

Combined Lubrication & Heating System (CLHS)



Mashinostroitel Group's Combined Lubrication & Heating System (CLHS) is the world's first combined railroad switch lubrication & heating solution. CLHS is the answer to multiple problems occurring when maintaining railroad switches. Automatic rail heating system is an efficient and safe way to clear railroad switches from ice and snow in winter season, while effective use of rail lubrication significantly reduces wear on the switches providing longer lifespan.

Combining these two systems into one result in lower capital investments when installing the system and reduced operational costs.

Automatic railroad switch heating system is the best solution to keep railroad switches clear of ice and snow during winter season. CLHS is equipped with smart heating control system that provides a proactive response to the changing weather conditions based on the data from on-board weather station and live weather forecast updates over the Internet. It decreases the risk of train delays, compared to rail terminals equipped with less advanced rail heating solutions or using maintenance crews for manual clearing that react only after switches are already covered with ice or snow.

Effective use of rail lubrication significantly increases the lifespan of railroad switches, which in turn provides cost savings. Lubrication system is equipped with a high-pressure pump that ensures lubricant delivery even in the harshest climate conditions, preventing dirt and snow from clogging delivery channels. Progressive meter allows for even flow of lubricant through each of twelve lubrication channels, thus allowing for even distribution of lubricant along the gauge face.



CLHS system in operation on Nanhchul station, Krasnoyarsk Railroad, Russia



Lubrication bars

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Technical specifications

Lubricant supply pressure (operational)	20 bars
Lubricant supply pressure (maximum)	350 bars
Quantity of lubricant in one ejection	0.8 cm ³
Capacity of a lubricant tank	up to 50 kg (other on request)
Operational temperatures (Lubrication)	from -40°C to +40°C
Power usage of the heating system	250 - 500 W/m
Water and dust resistance level	IP67

Maintenance

CLHS can be equipped with remote control & monitoring system that allows to remotely modify settings for lubrication and heating systems and receive technical reports from multiple CLHS units in a centralized control center. Technical reports include information from self-diagnostics system, lubricant level, battery charge and operational reports. CLHS has lower maintenance costs, when compared to separate lubrication and heating systems, since control and connectivity systems are shared between lubrication and heating and there is no need for a separate power supply for the lubrication system.

Design & Installation

CLHS is a modular system and can be installed in any configuration of heating cables and lubrication devices. This makes it easy to scale the system for rail terminal, yard or station of any size and of any intensity of the rail traffic. CLHS is available with a choice of two types of lubrication devices for heavier and lighter train load, based on RSL and SPR lubrication systems respectively. Both types of lubrication systems can be a part of a single CLHS unit, providing well optimized solution in every project. Rail heating system can be integrated with already installed compatible lubrication system.