Dual line system

User’s Guide

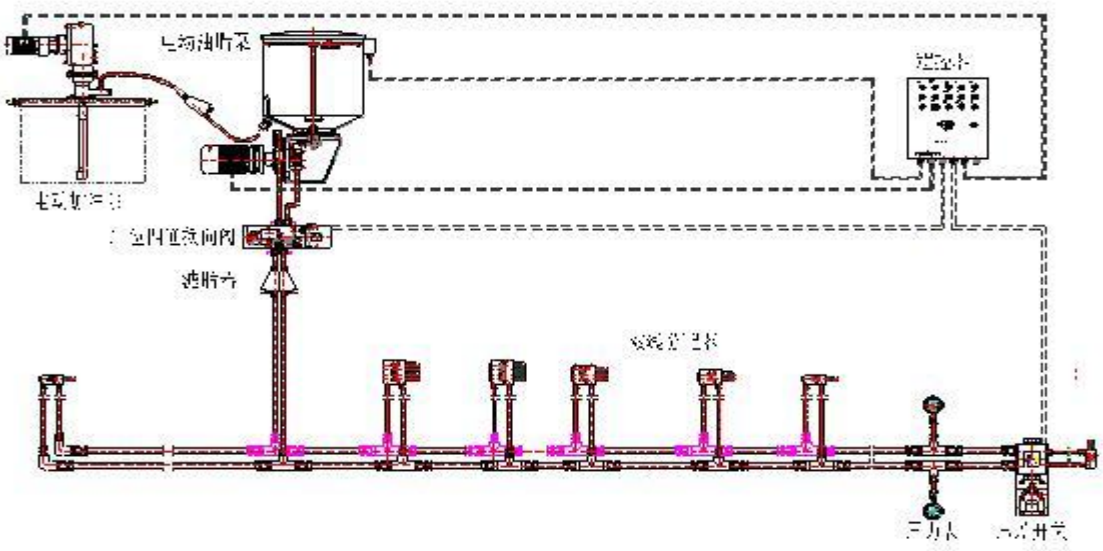
In General

HL dual grease pump can be used in dual line system and progressive system.

If the pump was used in dual line system, we'd better to install HL's grease pump in the center of the system. It can maximum to 1000 points. But the longest pipe to the pipe should be control below 100m

HL dual grease pump are widely used in steel industrial and cement industrial and large transmission machinery.

The pump can work together with different progressive blocks and other automatic control and monitor unit to make the system working reliable and safe.

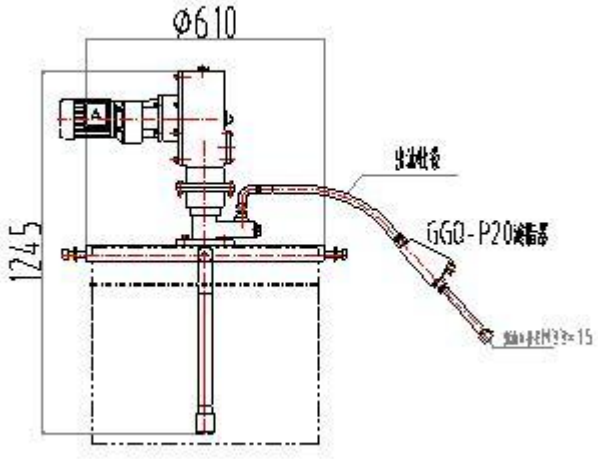


The system sketch

The dual line system are assemble by automatic filler and pump unit and 2/4 changed valve and dual-line distributor and pressure gauge and pipes and control unit.

HL-V70 automatic filler

The filler can detect the grease level automatically by level switch. When the grease downs to level switch, the control unit will start to operate to full the grease up to the top switch. The filler will stop.

