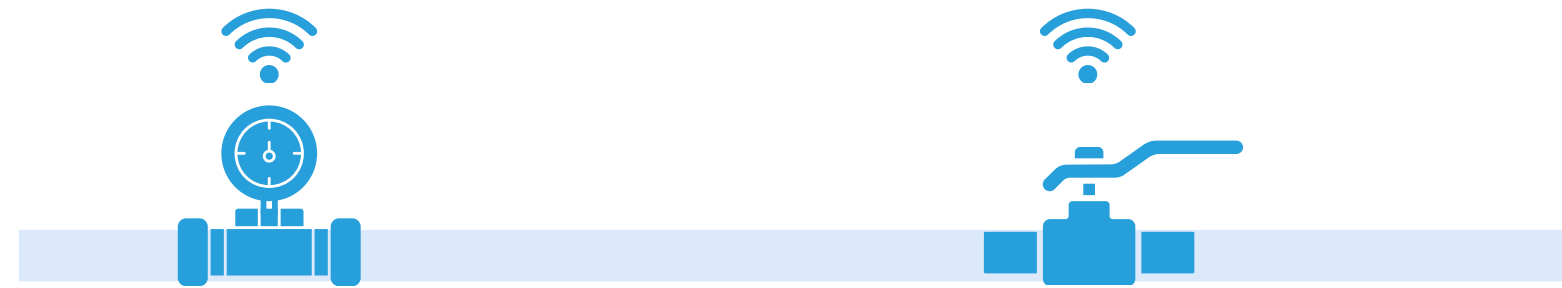




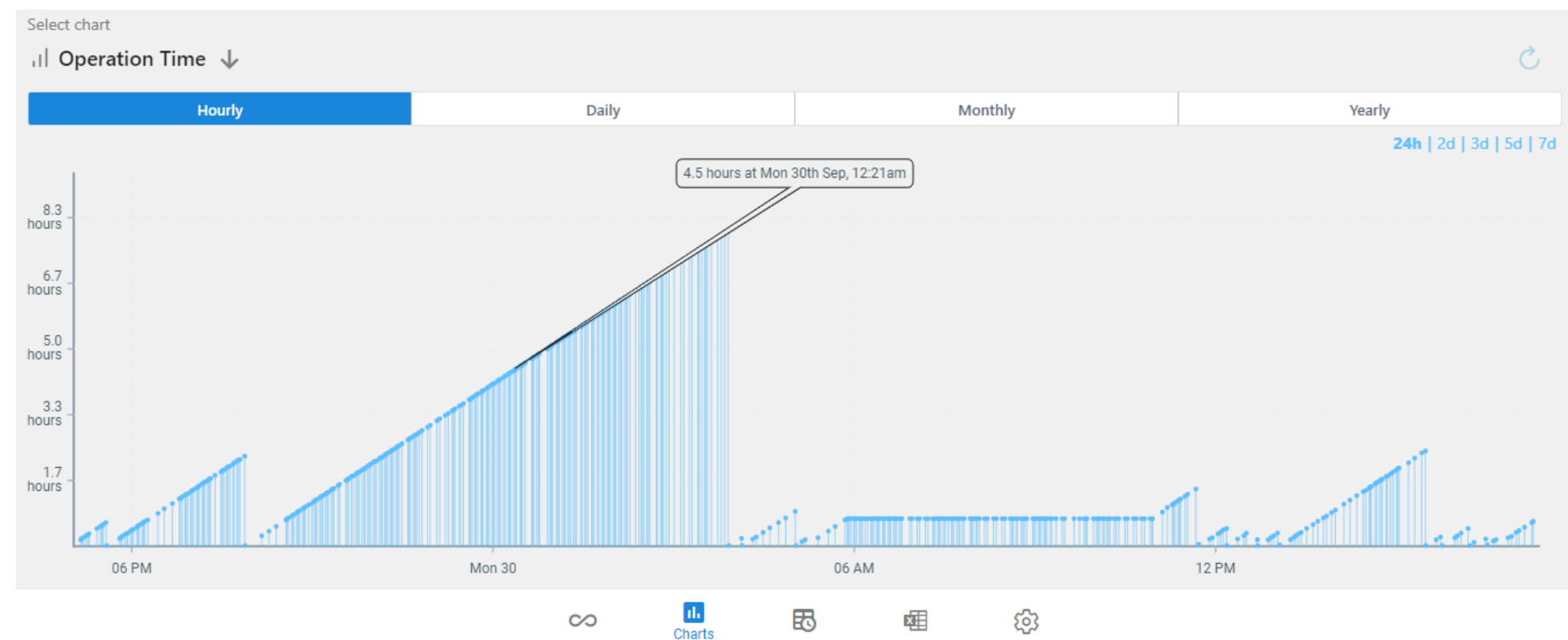
Case Study

Streamlining
Operations for a Water
Softener Manufacturer
