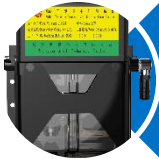


AUTOL Automatic Lubrication System Solutions for – Mining Application

Presented by Lubmann GmbH –
AUTOL Representative in Europe



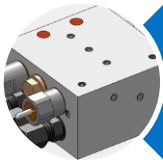
AUTOL Profile



AUTOL Automatic Lubrication System for Multi-Application



AUTOL Solution for Mining Application



Service Supporting and Delivery

AUTOL Profile



A World Leading Brand in Automatic Lubrication Industry

No.1 ALS Brand in China

Autol is the No.1 brand of automatic lubrication system manufacturer in China with annual production capacity up to 200,000 units.

More Than 500,000 Units worldwide are in Service

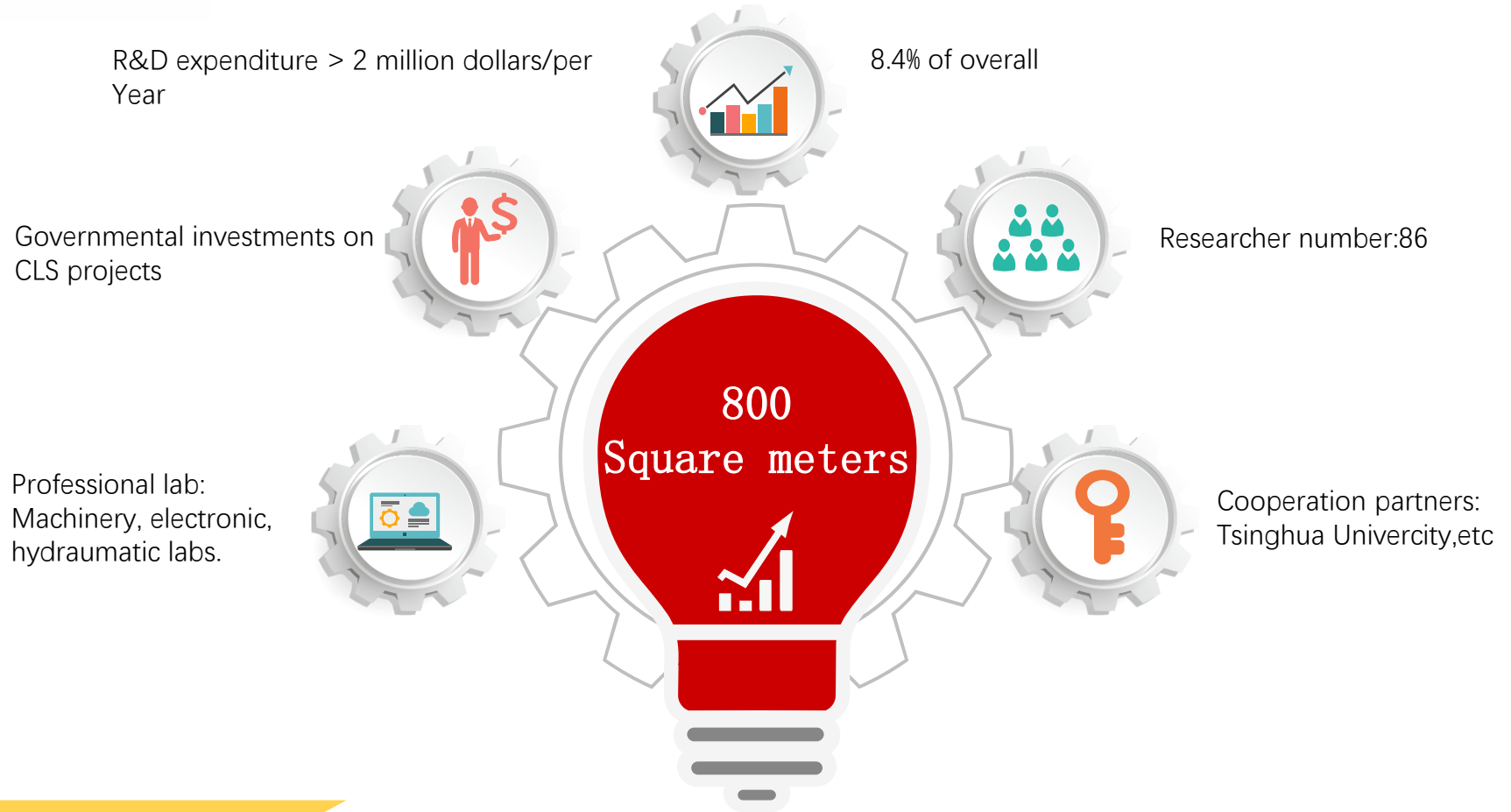
Up to now, more than 500,000 units of AUTOL lubrication equipment are in service, which are widely distributed in commercial vehicles, wind power, construction machinery and so on.