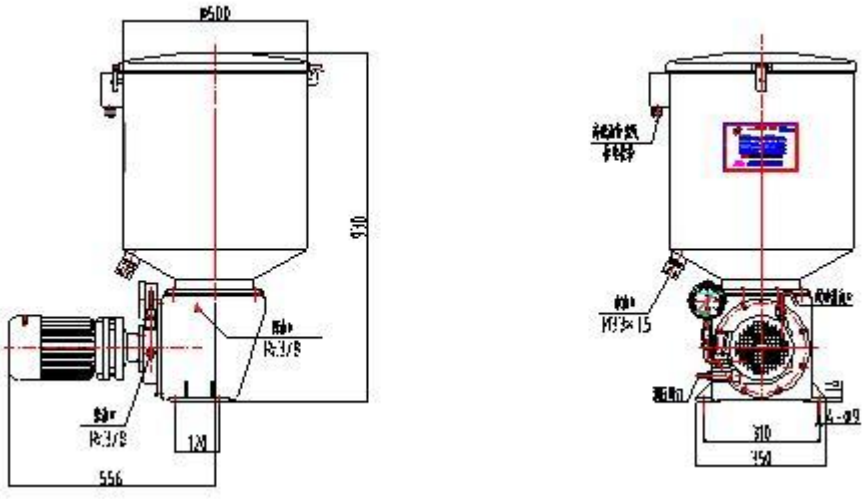


Main parameter

Pressure	discharge	Speed	Power	Lubrication Oil	Weight
31.5 Mpa	**70** L/h	**56** r/min	**0.37** kW	＞**N265**	**55** Kg

Electrical dual-line grease pump

Sketch of the pump



In general

HL dual line pump is a kind of high pressure dual-piston electrical pump. It's assembled via dual piston element and reservoir and driven by AC motor. The cam pushes reducer rotate and dual piston move correspond. The design of the construction is very special. It can work for the dual line system or progressive system with blocks.

You'd better to fix the pump in the central of the system. It can lubricated 1000 points and farest distance can up to 100m.

Main parameter

Pressure: Up to 40Mpa;

Discharge:120cm^3/min(80rpm);
235cm^3/min(160rpm);
365cm^3/min(250rpm);

Reservoir: 30L; 60L; 100L;

Working temperature: -20℃~+80℃;

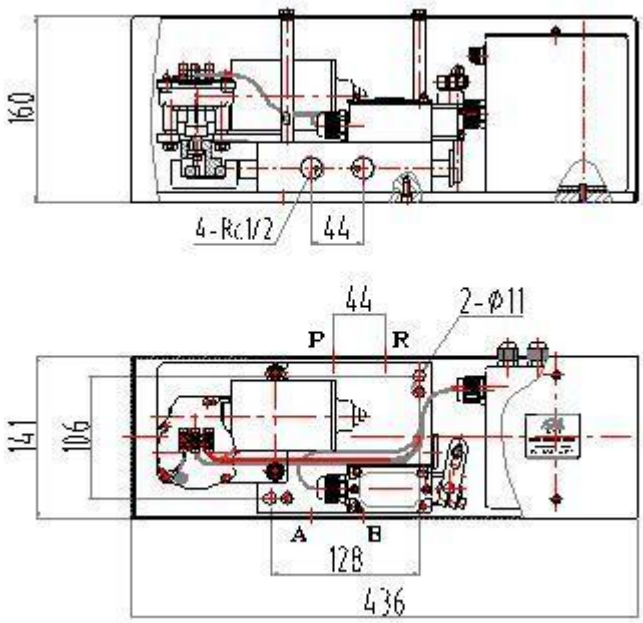
Viscosity: NLGI000#~2#;oil above 68#;

How to order

Model	Pressure	Discharge (ml/r)	Reservoir	Motor		Temperature (℃)	Wgt (kg)
				Power(kW)	Voltage(V)		
HL1-P120Z	40 (MPa)	120	30L	0.37	380	0~80	56
HL2-P120Z				0.75		-20~80	64
HL3-P120Z			60L	0.37		0~80	60
HL4-P120Z				0.75		-20~80	68
HL5-P235Z		235	30L	1.5		0~80	70
HL6-P235Z			60L				74
HL7-P235Z			100L				82
HL8-P365Z		365	60L				74
HL9-P365Z			100L				82
Package: 760mm*650mm*1300mm (wooden box)							

