

# Protect your tractor against hydraulic failures

Modern tractors often suffer from hydraulic failures. You'll no doubt be familiar with intermittent operation, poorly closing valves and sometimes even a sudden breakdown in the field. 80% of all hydraulic failures are due to contamination. 75% of these failures are due to poor filtration. With high repair costs and loss of valuable production time as a result.

## How does this contamination enter the hydraulic system?

Quick-release couplings of disconnected farming implements often just lay on the ground, and those on the tractor are covered in dirt. When the implements are connected to the tractor again, an enormous amount of dirt is released into the hydraulic system. In addition most tractors are fitted with a "wet-brake" system; the unavoidable wear particles of the brakes are also launched into the oil.

The result is obvious; a loss of productivity and costly repairs, because of hydraulic malfunctions.

## Why do these problems occur despite of the standard filters?

A standard filter package usually filters down to 10-15 micron because large volumes of oil must be able to flow through. However critical components such as electronically operated valves, pumps, cylinders etc. have clearances of 4-5 microns.

This makes it a matter of time until these components start to malfunction. Valves get sticky, act slowly or don't react at all. Cylinder walls and piston rods get polished. These problems often occur around 3000 to 5000 operating hours.

## The solution

Many users have experienced these problems and installed a NTF bypass filter on the hydraulic system of their tractor(s). This cleans the hydraulic fluids at 2 micron for 99.97%. Additionally NTF filters remove water content from the oil.

The result: permanent clean oil and immediate filtration of contaminated oil originating from newly coupled implements.

This will significantly reduce the number of breakdowns and downtime. The machines will run more smoothly and cost efficient.



## Concrete Advantages of Cleaner Oil:

- Fewer breakdowns
- Less wear and tear
- Longer oil life
- Frequency of servicing can be reduced
- Structural cost savings
- Longer service life of equipment
- Improved performance
- Environmentally friendly



[www.ntf-filter.com](http://www.ntf-filter.com)

## Technical Specifications

Filter type	AL-19	AL-29	AL-58
Oil volume engine	ca. 20 liter	ca. 35 liter	ca. 70 liter
Oil volume transmission	ca. 60 liter	ca. 100 liter	ca. 200 liter
Dimensions	110 x 110 x 234 mm	110 x 110 x 354 mm	110 x 110 x 654 mm
Weight	2,2 kg	3,2 kg	6,4 kg
Volume	1,13 liter	1,6 liter	3,2 liter
Connection IN / OUT	M12 x 1,5	M12 x 1,5	M12 x 1,5
Max. pressure	10 bar	10 bar	10 bar
Max. temperature	120 °C	120 °C	120 °C

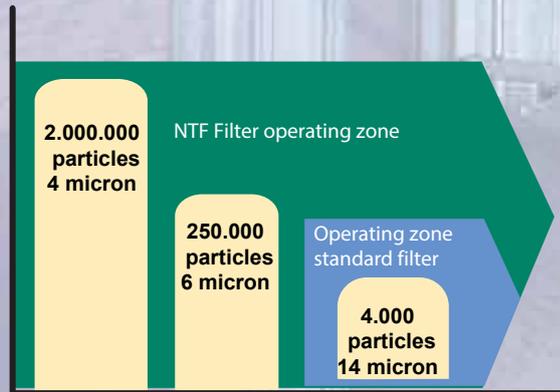
Filter cartridge	F-19	F-29	F-58
Flow direction	radiaal	radiaal	radiaal
Weight	300 gram	460 gram	920 gram
Filter surface	442 cm <sup>2</sup>	735 cm <sup>2</sup>	1470 cm <sup>2</sup>
Filter efficiency	Beta (β) 4 > 10649	Beta (β) 4 > 10649	Beta (β) 4 > 10649
Dimensions	Ø 78 x 180 mm	Ø 78 x 300 mm	Ø 78 x 600 mm
Seals	Buna NBR	Buna NBR	Buna NBR
Absorption capacity	90 ml H <sub>2</sub> O	142 ml H <sub>2</sub> O	284 ml H <sub>2</sub> O
Flow rate (nom.)	1,6 l/min	1,6 l/min	1,6 l/min



### Standard filtration versus NTF filtration

In order for critical components such as valves, pumps, cylinders etc. to keep functioning properly, the ISO-cleanliness class of the oil needs to be 19/16/13 but this usually is 21/20/14.

To achieve this level of cleanliness a filter should filter down to at least of 4 microns. This level of filtration can only be achieved with bypass micro filters.



### TESTIMONIAL

"not only the repair costs went down but also our fuel and oil consumption. We now have machines driving around with thousands of operating hours without oil change. We only add oil. We are extremely satisfied with the NTF micro filter systems and the cost savings that this brings us and install NTF filter systems on all new machines that we purchase".

J.A.Q. Denneman, Denneman BV

## Superior filtration to improve your performance



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Dealer