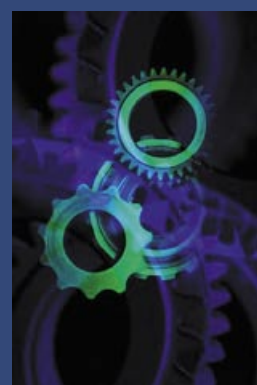


TRIPLE R

bypass oil cleaner



**for a perfect filtration
of all industrial oil systems**



Perfectly clean oil

Cause and consequence.

Always perfectly clean oil. This is an essential requirement to keep your production machines running smoothly.

Unfortunately, all hydraulic and lubricating systems in production conditions are continually subject to dirt build-up.

Indeed, dirt is the cause of 80% of all oil-related malfunctioning and breakdowns.

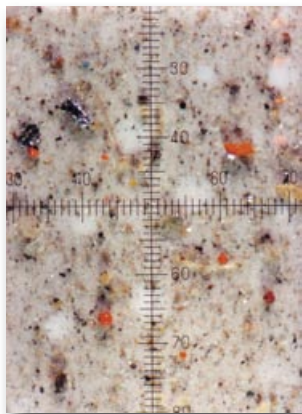
What exactly is oil contamination?

Metal particles are well known for their destructive effect on hydraulic machinery.

But the combination of metal particles as well as water and temperature affect the oil molecules, cause chemical reactions and the creation of sludge. This sludge accounts for the darker colour of dirty oil. Oil contamination is consequently the combination of solid as well as liquid pollutants.

1

Solid particles



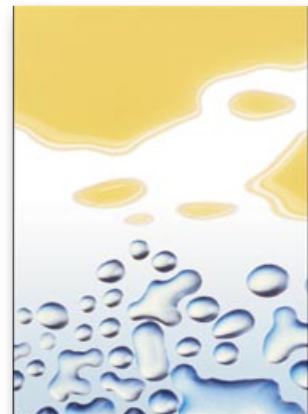
2

Sludge



3

Water



Unique filter system.

TRIPLE R is the only filter system which is able to remove these three pollutants using a single filter element.

No other filter system is capable of doing this!

Refund guarantee.

TRIPLE R is the only manufacturer of oil filters to guarantee 100% perfect results.

If our filter systems do not achieve the desired objective, we agree to take back the TRIPLE R systems and refund the full amount.

Official standards.

All TRIPLE R filters have been tested according to the official Multipass Test ISO 4572 and 16889, and have an absolute μ -value in compliance with the international filter standards.

What's in it for you?

The guarantee for perfectly clean oil!

The difference between dirty oil and clean oil is equal to a factor of 250! That's 250 times more dirt particles, 250 times more friction, 250 times more wear, 250 times more oxidation, 250 times higher risk for serious damage, machine standstill, production loss, ...



remove

A unique concept

A 114 mm thick axial micro filter.

TRIPLE R bypass micro filters are based on operating principles that differ from those for conventional oil filters.

The design of these filters is based on the axial flow principle whereby a filter mass of 114 mm is applied! This is an enormous difference in comparison with the 1 to 2 mm thickness of conventional circulation filters.

These 114 mm-thick filter elements are always installed in a bypass position and this ensures that pressure and flow pulses are avoided.

Cellulose as filter medium.

In addition, TRIPLE R uses a specially designed cellulose filter medium that makes it possible to absorb water from oil and to completely remove oxidation products.

The perfect filter.

Axial filtration, an extra thick filter mass of 114 mm, a specially designed cellulose material, always bypass installation ... these are key criteria to make Triple R the filter with the highest dirt retention capacity, and the guarantee to obtain maximum efficiency when removing dirt from oil.



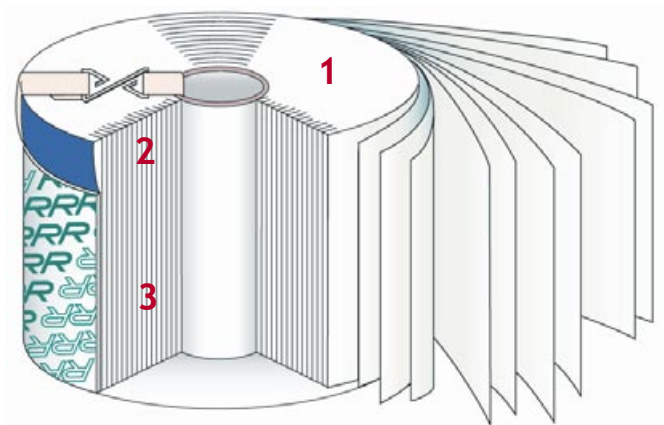
3-step micro filtration.

Step 1: the largest dirt particles are retained on top of the filter element.

Step 2: the smaller particles remain in the top zone.

Step 3: the finest particles accumulate in the lower compressed zone.

Zone 2 & 3: water and sludge is absorbed by the special cellulose material.



Measuring is knowing

1.000.000 particles/100 ml oil!

The contamination of your oil can be reduced by a factor of 250! In fact, it is essential that you know what the state of the oil in your system is. Does your oil contain 1.000.000 particles > 5 μ per 100 ml or only 4.000 particles?

You can measure and check the contamination level in your oil by performing a particle count. Depending on the results of these tests, you can take the necessary measures.

NAS, ISO and AS.

ISO 4406 and AS4059 (replaces NAS 1638) are the most common standards which are used to indicate the contamination level of oil.

Pro-active.

Today, all manufacturers of pumps, valves and other hydraulic parts indicate the maximum allowed contamination level for their products.

