



# Progressive lubrication systems

## Wide range unique solutions

*Longer service life*

*Lower costs*

*More uptime*

Automatic lubrication is more effective than manual lubrication. Because the machine is lubricated while it is in motion, the grease spreads better over the surface that has to be lubricated. In addition, the grease is applied in small doses with short intervals, providing optimal lubrication. Moreover, this results in a collar of grease on the outer edge of the pins and bushings, keeping out dirt, dust and water. Thus automatic lubrication offers many advantages:

- Longer service life of slew ring bearings, pins and bushes
- Lower repair and maintenance costs
- Improved machine and vehicle uptime
- Higher productivity
- Higher residual value
- Up to 50% less grease consumption
- No possibility of accidents while greasing hard to reach lubrication points

Besides the SingleLine and the unique Twin dual-line lubrication systems, Groeneveld offers a complete range of high-end progressive automatic lubrication systems. Such as the EcoPlus with cartridge concept and the new generation OnePlus, both particularly suited for smaller machines and less complex lubrication systems, like mini excavators and loaders, terminal tractors or smaller agricultural machines. And the unique TriPlus with three separate lubrication circuits, the ultimate solution for machines and vehicles with different components resulting in different grease requirements.



**GROENEVELD LUBRICATION SOLUTIONS**  
A DIVISION OF GROENEVELD INTERNATIONAL



## Progressive lubrication systems

A progressive lubrication system lubricates all greasing points consecutively. With their progressive lubrication systems, Groeneveld combines the proven concept of progressive lubrication with state-of-the-art pumps with extensive set up and/or diagnostic functions. The solid progressive lubrication systems are well suited for applications in earth-moving, construction, agricultural machines and port equipment.

Groeneveld does not simply provide a lubrication system, but provides a well thought-out solution for each specific application. The OnePlus is ideal for smaller machines without compressed air supply and with a NLGI-2 grease requirement. The EcoPlus is perfectly suited for compact machines with a limited number of greasing points and the TriPlus is the ultimate solution for larger machines that have components with different grease requirements.

### Divider blocks

Groeneveld's progressive divider blocks stand out because of their unique quality and almost unlimited combination possibilities. This allows exactly the right system to be assembled for each application, where each lubrication point always receives the correct amount of grease. Not too little, to prevent metallic contact (and thereby disturbing sounds), excessive wear and unexpected failure. And certainly not too much, because waste and needless environmental pollution does not belong in a good business practice.

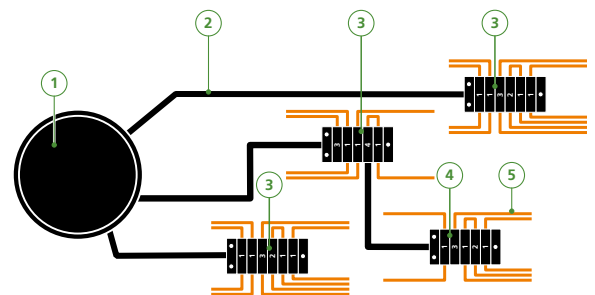
For its progressive systems, Groeneveld provides newly developed anti-corrosive divider blocks with a high quality zinc-nickel coating. This treatment withstands a 720-hour salt-spray test and thereby offers optimal protection against corrosion.



### System overview

The OnePlus has one lubrication circuit, the EcoPlus two and the TriPlus three. Every Groeneveld progressive lubrication system consists of the following main components:

- |                       |                     |
|-----------------------|---------------------|
| 1. Pump               | 4. Divider block(s) |
| 2. Main line          | 5. Secondary lines  |
| 3. Main divider block |                     |