We Export Products More Than 40 Countries and Regions

AUTOL exports products to more than 40 countries and regions and has more than 20 dealers out of China. AUTOL has set up Lubmann GmbH in Germany to accelerate its development of globalization.

- Commercial Vehicles
- Construction Machinery
- Wind Power
- Port Machinery
- Steel Mill
- Mining Machinery







AUTOL Automatic Lubrication System for Multi-Application



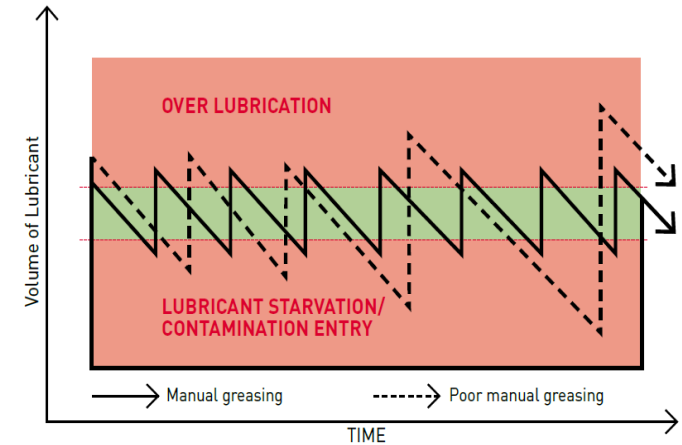
- **Interval:** long and irregular.
- **Grease used:** too much per time and easy to degrade.
- **Friction pairs:** either grease excess or grease starvation.
- **Manual labor:** intensive and uncontrollable.
- **External dirt:** easy to enter into lube points.
- **Operation time:** machines stop.
- **Point location:** some are not easy to access.

Results

- **Components' life:** greatly shortened.
- **Downtime:** unavoidable.
- **Environment:** polluted for excess grease.
- **Lubrication effect:** no guarantee.

Waste time, waste grease, waste labor, and shorten components' service life.

Manual Greasing



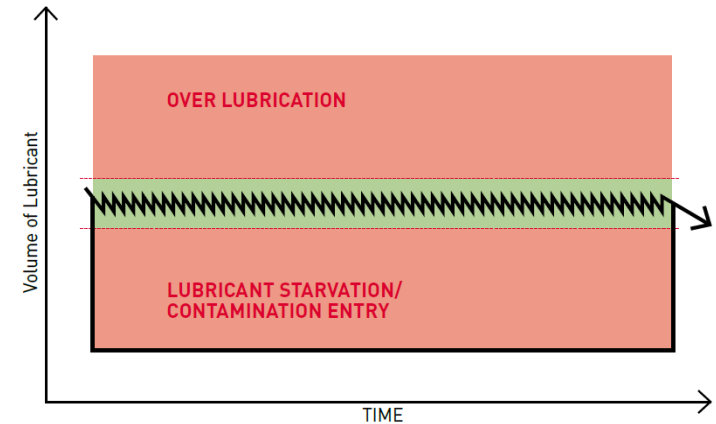
- **Interval:** short and regular.
- **Grease used:** as required every time, fresh and clean.
- **Friction pairs :** under adequate grease condition.
- **Manual labor:** save 95%, and actual effect is guaranteed.
- **External dirt:** a closed system, no dirt entrance.
- **Operation time:** the machine is running.
- **Point location:** regardless of location or ease of access

