众城科技
Zhongcheng Technology

Zhongcheng Technology
Wind power product manual

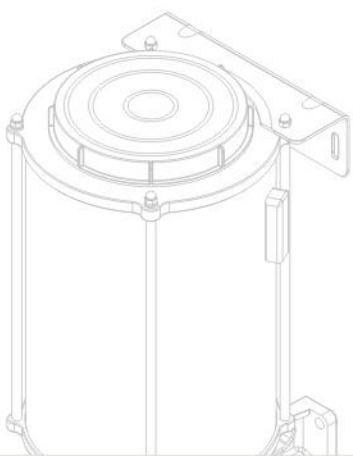
Intelligent lubrication system solutions leader

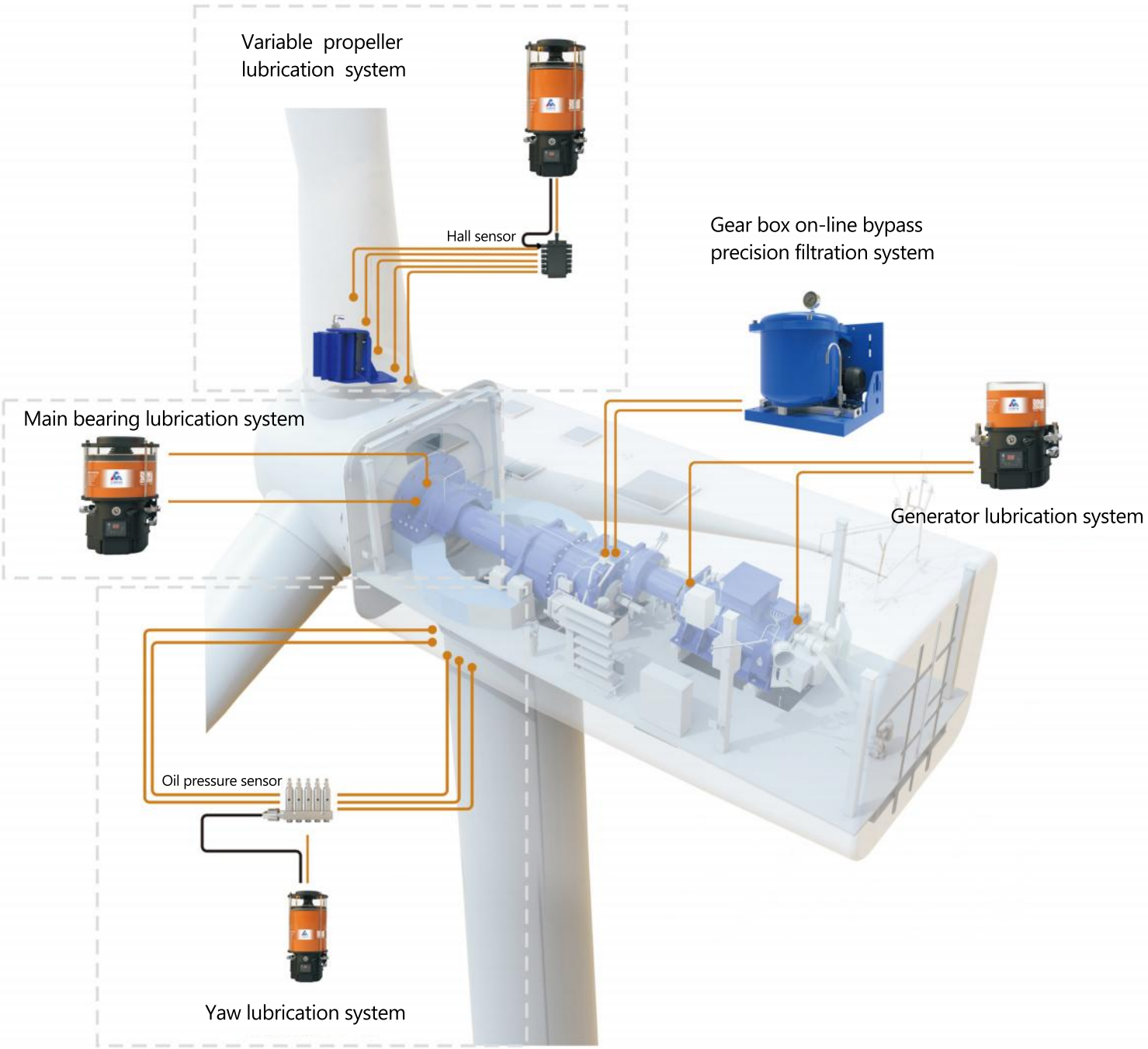
Devoted to forging a global superior lubrication system & solution provider!

