# COOLANT CLEANERS

## PERMANENT MAGNETIC AND RARE EARTH

*Smooth-faced and extended-pole Coolant Cleaners extend the life of cutting tools, grinding wheels, pumps and coolant fluids.*

### FEATURES & BENEFITS

- **Cleaner coolant with a longer service life**
- **Lengthened tool life**
- **Machine accuracy maintained**
- **Reduced machine downtime**
- **Lower cost per workpiece**
- **Reduced pump wear**
- **Easy installation in restricted space**
- **Can be used on new or existing machines**
- **Available in different capacities, different types**
- **Low initial cost**
- **Virtually no maintenance costs**

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ONLY FROM ERIEZ

Eriez Coolant Cleaners are designed for use with surface grinders, gear grinders, honing and lapping machines, broaches, milling and drilling machines, face grinders, oil reclaiming machines…
wherever clean coolant is needed.

Industry's demands for higher production rates and closer tolerances at lower costs spurred development of the new Eriez Coolant Cleaners. These cleaners keep machine tools running longer and more accurately with lower costs per unit produced.

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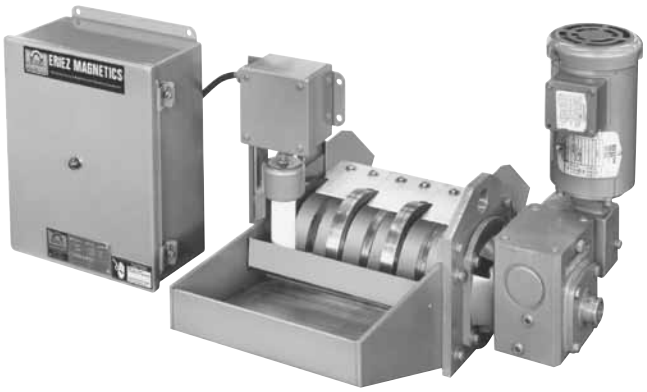
# PERMANENT-MAGNETIC COOLANT CLEANERS

## INDEXING MODELS IS AND IE

Indexing Coolant Cleaners from Eriez, available with either a smooth-faced or extended-pole roll, are used when both ferrous and non-ferrous contaminants are present. No replaceable filter medium is required.

The magnetic roll, under which the coolant flows, rotates intermittently. The magnetically attracted material builds up a mass of fine hair-like particles between the magnetic roll and the housing. This accumulation serves as a filter medium to entrap fine non-magnetic particles such as grinding wheel scale or other coolant contaminates.

The mass of magnetically-held materials accumulates until it restricts the passageway between the magnetic roll and the housing, causing coolant to back up into the sump. The rising coolant level activates a pressure-type level switch; the magnetic roll is then automatically indexed forward, which moves the packed filter plug from the restricted passageway and permits coolant to once more flow through the magnetic field. The amount of roll movement can be adjusted within a range of 1/4 to 1-1/4 inches (6 to 32 mm); the frequency of movement is controlled by flow and feed conditions, so the Coolant Cleaner operates at maximum efficiency under varying conditions. A phosphor-bronze scraper blade removes the accumulation of fines from the magnetic roll at the discharge point.




## CONTINUOUSLY ROTATING MODELS CS AND CE

The second type of Eriez Coolant Cleaner, the continuously rotating model, is also furnished with either smooth-faced or extended-pole rolls. These units are designed for use where little or no non-magnetic material is contaminating the coolant. Coolant fluid is gravity fed tothe Eriez cleaner where it flows underthe magnetic roll. The roll's powerful permanent-magnetic field reaches out and captures ferrous contamination in the fluid. Since the roll surface is revolving against the current flow, large and small ferrous particles clinging tightly to its surface are carried upward out of the liquid. Coolant fluid drains back down into the hopper as ferrous particles are removed by the scraper blade. Chips, grindings and other contamination are scraped off the drum and deposited on the inclined scraper blades. Chips will build up on the scraper blade and slowly move to the discharge lip which slopes down to a waiting receptacle.