Results

- **Components' life:** greatly extended.
- **Downtime:** greatly reduced
- **Environment:** protected.
- **Lubrication effect:** guarantee.
- **Investment:** returned quickly

Save time, save grease, save labor, reduce maintenance cost.

Automatic Greasing



Overview of Automatic Lubrication Systems

System	Feature	Application
Progressive	The most popular system; Well known by customers and service partners; High price-performance rate system for NLGI 2 (max. distance 25 Meter); Discharge into greasing points one by one (progressively).	Mining Industry, Construction Machinery, Railway, Windmill, Port Machine, Agriculture Machine etc.
Single Line Pressurized	High price-performance rate system for NLGI 0; Discharge into greasing points simultaneously	Mining Industry, Commercial Vehicle, Food Industry etc.
Single Line	High Performance System for NLGI 2 (max. distance 10 Meter); Discharged into greasing points simultaneously	Windmill
Dual Line	High Performance System for NLGI 2 (max. distance 40 Meter); Discharged into greasing points simultaneously	Mining Industry, Construction Machinery, Steel mill, Windmill etc.

Overview of Other Lubrication Systems or Devices

Single Point System – Electrical single point pump with refillable cartridge

Grease Refilling Device – Manual/electrical greasing refilling devices/pumps

Grease Exchanging System – Keep the grease flow circulation of the bearing in good condition

Smart Lubrication Monitoring – Online/Offline status detection, data Integration/Analysis/Diagnosing

More Specifications for the Pumps, Distributors and other components please check the product brochure of AUTOL.

AUTOL Solution for Mining Application



Overview

Grease pump delivers grease alternatively into each lube points through progressive distributors.

Components

Piston pump: 1 piece (Progressive, Plunger)

Primary distributor: 1 piece (Block Type/Progressive)

Secondary distributor: Optional (Block Type/Progressive)

