Metalworking Fluid Recycling

& Management Equipment





ERIEZ FLUID MANAGEMENT EQUIPMENT

Eriez provides comprehensive fluid management technology serving the metalworking industry. Our equipment maximizes coolant effectiveness and longevity, enabling companies to improve productivity and reduce disposal costs.

Our equipment is supported by more than one hundred years of engineering expertise, as well as a fully trained, experienced service department.

Fluid recycling applications include parts washing, machining, grinding, honing, super finishing and EDM, where fluids from water-based coolants to straight oil lubricants are required.



Precision grinding uses high pressure cutting fluids



High speed machining requires clean coolant



EDM demands effective filtration



"The Eriez Sump Cleaner literally paid for itself in the first use."

"With the Eriez Sump Cleaner, it now takes two hours to do the complete job, where it used to take 8 to 11 hours per machine. We re-use the filtered oil at least one time over, which saves us 50 percent on oil consumption. We save almost \$70,000 per year in cutting oil alone. Add in labor savings and reduction in downtime and the total payback is over \$150,000 per year."





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Fluid Concentration

MIXERS & CONTROL

Automatic Proportioner Pumps Eriez mechanical mixers ensure consistent concentration under all types of conditions.

Eriez mechanical mixers ensure consistent concentration under all types of conditions.

Maintaining tight fluid concentration control ensures that fluid never becomes too lean or too rich.

A "lean concentrate" leads to rust, bacterial infection, and poor tool life, while a "too rich" concentrate often causes eye, nose and skin irritation for the operator and is a waste of product.

COOLANT PROPORTIONER

Eriez' Proportioner is a water-driven, positive displacement proportioner which dispenses coolant on demand at the desired concentration. Ideal when greater accuracy and automatic mixing is required. Special units are also available for highly alkaline parts washing fluids. Supply fluid overhead to machine tools without booster pump.

FEATURES:

- · Reduces concentrate waste
- · Easy to install
- · Reliable and consistent
- Nonelectrical
- Adjustable



5.0 US GPM (19 lpm) noted average flow rate

Mixture Range:

8 oz. 1% to 4% 16 oz. 1% to 8%

32 oz. 2% to 15% available, up to 20' hang

47 oz. – 4% to 19%

Options

Units for mixing aqueous cleaning fluids with a pH of up to 13

Coolant Mixers

DRUM TOP MIXER

The Eriez Drum Top Mixer is a venturi style mixer for combining water with coolant concentrates. Water, jetting through the unit, creates a vacuum that siphons concentrate from the drum. A needle valve allows for infinite adjustments across the mixture range.

FEATURES:

- · All metal construction for maximum durability
- 2" NPT sliding-bung drum adapter
- · Discharge hose assembly
- · Inlet shut-off valve with garden hose thread adapter
- · Lockable adjusting dial



Mixture Range:

17% to 20%



DUAL RATIO MIXER

This venturi style coolant mixer automatically mixes two different metalworking coolants or one coolant with two different ratios. Set up one mixer to supply both a fresh charge concentration and a leaner make up in one unit to minimize the opportunity for operator error. Once set up, the operator just pushes the button for the desired concentration to fill containers with mixed fluid.

FEATURES:

- · Pressure regulation eliminates concentration variances
- E-gap backflow protection (ASSE 1055B approved)
- · Concentrate suction and discharge hoses



MANUAL & DIGITAL REFRACTOMETERS

The Eriez Automatic Temperature Compensating Refractometer helps you quickly determine the concentration or ratio of a variety of industrial fluids. This simple, yet rugged device is portable, and requires no batteries. Its large, easy to read scale is available in two ranges 0 to 10° Brix, and 0 to 32° Brix.



Water Flow Rate:

1 to 3.5 GPM

Mixture Range:

1:1 to 110:1 50% to .9%

Utility Requirement:

Water: 25 PSI minimum, 1/2" Pipe



Extremely accurate digital Refractometer with an easy-to-read LCD readout and a 0-56 Brix range.

Tramp Oil Removal

SKIMMERS & COALESCERS

Oil Skimmers

Eriez oil skimmers are easy to install and use an "oil loving belt" to remove tramp oils. Models can be equipped with a timer so the unit runs only when the machine is idle and tramp oils have risen to the surface.

