

gustav / April 24, 2010 12:46AM

[\[Energy Conservation\] Chienkuo Technology University Presents a New Invention of Energy Conservation, Lift Weight Distributing System](#)

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CNA News (2010/04/17) Chienkuo Technology University presents a new invention, a lift weight distributing system, which adjusts the weight of the carriage and the weight of its counter-weight according to the loading so that the the best ratio between them can be maintained, making the whole system stay in the most efficient status and reducing about 35% of the traditional lift system's power consumption. This invention has gained the gold medal in the 13th Moscow International Salon of Inventions and Innovation Technologies "Archimedes."

A regular lift consists of a sheave holding a steel wire with a carriage on the one side, and a counter-weight on the other side. When the carriage moves, the counter-wight moves to the opposite direction in order to keep a balance. However, the weight of the carriage varies according to the loading, while the traditional counter side does not change, and hence the unbalanced status of the lift weight system would create a resistance. The resistance then would cause energy waste and shorten the service life of the lift.

Professor Po CHOU of the College of Engineering, Chienkuo Technology University, thus designs a lift weight distribution system to solve the problem. On both of the carriage side and the counter side, a weight detector and a water tank are added. When more passengers enter the carriage, the detector would give signals to pump the water from the carriage side to the counter side. When passengers leave the carriage, water would be pumped from the counter side to the carriage side. Then, the weight system would always stay in balance, and no extra drag force would be created. With this design, 35% of power waste would be avoided while the service span of the sheave may be extended. Now the design has entered the commercialization stage.

Further Information:

[Industry-Academy Cooperation Information Website, Ministry of Education](#) (Chinese)

[CNA News 2010/04/17](#) (Chinese)

Edited 1 time(s). Last edit at 04/24/2010 12:47AM by gustav.

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