2/4 way changed valve

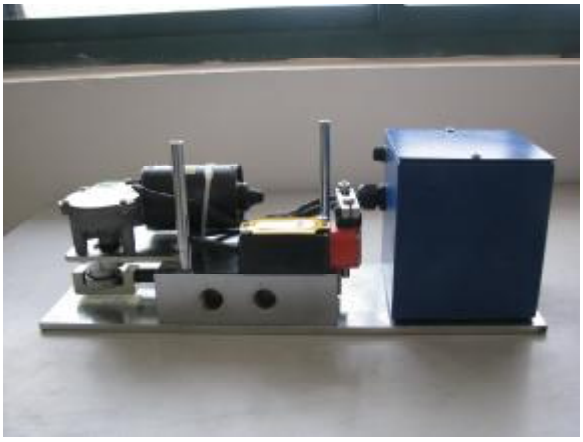
Sketch of the valve

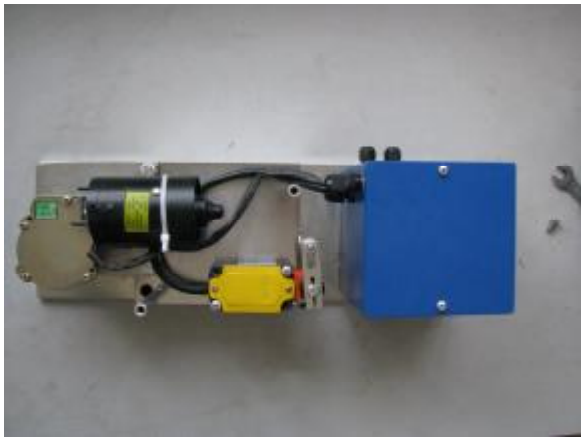


2/4 changed valve is used for the dual line system, it close and open the pipe to change the valve. The valve is driven by DC reducer motor with high torque. It can work at extremely harsh situation such as high viscosity grease and lower temperature and so on. The movement is very reliable. The piston can move very fast when the control unit get the changeable signal. The piston will move from one side to the other side.
The motor will stop when the piston reach the position switch.
The changeable process will finished.

Main parameter

Pressure	Working temperature	voltage	Motor	Time	Protection	Weight
40 MPa	-20～+80℃	220VAC, 24VDC	50 Kw	0.5 S	IP 54	13 Kg



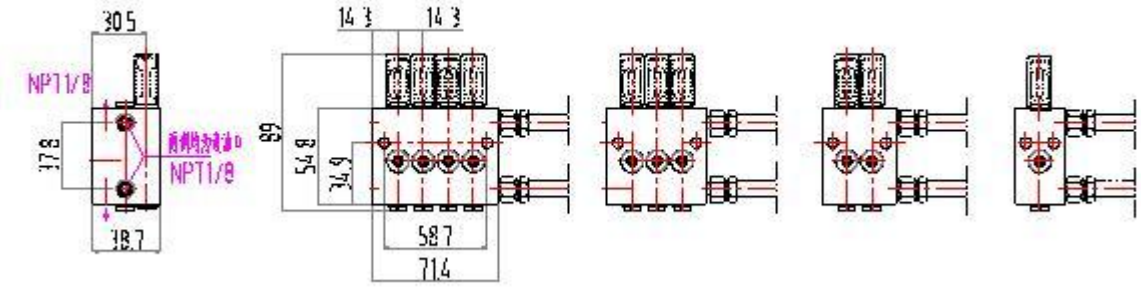


DD、DDM dual line block

DD、DDM is special design for the dual line system with grease or oil;

- **Discharge can be adjustable with indicator pin;**
- **Every DD block has two outlets on both side. Adjust the screw on the distributor to change the discharge**
- **4 pcs of DD type blocks can lubrication 8 points;**
- **Every DDM type blocks only has one outlet;**
- **Up to 4 pcs of blocks can assembled together as a unit on both type.**