SURFACE OIL SKIMMER

The Surface Oil Skimmer squeezes oil between rollers, a method of stripping the oil from the belt that does not require scraping. This skimmer is designed for use on large machine tools with tanks deeper than two feet.

FEATURES:

- · 3" belt width
- Simple installation
- · Open, accessible oil collecting tray and drain connector
- · Variety of oleophilic belt materials for different applications
- Capacity to remove 1 to 1.5 gallons of oil contaminants per hour

Belt, sold separately: (white)

Dimensions:

2" L x 6-1/4" W x 12" H

Utility Requirements:

Electrical: 120V, 50/60 Hz

- 70" x 3" (2' hang from bottom of unit)
- 93" x 3" (3' hang from bottom of unit)
- 118" x 3" (4' hang from bottom of unit)
- 166" x 3" (6' hang from bottom of unit)

OIL SKIMMER JR.

The Oil Skimmer Jr. is designed for machine tools with fairly shallow tanks.

FEATURES:

- 1" belt width
- · Surface or side mounted option
- · Simple oil scraper/wiper design
- · Wiper guard extends belt life
- · Capacity to remove 1 to 1.5 quarts of oil contaminants per hour
- 120V, 50/60 Hz operation



Dimensions:

6" L x 7" W x 10" H

Utility Requirements:

Electrical: 120V, 50/60 Hz

Belt Sizes: (white)

- 24" x 1" (2-4" hang from bottom of unit)
- 32" x 1" (7-8" hang from bottom of unit)
- 44" x 1" (13-14" hang from bottom of unit)





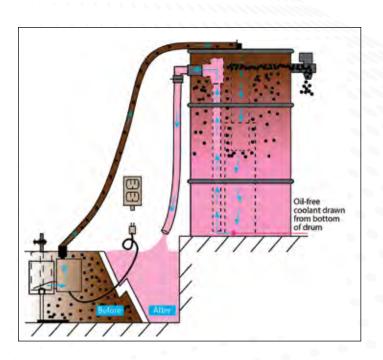
Coalescers

TANK SIDE COALESCER

This unit consists of a 120 volt electric submersible pump coupled to an adjustable skimming device which rests in the sump and collects oil from the surface. The pump delivers skimmed tramp oil and coolant to the coalescer settling tank that has an inner oil diversion baffle and an oil discharge spigot. Clean coolant gravity-flows from the settling tank through a discharge hose and back to the sump.

FEATURES:

- · Ideal for individual machine tool sumps and part washers
- 1 to 1.5 GPM process rate
- Extends coolant life, improves tool life
- · Skimmer can be easily modified to work in machine sumps with as little as 3" of coolant
- Includes a 9' suction hose and a 5' clean discharge hose





15 Gallon

Specifications:

Flow rate: Up to 1.5 GPM.

Electrical: 120V, Submersible Pump with Skimmer

- · Larger electric pump for installations that are mounted high or far away from the machining tool
- · Self-priming double diaphragm air pump with a floating skimmer to use when coolant levels in the machine sump are deeper than 10" or the level fluctuates greatly
- · Oil Skimmer Jr. mounted on top of Tank Side Coalescer for automatic oil removal

Tramp Oil Remove

COALESCERS & SEPARATORS

PORTABLE COALESCER

A mobile tramp oil separator to serve multiple sumps. This portable coalescer efficiently removes free tramp oils and fines while the machine tool is running. Heavy-duty self-priming electric pump requires no flow rate adjustment.

FEATURES:

- · Cast iron self-priming electric pump to transfer dirty coolant from the sump to the coalescer (will prime to 10'), 1/3 HP motor
- Floating triangular oil skimmer in the machine tool sump to transport dirty fluid to the coalescer, separate suction strainer with hose to be used where the standard triangle skimmer cannot fit in the sump or where there are floating chips
- Two high efficiency oleophilic coalescing plate packs with 132 square feet of area each that are easily removed for cleaning
- · Adjustable automatic oil removal weir and drain valve
- Clean coolant return hose, tramp oil hose, magnetic hose holders
- · Casters, two each 4" x 2" swivel and rigid Optional cartridge or bag filters installed on unit, high temperature units for parts washers.



Dimensions:

40" (1016mm) L x 19" (483mm) W x 46" (1168mm) H Weight Empty: 300 pounds (136.4kg)

Specifications:

Flow Rate: 1-3 GPM (4-12 LPM) (Higher flow rate units are available)

Utility Requirements:

Electrical: 120V, 60 Hz, Single Phase 60 Hz

PORTABLE COALESCER JR.

