

Hydraulic energy storage regeneration device





Overview

How does a hydraulic regenerative system work?

The authors' principle was that the hydraulic system regenerates the braking energy. Then the hydraulic accumulator and air reservoir store the renewed energy. When there is power demand, the hydraulic-pneumatic regenerative system can provide the vehicle propulsion and power auxiliaries effectively.

What is the energy regeneration system for hybrid hydraulic excavators?

An energy regeneration system is proposed for hybrid hydraulic excavators. The energy regeneration system contains the hydraulic accumulator and the battery. The efficiency of the proposed energy regeneration system is around 39%. The capacity of the regeneration unit can be reduced by more than 65%.

How efficient are energy regeneration systems?

The efficiency of the proposed energy regeneration system is around 39%. The capacity of the regeneration unit can be reduced by more than 65%. Energy regeneration systems (ERSs) that use the same energy storage device as hybrid power systems can improve the fuel economies of hybrid hydraulic (HHEs).

How does hydraulic regenerative suspension work?

The hydraulic regenerative suspension uses the HTS to achieve vibration energy harvesting, and this process is applied to all kinds of vehicles, as shown in Table 1. In Fig. 3, vibration energy is first converted into hydraulic energy and electrical energy and then stored in the accumulator and the battery, respectively .



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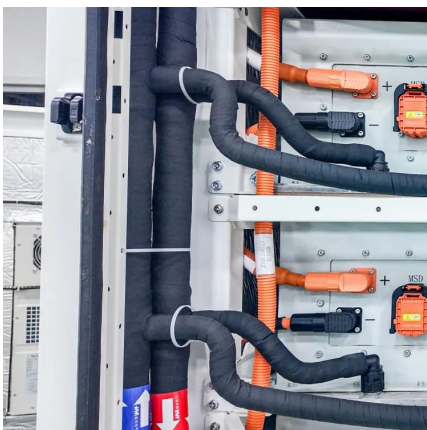
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