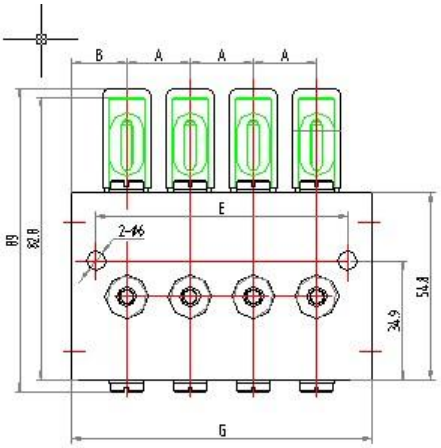
DD、DDM dual-line progressive block



Type	Partner number	outlet	size					stroke per cycle	discharge
			C	D	E	F	G		
DD	32802	2	54	34.9	15.9	89	28.6	0～0.589mL	0.032mL
	32804	4			30.2		42.9		
	32806	6			44.5		57.2		
	32808	8			58.7		71.4		
DDM	32701	1			15.9		28.6		
	32702	2			30.2		42.9		
	32703	3			44.5		57.2		
	32704	4			58.7		71.4		

Main parameter

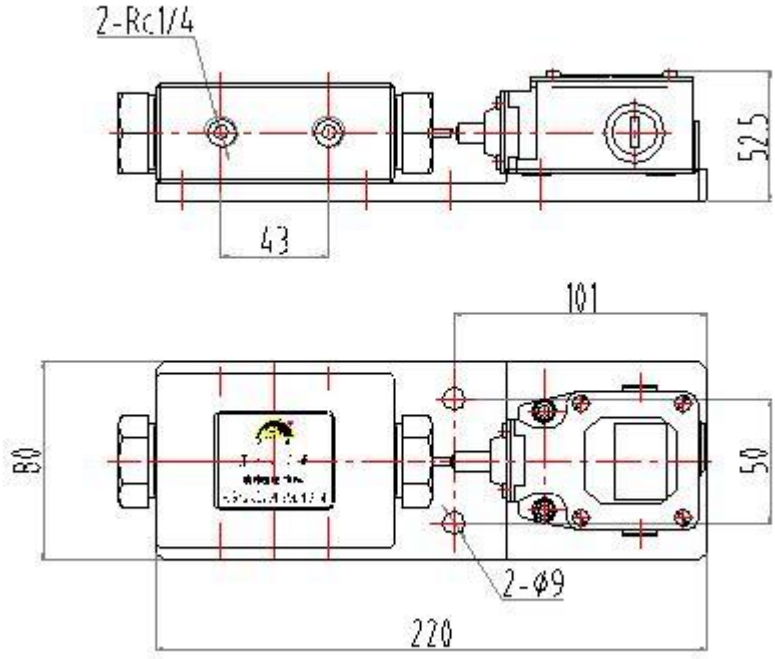
Pressure	Min. working pressure	Temperature	Viscosity
40 MPa	1.4 MPa	-20～+80℃	NLGI 000#～2#



Pressure switch

The pressure switch is fixed at the end of the system (before the last blocks).
It used to detect the pressure difference between the out and back pipes.
When the difference reaches 5Mpa, the pressure switch will send the signal to the control unit. The 2/4 way changed valve will work, the original out pipe will changed back pipe to lubricate another side.