## FEATURES

- STRONG MAGNETIC ROLL
  A specially designed magnetic circuit, using magnet materials that will never lose their attractive force, gives positive removal of ferrous particles. At the maximum operating distance from the face of the roll, where removal is most difficult, Eriez' five-inch (127 mm) diameter rolls are 28 percent stronger than a major competitor's.
- TWO TYPES OF ROLLS
  For normal conditions, a smooth-faced roll is used; for an even more powerful magnetic field, best for removing micron-sized particles, extended-pole plates are provided.
- ADJUSTABLE GAP
  The distance at which the contaminated coolant flows past the magnetic roll is controlled by an adjustable plate. The Coolant Cleaner can be quickly and easily "fine tuned" to individual requirements of flow rate and percent of separation desired.
- ADJUSTABLE BAFFLE
  An easily adjusted baffle in the incoming coolant sump controls turbulence to provide a constant, even flow to the magnetic roll.
- DRY DISCHARGE
  Eriez rolls have a radial magnetic circuit; this causes the swarf to form rings around the circumference of the roll and allows coolant to drain back into the sump. In addition, the scraper blade which removes contaminates from the magnetic roll is installed at a slight incline, further facilitating drainage. This produces a discharged material which is virtually liquid-free.
- STANDARD LOAD HEIGHT
  Eriez Coolant Cleaners have a load height of either 6-1/2 or 10-3/4 inches (165 or 273 mm), making them easy to install in restricted spaces.
- STANDARD MOTOR
  An off-the-shelf direct-drive motor which can be mounted on either side of the cleaner is positioned out of the splash area to extend motor life.
- ADAPTABLE DESIGN
  The roll, scraper blades, pressure switch, adjustable gap plate and indexer-control enclosure are interchangeable from one model to another. By adding and substituting parts, an existing Coolant Cleaner can easily be converted from one model to another.
- LIFT LUGS
  For easy movement when necessary, lift lugs are provided on the housing.

## EIGHT MODELS, NINE SIZES

Choose from a total of 36 standard Coolant Cleaners to match the requirements of flow rate, viscosity and degree of separation desired:

**Models CS5 and CS8**
Continuously rotating roll; smooth face

**Models CE5 and CE8**
Continuously rotating roll; extended-pole plates

**Models IS5 and IS8**
Indexing roll; smooth face

**Models IE5 and IE8**
Indexing roll; extended poles

These models come in nine magnetic-roll widths ranging from 7 to 70 inches (178 to 1780 mm).

