

## 高压油顶起装置使用说明书

## Operation Instruction of High Pressure Oil Lifter

## 一、技术参数

## I. Technical Parameter

工作介质：GB11120-89, No.46 汽轮机油

Working medium: GB 1120-89, No.46 turbine oil

系统额定压力：17Mpa.

System rated pressure: 17 Mpa

系统最高压力：28Mpa.

System Max. Pressure: 28Mpa.

系统公称流量：20L/Min

System nominal discharge: 20L/Min

工作油温：-10 -60

Oil temperature of working: -10 -60

外形尺寸 (mm): 2800 × 1000 × 900

Overall size: (mm): 2800 × 1000 × 900

## 二、配用液压元件与附件

## II. Hydraulic element and accessories

名称 Name	型号 Type	数量 Qty.
交流电机 AC motor	Y180L-6	1
联轴器 Coupling	NL=A48X110 / YA25X50	1
齿轮泵 Gear pump	CBQ-G525-AFP	2
电磁阀 Solenoid valve	AKD11-25A/DC220V	2
滤油器 Oil filter	ZU-H63X20	1
溢流阀 Overflow valve	DB10-1-30/31.5u	1
吸油滤油器 Suction oil filter	IVS32-100X80	1
联轴器 Coupling	NL=YA42X110 / YA25X50	1
直流电机 DC motor	Z2 -72	1

单向阀 One-way valve	S20A/2	3
截止阀 Stop valve	JZFS-J20FH	2
截止阀 Stop valve	JZFS-J32FH	1
压力表开关 Pressure gauge switch	KF-L8/20E	2
电接点压力表 Pressure gauge	YXC100	2
with electric Contactors		
截止阀 Stop valve	JZFS-J15FH	1

### 三、系统结构：

#### III. System structure

高压油顶起装置由电机、油泵、单向阀、电磁阀、溢流阀、滤油器、截止阀、电 High Pressure Oil Lifter is a high pressure oil supply system consisting of motor, oil pump, one-way valve, solenoid valve, overflow valve, oil filter, stop valve, pressure 接点压力表等液压元件及附件通过管道联接而成的高压油供油系统。该系统有两 gauge with electric contactors as well as other hydraulic elements and accessories. There are two circuits of oil supply, among witch one circuit is drove by 15 kWAC 条供油回路，其中一条回路由 15KW 的交流电机驱动，另一条备用回路由 13KW motor, and other circuit is drove by 13 kW DC motor. The two circuits together uses 的直流电机驱动，两条回路公用同一条进油管、溢流阀排油管、出油管。系统配 a same oil inlet, oil drain pipe of overflow valve, oil outlet. The system has two 有两只电接点压力表，共提供 4 副接点，可以满足系统压力在高点、低点、过低 electric contactors pressure gauges of with four sub-contactors to satisfy the system 点发出电讯。

pressure for sending electric signals at the high, low and over-low points.

### 四、阀的用途

#### IV. Usage of valve

名 称 Name	型 号 Type	用 途 Usage
单向阀 One-way valve	S20A/2	使介质只能向一个方向流动，用于 液压系统中防止介质反向通过。

		To make the medium to one direction flow, used to the hydraulic system to prevent the medium against backward flow.
溢流阀 Overflow valve	DB10-1-30/31.5u	用于控制系统压力，主要作用是防止系统过载，保护泵和系统安全及保持系统压力恒定。  Used for control the system pressure, the main function is to prevent the system from overload, to protect the safety of the pump and system and to maintain the constant pressure of the system.

## 五、操作程序

### V. Operation procedure

先将进油管、出油管和溢流阀排油管管路接好，确保油箱中有足够的介质，当使

The pipeline of the oil inlet, oil outlet and oil drain pipe overflow valve shall be connected properly . Make sure that there is an enough medium in the oil tank.

用交流电机供油时，将直流电机段管路截止阀（JZFS-J20FH）关闭，交流电机

When using the AC Motor for oil supply, the stop valve (JZFS-J20FH) of pipeline section of DC motor shall be closed and the stop

段管路截止阀（JZFS-J20FH）打开。关闭出油管处的截止阀（JZFS-J15FH），将

电接点压力表的指针调节到所需的位置（最高点不得超过 28Mpa），然后接通电

valve (JZFS-J20FH) of pipeline section of AC motor shall be opened. After closing

the stop valve( JZFS-J15FH ) at the oil outlet, the pointer of pressure gauge of electric

contacts shall be adjusted to the position needed (the high point don't exceed

28Mpa) , and then the power supply shall be connected. After loosening the adjusted

源。放松溢流阀的调节手轮，启动电机，使油泵空负荷运转 5-10Min.。

hand wheel, start the motor to make oil pump to run no load during 5-10Min. The overflow valve shall be slowly regulated to make the system pressure to working

缓慢调节溢流阀，使系统压力至工作压力。然后打开出油管处的截止阀

pressure. And then the stop valve (JZFS-J15FH) at the oil outlet shall be opened for ( JZFS-J15FH ), 即实现供油。

realizing the oil supply.