This mobile tramp oil separator consists of a self-priming double diaphragm air pump that feeds dirty coolant from machine sumps to the unit. A basket skimmer removes small fines and a high efficiency coalescing plate pack is easily removed for cleaning.

FEATURES:

- Basket strainer in front of pump to remove small fines
- · Piston Sweep skimmer on stand to be used on sumps up to 9" (229mm) deep. Can be modified to work in sumps as shallow as 3" (76mm) deep
- · High efficiency coalescing plate pack with 132 square feet of area that is easily removed for cleaning
- Oil removal weir and internal tramp oil skimmer with tramp oil discharge shut off valve
- Tank drain valve
- Dirty feed hose, clean coolant return hose, magnetic hose holders



Coalescing plate packs are easily removed for cleaning

Dimensions:

18" L x 12-1/2" W x 27" H Weight Empty: 140 lbs

Specifications:

Flow Rate: Up to 1 GPM (3.8 LPM)

Utility Requirements:

Air: 1/4" NPT, 30 PSI min, 100 PSI max.



PORTABLE TRAMP OIL SEPARATOR

Our portable tramp oil separator, including a high speed, manually cleaned, disc bowl centrifuge removes both free and emulsified tramp oil to 0.5% or less and particulate matter to 5 microns nominal in one pass on any stable coolant or cleaner.

FEATURES:

- Compact unit designed to extract fluid from small individual machine sumps or larger central systems
- The centrifuge features aluminum alloy hood, cast iron frame, stainless steel bowl assembly, 1.5 HP belt drive motor, tools and accessories
- Floating skimming device placed in the sump plumbed to a double diaphragm air pump as a dirty fluid feed pump, while a built in pressurized discharge pump returns the centrifuged fluid
- Includes a suction screen assembly with hose and quick disconnect fitting to be used when the floating skimmer will not fit in the machine sump, a 50-micron cleanable filter prior to the centrifuge, a 5-gallon (20 litre) tramp oil container with a sensor to shut off the centrifuge when it is full
- Control panel (NEMA 12 enclosure) with on/off button





Dimensions:

31-1/2" long x 27-7/8" wide x 51-1/2" high

Specifications:

Flow Rate: 1-4 GPM

Utility Requirements:

Electrical: 220 or 440 volt (must specify), 3 phase,

60 Hz, 20 AMP drop

Air: 100 PSI max, 60 PSI min.

Optional:

Controls to allow Tramp Oil Separator to operate on 120 volt single phase electric power.

Large Centrifuge Prefilter, which will prefilter dirty coolant to extend the periods between cleaning the centrifuge bowl. Especially recommended for cast iron and aluminum fluids.

Solids Removal

SUMP CLEANERS

Sump Cleaners

Eriez manufactures the widest selection of sump cleaners in the industry. Solutions range from inexpensive drum top cleaners to the industry's widely recognized sump cleaner. Manufactured since 1974, these heavy-duty industrial wet/dry vacuum filtration units clean virtually any machine tool sump, tank, or pit quickly and thoroughly.

Eriez sump cleaners remove the coolant, sludge and chips from the sump, filter the sludge and chips from the coolant and return the filtered coolant to the sump.

In a typical example, a cylindrical grinder sump with 120 U.S. gallons (454 liters) of coolant and 700 pounds (318 kilograms) of sludge was completely cleaned, the coolant filtered and returned to the sump in ten minutes.

FEATURES:

- Single or twin compartment configuration
- Push around, tow around, or truck mounted units available
- · Complete with hoses and cleaning tools



Specifications:

Capacities from 65 U.S. gallons (246 liters) to 1,000 U.S. gallons (3780 liters)

 $3.5\ ft^3\ (.095m^3)\ or\ 5.3\ ft^3\ (.14m^3)\ holding\ capacity\ sludge\ basket$

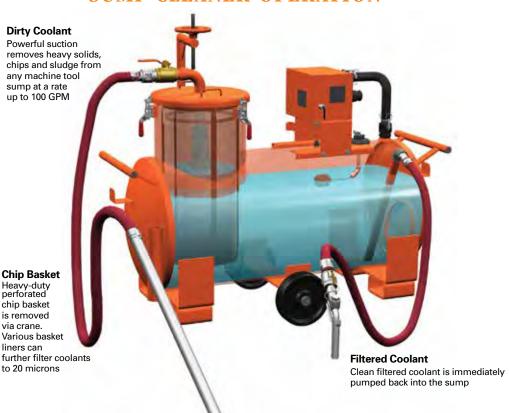
Utility Requirements:

Air, 120V single phase, 3-phase electric, or LP gas power sources

SUMP CLEANER OPERATION



Chip basket captures chips and sludge from dirty coolant during cleaning.





