Advantages

Lubrication system for the wheel flange technology, which reduces the wear off (metal abrasion) of the sidewalls of the flange, so as the running surfaces of the wheel tires
and their support and the curve rails preferably during curve travel.
It also reduces noise pollution (hearable as screechy sounds) especially when travelling through curves with particularly small radii.

With its use in practice it is possible to raise the laying time of the rails (in my evaluation around 30%) and the life of the flanges of the wheel tires on the heavily stressed first axle, measured by the mileage (in my evaluation by 60 - 80%).
In addition, the risk of derailment drops.

Due to repeated slide occurrences in form of temporary exceedances of the friction coefficient, the different ways between inside and outside running wheel, especially on a rigid wheel set axle are corrected during cornering. With this lubrication system this direct wear off is effectively reduced.
Therefore the constant torsion of the wheel set axis between the wheel discs are vitally decomposed, which is the main reason for axle fractures and loose interference fittings between the hubs of the wheel discs on the wheel set axis.

This modernly concepted lubrication system used with suitable lubricator will meet your high standards as operator concerning practical usage, which are:
- no significant residue on parts e.g. brakes or running surfaces on the bogie due to thrown off lubricator.
- low usage of lubricator due to load-dependent lubrication
- no cloggings and depositions in the system (bleeding of the medium)
- maintenance-free design with long maintenance intervals
- system functions in a wide temperature span and under rough conditions
- eco-friendly due to minimal usage
- easy fitting and upgrading to the rolling stock

The medium is a biodegradable lubricator based on ester with/without a solid graphite percentage (20%). It is brought directly to the sidewalls by electromagnetic valve nozzles at an operating temperature of 70°C and an operating pressure of 24 bar.
In this case the hydraulic self-fastening hose has an inside/outside diametre of IS 6.3 mm / OS 12 mm.
The length of the closed circular pipeline is 15 m and the nozzle diameter measures 0.3 mm.

Substantial advantages in practice are:
- minimization of step levelling on the sidewalls of the rails
- minimization of cavities on the running surfaces of the wheels
- reduction of axial thrust by lubricating the rail head running surface and substantial wear off reduction possible
- filling of coarsenesses on wheel and rail with solid percentages (graphite)
- achieved smoothing effect – the coarseness on wheel and rail decreases quickly
- during the sedimentation processes of lubricator, lubricator fillings occur in the coarsenesses in the sliding and running surfaces, whereby very good sliding properties and in connection also good reduction of wear offs and noise pollution between wheel and rail are achieved.
- sufficient lubricating required to actual needs during full curve passage
- continual lubrication throughout the whole curve area possible
- application of lubricator depending on wheel speed on the gauge exactness sidewall respectivly the inside micrometre sidewall. This way an excess with uncontrolled throwing off of lubricator or too little lubrication is eliminated from the start.
- constant mixing of the available lubricator and the solid percentage with no sedimentation within the lubrication system
- system grants seasonal independent perfection in the planned outside temperature range in Winter -30°C to +40°C in Summer
- optimal lubricator temperature all the time
- warming of the mechanism of the valve nozzles
- no freezing of the valve nozzles
- constant operational readiness of the valve nozzles under low system pressure (5-8 bar) at 70°C
- by constantly heating the tank, the lubrication system stays free of freeze and as a result - without the problems which would occur and would lead to a complete failure of the system
- constantly optimal operating pressure
- constantly optimal viscosity of the medium (thickness, ensured fluidity)
- circular volume flow in closed heated system, is nearly thermally separated from the outside temperatures

- avoidance of heat loss by using suitable isolating materials on steel tank
- simple designed, functional components
- two-stage running lubrication system works very energy-efficient and has a high efficiency factor
- tank system is a compact designed weldment
- outside the tank system are only few components for economic and thermal reasons