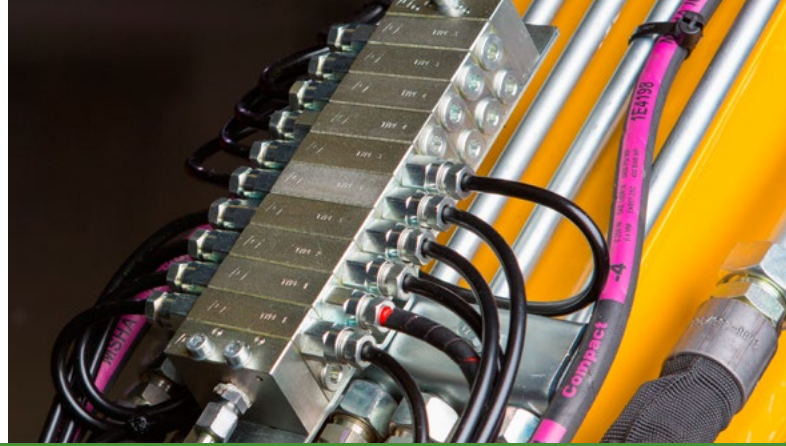
### Groeneveld and quality



Experienced, expert and well-trained technicians, employed by Groeneveld or one of our partners, install the progressive lubrication systems in a professional manner. A guarantee for years of trouble-free operation.



Groeneveld has its own production and assembly facilities and development centers. Product and process quality are paramount.



## For every machine the right solution

Regardless if it is a road sweeper with a limited number of greasing points, a small harvester or a backhoe-loader: Groeneveld offers the right lubrication system for every application. The range of progressive automatic lubrication systems consists of the recently updated OnePlus, EcoPlus and TriPlus.



### OnePlus

The new generation of OnePlus has a reservoir capacity of 2 or 3 liters. Like its predecessor, the system features a solid, compact design with a follower plate. The quantity of grease distributed and the lubrication interval can be programmed easily using two, small rotary switches located behind a waterproof screw cap at the front of the pump housing.

The main features at a glance:

- Grease metering independent of ambient temperature
- Optimal adjustment of the grease metering per lubrication point
- Easy to program
- Follower plate for visual checking of the grease level and to prevent ageing of the grease as a result of oxidation
- Filling coupling with filter prevents contamination during refilling



### EcoPlus

EcoPlus is compact and yet offers sufficient grease capacity. Due to its compact size, there is always room to be found to install it on the machine. The 1.7-liter cartridge offers the right grease volume to meet lubrication needs and service intervals of modern compact machines.

- Progressive lubrication system for NLGI-2 grease
- High performance electrical pump, 12V or 24V
- Accurate, pre-set viscosity independent grease metering at all temperatures
- Integrated easy-to-operate timer
- Fully closed system, insensitive to moisture, sand and dust
- Grease metering and lubrication interval that can be programmed accurately
- Unique cartridge system for easy refill



### TriPlus

TriPlus is a progressive lubrication system with three lubrication circuits that can be programmed and operated independently. An ideal solution for, e.g., backhoe loaders, where the front of the machine does not need to be lubricated when the rear excavation arm is being used and vice versa. This prevents unnecessary lubrication of components that are not moving.

- Three lubrication circuits that can be operated independently
- Grease metering regardless of the ambient temperature
- Optimal grease metering per lubrication point
- Follower plate for visual checking of the grease level and to prevention of ageing of the grease as a result of oxidation
- Filling coupling with filter prevents contamination during refilling
- In-cab display for settings and system monitoring



**Groeneveld: a global player**

Since its foundation in 1971 in Gorinchem, Groeneveld Lubrication Solutions has developed into a global company with approximately 600 employees. Groeneveld has over 30 branches in more than 20 countries. In many countries, the company is also represented by independent distributors and dealers – all just as driven as our own organization to offer added value to the customer's company.

Groeneveld is looking forward being of service to you by installing and maintaining your systems. That is why it is good to know that Groeneveld has a global presence. Visit the Groeneveld website for the telephone numbers of the Groeneveld branches, distributors and service dealers.



**Twin**  
Parallel lubrication system

Twin is a dual-line lubrication system offering the perfect solution for equipment such as wheel loaders and excavators that consume a lot of NLGI-2 grease in a short period of time. The system works with relatively low pressure, allowing for the preservation of the quality and structure of the grease. The system also enables very accurate metering at each lubrication point.



**Oilmaster**  
Always the correct level of oil

Groeneveld's oil management system ensures that the oil is always at an optimum level. Checking the oil level manually is a thing of the past. This does not only save time, but also ensures that there is never too little or too much oil in the engine, with all the costly and time-consuming consequences. The system is applied in numerous sectors throughout the world.



**Greensight**  
Safety system

Greensight is available as an obstacle detection system, as a camera system and as a combination of both. The implementation of ultrasound allows the system to detect obstacles in pre-set zones very accurately. The system can be expanded with additional sensors and smart alarm. The camera system offers an optimal view under all conditions.