



*World class  
equipment  
deserves world  
class lubrication*

## TriPlus progressive lubrication

### **Complex and heavy-duty applications**

Automatic lubrication is more effective than manual lubrication. Because the machine or vehicle 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

TriPlus is a unique progressive lubrication system that offers three circuits that can be operated independently. It is the ultimate solution for machines that have different components requiring different amounts of lubrication, such as excavators, cement pumps or mixers and backhoe loaders.



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

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## Unique lubrication system

Like all of Groeneveld's refillable lubrication systems, the TriPlus also has a follower plate, to assure that the grease in the reservoir does not come into contact with the outside air, preventing ageing of the grease as a result of oxidation. In addition, the follower plate keeps the reservoir clean, so the grease level always remains visible.

Groeneveld does not simply provide a lubrication system, but provides a well thought-out solution for each specific application. Each application is documented in detail, with the system manual guaranteeing that the system can be set up expertly.

## Unique characteristics

The TriPlus is a progressive lubrication system with three lubrication circuits that can be programmed and operated independently. An ideal solution for backhoe loaders, for example, 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. Other examples are the undercarriage and crane assembly of a mobile excavator, or a truck chassis and a cement pump assembly.

The advantages of TriPlus at a glance:

- 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

## Controller

The controller is the core of the TriPlus. This electronic controller, with a real-time clock and memory, ensures that each lubrication circuit receives the exact amount of grease that has been programmed. These settings can always be adjusted to changing working conditions.



The in-cab display allows the operator or driver to check the system's operation easily. The comprehensive diagnosis indications make maintenance simple and allow remote assistance. The memory makes it very easy to assess the system's past functioning, such as the timely refilling of the grease reservoir.



## 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.

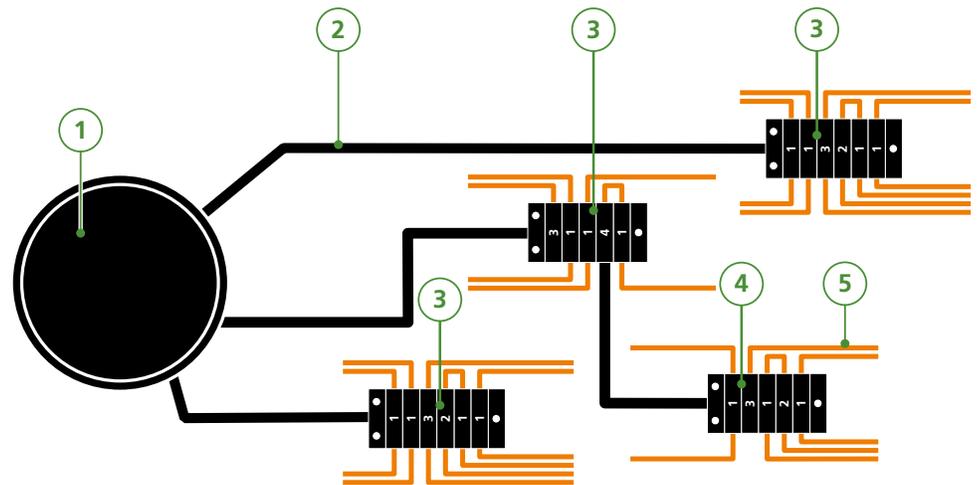
For its progressive systems, Groeneveld provides newly developed anti-corrosive divider blocks with a high quality zinc-nickel coating. This treatment withstands a 720-hour salt-spray test and thereby offers optimal protection against corrosion.



## System overview

The TriPlus lubrication system has three independent lubrication circuits and consists of the following main components:

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



## Groeneveld and quality



Experienced, expert and well-trained technicians, employed by Groeneveld or one of our partners, install the TriPlus 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.



**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.



**Service is only a phone call away!**



**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.