with IoT Solutions

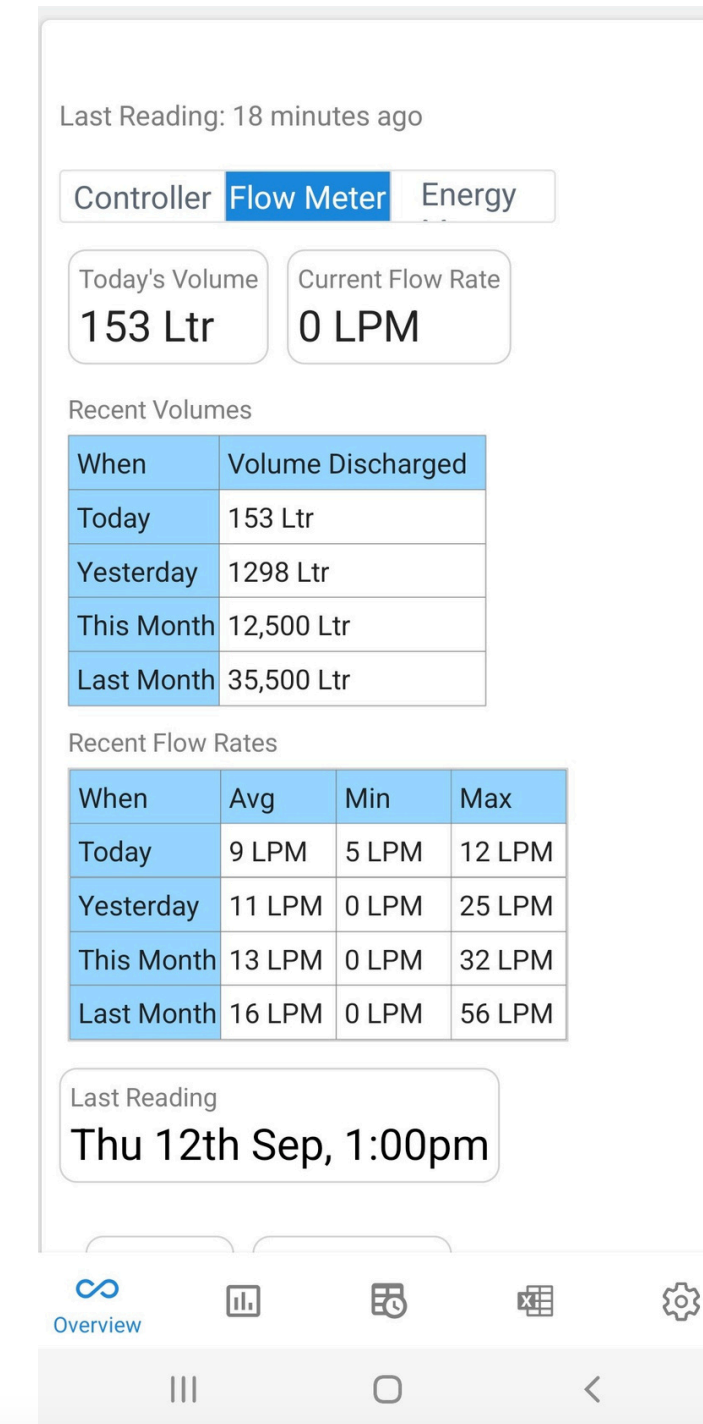
Valve shuts off automatically after certain volume is reached. Volume Readings are visible to all.



