

# BL9000

## 抽油机智能节电控制装置 Intelligent Power-saving Controller



### 产品概述

BL9000 抽油机智能节电控制装置正是基于我国油井的地域特性和世界发展状况，综合电力电子技术、计算机技术、自动化技术、仪表技术、网络通信技术、系统工程技术而研发的并开具有知识产权的综合性专用配电柜。

他配备了我公司研发的 BL74\*\* 油田抽油机专用变频器，可与我公司最新研发的最前沿的能效电子专家——“WellView 机采井能效测控系统”，从而实现井群远程监控、油井系统效率分析等功能，从而为“油田自动化与数字化系统工程，抽油机井系统效率与节能减排”提供全面的解决方案。产品适用于 380V 的交流电源系统，11KW 到 75KW 油梁式抽油机。

### Product Summary

BL9000 Power-saving type Intelligent Controller for Oil-pumping Unit is designed based on the geographical characteristics and the actual development of China's oil fields. It integrates power electronics technology, computer technology, automation technology, instrument technology, network communication technology, engineering technology. It is independently developed comprehensive field-specific distribution equipment which owns intellectual property.

It is equipped with oil-pumping-specific BL74\*\* frequency converter which is also designed by our company. It can also work together with our latest development "Wellview energy and efficiency control system for oil-pumping-machine" to realize wells remote-monitoring and Well System Efficiency-analyzing, etc. BL9000 Power-saving type Intelligent Controller of Oil-pumping Machine provides a comprehensive solutions to "Oil field automatization and digitization project, Oil-pumping machine wells system efficiency and energy saving project". It applies to 380V AC power system and beam-pumping unit from 11kw to 75kw.

### 环境条件

1. 运行环境温度:  $-40^{\circ}\text{C} \sim 60^{\circ}\text{C}$ ;
2. 相对湿度: 20% ~ 90%RH 不凝露;
3. 海拔高度: 不超过 2000 米, 1000 米以上降额使用, 每高出 100 米, 输出功率将下降 1%;
4. 储存环境温度:  $-40^{\circ}\text{C}$  至  $+70^{\circ}\text{C}$ ;
5. 无爆炸及易燃危险品, 无腐蚀性气体、无导电尘埃、无剧烈震动;
6. 如上述条件不能满足时, 应由用户在订货时向制造厂方提出, 协商解决。

### Environmental Conditions

- 1.The operating environment temperature: $-40^{\circ}\text{C} \sim +60^{\circ}\text{C}$
- 2.Relative humidity: 20%~90%RH non-condensing
- 3.Altitude: not exceed 2,000 meters. But the machine will derating when service on place above 1,000 meters: the output power will drop 1% for every additional 100 meters in height
- 4.Storage temperature:  $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- 5.No dangerous explosive and flammable, corrosive gas, no conductive dust, no severe shock
- 6.If the above conditions are not met, the user should inform the factory when before ordering, we can make out solutions through consultation.

### 产品特点

1. 独有的恒速跟踪负载功能, 即在调频的同时还具有调压功能, 在同等使用条件下, 比一般变频器更加省电。
2. 可以选择多种控制功能: 多段速度、摆频功能、内置 PID, 轻松实现闭环控制功能、多种负载特性 V/F 曲线 RS-485 通信接口, 方便用户应用于各种环境。
3. 增油、增效: 根据工况和客户的要求控制机油的上快下慢或下快上慢达到增油节能。(可选项)
4. 能自动测量再生电能大小, 自动计算最佳制动动力柜, 用户不必设定任何参数。
5. 再生电能回馈: 能量回馈到变频器内效率高, 不污染电网(对于平衡差, 无法调整的, 可配外置能量回馈单元)。设有外置回馈单元和制动电阻的热损耗, 彻底的改善工作环境。
6. 工频、变频转换功能: 可根据要求设定为自动或手动。例: 当设定为自动时, 变频装置出现故障后该控制器会自动变为工频不会影响客户正常的生产。

### Product Features

- 1.Unique constant speed load tracking function: Which means the VFD is provide with both frequency adjustment property and voltage adjustment property. While under the same conditions, this kind of special VFD can save more power than the normal type of VFD.
- 2.A variety of optional functions: Multi-speed control, frequency wobulation function, built-in PID, easy closed-loop control function, and can be applied to various condition through RS-485 communication interface which has a variety of load characteristics of V/F curve.
- 3.Increasing oil & efficiency: Realize oil increasing and energy saving by control the upper/down speed of the pumping unit according to the conditions and customers' requirements.(Optional)
- 4.The VFD can automatically measure the size of renewable energy, automatically calculate the best braking torque, whereas users need not set any parameters.
- 5.Renewable energy feedback: Energy feedback high-efficiently to the inverter without polluting the power grid (external power feedback unit can be configured to poor balanced and nonadjustable power grid.). There is no heat loss from external feedback unit and brake resistor, so that the working environment can be completely improved.
- 6.Power frequency/-over function: change-over function can be automatically or manually according to customer requests. For example: IF set to Auto-change-over mode, when VDF goes wrong, the controller will automatically change variable frequency to power frequency thus will not affect customers normal production.

### 技术参数

序号 Sr.	名称 Content	单位 Unit	数值 Value
1	输入频率 Input frequency	HZ	45 ~ 55
2	额定输入电压 Rated input voltage	V	380V±15%
3	额定容量 Rated capacity	kW	11 ~ 75
4	输出频率范围 Output frequency range	HZ	0Hz ~ 300Hz
5	输出频率分辨率 Output frequency range	HZ	0.01Hz
6	过载能力 Overload capacity	S	150% 1min, 180% 10sec, 200% 0.5sec
7	加减速时间 Acceleration and deceleration time	S	0.1 ~ 36000s
8	冷却方式 Cooling method		风冷 Air cooling
9	外壳防护等级 Degree of Enclosure		IP54
10	操作方式 Type of operation		就地、远方、自动 Local, Remote, Auto
11	外形尺寸 Dimensions	Mm	700 (长 L) *500 (深 D) *1100 (高 W)
12	产品重量 Weight	Kg	170kg 左右 About 170kg

### Technical Parameters