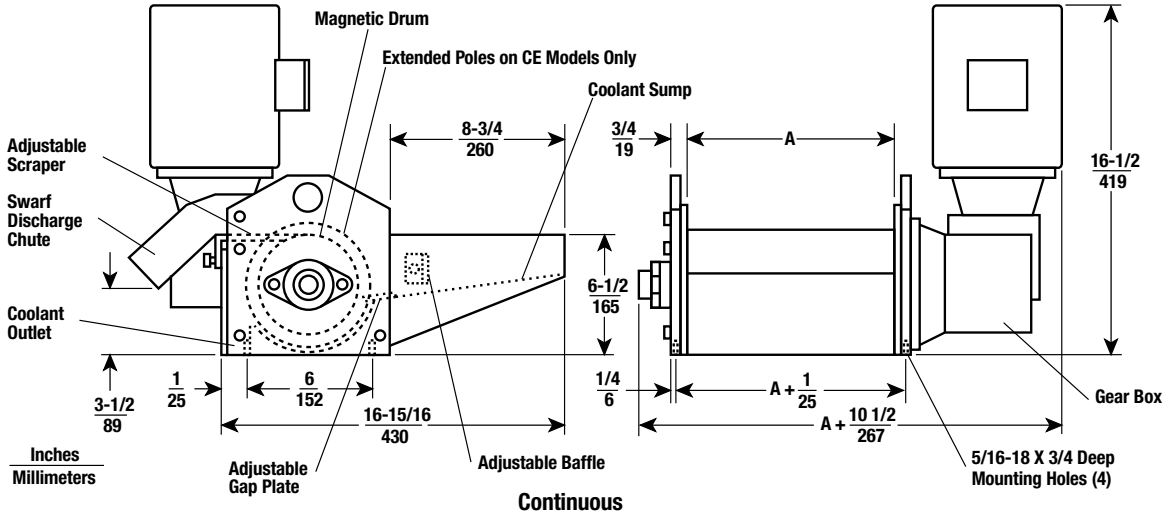
## MAXIMUM FLOW RATES

| | For optimum separation derate by 20-25% | | | | | |
|---|---|---|---|---|---|---|
| | Type Coolant | | NR–Not Recommended | | | |
| | Water Soluble | | Oil 40 SSU | | Oil 100 SSU | |
| MODEL | GPM | LPM | GPM | LPM | GPM | LPM |
| CS5-7 | 21 | 79 | 13 | 49 | 11 | 42 |
| CS5-10 | 30 | 114 | 19 | 72 | 16 | 61 |
| CS5-13 | 39 | 148 | 25 | 95 | 21 | 79 |
| CS5-20 | 60 | 227 | 38 | 144 | 32 | 121 |
| CS5-27 | 81 | 307 | 51 | 193 | 43 | 163 |
| CE5-7 | 17 | 64 | 11 | 42 | 7 | 26 |
| CE5-10 | 24 | 91 | 15 | 57 | 10 | 38 |
| CE5-13 | 31 | 117 | 20 | 76 | 13 | 49 |
| CE5-20 | 48 | 182 | 30 | 114 | 20 | 76 |
| CE5-27 | 65 | 246 | 41 | 155 | 27 | 102 |
| IS5-7 | 11 | 42 | 7 | 26 | NR | |
| IS5-10 | 15 | 57 | 10 | 38 | NR | |
| IS5-13 | 20 | 76 | 13 | 49 | NR | |
| IS5-20 | 30 | 114 | 20 | 76 | NR | |
| IS5-27 | 41 | 155 | 27 | 102 | NR | |
| IE5-7 | 8 | 30 | 6 | 23 | NR | |
| IE5-10 | 12 | 45 | 8 | 30 | NR | |
| IE5-13 | 16 | 61 | 10 | 38 | NR | |
| IE5-20 | 24 | 91 | 16 | 61 | NR | |
| IE5-27 | 32 | 121 | 22 | 83 | NR | |
| CS8-21 | 180 | 681 | 85 | 322 | 70 | 265 |
| CS8-35 | 300 | 1135 | 142 | 537 | 117 | 443 |
| CS8-49 | 420 | 1590 | 198 | 749 | 163 | 617 |
| CS8-70 | 600 | 2271 | 283 | 1071 | 233 | 882 |
| CE8-21 | 144 | 545 | 68 | 257 | 56 | 212 |
| CE8-35 | 240 | 908 | 114 | 431 | 94 | 356 |
| CE8-49 | 336 | 1272 | 158 | 598 | 130 | 492 |
| CE8-70 | 480 | 1817 | 226 | 855 | 186 | 704 |
| IS8-21 | 95 | 360 | 45 | 170 | NR | |
| IS8-35 | 158 | 598 | 75 | 284 | NR | |
| IS8-49 | 222 | 840 | 105 | 397 | NR | |
| IS8-70 | 317 | 1200 | 150 | 568 | NR | |
| IE8-21 | 72 | 272 | 36 | 136 | NR | |
| IE8-35 | 120 | 454 | 60 | 227 | NR | |
| IE8-49 | 168 | 636 | 84 | 318 | NR | |
| IE8-70 | 240 | 908 | 120 | 454 | NR | |

* Rates shown are based on physical capacity. Lower rates may be required depending upon turbulence, amount of contaminants present and the degree of separation desired.