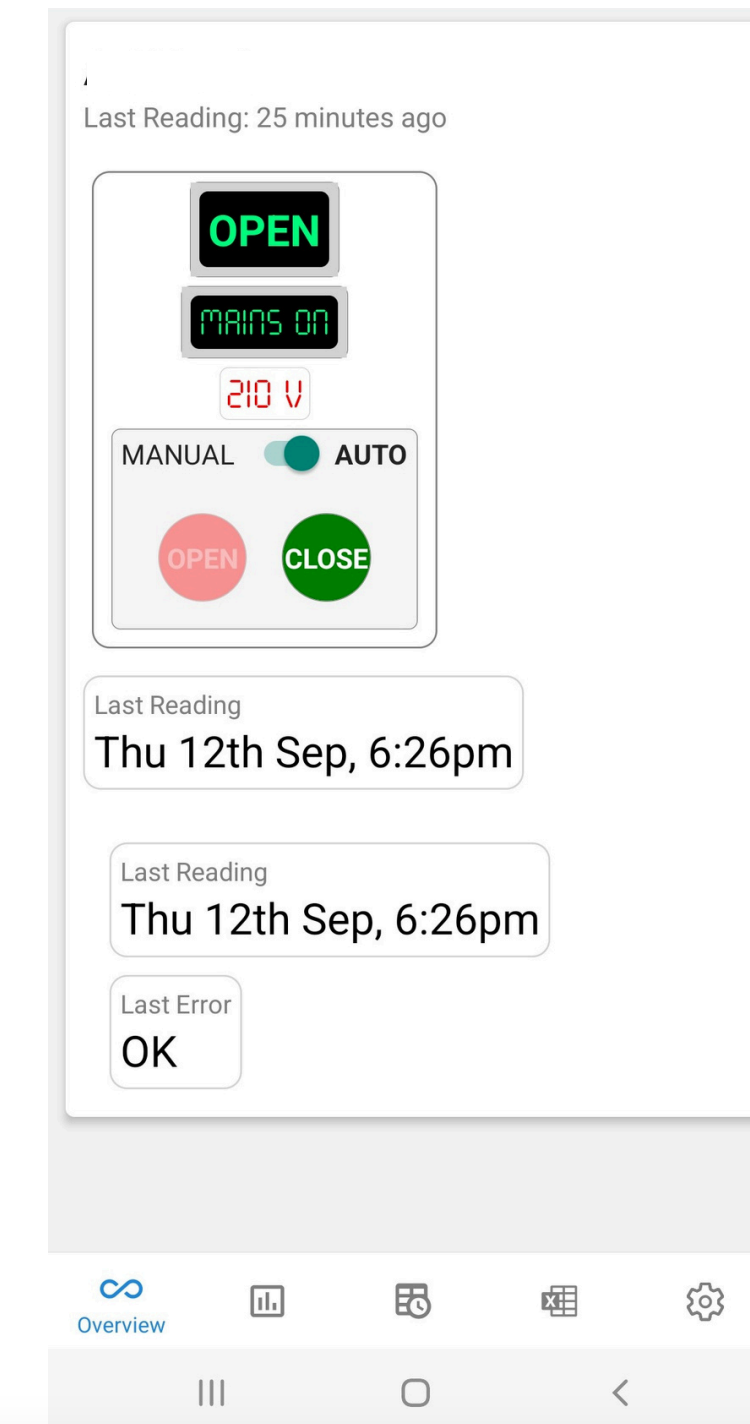
Duration for how long valve is open



IoT Flow Meter to monitor Volume of water used



IoT Motorized Valve to limit water inflow



Overview

A manufacturer of water softener plants serving residential societies faced challenges in managing water usage and servicing plants on time. His softener systems were designed to process a certain volume of water, using specific quantities of salt and chemicals for optimal operation. However, conflicts arose when customers used more water than estimated, depleting the salt supply earlier than anticipated. This led to frequent, unplanned maintenance and dissatisfied customers.

The manufacturer approached us to **develop an IoT solution that would allow him to monitor water usage, control the system remotely, and ensure the smooth operation of the softener plants.** Our platform provided the necessary monitoring, automation, and transparency that helped the manufacturer streamline his operations and reduce conflicts with customers.