Monitor: Integrated in Pump

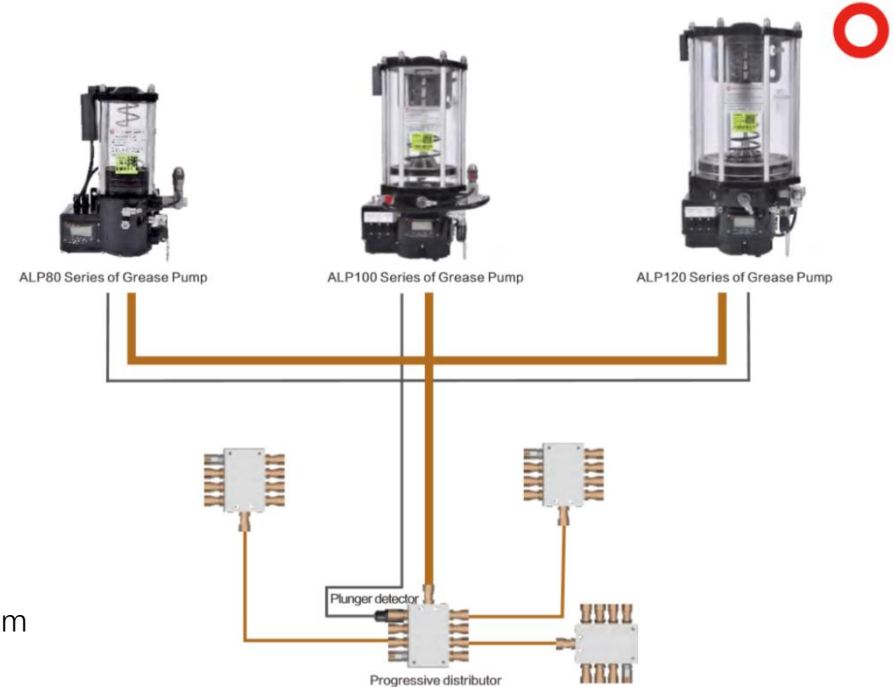
Indicator Rod: 1 piece optional

Pressure Sensor: 1 piece optional

Flowrate Sensor: Optional for important greasing points

Accessories: Hoses and Fittings for connecting the whole system

More Specifications for the Pumps, Distributors and other components please check the product brochure of AUTOL.



System Overview of AUTOL (Progressive)

Automatic Lubrication Systems for
Commercial Vehicles

AUTOL Solutions with Progressive System

For Mining Machinery: Excavator, Wheel Loader, Grader, Screener, etc.



Overview

It is a parallel single-line centralized lubrication system. The system may increase the grease suction performance of the grease pump and grease filling performance of the distributor and could solve the difficult problem that grease is accumulated on the tank bottom

Components

Piston pump: 1 piece (Single Line, Gear Pump)

Distributor in Series: Optional (Rack Type/Single Line Pressurized)

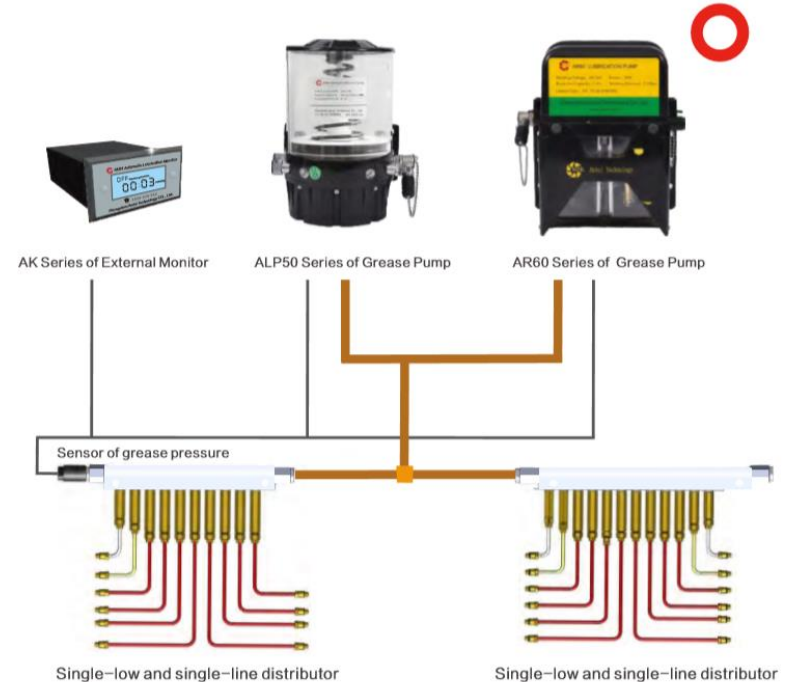
Monitor: External, Can be integrated in CAN Bus

Pressure Sensor: 1 piece optional

Flowrate Sensor: Optional for important greasing points

Accessories: Hoses and Fittings for connecting the whole system

More Specifications for the Pumps, Distributors and other components please check the product brochure of AUTOL.



System Overview of AUTOL (Pressurized Single Line)

AUTOL Solutions with Progressive System

For Mining Machinery: Trucks etc.

AUTOL supplies **over 5,000 Mining Trucks** in Chinese Market per year with our OEM partner like YUTONG, BYD, etc.



Overview (Most Reliable System)

The Dual Line System has many kinds of connection depends on the application. The distributors can be applied in Series, parallel or Series/parallel mixed.