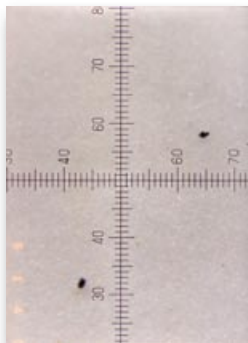
If your oil is dirtier than the indicated value, the guarantee may no longer apply and you will have to pay for the damage yourself.

In other words, be pro-active and make sure you deal with hydraulic breakdowns effectively from the start.

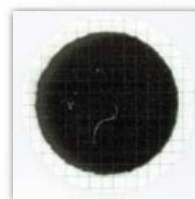
For all hydraulic and lubricating systems, this means avoiding contaminated oil. Make sure your oil remains perfectly clean and you can avoid 80% of breakdowns.

The new AS4059 cleanliness coding system:

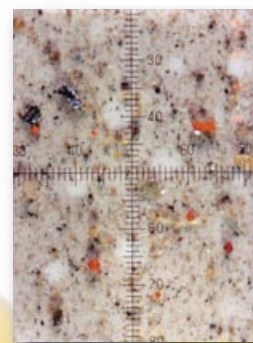
Particle size (optical)	> 1 μ	> 5 μ	> 15 μ	> 25 μ	> 50 μ	Recommendations
SIZE CODE	A	B	C	D	E	
Class 000 to 1	<1.560	<609	<109	<20	<4	Silt sensitive systems in aerospace and laboratory
Class 2	3.120	1.220	217	39	7	
Class 3	6.520	2.430	432	76	13	
Class 4	12.500	4.860	864	152	26	Critical systems and servosystems
Class 5	25.000	9.730	1.730	306	53	
Class 6	50.000	19.500	3.460	612	106	
Class 7	100.000	38.900	6.920	1.220	212	General proportional
Class 8	200.000	77.900	13.900	2.450	424	Medium pressure systems
Class 9	400.000	156.000	27.700	4.900	848	Low pressure systems
Class 10	800.000	311.000	55.400	9.800	1.700	Not suitable for hydraulic systems
Class 11	1.600.000	623.000	111.000	19.600	3.390	
Class 12	3.200.000	1.250.000	222.000	39.200	6.780	



>>> Membrane A: Class 4, no oxidation, no sludge.



Membrane B: Class 12 and a lot of sludge. <<<



ecycle

From 0 to 400 bar

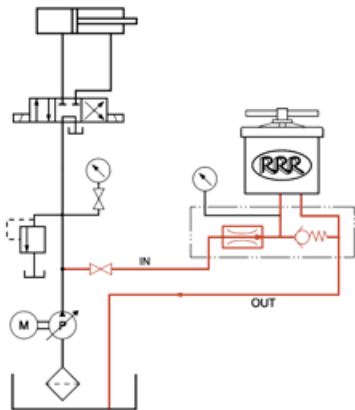


TRIPLE R offers a wide range of filter elements and filter systems:

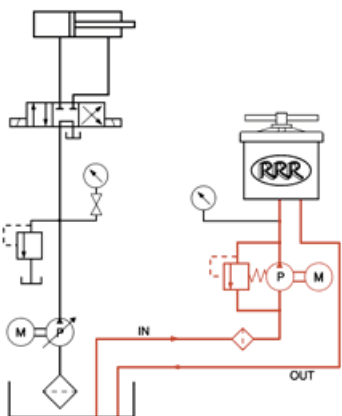
Filter elements of 2 μ , 3 μ , 5 μ and 10 μ absolute for mineral oil, synthetic oils, water glycol and phosphate esters, water absorbing and/or water-repellent, 8 types and 18 different models.

TRIPLE R has filter systems for engines, lubricating systems, all hydraulic installations, turbines, compressors and you can always choose between a permanent installation or a mobile filter rig.

BY-PASS setup



OFF-LINE setup



The ideal filter system and filter element are available for every application.



Return on investment

Every investment must produce a return. Investing in oil management results in an immediate return.

Several studies have shown that carefully planned oil management can deliver savings of up to 80% on all oil-related costs:

Imagine what your return on investment will be and calculate on the basis of your machine cost and your machine availability how much you can actually save.

As specialists in oil cleaning and oil management, we are at the service of our customers and we can give you effective advice.

MALFUNCTIONS, BREAKDOWN

-80%

Wear and breakdowns of pumps, valves, sealing rings and other components are prevented (Fx = 5).

FULL FLOW FILTERS

-75%

Expensive full flow filters last 2 to 4 times longer (Fx = 4).

OIL CONSUMPTION

-90%

The same oil can be used up to 10 years or 50,000 hours (Fx = 10).

PRODUCTION LOSS

-80%

Breakdowns, machine downtime and production loss are reduced to a minimum (Fx = 5).

RETURN ON INVESTMENT CALCULATION	
N° of machines	6
Operating hours/year	5.000
Machine cost/hour	€ 51,00
Labour cost/hour	€ 40,00
Current machine availability %	93
Downtime hours	5.000 X 6 X 7 % = 2.100
Caused by:	
Mechanical or electric faults (65%)	= 1.365
Hydraulic faults (35%)	= 735
of which caused by the fluid (80%)	= 588
Fluid related downtime costs	588 X € 51,00 = 29.988 €
Labour cost for repair	588 X € 40,00 = 23.520 €
TOTAL MAINTENANCE COST	53.508 €
Fluid service will prevent 80% of fluid-related costs. Remains 20%	
Remaining downtime hours	588 X 20 % = 117,6
Reduction in downtime cost	€ 29.988 X 20 % = 5.998 €
Reduction in labour cost	€ 23.520 X 20 % = 4.704 €
Total remaining	€ 53.508 X 20 % = 10.702 €
TOTAL SAVINGS	42.806 €



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