Challenge

The manufacturer's softener plants were based on an estimated volume of water usage, but customers often exceeded these estimates. This resulted in:

- **Early Depletion of Salt and Chemicals:**
As customers used more water, the salt chambers were depleting faster than expected, requiring the manufacturer to replenish salt and service the plant more frequently than planned.
- **Disputes over Water Usage:**
Without precise monitoring, disputes would arise between the manufacturer and his clients over the actual volume of water processed by the plant, causing friction and unnecessary maintenance.
- **Manual Monitoring and Control:**
The lack of a remote monitoring solution meant the manufacturer had to rely on periodic manual checks, leading to inefficient operations and delays in responding to maintenance needs.



Solutions

We worked with the manufacturer to develop a comprehensive IoT solution that integrated flow meters and motorized valves into his water softener plants. This allowed him to monitor water usage in real-time and automate the system to optimize salt consumption and reduce service frequency.

Key elements of our solution included:

- **Flow Meter Integration:**

We integrated a flow meter into the softener plant, enabling the manufacturer to monitor the exact volume of water being processed. The data was relayed to the cloud, providing real-time insights into water usage.

- **Mobile App for Control and Monitoring:**

The manufacturer could now monitor the system from anywhere using a mobile app. He could view the real-time water usage and control the valve remotely, turning it on or off based on system needs or customer demands.

- **Motorized Valve with IoT Control:**

To manage the flow of water, we integrated a motorized valve into the system. The valve was connected to our IoT controller via a relay, allowing the manufacturer to remotely control the valve. Through the automation workflow, the valve would automatically shut off once a predefined volume of water had passed through, ensuring that water usage and salt consumption remained within the expected limits.

- **Salt Level Monitoring (In Progress):**

We are currently working on integrating an ultrasonic sensor into the system to monitor salt levels in the chamber. This will allow the manufacturer to proactively monitor salt levels and replenish them as needed, ensuring continuous operation without manual intervention.

Results

The IoT solution provided several key benefits for the manufacturer, helping him improve efficiency, reduce service costs, and offer better transparency to his customers:

- **Improved Operational Efficiency:**

With real-time monitoring and automated valve control, the manufacturer could ensure that water usage stayed within expected limits, reducing the frequency of service calls and salt replenishment.

- **Reduced Service Costs:**

By controlling the volume of water processed and optimizing salt usage, the manufacturer was able to reduce maintenance costs and improve the lifespan of his softener plants.

- **Increased Customer Satisfaction:**

Customers could now monitor their own water usage through the app, reducing disputes and providing a better understanding of the plant's operation. This transparency led to improved relationships with his clients.

- **Proactive Consumable Management:**

Once the salt level monitoring feature is fully integrated, the manufacturer will be able to offer a consumable replenishment service to his customers, further enhancing the value of his offering.

Case Study: Streamlining Operations for a Water Softener Manufacturer with IoT Solutions

BEFORE

- **Manual operation**
- Visit to take readings, check level of salt
- **No transparency** regarding volume of water used
- Overuse of plant, salts and no accounting for it
- **Conflicts** with customer