Zhongcheng Lubrication Technology Co., Ltd., located at No.88 Yugong Road, Economic Development Zone, Zhengzhou city, is a high-tech enterprise committed to the research and development, production, sales and technical services of centralized lubrication system.

The main line of business: the development and application of centralized lubrication system, applicable to commercial vehicles, construction machinery, wind power generation, machine tools, industrial production lines, machinery and equipment in mining, metallurgy, ports, agriculture, food and other fields.

Closely aware of the market demand and aspiration, we have remained market-oriented and customer-centered, seeking to be a world-class lubrication system & solution provider.




Variable propeller lubrication system
Hall sensor
Gear box on-line bypass precision filtration system
Main bearing lubrication system
Generator lubrication system
Oil pressure sensor
Yaw lubrication system

ZCE5X Single line centralized Lubrication System

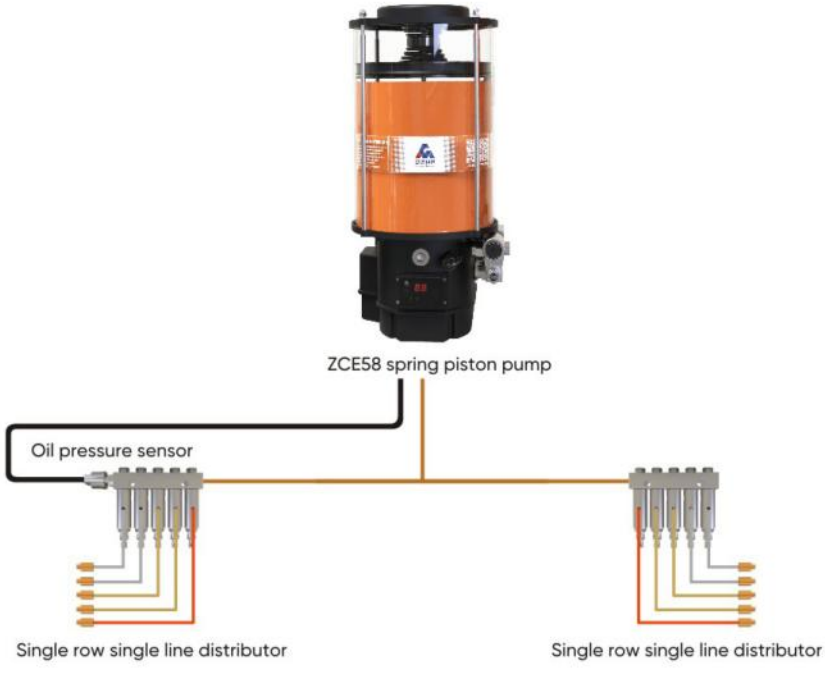
Zhongcheng technology single line centralized lubrication system by electric lubrication pump, control system, single line lubricator, pipeline accessories, etc. Its characteristic is that under the action of pump pressure, the lubricant is transported to each lubrication point by the single line oiler.

Application field

Suitable for wind power generation, construction machinery, commercial vehicles, machine tools, industrial production lines and mining, metallurgy, port, agriculture, food and other machinery and equipment.

