ESA® Electronic Track Lubricating Device
Reduce wear as well as noise
Reduced Wear and Noise

Wheel flanges and rails are affected by an increased wear that creates considerable noise especially when passing points and curves. A very precise lubrication of the running surfaces, and/or the leading edge and sometimes even direct wetting of the rail head can quickly and reliably resolve these problems.

Being a specialist in wheel-rail interface, L.B. Foster has developed an economical, effective and environmentally friendly system that provides a precise and reliable solution for the problem: The Electronic Track Lubricating Device – ESA®.

Effective System

The device consists of three modules that are configured according to a particular application and individual demands of our customers:

- Sensor station (1)
- Lubricating channels (2)
- Cabinet (3)

ESA® is able to apply the lubricant in an accurate dosage precisely to the desired surface, which can substantially reduce the wear on the wheel flanges, check rails, switch blades, stock rails and running rails.

Noise pollution can be almost completely eliminated.

In addition, the track bed and the vehicle remain free of excessive grease due to the precise dosing of the lubricant.

The ESA® Electronic Track Lubricating Device has been favoured by customers from wide-ranging fields already for nearly 20 years.
Easy refilling of the device

The ESA® can be equipped with standard fixed lubricant reservoirs of 10 - 25 kg that can be refilled alone by the operator himself. A combined installation of both lubricant supply methods is also possible.

The refillable lubricant reservoirs can be easily exchanged without losing any lubricant and without any dirt or air entering the system. Therefore, there is no risk of contamination of the lubricant which could otherwise cause system disruptions. Maintenance personnel do not come into contact with the lubricant. In order to extend the refill intervals, multi-tank systems can be installed. The lubricant can be stored in up to three refillable lubricant reservoirs that are connected in series and emptied independently of one another so that the maintenance intervals are not dependent on the overall filling level. Individual empty tanks can be exchanged even during track operation.

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No worries due to remote monitoring
For a small cost a remote performance monitoring device can be included, which allows all the information about the operating status to be displayed including the current fill level in the lubricant reservoirs. GSM modules and secure contact achieve a reliable data exchange.

Independent Power Supply
Depending on site conditions, the ESA® can be powered by 230 Volt AC, 24 Volt DC, interchangeable batteries or by renewable solar energy (24 / 12 Volt DC). With a voltage transformer it is also possible to use power from the overhead line.

Alternative Placement Possibilities on the Track
The device can be either installed off-track in a cabinet, or in the centre of the track in a box, which is placed in the ground.

Free choice of a lubricant due flexible pump technology
There are different types of pumps available, e.g. gear pump or piston pump, which means that essentially any type of a lubricant can be used - even lubricants with high solids content. The ESA® allows tested lubricants from various producers to be used.

Vehicle detection
A wide variety of sensor types can be used for vehicle detection. The signal for the PLC to initiate the lubrication process, can be activated by an ultrasonic or contactless overhead line sensor, or by a signal from the point controller. Alternatively, the signal can be also activated by the wheels travelling through points.

Advantages:
> Saving costs due to minimising wear
> Noise reduction, particularly in tight curves
> Individual customisation of the system according to your requirements
> Optimum lubrication with minimal use of a lubricant due to the PLC
> Power supply possible via grid, batteries or overhead line using a voltage transformer or solar panels
> Free choice of different lubricants

Solutions for all Profiles

Arrangement of lubricating channels on a Vignol rail profile
Arrangement of lubricating bar on a Vignol rail profile
Arrangement of lubricating channels on a grooved rail profile

The ESA® track lubricating device can be used with all standard and all grooved rail profiles.
Both lubricating channels and lubricating bars can be used on Vignol rail.
On grooved rail, lubricating channels are created using a special drilling technique. The channels can be positioned individually on the gauge corner or on the top-of-rail.

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