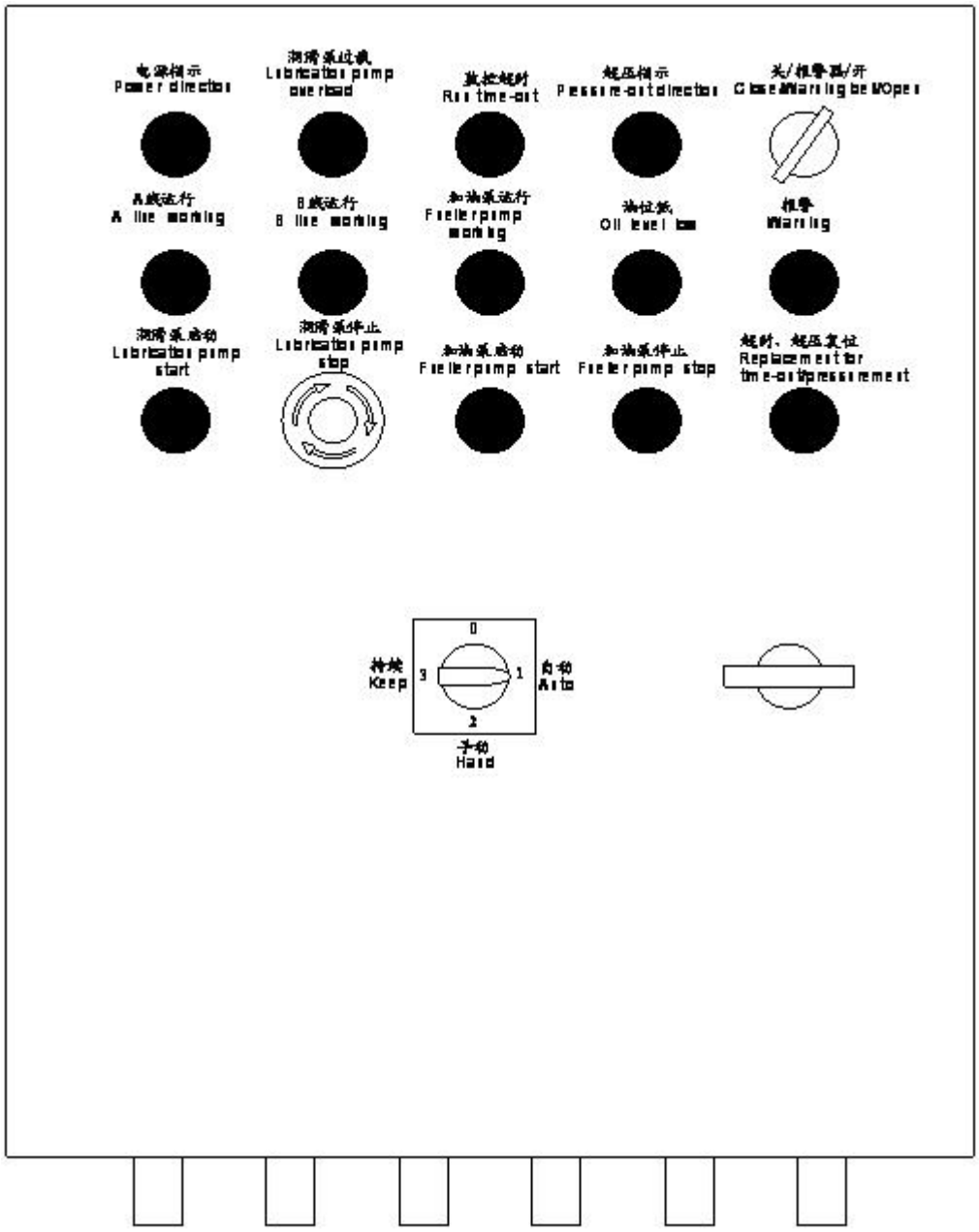
Pressure switch dimension



Parameter

- **Working pressure: 5MPa;**
- **Maximum working pressure: 40 MPa;**
- **High capacity: 500VAC;**
- **Output minimum currency: 10mA(24VDC)**
- **Output maximum currency: 15A;**
- **Protection: IP65;**
- **Working temperature: -20℃～+80℃;**
- **Viscosty: NLGI000#～2#**

GDK03 control unit



In general

1.Power：AC380V/3phase/50Hz

2. The pump should fix vertically without any shake position.

Control principle

Before connecting the power, please set the timer for the witness relay and idle relay.

Timer for the witness relay is used to setting the operation time. It can detect breakdown of the system, such as the pipe blast or leakage, or the pressure of the pump element is down, or the system has air.

