Bypass Oil cleaner

TRIPLE R OILCLEANER

1. Cost saving
2. Improving production reliability
3. Environmental responsibility

3 *rules that go hand-in-hand with Triple R.*

Triple R - the original and still the best after 40 years continuous evolution.

Triple R began life by developing a unique bypass filter for engine oil in trucks and other vehicles. This revolutionary concept boosted engine oil lifespan to more than 100.000 km.

From inception, our mission has been to push back the boundaries through innovation and we soon extended the Triple R filter concept across a wide spectrum industries. *Triple R* oil cleaners were the first to allow 'total cleaning' of industrial hydraulic oil and lube oil, guaranteeing oil purity by removing everything from **solid particles** to **water** to **sludge, resins and oxidation contamination**.

Over the last 40 years we have continued to invest significantly in R&D, developing a wide range of new products to augment our initial oil cleaning systems. That's why no other company has been able to match *Triple R* for consistency and economy.

From **water and oil separators** to **centrifuges and vacuum systems**, our range of products means that *Triple R* can deal successfully with just about every modern industrial contamination issue.

Triple R, your one-stop problem solver. Whatever your contamination challenges, we can always help you find the most efficient and the most cost effective solution.

Protecting the environment.

Triple R strongly believes in everyone's duty to help protect our environment, preserving it for future generations. Environmental responsibility is central to everything we do - a fitting mission for company specializing in filtration & separation systems.

Saving resources, while cutting costs.

In industry, saving resources, while cutting costs, is paramount.
We are proud of our contribution: continually developing advanced filtration & separation technology to do just that.

All our products are aimed to provide solutions that reflect the essentials: to **Reduce**, to **Reuse** and to **Recycle**. Our brand says it all - *Triple R*.

The *Triple R* philosophy is a winner on so many fronts because ultimately, Reducing, Reusing and Recycling go hand-in-hand with:

- **Optimizing production expenditures and delivering cost savings.**
- **Improving machine reliability and increasing production capacity.**
- **Contributing to environmental conservation.**

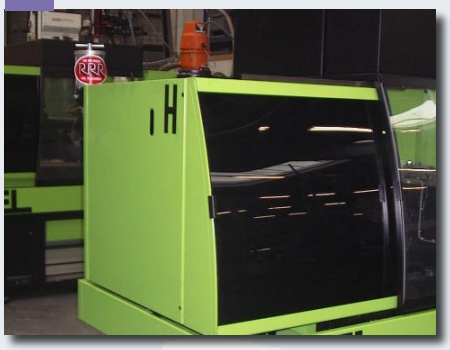
In this brochure you will find an overview of the markets and applications we cover, plus an overview of our systems designed to help you **solve problems, save money** and **contribute to environmental conservation**.

TRIPLE R CORPORATION

Markets and applications

01 Aviation

02 Machine tools



03 Electric power

04 Automobile

05 Steel & Iron

06 Railway

07 Paper mill

08 Construction

09 Generators

10 Marine

11 Transportation

	Application	Fluid type	Purpose & merits	Triple R
01	**Aviation** Service lifter Flight simulators	Hydraulic oil Phosphate ether Skydrol	• Prevent servo valve failure. • Extend oil life and reduce waste oil, contribute to ISO 14000	BU & SE-series OSCA-series
02	**Hydraulic machines** Hydraulic systems Machine tools CNC machines, grinders	Hydraulic oil Lubricating oil Water glycol Coolant Washing fluid	• Reduce breakdown and failure of hydraulic systems. • Extend oil life and reduce waste oil, contribute to ISO 14000	BU & SE-series WS-series OSCA-series Centrifuge Magnet series
03	**Electric power** Dam gate system Generator turbine - gearbox Insulating oil	Hydraulic oil Turbine oil Insulating oil	• Remove the causes for oil oxidation and deterioration. • Prevent valve failure. • Extend oil life and reduce waste oil, contribute to ISO 14000	OSCA-series Vacuum system
04	**Automobile industry** Press, stamping, tester line Machine tools, special machines Diecasting machines	Hydraulic oil Lubricating oil Coolant Torque converter oil	• Control NAS grade. • Prevent hydraulic system failure. • Extend oil life and reduce waste oil, contribute to ISO 14000	BU & SE-series OSCA-series Centrifuges Magnet series PREDATOR
05	**Steel & Iron mills** Continuous casting Rolling mills Special machines	Hydraulic oil Lubricating oil Water glycol Coolant Washing fluid	• Prevent breakdowns of automatic lines and quality damage due to hydraulic trouble. • Extend oil life and reduce waste oil, contribute to ISO 14000	OSCA-series Centrifuges WS-series Magnets series PREDATOR
06	**Railway** Hydraulic system Car assembling Wheel press fitting	Hydraulic oil Lubricating oil Washing fluid	• Reduce short term breakdowns and downtime. • Extend oil life and reduce waste oil, contribute to ISO 14000	BU-series OSCA-series
07	**Paper mills** Hydraulic system Driers	Hydraulic oil Lubricating oil Water glycol	• Prevent breakdowns of automatic lines and quality damage due to hydraulic trouble. • Remove moisture. • Extend oil life and reduce waste oil, contribute to ISO 14000	OSCA-series WS-series Vacuum system
08	**Construction machines** Hydraulic system for construction machines, forrest, container lift, drilling & tunnel excavators	Hydraulic oil Lubricating oil	• Remove contaminants entering from outside and stabilize operation of hydraulic equipment. • Extend oil life and reduce waste oil, contribute to ISO 14000	BU-series TR-series
09	**Generators** Diesel generators Turbine generators Wind power generators	Engine oil Fuel oil (light & heavy oil) Lubricating oil Turbine oil	• Maintain stable operation by cleaning fuel & lubricating oil. • Extend oil life.	OSCA-series GF-series (combined model) TR-series
10	**Marine** Main engines Generators Hydraulic systems	Engine oil Fuel oil (light & heavy oil) Lubricating oil	• Maintain stable operation by cleaning fuel & lubricating oil. • Prevent hydraulic problems. • Extend oil life and reduce waste oil	BU & SE-series SS-series GF-series (combined model)
11	**Transportation** Engines	Engine oil	• Extend the life of the engine oil. • Avoid sludge build up and engine breakdown when using bio fuel.	TR-series