# PERMANENT-MAGNETIC COOLANT CLEANERS

## SPECIFICATIONS / SERIES 5

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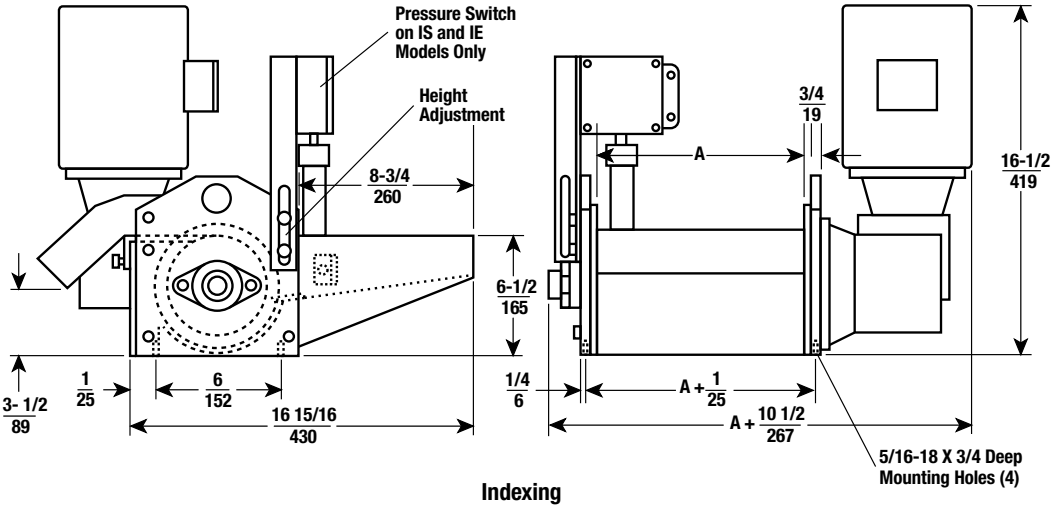



**Indexing**

MODELS CS5, CE5, IS5 and IE5

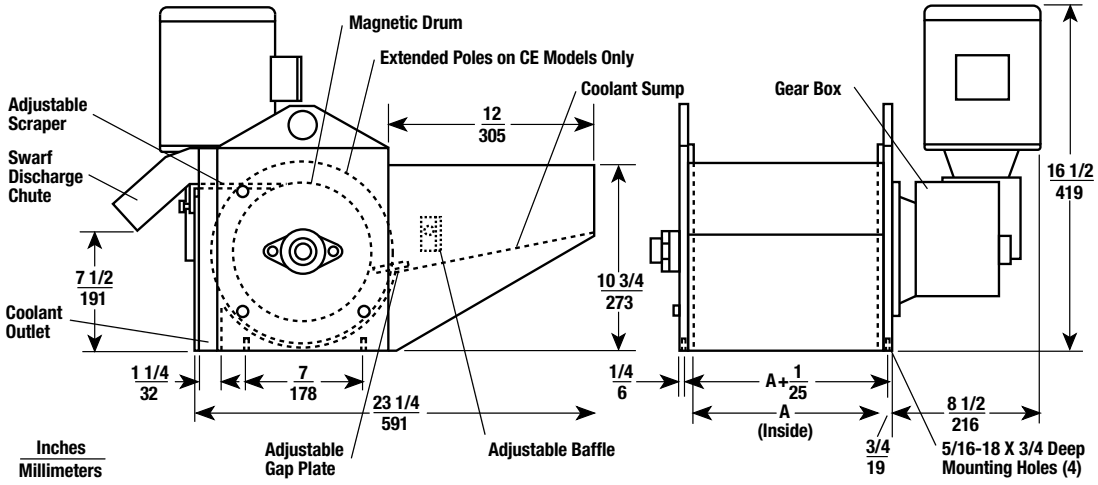
| Model Number | Dimension A | | WEIGHTS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Model CS | | Model CE | | Model IS | | Model IE | |
| | in | mm | lb | kg | lb | kg | lb | kg | lb | kg |
| 7 | 7 | 178 | 110 | 50 | 116 | 53 | 135 | 61 | 141 | 64 |
| 10 | 10-1/2 | 267 | 130 | 59 | 138 | 63 | 155 | 70 | 163 | 74 |
| 13 | 13-3/4 | 349 | 150 | 68 | 161 | 73 | 175 | 79 | 186 | 84 |
| 20 | 20-1/2 | 521 | 195 | 88 | 212 | 96 | 220 | 100 | 237 | 108 |
| 27 | 27-1/4 | 692 | 235 | 107 | 257 | 117 | 260 | 118 | 282 | 128 |

**Power Requirements:** 1/4 HP, 230/460V, 3 PH, 60 cy; 0.65 amp @ 460V. Control (for Models IS and IE only): NEMA 12 enclosure, 10" x 12" x 5" (254 x 305 x 127 mm); Weight: 25 lbs (11 kg). Specify voltage for models IS and IE.

