

Fluid Management

Product Selection Guide





Complete Cutting Fluid Recycling and Filtration Systems



Eriez offers a wide range of equipment to remove tramp oils and solids from coolants.



The new SumpDoc provides complete solids removal and fluid recycling at the sump.



Twin STAR Vacuum filters deliver "super" clean coolant at a constant temperature to more than 20 machining centers.



Rolled media vacuum filter installed in a bearing grinding operation, provides clean coolant plant wide.

Eriez HydroFlow® is a leader in comprehensive coolant and fluid management technology serving the metalworking industry. These industrial filtration and fluid recycling systems maximize coolant effectiveness and longevity, improving machine tool productivity and reducing fluid disposal costs.

Everything from Machine-side...

For low volume coolant recycling and filtration, Eriez offers a variety of equipment to remove surface oil, emulsified oils, and solid particulate.

- **Sump Cleaners**
- **Oil Skimmers**
- **Centrifuges**
- **Coalescers**
- **Magnetic Coolant Cleaner**
- **Mobile Coolant Recycling**

...to Plant-wide Solutions

Eriez provides complete plant-wide centralized systems for water-based coolants or straight oil lubricants.

- **Rolled Media Vacuum Filters**
- **STAR Element Vacuum Filters**
- **Complete Central Systems**
- **Ancillary Equipment**

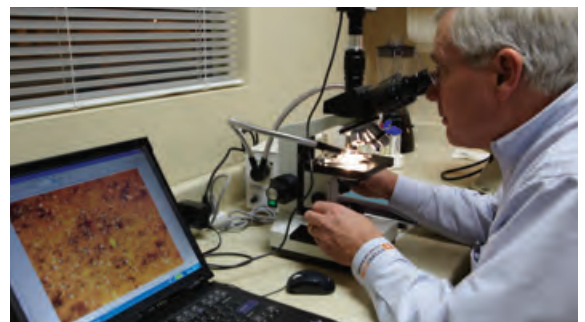


Applications & Services

Eriez HydroFlow® equipment and systems are used in parts washing, machining, grinding, honing, super abrasive finishing and EDM applications requiring water-based coolants to straight oil lubricants. Eriez offers everything from complete turnkey central vacuum filtration systems able to supply 50 machining or precision grinding centers with fresh clean fluid to small sump-side tramp oil skimmers.

Laboratory Services

Eriez' test laboratory will diagnose exact particulate and oil contaminants in your coolants, fluid and cutting oils and then submit a complete analysis along with a recommended course of action. Contact your sales representative or the factory for details.



DONNY COLLYER

Engineering Coordinator - Machining
ASAMA Coldwater Manufacturing

“Since we added the magnetic roll to the HydroFlow vacuum filter, we’ve decreased our paper consumption by 75%. It’s yielded huge cost savings to us and it’s been a worry-free system. We just recently ordered another Eriez HydroFlow Vacuum Filter with plans on ordering two more units within the next six months.”



Tramp Oil Removal



Type	Belt Skimmers	Tank Side Coalescers	Portable Coalescers	Tramp Oil Separator
Applications	These low cost oil separators use an oleophilic belt dipping into a sump to continuously remove surface oils. Simple scraper and roller design improves performance and increases belt life. • Machine tool sumps • Parts washers • Ultrasonic cleaners	An inexpensive sump-side coalescing unit that allows oils to rise naturally by providing a quiescent area, not available in a turbulent sump. The mini-separator comes standard with a submersible pump. • Machine tool sumps	A low-cost tramp oil separator to serve multiple sumps. The portable coalescer's oleophilic coalescing plate pack efficiently removes free tramp oils and fines while the machine tool is running. These units can also be made stationary to work on large sumps or central systems. • Machine tool sumps • Parts washing	This mobile recycling platform allows sump-side fluid recycling. This separator's high-speed centrifuge processes water-miscible coolants and aqueous cleaners to remove free and emulsified tramp oils... the most difficult types of oils to remove. • Machine tool sumps • Parts washers
Performance Level				3-5 micron
Rates/Capacity	up to 6 LPH	4-6 LPM	4-12 LPM	4 to 15 LPM
Fluid Type	coolants	coolants	cleaners, coolants	water-miscible coolants and aqueous cleaners
Features	• Fast, simple belt changing • Low maintenance • Lower hang roller that will not fall off in the machine sump even in turbulent conditions • Open, accessible oil collecting tray with a convenient drain connector • Four oleophilic belt options • Heavy-duty steel construction with industrial-grade enamel paint	• Flow rate is up to 6 LPM • 56 litres • Unique adjustable skimmer • Submersible pump • Sumps as shallow as 3"	• Floating oil and dirty fluid collector • 12 sqm feet of coalescing area for maximum oil removal • Handles high temperature fluids • Submersible pump requires no flow rate adjustment • Easily removed and cleaned polypropylene coalescing plate pack • Easy rolling casters • Adjustable oil removal weir pipe	• Compact and portable • Simple operation • High-speed, disc-bowl centrifuge • Built-in clean fluid centripetal discharge pump • Air pump and floating skimmer for feed • Automatic shut off when tramp oil collection tank is full • Manual or self cleaning models available
Options		• Oil belt skimmer • Air pumps • Larger electric pumps	• Adjustable feet for permanent installations • Self-priming, centrifugal pump for below ground sumps • 316 stainless steel tanks for high or low pH fluids • Two standard tank sizes	• Large cartridge filter system for high solid applications • 110 V single phase operation • Strainer and 50 micron cleanable pre-filter