ELEMENT series

01 02 03 04 05 06 07 08 09 10 11

Features:

- High performance micro filter element range.
- A unique 3-stage build, combining axial filtration with cellulose filter media assures removal of:
  - Solid particles
  - Water
  - Sludge and oxidation products
- Applicable for hydraulic oil, lube oil (up to 400 cSt), fuel oil, water glycol, phosphate ether, as water remover and water absorber.
- All elements are Multipass tested; available micron ratings: ß2>400, ß3>75, ß5>75, ß10>75
- 6 sizes per filter type to meet every specific requirement and oil volume.
- See our Element series brochures for detailed information.

BU series

01 02 04 06 08 10

Features:

- Very compact build bypass oil cleaners, filter housings are made of die-casted aluminium or stainless steel.
- Effectively removes all the particles that are usually very difficult to remove with conventional filters.
- Designed for hydraulic systems up to 450 bar system pressure.
- Connects directly to the high pressure line.
- With built in pressure and flow control valve, safety check valve and pressure gauge to check element change.
- Available for systems with an oil content up to 3.000 litres.
- Low running cost, easy maintenance.
- Also available for water glycol fluids with coated housing and WG element.

SE • SS series

01 02 04 10

Features:

- Compact build off-line bypass oil cleaners, filter housings are made of die-casted aluminium.
- Built around a very compact power pack, they can easily be connected to the oil reservoir.
- The standard version comes with a metal suction strainer and a Moeller on/off switch box with thermo-protection. All units have a mounting bracket for quick installation and a pressure gauge to check the element contamination level.
- Effectively removes all the particles that are usually very difficult to remove with conventional filters.
- Standard units are suitable for systems with an oil tank capacity up to 6.000 litres.
- Low running cost, easy maintenance.
- Also available for water glycol fluids with coated housing and WG element.

TR series

08 09 11

Features:

- Compact build off-line bypass oil cleaners, made of die-casted aluminium, for engines and lubrication systems (or for all other oil systems with a pressure of < 6 bar).
- Installed on engines they extend the oil life up to 150.000 km.
- An absolute necessity for engines running on bio-fuel. It avoids oxidation and sludge build-up created by the mix of the bio-fuel with the engine oil.
- The individual housings can be used for assembling into bigger filter rigs (see OSCA-series).

SU series

01 02 03 04 05 06 07 08

Features:

- Compact build stainless steel housings, containing 1 to 6 filter elements.
- The series includes washable suction filters, pre-filter housings and the micro depth filter housings.
- The housings are meant to be used in combination with the BU-, SE- and OSCA-series.
- Ideal for cleaning water based fluids (like water glycol) or for water removal filter systems.

SS series

01 03 04 05 06 07 09 10

Features:

- Compact build carbon steel housings, containing 2, 3, 4, 5 or 6 filter elements.
- The housings have a strong lid and can handle pressure up to 15 bar system pressure.
- Available in 4 sizes and can be fitted with all the different Triple R element series.
- Ideal for high flow filter rigs. Flow rates up to 60 l/m (3.600 l/hour).
- Typical filter housings for marine applications.
- In combination with the X-series elements suitable for high viscosity up to 600 cSt.