*Dimensions and specifications are subject to change without notice.*

# PERMANENT-MAGNETIC COOLANT CLEANERS

## SPECIFICATIONS / SERIES 8 – SINGLE ROLL

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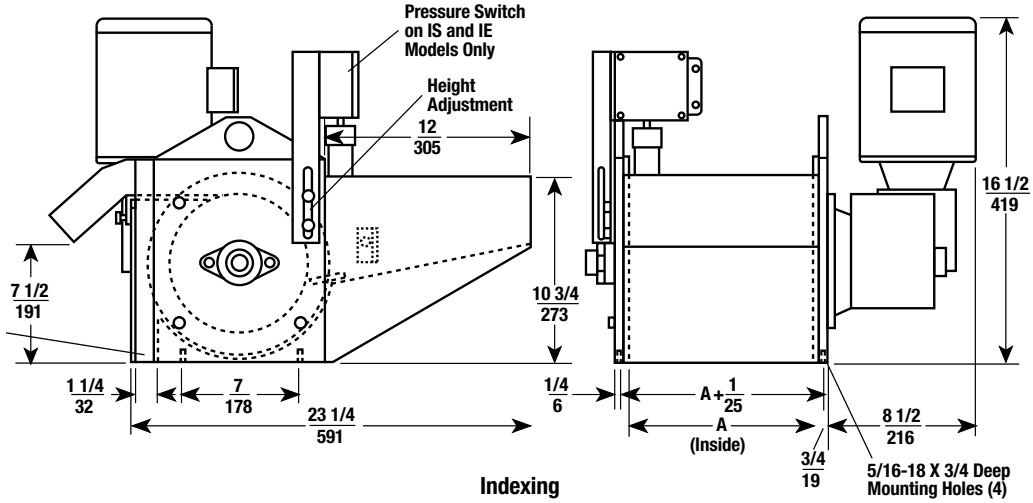