TRUCK SUMP CLEANERS

Eriez can supply any of our Sump Cleaners on appropriately rated industrial trucks or pallet trucks.

FEATURES:

- Can be assembled on an LP or electric industrial truck for added mobility within a plant
- Single compartment up to 400 U.S. gallons (1500 liters)
- Twin compartment up to 200/200 U.S. gallons (750/750 liters)



LP GAS SUMP CLEANERS

The LP Gas (Liquified Petroleum Gas) unit couples a 25 HP electric start with LP gas engine generating 12-15" HG vacuum power with suction rates up to 100 GPM while being able to pick up chips, sludge, grinding swarf, etc. Discharge pressure of 5-7 PSI for discharge rates up to 40 GPM.

FEATURES:

- 3.5 cubic foot chip basket in 100 gallon units,
 5.3 cubic feet for 175 gallon and larger units, both with
 800 pound capacity and hinged trap door bottom
- · Two reusable polyfiber sleeves for chip basket
- One 3' x 2" cleaning tool
- 20' long 2" diameter suction and 1-1/2" diameter discharge hoses
- Heavy duty tank with 14" easy on/off manhole cleanout on end of tank. Easy lift chip basket lid.
- Push-around configuration, including center mounted 12" x 3" wheels and 4" x 2" casters mounted on each end, plus forklift brackets



The "business side" of an electric start 25HP LP gas motor.



Specifications:

Single Tank Capacities: 100 to 1,000 gallons Twin Tank Capacities: 50/50 to 500/500 gallons

Utility Requirements:

LP Gas Cylinder Power Source Electric switch to shut engine off

Solids Removal

SUMP CLEANERS

ELECTRIC SUMP CLEANERS

120 volt single phase unit

These sump cleaners utilize a 120-volt 3 stage motor assembly that generates 10" HG vacuum with suction rates up to 85 GPM while being able to pick up chips. sludge, grinding swarf and other solids. A discharge pressure of 5 PSI for discharge rates up to 40 GPM.

3 Phase (208, 240, 480, 575 volt) units

Utilize cast iron 3 MP positive displacement blower coupled to a 5 HP motor that generates 12-15" HG vacuum power with suction rates up to 100 GPM while being able to pick up chips sludge, grinding swarf and other solids. A discharge pressure of 5-7 PSI for discharge rates up to 40 GPM.

FEATURES:

- · Electric float switch to shut off motor when unit is full
- Blower sound-reduction mufflers
- 3.5 cubic foot chip basket in 65 and 100 gallon units, 5.3 cubic feet for 175 gallon and larger units, both with 800 pound capacity with hinged trap door bottom
- Two reusable polyfiber sleeves for chip basket
- One 3' x 2" cleaning rod
- 20' long 2" diameter suction and 1-1/2" diameter discharge hoses
- Heavy duty tank with 14" easy on/off manhole cleanout on the end of tank, easy lift chip basket lid
- · Push-around configuration which includes center mounted 12" x 3" wheels and 4" x 2" casters mounted on each end, plus forklift brackets

AIR VENTURI SUMP CLEANERS

An Air Venturi vacuum generator creates vacuum levels up to 13" HG for suction rates up to 110 GPM while being able to pick up chips, sludge, grinding swarf and other solids. A pre-set air pressure regulator for discharge is set for 5-7 PSI, with tank depressurization valve for discharge rates up to 40 GPM.