Components

Piston pump: 1 piece (Dual Line)

Primary distributor: 1 piece (Block Type/Dual Line or Progressive)

Secondary distributor: Optional (Block Type/Progressive or Dual Line)

Monitor: Integrated in Pump

Indicator Rod: 1 piece optional

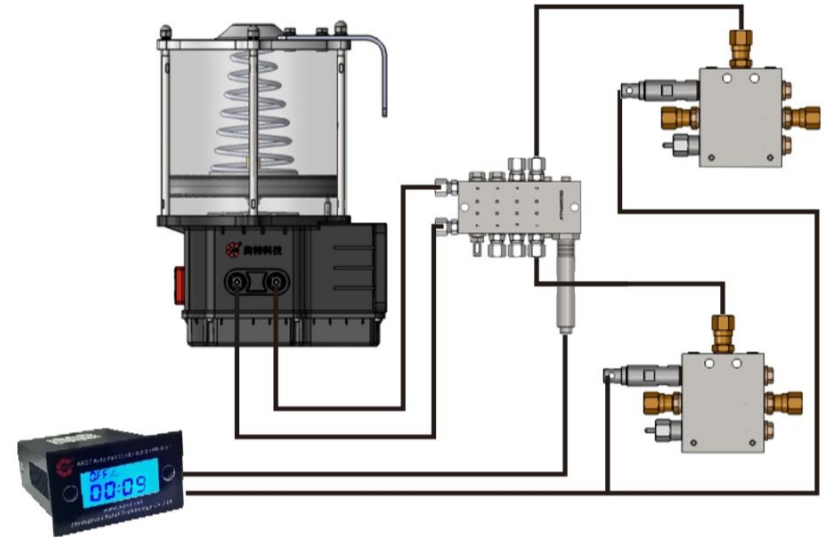
Pressure Sensor: 1 piece optional

Flowrate Sensor: Optional for important greasing points

Smart Lubrication Monitoring System: optional

Accessories: Hoses and Fittings for connecting the whole system

More Specifications for the Pumps, Distributors and other components please check the product brochure of AUTOL.



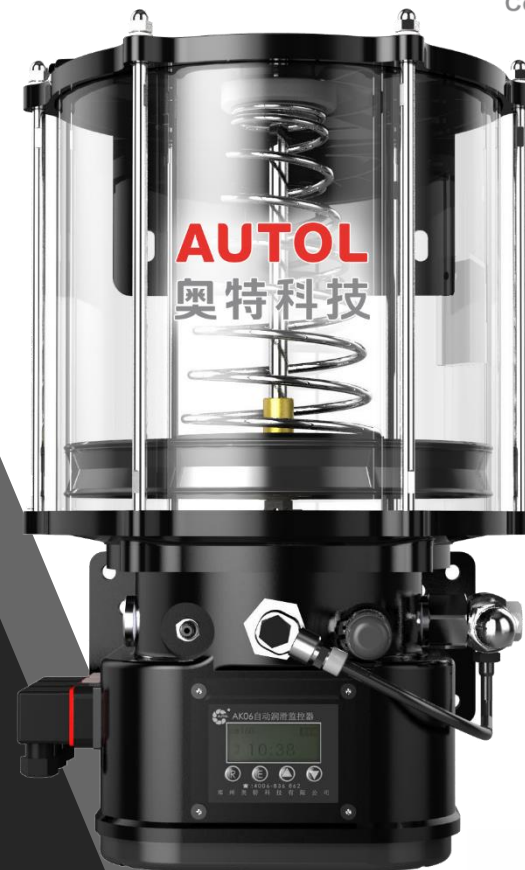
System Overview of AUTOL (Dual Line)