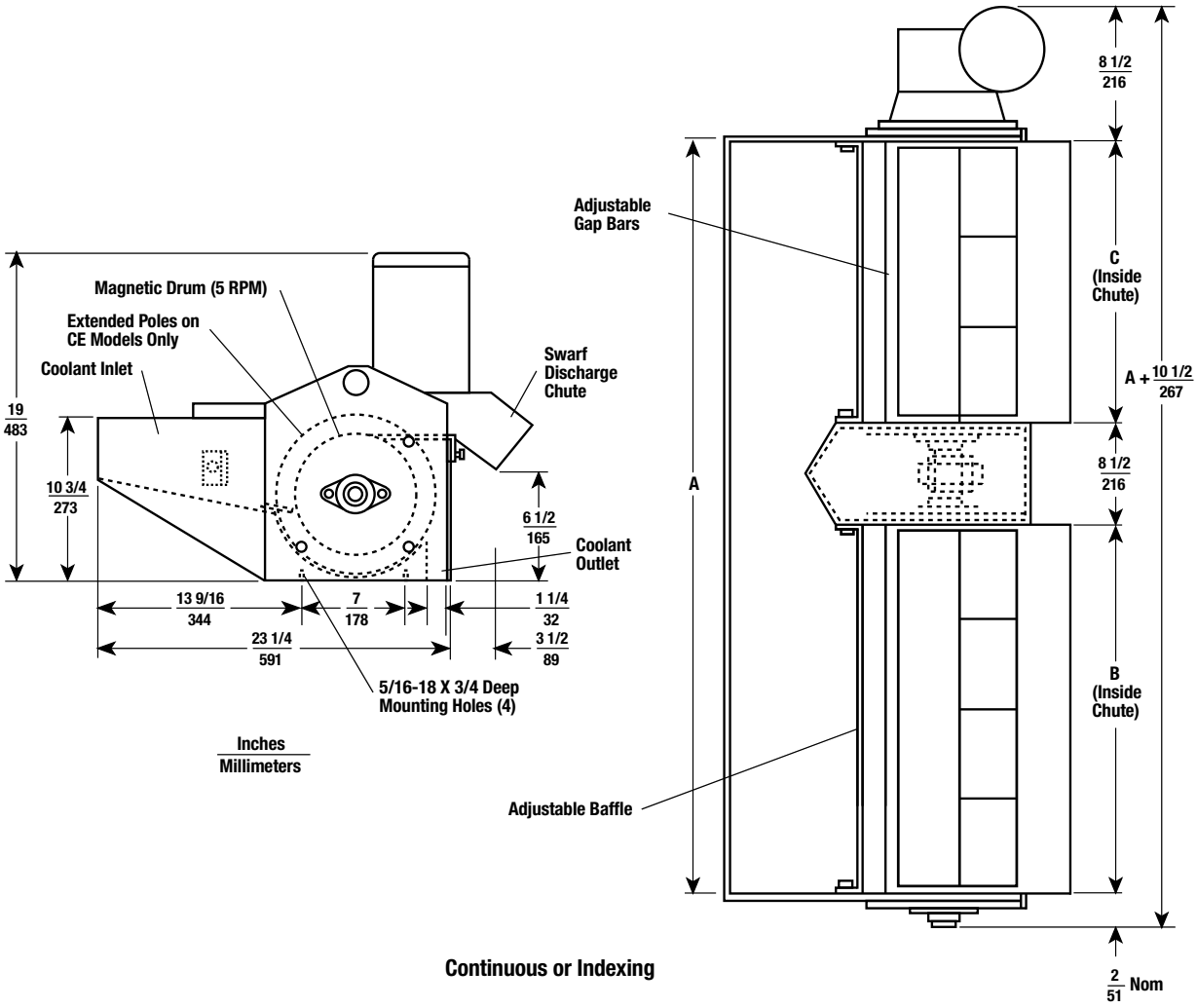

Indexing

| Model Number | Dimension A | | WEIGHTS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Model CS | | Model CE | | Model IS | | Model IE | |
| | in | mm | lb | kg | lb | kg | lb | kg | lb | kg |
| 21 | 22 | 559 | 360 | 163 | 370 | 168 | 385 | 175 | 395 | 179 |
| 35 | 36 | 914 | 550 | 249 | 560 | 254 | 575 | 261 | 585 | 265 |

**NOTE:** Motor can be mounted in either the 3, 9 or 12 o'clock position on all Series 5 and Series 8 Coolant Cleaners.
Motors normally mounted as shown can be mounted on opposite side – optional.
Scraper normally mounted as shown can be mounted at 30° downslope. Also, 45° downslope option for Series 8.
Motorized automatic scraper is availablefor all units.
**Power Requirements:** 1/4 HP, 230/460V, 3 PH, 60 cy; .65 amp @ 460V. Control (for Models IS and IE only): NEMA 12 enclosure, 10" x 12" x 5" (254 x 305 x 127 mm); Weight: 25 lbs (11 kg). Specify voltage for models IS and IE.
*Dimensions and specifications are subject to change without notice.*

# PERMANENT-MAGNETIC COOLANT CLEANERS

## SPECIFICATIONS / SERIES 8 - DUAL ROLL




**Continuous or Indexing**

## MODELS CS8, CE8, IS8 and IE8

| Model Number | Dimension A in | A mm | B in | B mm | C in | C mm | WEIGHTS Model CS lb | Model CS kg | Model CE lb | Model CE kg | Model IS lb | Model IS kg | Model IE lb | Model IE kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | 59 | 1499 | 28-3/4 | 730 | 21-3/4 | 552 | 775 | 351 | 790 | 358 | 800 | 361 | 815 | 370 |
| 70 | 80 | 2023 | 35-3/4 | 908 | 35-3/4 | 908 | 1075 | 487 | 1100 | 499 | 1100 | 499 | 1125 | 510 |

**Power Requirements:** 1/4 HP, 230/460V, 3 PH, 60 cy; .65 amp @ 460V. Control (for Models IS and IE only): NEMA 12 enclosure, 10" x 12" x 5" (254 x 305 x 127 mm); Weight: 25 lbs (11 kg). Specify voltage for models IS and IE

*Dimensions and specifications are subject to change without notice.*

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# RARE-EARTH COOLANT CLEANERS

*Superior removal of fine, ferrous contaminants from coolants extends the life of pumps, cutting tools and grinding wheels. Developed for the metalworking and specialty industrial markets.*

Eriez Xtractor Rare-Earth Coolant Cleaner utilizes a powerful magnetic field designed to maximize capture and remove fine ferrous particles from a coolant. Its unique magnetic-circuit design makes the separator much stronger than all other conventional permanent-magnetic separators, which use alnico or barium ferrite elements.
Available in four sizes, the unit will handle up to 30 gallons per minute of water-soluble coolant per foot of drum width (4 lpm per cm of width). Each model is powered by a standard TEFC 230/460V, 60 Hz, 3-phase motor.