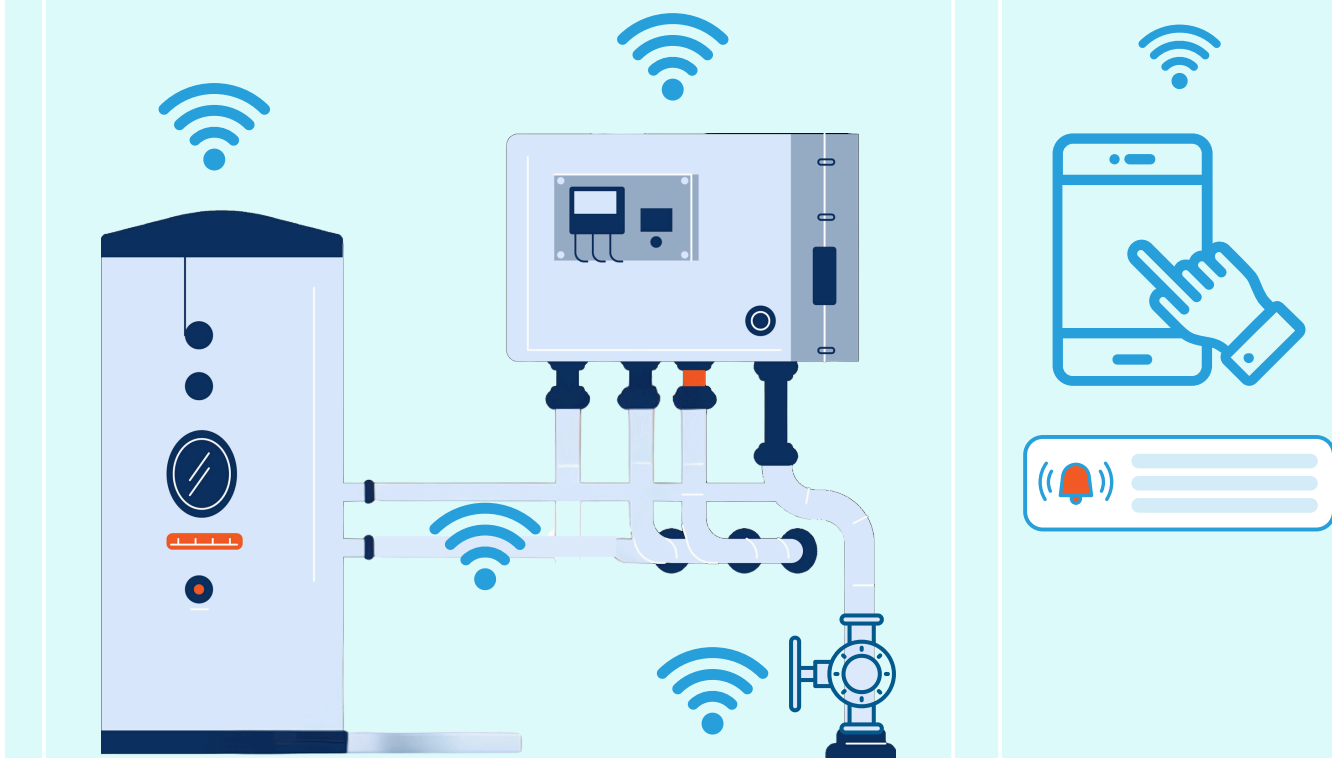
MANUAL SUPERVISION



AFTER

- No need for physical visit
- **Monitor and operate from anywhere**
- **Automatic reminder** for salt replenishment
- IoT Flow meter and IoT valve help to monitor and control water passing through
- **Full transparency** with customer, no conflicts
- Opportunity to sell salt replenish service to customer

ONLINE MONITORING AND CONTROL





Conclusion

By leveraging our IoT platform, the water softener manufacturer was able to transform his operations, making them more efficient, transparent, and scalable. With real-time monitoring, automated control, and the ability to offer additional services such as consumable management, the manufacturer not only reduced conflicts with customers but also provided them with a superior service experience.

This case highlights how IoT can revolutionize traditional industries like water softening, offering greater control, automation, and transparency, all while reducing operational costs and improving customer satisfaction.

Key Highlights

- **Automated Water Flow Control:**
Prevented overuse and optimized salt consumption.
- **Real-Time Monitoring:**
Provided transparency and reduced conflicts over water usage.
- **Cost-Effective Solution:**
Remote monitoring and control reduced service costs.
- **Proactive Consumable Management:**
Enabled timely salt replenishment and improved plant efficiency.

Looking to streamline your operations with IoT solutions? Contact us to see how our platform can help transform your business.