Solids Removal



Drum Top Sump Cleaners

A low cost alternative to a dedicated sump cleaner, the drum top vacuum unit converts any open top drum into a powerful machine tool sump cleaner.

- Machine tool sump cleaning

Portable Sump Cleaners

Powerful vacuum cleans any machine tool sump quickly and thoroughly. Sludge and chips are filtered from the coolant. The coolant is either transported to a recycling system or returned directly to the sump.

- Machine tool sumps

Magnetic Coolant Cleaners

The integral magnetic roll removes ferrous contaminants down to 15 micron. Ferrous particles are attracted to the powerful rare earth magnet and removed from the coolant. Magnetic rolls are used to scalp ferrous on media filters.

- Machine sumps
- Scalping before disposable media

Magnetic Conveyors

Permanent magnets moving inside a liquid-tight, submersible housing attract, hold and convey ferrous chips, turnings, small parts and stampings. Many custom designs and configurations.

- Machine tool chip removal
- Continuous removal of ferrous swarf
- Conveying ferrous parts

	50 microns	15 microns	
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210 litres

190 to 3800 litres

2300 LPM

up to 2000 lpm

coolants, oil	coolants, oil	coolant, water soluble, oil	coolants, oil
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- Heavy-duty drum cover fits 210 litre drum
- Air venturi vacuum generator
- Positive sealing mechanical float for drum overflow protection
- 2" dia. x 10' suction hose
- 2" dia. x 36" cleaning tool

- Capacities from 190 to 3800 litres
- Single or twin compartment configuration
- Push, tow, or truck mounted units
- Large capacity sludge basket
- Air, 110V single phase, 3-phase electric, or LP gas power sources
- Complete with hoses and cleaning tools

- Eight models
- Various widths to match capacity requirements
- Smooth-faced or extended-pole rolls
- Continuously rotating or indexing models for capturing non-ferrous particles

- One piece steel housing
- Submersible
- Self-cleaning
- Easily installed
- Continuous lubrication
- Virtually maintenance free

- Up to 5.3 ft³ sludge basket
- Hoses and cleaning tools



- Powerful rare earth magnets available for removal of ferrous contaminant down to 3 micron

- Integral hoppers or tanks
- Coolant weir systems
- Fine iron discharge
- Custom designs to fit application requirements

Fluid Recycling



Type	Stationary Coolant Recycling System	SumpDoc® Portable Inline Recycling	Portable Centrifuge
	Complete coolant and fluid management in a single machine. Eriez' CRS recycles any water-miscible fluid to its maximum potential cleaning coolant to less than 0.5% emulsified tramp oil and 2-5 microns of particulate matter. The automatic proportioner mixer provides coolant make up and concentration control. • Batch coolant recycling	The new mobile SumpDoc® provides "inline" fluid recycling. The SumpDoc moves from one machine sump to the next, seamlessly cleaning and rejuvenating the machine's coolant all in the background while your machine continues to produce parts. • Machine tool sump cleaning	The open-topped rotor bowl spins at high speed creating centrifugal forces on the dirty coolant, packing solids into a "cake" against the wall of the removable liner. Cleaned coolant or oil is pump in and out of the centrifuge to recycle fluid.

Applications

Performance Level	3-5 micron	3-5 micron	5 to 10 microns
Rates/ Capacity	up to 38,000 litres total plant sump capacity	321 lpm Vacuum Mode 120-450 lph Filtration Mode	90 LPM
Fluid Type	water-miscible coolants and cleaner products	coolants	coolant, oil
Features	• Can process up to 38,000 litres of sump capacity on a scheduled coolant management program • Low maintenance, unattended operation • Side-by-side dirty and clean tanks • Coalescer and high-speed centrifuge remove tramp oils • Oil belt skimmer • Disc bowl centrifuge removes solids • Units to process multiple fluid types • Automatic Proportioner Mixer for concentration control	• Three stage operation • Removes solids and tramp oils • Coolant evaluation and replenishment • Reclaim chips, solids and tramp oils • Minimize disposal and maintenance • AND NO interrupting machining operations • Includes digital refractometer • Ozone generator for bacteria control • On board holding tanks with pump out	• Single and double pump option • No consumable cost • No disposal of spent media • No stocking of media roll • 5 micron filtration • Environmentally acceptable
Options	• Custom configurations available • Complete plant distribution and return header systems with pumping stations		• High and/or low level float switch • Hose lengths • Cable lengths

Fluid Filtration



Deep Bed and Gravity Bed Filter

These filters use gravity to force dirty coolant through a disposable roll filtration media. Standard units are designed with low coolant entry height allowing for gravity return from the machine tool.