## 六、维护和保养

### VI. Maintenance

- 1、保持油箱及高压油顶起装置的使用环境清洁，使用三个月须更换液压油，

To keep the clean working area of oil tank and high pressure oil lifter. The hydraulic oil must be exchanged every three months.

- 2、同时清洗油箱、油管、滤油器。

At the same time, clean the oil tank, oil pipe and oil filter.

- 3、油箱内液面高度必须适宜，新添加的液压油须过滤后加入。

The level height in the oil tank must be convenient. After filtering, the new hydraulic oil must be added.

- 4、系统温度最高不得超过 60℃，超过时应采取降温措施或停机。

The max. temperature of the system don't exceed 60℃, When exceeding, the measures of cooling shall be taken or the machine shall be stopped.

- 5、油泵在运转过程中，如发现异常噪音，压力下降，流量减少等情况应及时停机检查原因，清除吸油过滤器上的杂物，保证过滤器畅通。

During run of oil pump, if the situation such as abnormal noise, low pressure and less flow is discovered, the cause shall be checked for stop in time. Clean the other matters at the suction oil filter to assure the filter without block.

- 6、各种液压元件动作失灵，漏油，应及时检查原因，排除故障或更换密封件。

If all hydraulic elements are in bad action or with oil leakage, the cause shall be checked in time for troubleshooting or the sealing shall be changed.

## 七、液压系统常见的故障及排除方法

## VII. Common fault and troubleshooting of hydraulic system

## 故障现象一：严重噪音

## I. Fault phenomenon: Severe noise

故障 Fault	原因 Cause	消除方法 Method of Troubleshooting
油泵吸空 Suction of oil pump	吸油滤油器堵塞 Suction oil filter in block	清洗或更换新的滤油器 Clean or change new suction oil filter
	油温过低 Over low temperature	把油加热到适当的温度 Heat oil to adequate temerature.
油生泡沫 Foam formed in oil.	油箱内油位过低 Over-low level in oil tank.	加油到正确的位置 Add oil to correct position.
油泵磨损或损坏 Oil pump worn or damage.		修理或更换 Repair or change.
电动机损坏 Motor in damage.		修理或更换 Repair or change.

## 故障现象二：压力不足或完全无压力

## II. Fault phenomenon: insufficient pressure or without pressure

故障 Fault	原因 Cause	消除方法 Method of Troubleshooting
油泵过度发热 Overheating of oil pump.	油泵磨损或损坏 Oil pump wear or damage.	清洗或更换 Clean or change.

溢流阀 Overflow valve	阀芯被污物卡住或阻尼小孔被堵塞；零件磨损 The valve core is blocked by contamination or the damp small hole is blocked. The parts are worn.	清洗或更换 Clean or change.
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### 故障现象三：流量太小或完全不流油

#### III. Fault phenomenon: small flow or incomplete oil flow

故障 Fault	原因 Cause	消除方法 Method of Troubleshooting
油泵吸空 Suction of oil pump.	参见故障 1 See fault 1.	参见故障 1 See fault 1.
油生泡沫 Foam formed in oil.	参见故障 1 See fault 1.	参见故障 1 See fault 1.
油泵磨损 Oil pump worn	参见故障 1 See fault 1.	参见故障 1 See fault 1.

### 故障现象四：油温过高

#### IV. Fault phenomenon: over-high oil temperature

故障 Fault	原因 Cause	消除方法 Method of Troubleshooting
从高压测到低压侧的漏损 The leakage loss measured form high pressure to low pressure.	压力调节过高 Over-high of regulating pressure.	调整溢流阀至合适压力 Adjust overflow valve to the adequate pressure.

油泵过热 Over-heat of oil pump.	油泵磨损造成的功率损失 Power loss caused by worn oil pump.	修理或更换 Repair or change.
	液压油污染控制不当或使用了不适的介质	换清洁且合理的介质 Change the clean and adequate medium.
油液循环过快 Oil and liquid cycling over-fast	油箱中油量不足 Insufficient oil in oil tank.	增加油量 Adding oil.
环境温度过高 Over-high of environment temperature.	油箱附近有热源 There is heat source in oil tank.	油箱应远离热源 The heat source is away from oil tank.

## 八、原理图 Principle diagram