## FEATURES

- Unique radial-circuit design
- Deep magnetic field
- Removes particles as small as 3-microns
- Field strengths in excess of 5,000 gauss
- Improved separation effectiveness
- Adjustable discharge mechanism
- Self-cleaning
- Continuous operation
- Low maintenance

## PRINCIPLE OF OPERATION

Eriez Xtractor Rare-Earth Coolant Cleaners utilize a powerful magnetic- circuit design to maximize magnetic-field strength. The resulting high field provides the most effective separation response of any drum-type magnetic separator.


In operation, liquid contaminated with fine-ferrous particles enters the sump area and flows past a counter-rotating magnetic drum. Particles attracted to the drum are held tight and lifted to the top, where a mechanical-discharge mechanism moves them to a discharge chute. Cleaner liquid is discharged from the bottom of the separator.

The effectiveness of all magnetic separators depends on the magnetic susceptibility and concentration of the contaminants, as well as the viscosity of the liquid. However, the power source for the Xtractor Coolant Cleaner, Erium® 3000 (a high-quality rare-earth permanent magnetic material), develops magnetic fields many times stronger than conventional ceramic or alnico magnets, with no increase in size. The additional strength improves the removal of moderately magnetic particles or very fine iron from a wide range of coolants and other liquids.

## TYPICAL APPLICATIONS

### GENERAL INDUSTRY

Eriez Xtractor Rare-Earth Coolant Cleaner can be used in any open process to remove fine-ferrous contaminant from a slurry.

### METALWORKING

Eriez Xtractor Rare-Earth Coolant Cleaners remove grinding swarf to help machine tools run longer and maintain accuracy. Suitable for use with surface grinders, gear grinders, honing and lapping machines, broaches, milling and drilling machines, face grinders…wherever coolant cleaning is needed.

### PAINT

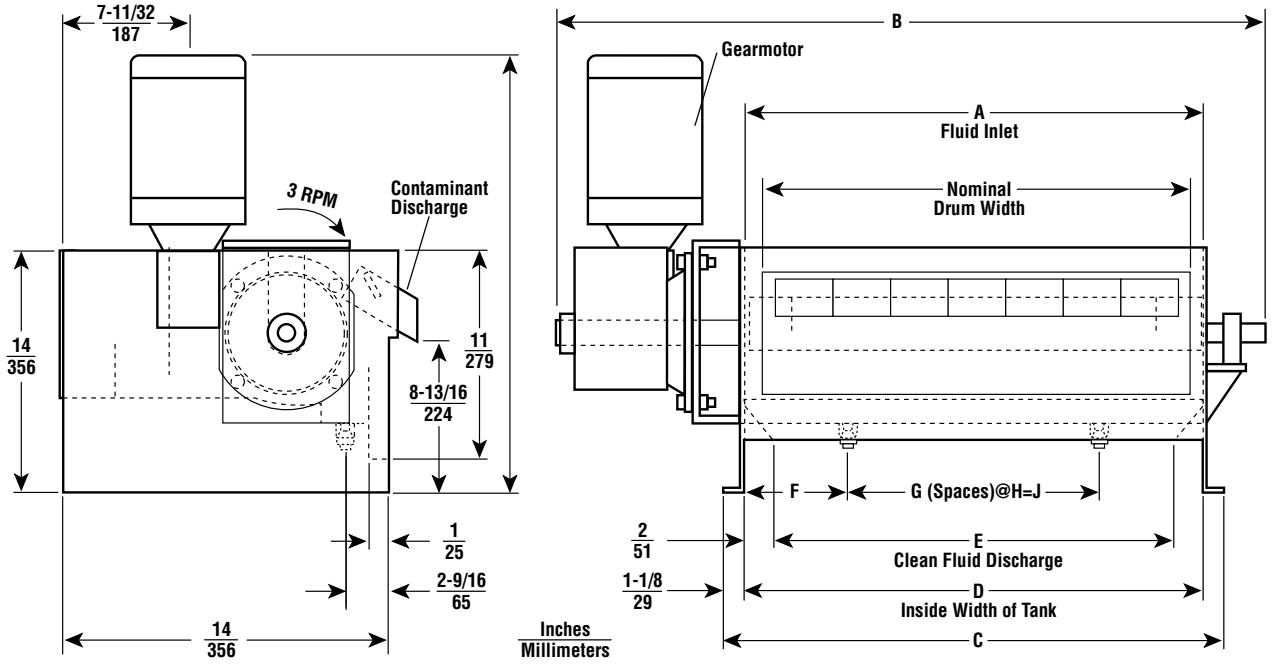
The Xtractor Rare-Earth Coolant Cleaner can be used to remove ferrous contaminant from aluminum paint processing lines to help ensure the paint does not appear to “rust” once applied.