Idle relay is to setting the idle time of the system**.**

The system has 3 kinds of modes to operate.

(1).Manual mode:

Press the start button, the operation light is on as well as A pipe working light. When the A pipe reaches the setting pressure, A pipe will stop to B pipe, The B pipe will stop when it reach the pressure.

The complete one cycle will finished. You should press the button again to start the next cycle.

(2).Non-stop mode

The system will work automatically without any stop until to press the stop button**.**

(3).Automatic mode

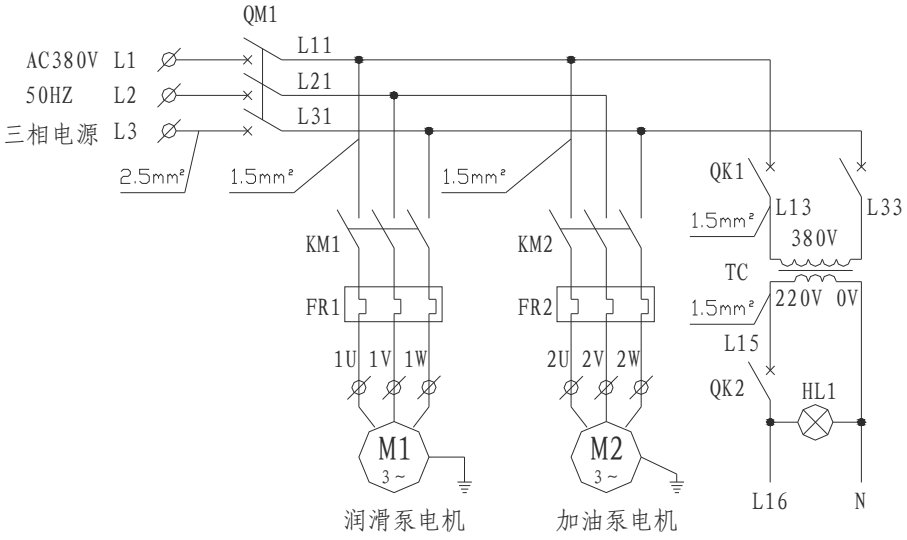
After setting the idle time and start the system, A pipe and B pipe will work automatic based on pressure switch.

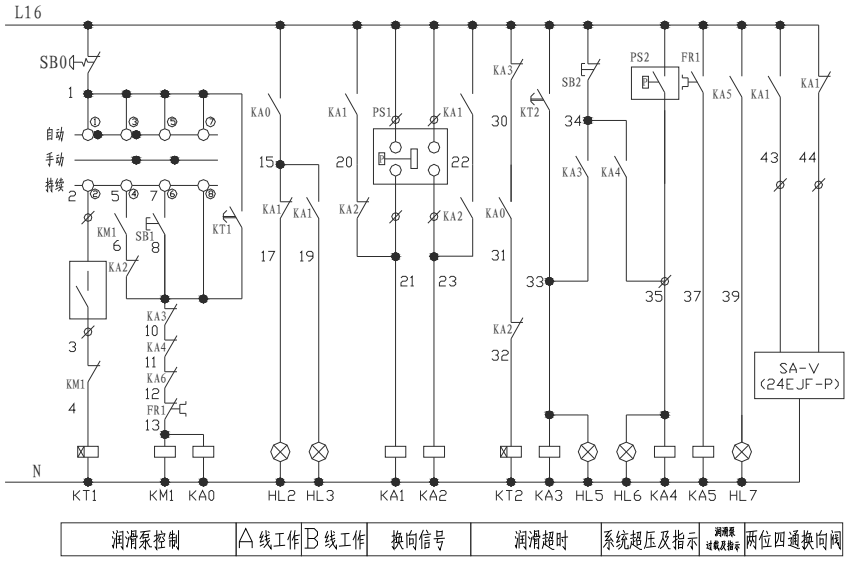
And the idle rely is working, the system will operate again when the relay is stop. You can press the stop button to stop the system.