FEATURES:

- 7 PSI safety air pressure pop off valve
- 3.5 cubic foot chip basket in 65 and 100 gallon units, 5.3 cubic feet for 175 gallon and larger units, both with 800 pound capacity with hinged trap door bottom
- One 3' x 2" cleaning tool
- 20' L x 2" diameter suction & 1-1/2" diameter discharge hoses
- Heavy duty tank with 14' easy on/off manhole cleanout on end of tank, plus easy lift chip basket lid
- Push-around configuration includes center mounted 12" x 3" wheels and two 4" x 2" casters mounted on each end, plus fork lift brackets



Single Tank Capacities: 50 to 1,000 gallons Twin Tank Capacities: 50/50 to 500/500 gallons

Utility Requirements:

Single Phase Units: 120V

3 Phase Units: 206, 240, 480, 570 Volts



Single Tank Capacities: 50 to 1,000 gallons

Twin Tank Capacities: 50/50 to 500/500 gallons

Utility Requirements:

Compressed Air: 60-90 PSI, 32-47 CFM

Air Hose Requirements: 1/2" ID unrestricted (required)



50 GALLON SUMP CLEANER

120 volt 3 stage motor assembly that generates 10" HG vacuum with suction rates up to 85 GPM while being able to pick up chips, sludge, grinding swarf and other solids. A discharge pressure of 5 PSI for discharge rates up to 40 GPM.

FEATURES:

- · Electric switch to shut off motor when unit is full
- 10' long x 2" ID suction and 1-1/2" discharge hoses
- 1.6 cubic foot (.45 cubic meter) rectangular chip basket with polyfiber sleeve
- One 3' x 2" cleaning tool
- Push around configuration with two 4" x 2" swivel and two rigid casters
- Dimensions: 44" (1118 mm) long x 23.5" (597mm) wide x 51" (1295mm) high
- Weight: Approximately 350 pounds (159kg)
- Electrical: 120 volt, single phase, 60 Hz, 20 amp outlet (running amp draw is 14 amps)



The Drum Top Sump Cleaner is an inexpensive device capable of vacuuming chips and solids from machine tools and work areas as well as emptying coolant sumps of liquids and solids. The unit is designed to be used on an open top 55 gallon drum.

FEATURES:

- · Heavy duty drum cover plate
- · Air venturi vacuum generator that mounts to cover plate
- · Manual float switch to be used if unit will be used to vacuum liquids
- · Fluid/solids deflector that mounts to underside of bottom plate
- 10' suction hose
- · Hose to cover adapter
- · 36" cleaning tool





Specifications:

10' Orange, oil-resistant suction hose. 36" cleaning tool.

Utility Requirements:

Compressed Air: 60-90 PSI, 32-47 CFM

Air Hose Requirements: 1/2" ID unrestricted (required)

Solids Removal

CENTRIFUGES • COOLANT CLEANERS • CONVEYORS

Solids-from-Liquid Centrifuges

Solids collect in individual machine tool sumps and in large central systems. It is important to remove these chips and fines as they have a detrimental effect on coolant performance and longevity as well as causing lost production and issues during removal.

ERIEZ CENTRIFUGE FILTERS

Eriez centrifuges feature an open-topped rotor bowl design fitted with a long-life, removable, flexible liner. They are available in standard or high performance single and double bowl models with a variety of tank sizes and pump pressures. These systems provide affordable filtration for low flow rates and are often combined with high capacity cartridge filters to polish the fluid to an even greater level.

Applications include carbide, glass, ceramics, tool and cutter, and CBN grinding as well as honing, vibratory and micro-finishing, and wire drawing.

FEATURES:

- · Inexpensive with low operating costs
- · Quick and easy sludge disposal
- · Reusable sludge collection liner
- · Compact size with low inlet height

STANDARD CENTRIFUGE SYSTEMS:

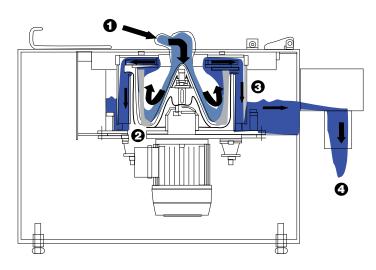
Model	Centrifuge Type	Tank Capacity (gallons)	Water Based Coolant Flow Rate (GPM)	100 SUS Oil Flow Rate	Normal Clarity (microns)
HP-20	Single Bowl	na	20	15	10
HP-40	Double Bowl	na	40	30	10
HP-20-60	Single Bowl	60	20	15	10
HP-20-120	Single Bowl	120	20	15	10
HP-40-220	Double Bowl	220	40	30	10

Note: Custom tank capacities available to suit particular application needs

CENTRIFUGE OPERATION:

- Dirty fluid is pumped to inlet & directed down the center of the bowl liner.
- Solids are trapped along the circumference of the bowl liner
- 3. Clean fluid exits the top of the bowl & flows through the centrifuge housing
- 4. The filtered fluid exits the centrifuge by gravity







Magnetic Coolant Cleaners

Rare Earth and Permanent magnet designs extend the life of cutting tools, grinding wheels, pumps and coolant fluids. Eriez offers coolant cleaners in indexing or continuously rotating models.