Suitable for oils and fats

NLGI-0、1、2



Intelligence

- ★ Real-time monitoring of system pressure, liquid level, temperature and distributor working state
- ★ Intelligent monitoring of system anomalies
- ★ Fat deficiency warning
- ★ Adjust fat content adaptively with ambient temperature

Reliable

- ★ High strength cast aluminum pump body, stable and reliable structure
- ★ Innovative pump core design, higher pressure
- ★ Pump core material strength and matching accuracy leading the industry, more durable

Convenient

- ★ Distributor parallel structure, adjustable displacement, combination of simple
- ★ Distributor is small in size and light in weight
- ★ Easy to install

ZCE5X Single line centralized Lubrication System

ZCE5X Single line plunger pump working principle

ZCE5X single-line plunger pump working principle: the controller controls the deceleration motor operation, the motor drive shaft pump core plunger reciprocating movement pump grease, the drive shaft at the same time impeller mixing grease, the controller at the same time through the control of the solenoid valve to achieve the oil circuit pressure and unloading. Equipped with spring piston, to ensure that the lubrication pump in rotation, tilting and other complex conditions are always in the state of oil pressure to the pump body, the pump core is not easy to evacuate, the pump oil capacity is stronger.

ZCE5X series single line plunger pump technical parameters

Model	Control mode	Volume	Amount of oil produced by the pump core	Output pressure	Power	Working noise	Applicable grease	Temperature acclimation	Protection class
ZCE55	Built-in/ external controller	4L	2mL/min	25MPa	60W	<45dB	NLGI-0、1、2	-40~80℃	IP67
ZCE58		8L	2.8mL/min						
ZCE515		15L	4ml/min						
ZCE520		20L	6L/min						
ZCE530		30L							

Advantages and Features

1 Excellent performance

Dc permanent magnet reducer motor with large torque and small current;
Low temperature performance, stable flow, better lubrication effect;
Innovative pump core design, higher pumping pressure.

2 Reliable

Transparent tank with composite material, grease adaptability, no cracking risk;
Solenoid valve and oil compartment operation, low failure rate;
Pump core material strength and matching accuracy, pump core long life.

3 Strong weather resistance

The anti-corrosion performance can meet various environmental requirements of onshore and offshore wind power;
Protection grade IP67, suitable for humid environment.

ZC5X Progressive Centralized Lubrication System

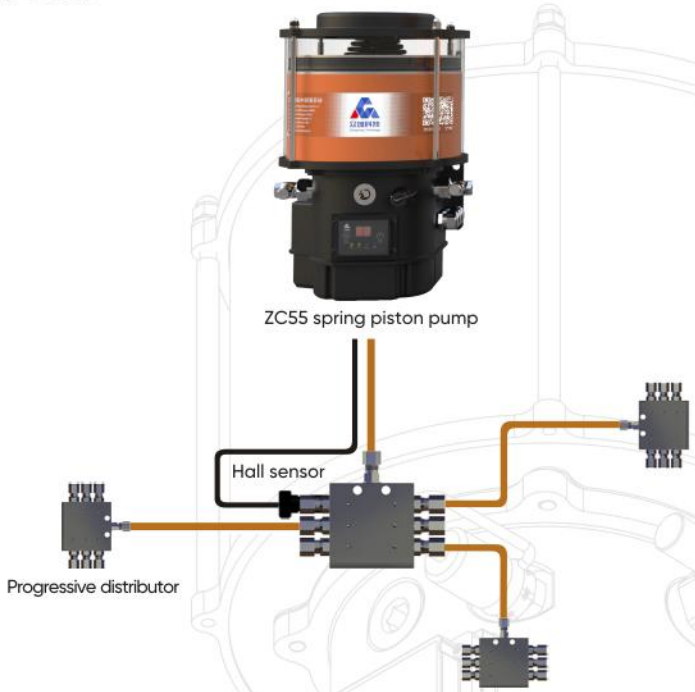
Zhongcheng Technology progressive centralized lubrication system consists of grease pump, controller, progressive distributor and pipeline accessories. Hall sensor and cycle indicator rod are set in the system to monitor each lubrication cycle, ensuring good equipment lubrication.

