

Energy storage control cabinet for oil pumping unit

How can a hybrid pumping unit save energy?

As can be seen from Figs. 8 and 9, energy-saving system of secondary balance for the hybrid power of the pumping unit can well eliminate the negative torque of the motor of the traditional pumping unit and add energy to the upper stroke, effectively reducing the electrical energy consumption caused by the larger load fluctuation.

Can secondary balance energy-saving system reduce pumping unit energy consumption?

Using AMESim simulation platform, compare the load fluctuation and motor energy consumption before and after setting up secondary balance energy-saving system, which proves that the system can effectively reduce the pumping unit energy consumption problem caused by the fluctuating load rate. A self-learning method based on MPGA is developed.

What is pumping unit?

The pumping unit is the main equipment for oil production in the oilfield. However, its serious energy consumption has greatly increased the cost of oil extraction. The reason of this phenomenon is...

What are the advantages of hydraulic energy storage?

Compared with the traditional secondary balance scheme of mechanical structure, the hydraulic energy storage method has the advantages of low-energy density, high-power density, convenient speed regulation, easy to realise overload protection, and more safety [4].

How to improve the balance rate of pumping units under cyclic conditions?

In order to improve the balance rate of pumping units under cyclic conditions effectively, the researchers improved the traditional mechanical structure and balance method.

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Middle frequency power control cabinet is a specialized device to suit for pumping unit working character. It is the combination of modern frequency conversion and advanced microcomputer control system. Character: recognize the up & down ...

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Many oil fields are full of wind energy. At present, wind power generation technology has catered to oil fields.

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... of the pumping unit are controlled by the electronic control cabinet (6 ...

Contact us now for Motor Reversing Intelligent Pumping Unit quotation. Beam pumping unit is the most widely used mechanical equipment in oil field, but it has many inherent defects. Such as high energy consumption, low mechanical ...

A typical running cycle of the beam pumping unit (BPU) includes heavy and light load conditions. Moreover, the motor can operate in generation mode due to the release of potential energy ...

The parameters of energy-saving control process of beam-pumping unit are measured using multi sensors, and then the system can control the working state of beam-pumping unit real-time. ...

The whole system adopts modular design and can be installed on all beam pumping units. It is easy to install, transport and operate. Installation Process Description. This is the lubrication ...

As can be seen from Figs. 8 and 9, energy-saving system of secondary balance for the hybrid power of the pumping unit can well eliminate the negative torque of the motor of the traditional pumping unit and add energy to ...

In this paper, a novel hydraulic pumping unit is proposed to overcome the existing drawbacks of conventional pumping units and present hydraulic pumping units. Firstly, this novel hydraulic pumping unit adopts a ...

The development of hydraulic driven and controlled pumping units began in the ... sensor wire, and other components; The hydraulic control system mainly consists of a hydraulic pump ...

The beam pumping units applied in oilfield for more than 150 years, because it had the advantages of simple structure, reliable and durable. At present, it is still one of the most important artificial lift methods in the world. ...

So most of the researches on the energy-saving technology of pumping units still focus on the mechanical structure or intelligent control of conventional pumping units, such as the variable ...

oil well productivity^{9,10}. erefore, uni~ed control and management of the operation of DC bus pumping units in oil wells are urgently needed. is approach can help coordinate the operation ...

of the original pumping unit. The system can eliminate structural imbalance and reduce the need for large torque when the well starts after the motor is installed. 2Primary balance analysis of ...



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