### PRIMARY METALS

Eriez Xtractor Rare-Earth Coolant Cleaner is used in the steel industry to remove moderately magnetic mill scale from rolling-mill cooling water.

# RARE-EARTH COOLANT CLEANERS

## SPECIFICATIONS




| *Model Number | Drum Width | Drive | **Flow Rate | Shipping Weight | | A | B | C | D | E | F | G | H | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RES-11 | 11 in | 1/4 hp | 30 gpm | 250 lb | in | 12-7/8 | 27-3/8 | 15-1/8 | 12-7/8 | 8-7/8 | 6-7/16 | — | — | — | 25-1/8 |
| | 280 mm | .19 kw | 114 lpm | 114 kg | mm | 327 | 695 | 384 | 327 | 225 | 164 | — | — | — | 638 |
| RES-25 | 25 in | 1/4 hp | 60 gpm | 365 lb | in | 26-7/8 | 41-3/8 | 29-1/8 | 26-7/8 | 22-7/8 | 6-15/16 | 1 | 13 | 13 | 25-1/8 |
| | 635 mm | .19 kw | 227 lpm | 166 kg | mm | 683 | 1051 | 740 | 683 | 581 | 176 | 1 | 330 | 330 | 638 |
| RES-36 | 36 in | 1/3 hp | 90 gpm | 470 lb | in | 37-7/8 | 52-3/8 | 40-1/8 | 37-7/8 | 33-7/8 | 6-15/16 | 2 | 12 | 24 | 25-1/8 |
| | 915 mm | .25 kw | 341 lpm | 213 kg | mm | 962 | 1330 | 1019 | 962 | 860 | 176 | 2 | 305 | 610 | 638 |
| RES-47 | 47 in | 1/2 hp | 120 gpm | 630 lb | in | 48-7/8 | 63-3/8 | 51-1/8 | 48-7/8 | 44-7/8 | 6-7/16 | 3 | 12 | 36 | 26-7/16 |
| | 1195 mm | .37 kw | 454 lpm | 286 kg | mm | 1241 | 1610 | 1299 | 1241 | 1140 | 164 | 3 | 305 | 914 | 672 |

* Each model is powered by a standard TEFC 230/460V, 60 Hz, 3-phase motor.

** Rates shown are based on physical capacity. Lower rates may be required depending upon turbulence, amount of contaminants present and the degree of separation desired.

*Dimensions and specifications are subject to change without notice.*

# ERIEZ TECHNICAL CENTER

Eriez products represent quality, durability, and a long-standing commitment to leadership in thechnology. A major expression of that commitment is the Eriez Technical Center, industry's most complete magnetic and vibratory testing facility.

Located in Erie, Pennsylvania, adjacent to Eriez world headquarters, the Technical Center is equipped with more than 100 types of permanent magnetic electromagnetic, vibratory, screening, electronic metal detection equipment and eddy current separator.

This equipment is used to separate, purify, concentrate, move, feed, and recover a variety of materials. Testing services range from feasibility studies to complete flowsheet development.

*Eriez Technical Center offers many different types of magnetic separators to simulate wet or dry processes for practically every application.*

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



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MANUFACTURING: Australia • Brazil • Canada • China • India • Japan • Mexico • South Africa • United Kingdom • United States

**World Authority in Advanced Technology for Magnetic, Vibratory and Inspection Applications**

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