- Machining
- Grinding

Liquid/Solid Separation Centrifuge

The open-topped rotor bowl spins at high speed creating centrifugal forces on the dirty coolant, packing solids into a "cake" against the wall of the removable liner. Cleaned coolant or oil overflows into the clean tank and returns to the machine tool.

- Carbide grinding
- Tool and cutter grinding
- Glass and ceramic
- Honing & microfinishing

Rolled Media Vacuum Filter

Uses a centrifugal pump to draw dirty coolant through a rolled media filter and an automatic conveyor to discharge spent media and solids. HydroFlow RMVFs offer superior filtration to 10 microns through an innovative seal preventing solids by-pass. The filter is designed for continuous service with minimal operator attention.

- General purpose filter for grinding and machining-individual machine, to small central system
- Light oils, water soluble products
- Rolling Mills
- Steel & Stainless
- Nickel Alloy
- Aluminum
- Cast Iron
- Aircraft Alloys
- Carbide
- Composites

STAR® Permanent Media Vacuum Filter

Primarily central system applications, this patented, automatic, continuous filter draws liquid through its permanent media STAR element. For extra-fine filtration, a feed of cellulose lines the elements surface creating a "filter cake." Once the filter cake becomes dense enough to create a negative pressure, an automatic regeneration cycle initiates a backflow to remove the cake. A drag-out conveyor removes the solids.

Ideal for blinding applications where roll media filters fail.

- Central system filtration
- Grinding, machining, superfinishing
- Rolling Mills working with steel, carbide, glass, ceramic, aircraft alloys, cast-iron and aluminum

medium

5 to 10 microns

8-10 microns

to 1 micron

low

up to 180 LPM

up to 4,500 LPM

up to 19,000 LPM

water-based coolants, straight oil

coolants, oil

oils, water-based coolants

oils, water-based coolants

- Uses disposable roll media
- Low initial cost filter
- Variety of sizes and capacities

- Single and dual bowl models
- No consumable cost
- No disposal of spent media
- No stocking of media roll
- 5 micron filtration
- Environmentally acceptable

- Vacuum filtration
- Vacuum filter pump
- Packaged system
- Conveyorized dirty tank
- Automatic regeneration
- Restrictive solids by-pass vacuum design
- Fully automated operation
- Touch screen controls

- Filtration to 1 micron, flow rates > 19,000 lpm
- Patented STAR Elements provide huge surface areas
- Interchangeable Filter Elements
- Positive Seal Connection
- Permanent Filter Septum
- Easily Remove Individual Filter Elements
- Automatic Precoat System
- Backflow Cake Removal
- Fully Automatic Operation
- Touch screen controls
- Conveyorized Solids Removal

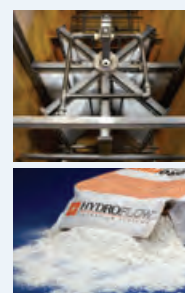
- Magnetic prefilter
- Clean tanks and return pumps
- Fully integrated controls

- Automatic self-cleaning
- Manually cleaned basket style
- Pump to or pump back systems

- High pressure clean coolant return pump
- Precoat system
- Automated coolant make-up system
- Constant pressure control VFD
- Pump back sump systems
- Media rewinders
- Magnetic prefilter



- Temperature control
- Double layer weave synthetic media
- Stainless steel wedgewire, cloth or patented fuse-bonded stainless steel microscreen filter panels depending on application
- High pressure clean coolant return pump
- Automated coolant make-up system
- Constant pressure control VFD
- Pump back sump systems
- Dual integrated tanks for capacities > 38,000 lpm





Eriez' worldwide system of manufacturing, sales and service



Inspection & Detection Products

Home to the broadest range of metal detectors in the industry. Whether it's small ferrous or nonferrous metal pieces, tramp metal or digger teeth, Eriez has a metal detector to solve practically every metal contamination problem.



Separation Products

Separation includes magnetic plates, grates, and traps, rolls and tubes, drum separators, ferrous traps, magnetic pulleys, nonferrous eddy current separators, and electromagnetic separators designed to remove fine and large tramp iron from various materials while protecting machinery.



Material Handling Products

Solutions include vibratory, mechanical and magnetic conveyors, screeners and feeders. Material quantities range from a few spoonfuls to tons per hour. Screeners include high capacity gyratory units for high viscosity liquid/solid separation and wet or dry classification.



World Authority in Separation Technologies

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