are conducted. Over 100 pieces of specialized test equipment are on hand. Customers are encouraged to participate in the testing. Basic materials separation and material-movement test equipment is also available at Eriez affiliates worldwide.

## WORLD-CLASS MANUFACTURING

Eriez maintains a global perspective through manufacturing facilities at its USA headquarters, as well as in Australia, Brazil, Canada, China, India, Japan, Mexico, South Africa and the United Kingdom. To maintain its world-class position, Eriez reinvests its profits in modern manufacturing equipment, applied research and development, highly qualified engineering and design staff, and up-to-date testing facilities. Computerized order entry assures consistent quality and timely response on a worldwide basis. Eriez personnel teams reflect the same customer-oriented philosophy of "Right. On Time" – no matter where they are located.

*Note: Some safety warning labels or guarding may have been removed before photographing this equipment*

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