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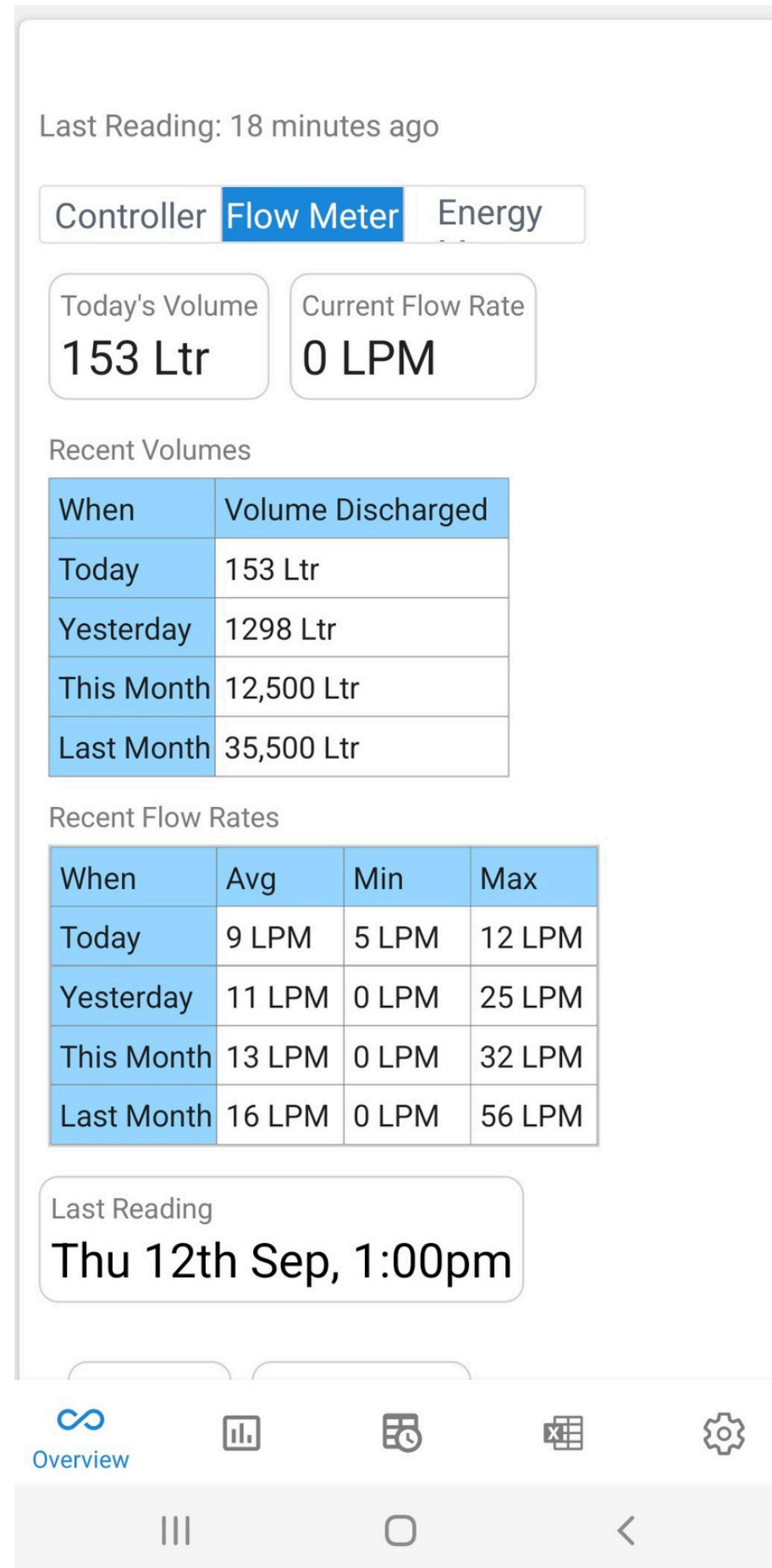
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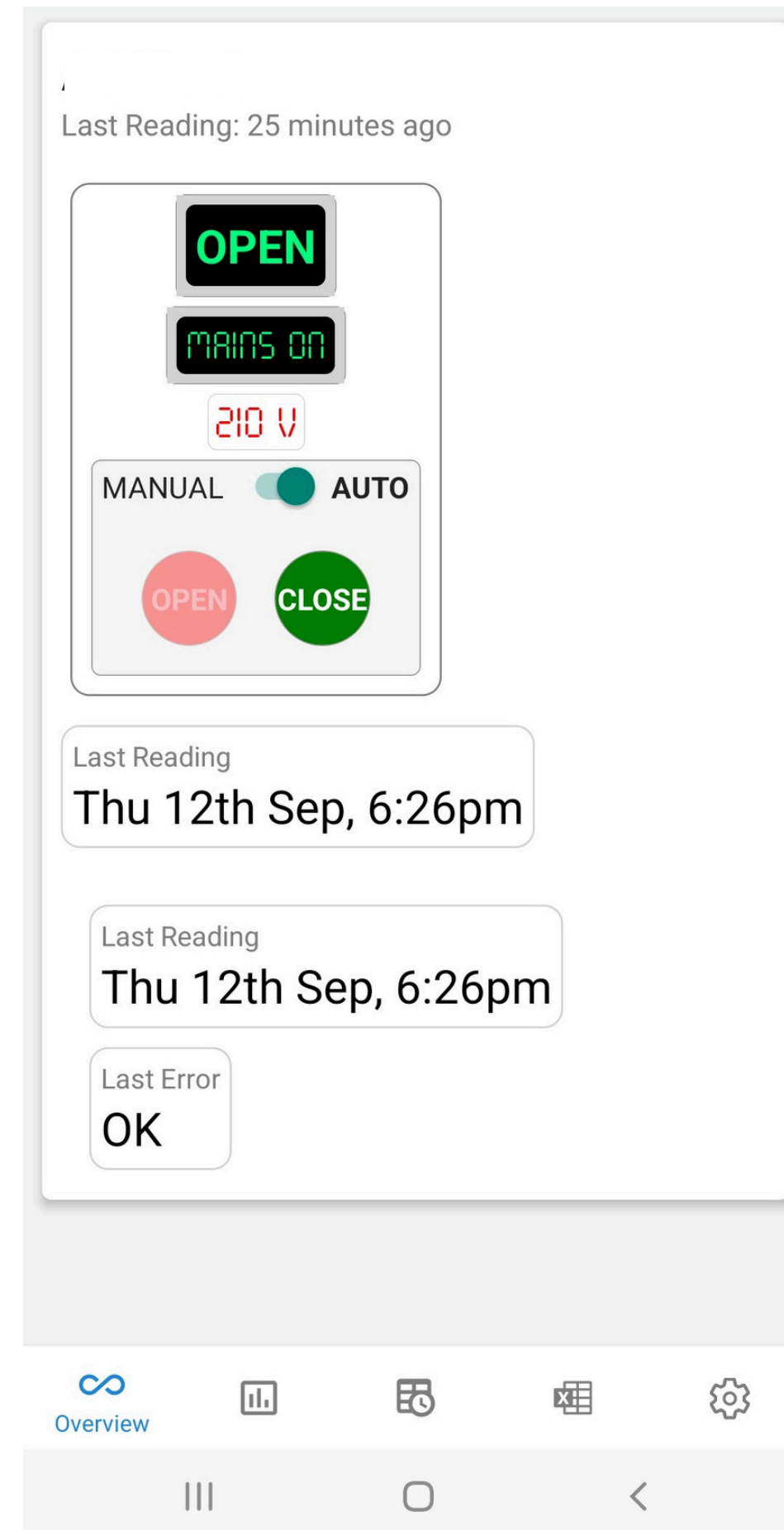
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Key Features

- **Real-Time Monitoring of Water Usage:**
The flow meter provided precise data on the volume of water processed, with hourly, daily, and monthly views available through the mobile app.
- **Automated Control of Water Flow:**
The motorized valve was configured to automatically shut off after a specific volume of water had been processed, preventing overuse of the softener plant and early depletion of salt.
- **Remote System Control:**
The manufacturer could remotely control the on/off status of the motorized valve through the app, giving him full control over the system from any location.
- **Transparency and Conflict Reduction:**
The manufacturer shared the app with his customers, providing full transparency on water usage. Customers could see how much water was being processed and understand the need for salt and chemical replenishment, reducing conflicts and disputes.
- **Proactive Salt Replenishment (Upcoming Feature):**
With the ultrasonic sensor for salt level monitoring, the manufacturer will soon be able to proactively manage salt levels, reducing the likelihood of unplanned downtime and improving customer satisfaction.