FEATURES:

- · Easy installation in restricted space
- Maintenance free

APPLICATIONS:

- · Surface grinders
- · Gear grinders
- Honing and lapping machines
- Broaches
- · Milling and drilling machines
- Face grinders
- · Oil reclaiming machines





EIGHT MODELS AVAILABLE:

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

- CS5 and CS8 Continuously rotating roll; smooth face
- CE5 and CE8 Continuously rotating roll extended pole plates
- · IS5 and IS8 Indexing roll; smooth face
- · 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)

Magnetic Chip & Parts Conveyors

Safely and reliably move ferrous materials such as chips, turnings, small parts and stampings from a sump to a discharge. These units are practically maintenance-free and innovatively designed to ensure the highest level of operator safety.

Most models feature Eriez' unique Tuf-Trac™ track system with no moving external parts to jam or break like hinge belt conveyors. Tuf-Trac's continuous series of powerful ceramic magnets pick up and glide material along the stainless steel slider plate, then discharge it over the head end.

FEATURES:

- · Liquid-tight construction
- Conveyor can be completely submerged in the sump or tank
- Self-cleaning surface
- · Excess fluids drain easily



Coolant Recycling

Coolant Recycling Systems

Eriez has put all the aspects of good coolant management to work.

CRS Fluid Recycling Systems, self-contained systems capable of recycling any water-miscible fluid to its maximum potential. These units belp minimize or eliminate disposal, reduce usage of fluid concentrate, and improve plant profitability and productivity. Systems ranging from small to large feature low maintenance, unattended operation and fast return on investment.

FEATURES:

- · Separate dirty and clean tanks
- Automatic proportioner mixer coolant make up & control
- Oil removal device free-floating, non-emulsified tramp oil
- Coalescer tramp oil separator
- Liquid-from-Liquid centrifuge clean coolant to <0.5% emulsified tramp oil and 2-5 microns of particulate matter





CRS120ST

This feature-packed system's stacked tank design reduces its footprint and comes standard with a high-speed centrifuge for complete recycling of any metalworking coolant. The CRS 120ST's true high-speed centrifuge requires only one pass through the system to remove tramp oils, particulate matter and a substantial portion of the bacterial population. Cleaning the fluid to this degree eliminates the need for expensive, energy-intensive coolant pasteurization.

CRS120SS

This modular, low-cost coolant recycling system provides the basic requirements of fluid recycling with water-miscible coolant and cleaner products that reject tramp oils. It has a convenient side-by-side tank design and is equipped with a coalescer to remove free and mechanically mixed tramp oils. The CRS 120SS can be fitted with a high-speed centrifuge to address not only the free-floating and mechanically mixed tramp oil, but also remove partially emulsified, bacteria-feeding tramp oils.

CRS300ST

The 300 series delivers an even larger centrifuge for higher processing rates and allows greater flexibility for adding optional equipment. An optional dual product design, the CRS 200/200 ST, features two dirty and two clean tanks for facilities using two different metalworking fluids.

CRS300SS

A complete, full capability recycling system for medium-to-large sized metalworking plants equipped with machine tools using individual coolant sumps. The CRS 300SS easily meets the recycling requirements of facilities with up to 10,000 gallons of total sump capacity.

For operations with greater flow rates or higher processing capacities, custom configurations are also available from Eriez.

Custom configurations can include systems that recycle a combination of both individual machine tools and central coolant systems. To facilitate the moving of fluids to and from the CRS recycling system, complete plant distribution and return header systems with pumping stations are available.





Coolant Recycling

SumpDoc Portable Fluid Recycling

Unlike any other product in the market, the SumpDocTM is an all-in-one portable fluid recycling system that will filter and rejuvenate metalworking fluids in a machine tool sump without interrupting production.

The SumpDoc Portable Fluid Recycling System allows shop personnel to position the unit alongside the machine tool sump and treat the existing coolant while continuing to operate the machine tool.











WORLD AUTHORITY IN SEPARATION TECHNOLOGIES



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