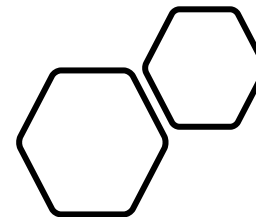
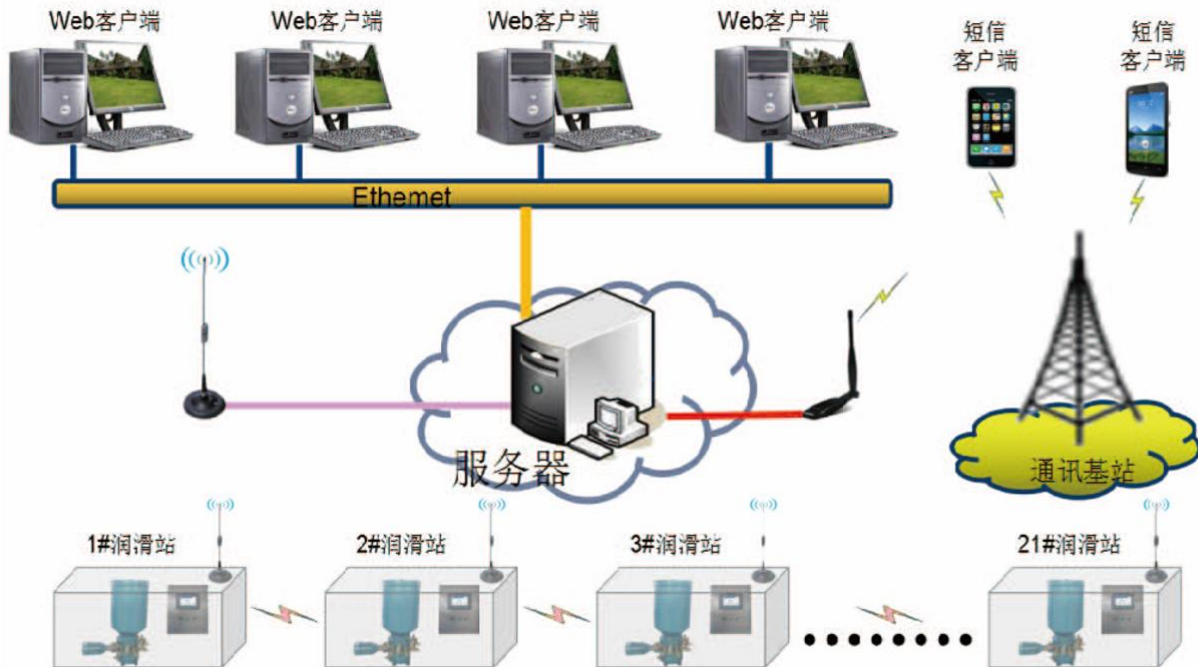
AUTOL Solutions with Dual Line System

For Mining Machinery: Steel Mill, Mining/Industry plant, Conveyor, Huge Trucks, Huge Machinery which has long distance, etc.



Automatic Lubrication Systems for
Commercial Vehicles

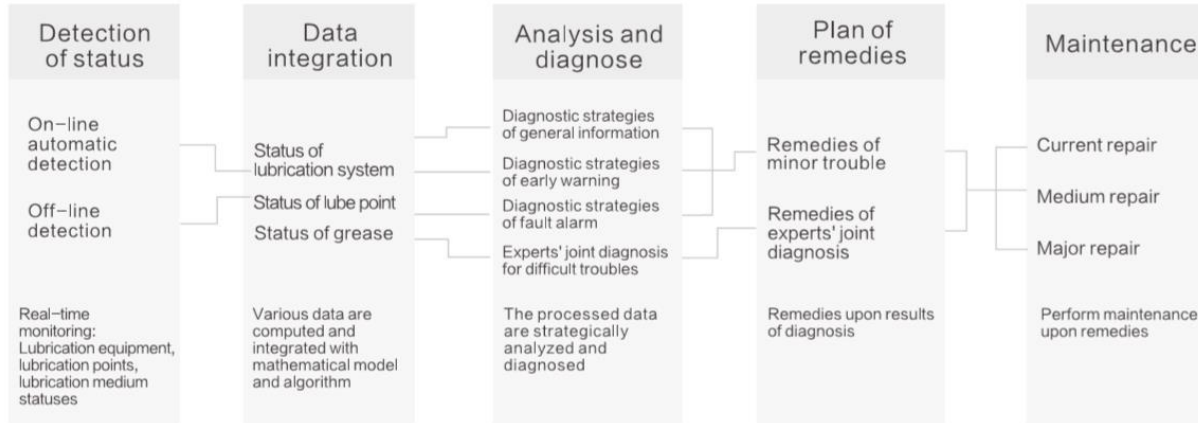




System consists:

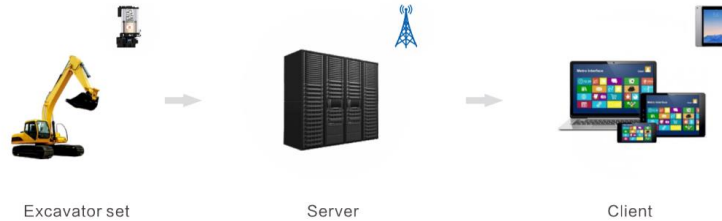
- Central Server
- Wireless transmitter and Receiver
- Web Terminal
- Info Server
- Lubrication Station
- Mobile Terminal

Health Management Business Mode



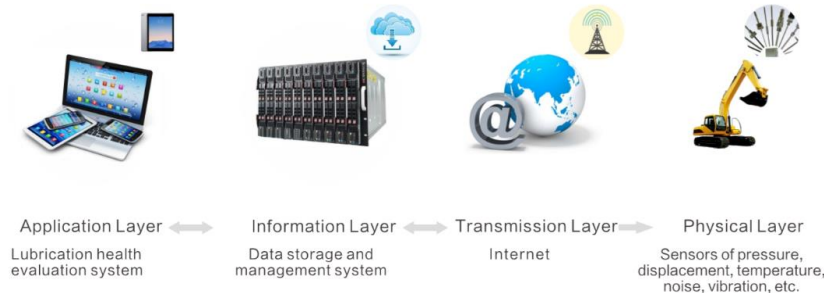
[ATL 3000 Intelligent Lubrication System Video](#)

Wireless Remote Monitoring System



Note: It is active when the mobile phone signal (3G/4G) is available under fibre-optical network conditions.