Applications:

commercial vehicles, construction machinery, wind power generation, machine tools, industrial production lines, machinery and equipment in mining, metallurgy, ports, agriculture, food and other fields.

Applicable grease:

NLGI-1#、0#、00#、000#



Features and Benefits

- Continuous operation realized, applicable to the working conditions consuming extensive grease;
- The system operating pressure reaches 30MPa, meeting the needs of long-distance grease pumping.
- Progressive operation of the distributor, lubricating all points one by one to ensure the timing and quantity of lubrication;
- Equipped with Hall sensor, the system can monitor the lubrication system operating state in real time;
- Innovative internal structure of the distributor, making it less likely to block, contributing to a prolonged service life;
- The displacement of the distributor is adjustable, satisfying various grease ratio needs at lubrication points.

ZC5X Progressive Centralized Lubrication System

Working Principle of ZC5X Plunger Pump

ZC5X electric lubricating pump: the controller controls the operation of DC permanent magnet deceleration motor, and the drive spindle drives the eccentric wheel to make the piston rod of plunger pump core reciprocate, thus realizing grease pumping. Meanwhile, the stirring rod assembly rotates 360° to stir the grease continuously, ensuring that the plunger pump core does not evacuate.

Technical parameters of ZC5X spring piston pump

Model	Control mode	Volume	Height	Output pressure	Power	Working noise	Adaptable grease	Adaptable temperature	Protection grade
ZC55	Built-in (digital tube monitor)	4L	2mL/min、2.8mL/min、4mL/min	30MPa	30W	<45dB	NLGI−0#、1#、2#	−40~80℃	IP67
ZC58		8L							
ZC515		15L							

Features of ZC5X Plunger Lubrication Pump

- Low noise, working noise < 45db;
- The grease pump motor adopts DC permanent magnet deceleration motor with high torque, low current and high reliability.
- The pump core made of high-strength alloy steel, features excellent wear resistance, with the maximum pumping pressure being 70MPa, meeting the 25-year service life requirement of wind power.
- The tank of grease pump is made of high-strength composite material, with high grease compatibility, temperature resistance and no cracking risk;
- The main body of the pump is made of high-strength aluminum alloy, light in weight, high in strength and excellent in temperature resistance;
- Lubrication pump protection grade IP67;

ZC7X Progressive Centralized Lubrication System

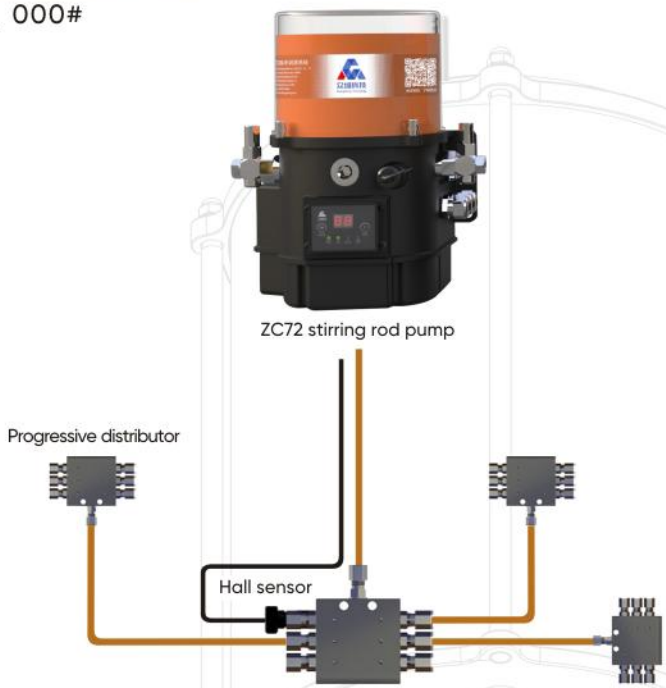
Zhongcheng Technology progressive centralized lubrication system consists of grease pump, controller, progressive distributor and pipeline accessories. Hall sensor and cycle indicator rod are set in the system to monitor each lubrication cycle, ensuring good equipment lubrication.

