

## T-Valve System Improves Energy Efficiency of Firefighting Robot

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- Electrical Engineering
- Mechanical Engineering

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- Robotics

Firefighting robots were first made available to take the place of human firefighters in instances of life-threatening fires. These robots are heavy and not very agile. A lot of energy is consumed while pulling 200 feet of fire hose that is full of water throughout the structure. Unfortunately, this reduces the robot's advertised battery life of eight hours to two hours.

Researchers at Purdue University have equipped these firefighting robots with an automatic T-valve system that removes water from the fire hose whenever the robot moves to a new location. It takes significantly less energy to pull an empty fire hose compared to a water-filled fire hose. Integrating this system into existing firefighting robots increases their mobility and battery life, saving firefighters from life-threatening fires due to insufficient battery life.

**Advantages:**

- Increased battery life
- Increased mobility
- Less risk for firefighters in life-threatening fires

**Potential Applications:**

- Firefighting

**People:**

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**Intellectual Property:**

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