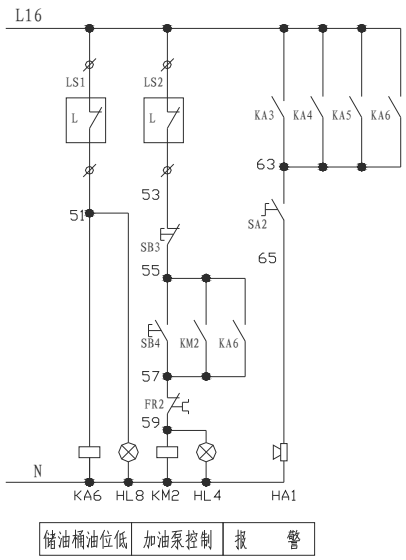
If the system is still working exceed the witness timer's setting, the witness relay will stop the system and the light will alarm. Then you should check the system.

Automatic filler

<u>When the grease is down to the low level switch, the unit will start the filler automatically until the grease touch the top level switch</u>

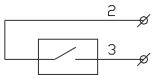






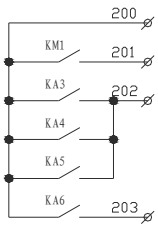
储油桶油位低	加油泵控制	报　　警

远方中控室至控制箱
（无源干接点）

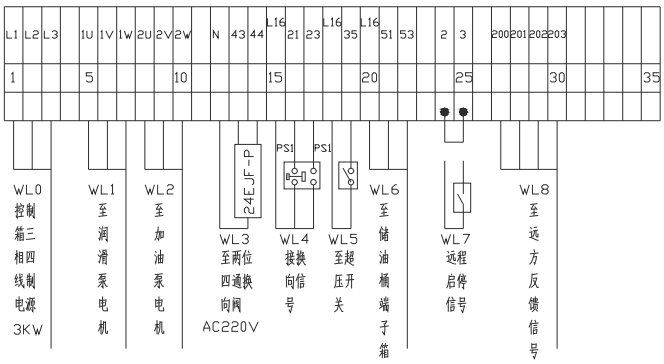


润滑泵远程启停

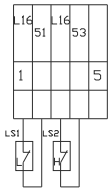
至远方反馈信号
（无源干接点）



接线端子：JH5B-6/4+1.5/30



储油桶接线盒



RVV2*0.5

技术要求：

1. 电缆由用户自备，电缆型号供用户参考。
2. 超高压开关由用户根据需要自备。
3. 至远方主控制室端子中"2#"与"3#"线出厂时已短接，如自动方式运行时用户需远程控制（或与主机运行联锁）时，可将出厂时的短接线拆除，接上远程的控制点即可。
4. 调试时如不能正常换向，可把端子上"21#"与"23#"两根线互换。
5. 电机、检测元件的所有连接线均穿保护管，导线不得外露，保护管两端头与检测元件及端子箱连接处采用保护管接头固定牢固，保护管及接头大小根据元器件穿线孔而定。
6. 换向信号来自：末端的压差开关或压力控制器。
7. 控制箱适用于：双线终端式集中润滑系统原"GDK"系列的控制箱。

电缆编号	型号规格
WL0	VV3*2.5+1
WL1-2	VV3*1.5+1
WL3	RVV3*1.5+1
WL4，WL6	
WL5	RVV-2*0.5
WL7	KVVR-2*1.0
WL8	KVVR-5*1.0

Note：

- **The connect power should correspond with required voltage.**
- **If the changed valve can’t work automatic, please change the Pole “21” and Pole “23”**
- **You can adjust the pressure from 0-40Mpa but can’t exceed the 40Mpa;**
- **Clean the filter regularly in case it’s plug.**
- **The safe slice on the pump will break if the pressure reaches 50Mpa, the pump will stop and alarm you, You should replace a new safe slice.**
- **The grease should be filled from the nipple and can’t fill from the top.**
- **If you want to pump oil, you should let me know before, we should change the ball level switch.**
- **Add the grease to the reducer every 4 month.**

Spare parts:

- **safe slice 10pcs**
- **Filter 2 set.**