Equipment Health Management System

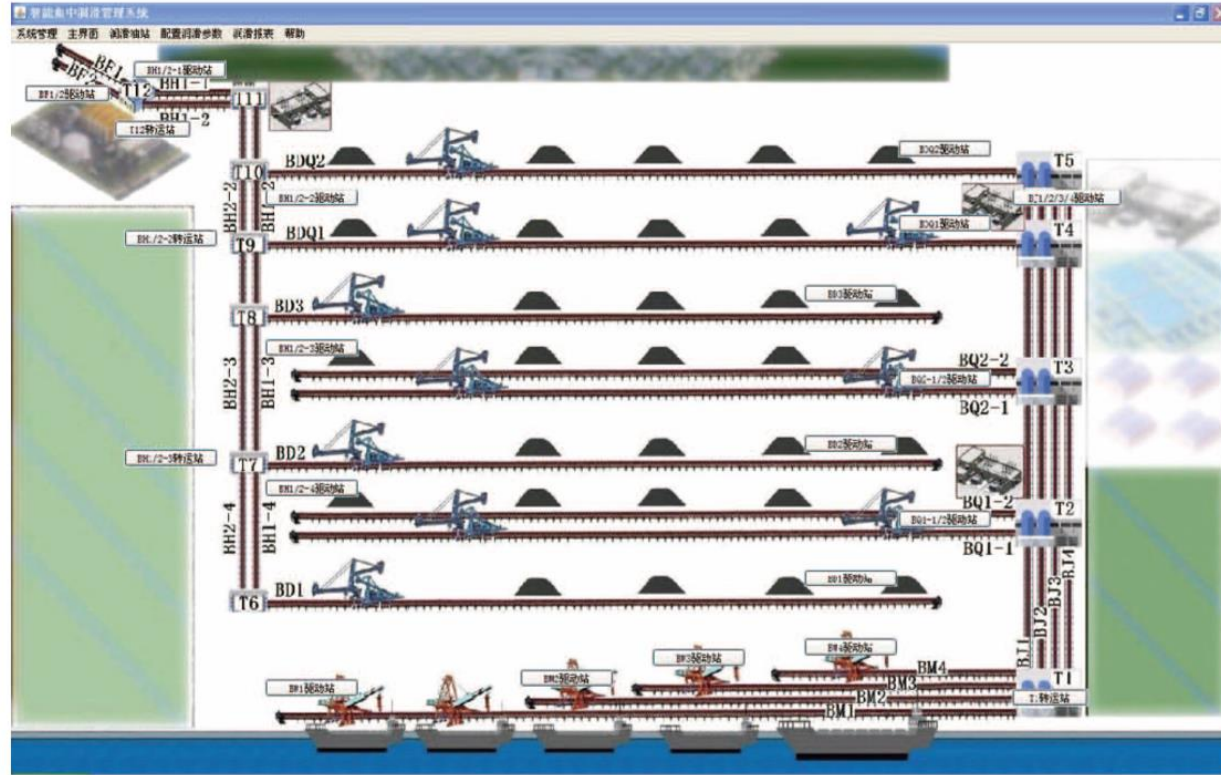


Note: It is active when the mobile phone signal (3G/4G) is available under fibre-optical network conditions.

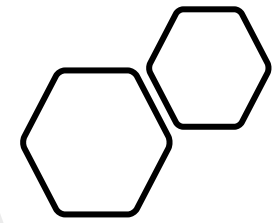
System components and advantages

The system consists of centralized lubrication system server, wireless receiver-transmitter, Web client, centralized lubrication system, SMS service, and smart mobile phone client.

1. It supports mobile phone SMS inquiry function to know lubrication conditions at lube points whenever and wherever possible.
2. The Web client allows for checking operating conditions of the whole lubrication system, user management, lubrication parameters, and lubrication report.
3. Application of modern networking technology to network the distributed lube points. The personnel responsible for management and maintenance may know the lubrication operating conditions whenever possible.
4. The wireless remote monitoring system allows for checking lube points information on faults, without troubleshooting point by point, with less labor intensity of maintenance personnel.
5. The level information of every set of lubrication system and the operating condition of every distributor may be checked in a timely manner.
6. With the wireless remote monitoring system, the lubrication parameters of lube points can be set and checked.

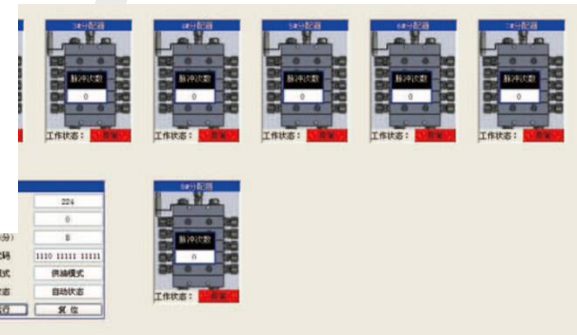


Lubrication Interface for Web Terminal





Each secondary hose/important greasing point can be monitored by a flowrate sensor amounted on the distributor box or a greasing point (by left click on the distributor).



Technical Supporting and Delivery

Technical & Supporting Staff



Technical Supporting from AUTOL to Customers

1. **Presentation and Consultance with Products** for ALS
2. Specification and System Layout/ Dimensions of ALS for the Application
3. **DEU/ENG/FRA/PL language Instruction Manual** for the System
4. **Certifications** which have been mentioned by customers or dealers for the System
5. **Material List of the System and Spare parts List**
6. Delivery Time (**Normally 15 days after the payment of the order**) and special conditions for the orders

十年奥特 智造十年

AUTOL
MORE THAN CLS

Automatic Lubrication Systems for
Commercial Vehicles

LUBMANN
Centralized Lubrication System

Thank you for Watching!

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