OSCA-AL series

01 02 03 04 05 06 07 09

Features:

- Off-line bypass oil cleaners using the AL100 and combined with a suction filter, pre-filters and SU housings.
- Ideal for:
  - Maintenance service activities (rental).
  - Large oil volumes.
- All systems are fully equipped and come with a washable metal suction filter, pressure control gauges, a control panel with on/off switch and a drain function.
- Standard units are suitable for systems with an oil tank capacity up to 7.000 litres.
- Optional equipment: timer, automatic drain function, Quicktoron air removal.

OSCA-SS series

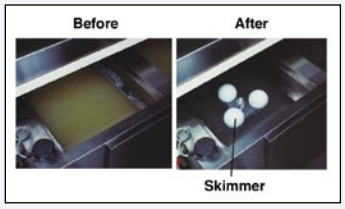
01 02 03 04 05 06 07 09

Features:

- Off-line bypass oil cleaners for high flow rates. Based on the SS-series filter housings.
- Ideal for:
  - Maintenance service activities (rental).
  - Very large oil volumes up to 50.000 litres
  - High viscosity oil
- All systems are fully equipped and come with a washable metal suction filter, pressure control gauges, a control panel with on/off switch and a drain function.
- Standard units have a flow range from 6 lit/min up to >60 lit/min, and can be suitable for very large oil volumes (>50.000 litres).
- Optional equipment: timer, automatic drain function, Quicktoron air removal.

OSCA-OS series - Oil Separator

04 05



Features:

- Off-line oil removing device separating oil and capturing contaminants simultaneously.
- Based on our 2-stage coalescent oil removal principle, it collects all the floating oil from water based fluids.
- Typical use for removing oil from washing fluids and compressor drainage.
- The units are equipped with automatic oil sensor and oil drain function.
- Maintains the NAS grade of the fluid.
- Reduces the amount of waste fluid dramatically.

WS series - Water Separator

02 05 07

Features:

- Off-line water removing device separating the water and capturing contaminants simultaneously.
- Based on our 2-stage coalescent water removal principle.
- The units have a plexiglass container for a visual check of the water separation.
- The water can easily be drained from the tap.

The water will settle at the bottom and can be tapped off easily.

VS series - Vacuum dehydrating

03 07

Features:

- Very fast and highly effective water removing device, meant for high duty applications.
- Removes water, moisture and air bubbles:
  - Dissolved water: 80%
  - Free water: 100%
  - Air bubbles: 100%
- Low running cost, only few disposables.
- Dramatically reduces the waste oil & treatment cost.

PREDATOR - Bacteria filter

04 05

Features:

- Eliminates and prevents bacteria build up in machine tool coolants, industrial process water and parts washers, cooling towers, well water, fountains and other aqueous fluids.
- Special patented copper-zinc fibres create an electric charge lethal to micro-organisms, killing the bacteria passing through the Predator filter cartridge.
- Eliminates the foul odor, prevents fungus, yeast and mold build up in water based fluids, eliminates potential health hazards.
- Reduces the use of biocide and chlorine.
- No deterioration and low maintenance.
- Extends fluid life, reduces waste disposal, improves process quality.
- Results are dramatic and immediate.
- With integrated pre-filter, 20µ to 100µ.
- Chemical free.

CENTRIFUGES

02 04 05

Features:

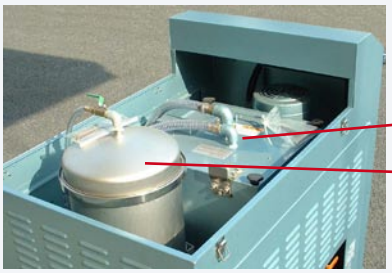
- High capacity solid and sludge removal, for water based fluids and oil based fluids up to max 20 cSt.
- Highly efficient centrifuges with up to 3000 RPM, also removes micron sized particles.
- Available with manual operation or full automatic with touch screen control panel.
- Open conic bowl concept allows easy cleaning and removal of the separated dirt.
- Flow rates up to 200 lit/min.
- Easy system to separate fine particles such as aluminium and steel dust, carbon, glass dust, stone dust and mud.
- No consumables, one-time investment.
- Reduces oil consumption and prevents deterioration of the fluid. Additives will not be separated.

TRCS- and CUBE series

09 10

Features:

- Combined system: centrifuge + Triple R oil cleaner.
- Suitable for highly contaminated fluids. Removes the high dirt load in the centrifuge and then purifies and cleans the fluid in the SS filter housings.
- Ideal to purify fuel oil and lubricants for large diesel engines.