Applications:

commercial vehicles, construction machinery, wind power generation, machine tools, industrial production lines, machinery and equipment in mining, metallurgy, ports, agriculture, food and other fields.

Applicable grease:

NLGI-1#、0#、00#、000#



Features and Benefits

- Continuous operation realized, applicable to the working conditions consuming extensive grease;
- The system operating pressure reaches 30MPa, meeting the needs of long-distance grease pumping.
- Progressive operation of the distributor, lubricating all points one by one to ensure the timing and quantity of lubrication;
- Equipped with Hall sensor, the system can monitor the lubrication system operating state in real time;
- Innovative internal structure of the distributor, making it less likely to block, contributing to a prolonged service life;
- The displacement of the distributor is adjustable, satisfying various grease ratio needs at lubrication points.

ZC7X Progressive Centralized Lubrication System

Working Principle of ZC7X Plunger Pump

ZC5X electric lubricating pump: the controller controls the operation of DC permanent magnet deceleration motor, and the drive spindle drives the eccentric wheel to make the piston rod of plunger pump core reciprocate, thus realizing grease pumping. Meanwhile, the stirring rod assembly rotates 360° to stir the grease continuously, ensuring that the plunger pump core does not evacuate.

Technical parameters of ZC7X stirring rod pump

Model	Control mode	Volume	Height	Output pressure	Power	Working noise	Adaptable grease	Adaptable temperature	Protection grade
ZC72	Built-in (ECU LCD controller)	2L	2mL/min、2.8mL/min、4mL/min	30MPa	30W	<45dB	NLGI-0#、1#、2#	-40~80℃	IP67
ZC75		4L							
ZC78		8L							
ZC715		15L							

Features of ZC7X Plunger Lubrication Pump

- Low noise, working noise < 45db;
- The grease pump motor adopts DC permanent magnet deceleration motor with high torque, low current and high reliability.
- The pump core made of high-strength alloy steel, features excellent wear resistance, with the maximum pumping pressure being 70MPa, meeting the 25-year service life requirement of wind power.
- The tank of grease pump is made of high-strength composite material, with high grease compatibility, temperature resistance and no cracking risk;
- The main body of the pump is made of high-strength aluminum alloy, light in weight, high in strength and excellent in temperature resistance;
- Lubrication pump protection grade IP67;

ZL9X

Zhongcheng Technology

on-line bypass precision filtration system

ZL9X off-line filter system structure composition

1.Fine filter 2.Oil inlet 3.Oil outlet 4.Oil circuit block 5.Pressure gauge
6.Oil sampling port 7.Temperature sensor 8.Pressure sensor

Technical parameters of ZL9X off-line filter system

ZL9X off-line filtration system	System parameters	Overall dimensions	502*430*430
		Rated voltage	220/380V AC
		Design pressure	12 bar
		Rated flow	60 L/h，120L/h，240L/h
		Filtration accuracy	3 μm
		Amount of contamination	1.5L/4.0 L
		Water absorption	0.75L/2.0 L
		Filter element replacement pressure	3 bar
		Operating temperature	0℃-70℃
		Storage temperature	-40℃-80℃
		Use oil viscosity range	32cst-320cst
	Function parameter selection	Overvoltage protection	Switching quantity signal
		Temperature protection	Analog quantity signal
		Particle counter	485 Communications, CAN communications
		Flowmeter	Pulse signals