CUBE-system:

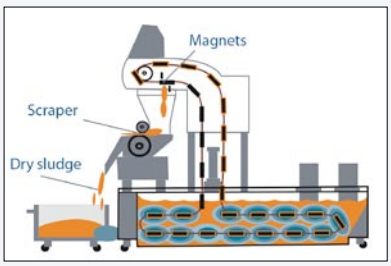
TRS-30 centrifuge
+
SU200 micro-filter housing

MAGNETS & MAGNET CONVEYERS

02 04 05

Features:

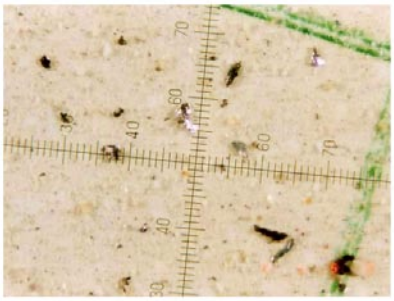
- Removes magnetic material from water and oil based fluids.
- Typical applications: grinders, rolling machines, shaving machines.
- Reduces the running cost and maintenance cost.
- Integrates to central treatment, or can be applied individually.
- Flexible depending on the space and machine conditions.



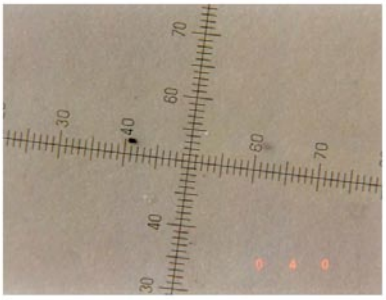
A PROVEN EFFICIENCY

Whatever the level of contamination, Triple R bypass oil cleaners will reduce it to NAS 7 - ISO 17/15/12 or better.
And that is cleaner then new fresh oil!

Particle count 100ml	
5-15µ	950.235
15-25µ	120.670
25-50µ	24.585
50-100µ	1.533
> 100µ	65



Particle count 100ml	
5-15µ	21.280
15-25µ	1.670
25-50µ	245
50-100µ	13
> 100µ	2



The membranes show how Triple R absorbs the oxidation residues.

The brown spot on the membrane shows the actual oxidation present in this oil.

After installing Triple R the membrane turned perfectly clear.

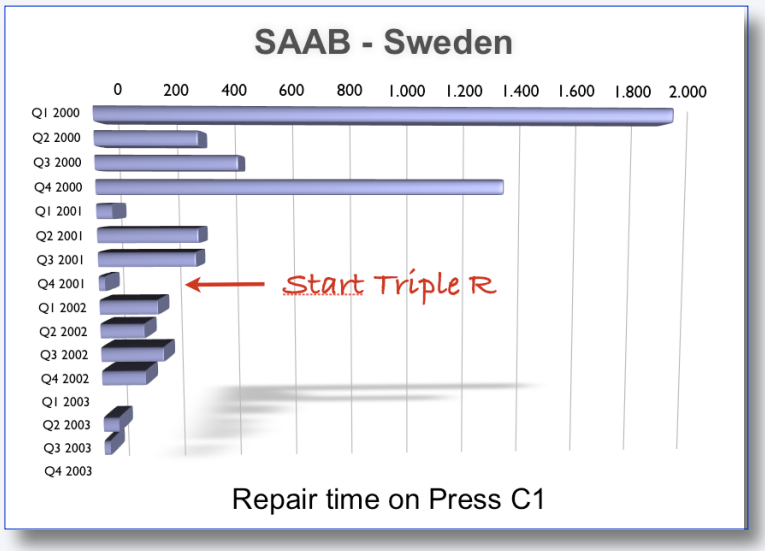
The customer's problem of sticky servovalves was solved within a couple of days.

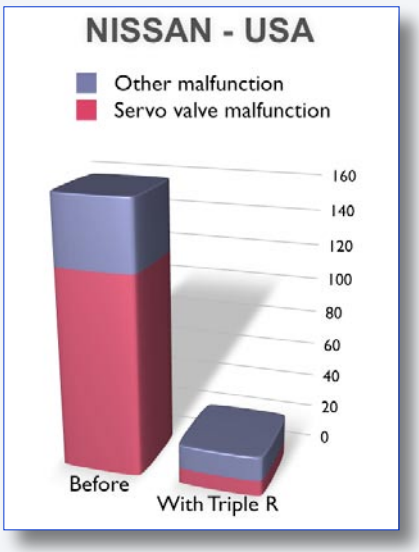
GUARANTEED BENEFITS

Dirty oil costs so much more than clean... .

It's a two-way equation. Increased machine reliability means increased throughput and consistent quality, while contaminated oils can damage more than throughput.

Thanks to Triple R, the benefits of modern filtration can be delivered with a rapid return on investment - usually in a matter of weeks.





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