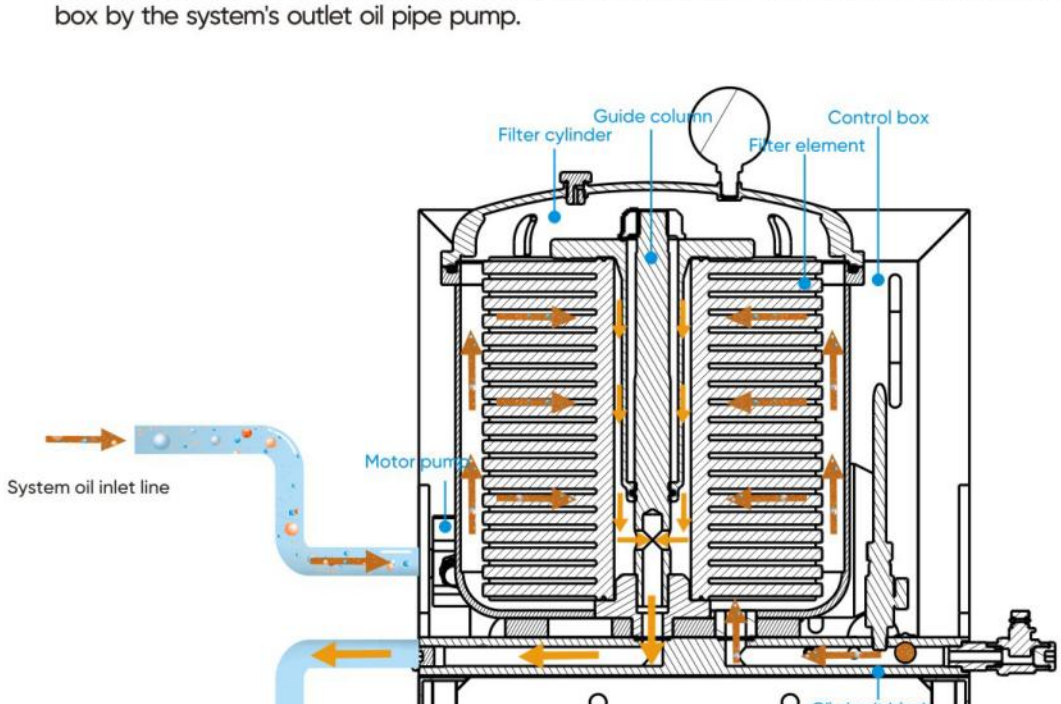
ZL9X

Zhongcheng Technology

on-line bypass precision filtration system

Working principle of ZL9X online bypass precision filtration system

ZL9X on-line bypass precision filtration system working principle: the control box controls the operation of the motor pump, The motor pump pumps the gearbox oil through the system inlet line to the oil circuit block, through the oil block pipeline into the filter cylinder, the oil inside the filter cartridge filtered into the filter core hole and through the guide column in the center of the filter cylinder out of the filter cylinder. Finally, the oil block is sent back to the interior of the gear box by the system's outlet oil pipe pump.



Advantages and characteristics

1 Excellent performance

Filtering accuracy ≤3μ m, good filtering effect;
The filter element has high contaminant capacity, good water absorption and wide range of oil viscosity.

2 Safety and stability

Bypass filtration, does not affect the operation of equipment;
Adopt integrated oil circuit, less fault points, high reliability;
Real-time monitoring of equipment operation and oil status, intelligent monitoring of system anomalies.

3 Convenient

Compact structure, small size, easy to install
Equipped with intelligent control and display system, easy to observe the working state.

Single-line dispenser

The single line distributor is suitable for the lubrication system with periodic oil supply of the main oil circuit. When the main oil circuit is pressurized, the grease in the chamber is discharged and the next oil storage is charged at the same time. In the main oil circuit pressure relief, through the spring return, for the next discharge oil storage.

Single line distributor exterior

Single line dispenser features

- Accurate metering, each lubrication point independent oil supply
- Displacement adjustable
- Visual mechanical discharge indicator
- Main oil circuit end pressure detection
- Easy installation and maintenance

Single line distributor technical parameters

Operating temperature	Storage temperature	Maximum pressure	Displacement	Applicable grease
-30℃~70℃	-45℃~80℃	25MPa	(0.3~1.3)mL/cy	NLGI-0、1、2

Lubricated pinion

The main material of lubricating pinion is polyurethane PU, which can lubricate the tooth surface of open gear, such as large rotary bearing or variable type bearing. The rolling of the lubricating pinion continuously greases the tooth surface, thereby reducing wear and providing anti-corrosion protection for the gear.

Lubricate the pinion profile

Lubricated pinion features

- Pinion matrix is made of polyurethane material, light weight, strong wear resistance
- Tooth surface contact directional oil feeding, no grease spatter, more accurate and efficient lubrication
- Multi-layer tooth surface oil, wide lubrication surface, more adequate lubrication

Lubrication pinion technical parameters

Operating temperature	Corrosion protection grade	Gear modulus	Gear width/mounting bracket
-40℃~80℃	C4H	8/10/12/14/16/20/22/24/26	Custom made to meet customer requirements

Progressive dispenser

The progressive dispenser is suitable for lubricating systems with a continuous supply of oil from the main circuit. During the continuous supply of oil from the main circuit, the grease is measured and the grease is accurately discharged in sequence.

Progressive distributor appearance

Progressive distributor features

- Precise metering and sequential lubrication
- Compact structure, high pressure resistance
- Oil outlet adjacent interworking, displacement ratio is flexible and diverse
- Visual mechanical cycle indicator
- Blocking alarm (optional)

Progressive distributor technical parameters

Operating temperature	Storage temperature	Maximum pressure	Displacement	Applicable grease
−30℃~70℃	−45℃~80℃	30MPa	0.2mL/cy	NLGI−0、1、2

Collecting bottle

Oil collecting bottle exterior

Technical parameters of oil collecting cylinder

Withstand temperature	Specifications	Volume
−40℃~80℃	Customized to meet customer requirements	250ml/500ml

Our value

☑Less maintenance and fault repair

☑Increased equipment operating time

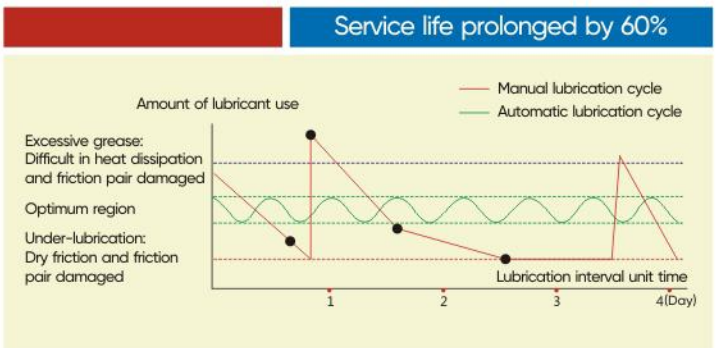
☑Reduced accessories cost

☑Improved operation efficiency

1 The service life of lubricating parts prolonged by over 60%

Comparison between periodic manual lubrication and automatic lubrication:

The traditional manual lubrication features less controllable grease injection amount, with leaking grease nozzle, leaving dust and other dirt easily brought into the friction pair to aggravate the wear and tear; On the contrary, the circuit of centralized lubrication system is fully enclosed, ensuring clean lubrication. Its "timing, quantitative and high frequency" features the service life of lubrication parts prolonged effectively by more than 60%.



2 Automation, 95% labor saved, safe production realized

Comparison between periodic manual lubrication and automatic lubrication:

Timing, fixed point and quantitative lubrication are realized during operation, saving labor by 95%; Personnel operation under complicated working conditions is reduced, ensuring the operation safety.

3 Energy-saving, grease saved by more than 83%

Comparison between periodic manual lubrication and automatic lubrication:

Traditional manual lubrication causes a lot of grease waste, while centralized lubrication system can ensure that all lubricating points obtain clean grease regularly, quantitatively and accurately, with the lubrication effect guaranteed, thus reducing the lubrication consumption by more than 83%.