VICTOR STANLEY RELAY™

STREET LEVEL SENSING™ & WASTE CONTROL SERVICE

Sage receptacle: US Patent D785,269 S.

An orderly revolution in waste control.

VICTOR STANLEY®

CONTAINER 162

CONTENTS
GENERAL WASTE

150 NEWBURY STREET,
BOSTON, MA

LAT. 42.350781
LON. -71.077917

LAST COLLECTED
02/06/2024

90% CAPACITY
48 LBS

COLLECTION
REQUIRED

AVG. TIME BETWEEN
COLLECTIONS
2-DAYS

60% CAPACITY
30 LBS

BATTERY LEVEL
100%

10% CAPACITY
5 LBS

SIGNAL STRENGTH
97%

INCREASED
EFFICIENCY
90%

Sage receptacle: US Patent D785,269 S.

Most current waste and recycling collection systems follow a static model, where containers are picked up regardless of their content or fill level.

This inefficiency has an impact on monetary, environmental, and community costs, with some containers overfilling before they are collected, while others sit empty, yet are picked up anyway. There wasn't a better way, so we created one.

Victor Stanley Relay™ modernizes this system by monitoring the fill levels and weights of all containers, so that they can be collected at the optimal time. This service saves on collection expenses and ensures resources are allocated efficiently, while reducing fuel costs, carbon footprints, and unsightly overflowing waste.

Customers pay a small monthly subscription fee. Yearly and multi-year subscriptions are available.

HIGHLIGHTS

- Efficient resource allocation saves an estimated 70–90% in collection expenses

- Elimination of overfilling improves aesthetic appeal and community satisfaction

- Optimization of collection fleet reduces fuel waste, traffic congestion, and environmental impact

- Monitoring of containers provides holistic view of an area's trash and recycling status and improves landfill diversion rates

VICTOR STANLEY STREET LEVEL SENSING™

An all-in-one solution, Victor Stanley Relay™ features fully integrated sensors within new and existing Victor Stanley litter receptacles and recycling stations, wireless communications, and dedicated web portal for access to container conditions.

Utilizing our 60+ years of experience, we designed our proprietary Street Level Sensing™ technology to meet the challenges site furnishings face in high-use, commercial and urban environments at the street level. This means that fill level, weight, system temperature, container location, and collection status are continuously monitored — and real-time container conditions are automatically transmitted to the Victor Stanley Relay™ Service using standard cellular networks.

To maintain aesthetics, Victor Stanley Relay™ Sensors can be hidden within most Victor Stanley litter receptacles, recycling stations and lids. But smart design is only part of the story because our sensors are designed and built to remain reliable and accurate even in harsh environmental conditions. And they work with any type of waste (general trash, mixed recyclables, paper, glass, metals, etc.) while remaining out of sight, economical, and ecologically friendly.
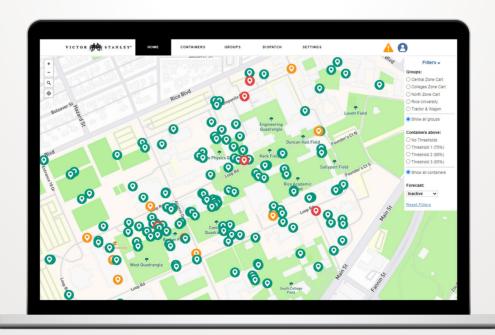
VICTOR STANLEY RELAY™ SERVICE

The onboard GPS module provides longitude and latitude coordinates of each container and communicates its location to the Victor Stanley Relay™ Service. In turn, our geocoding service automatically looks up the container's current street address and updates its location. This saves time, money and aggravation when relocating containers for special events or reassignment.
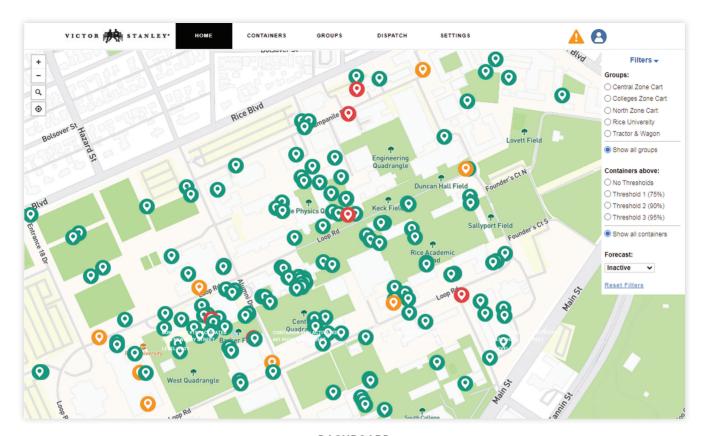
Efficiencies include:

- Elimination of wasteful fixed collection routing

- Reduced fuel costs, resource costs, and CO_2 emissions

- Increased environment livability and community satisfaction

- Users can check real-time status of containers

- Customizable alert triggers and push notifications can be set to receive information regarding fill level spikes, container location, collection status and dispatch reporting

- Real-time and historical information to maximize collection planning, scheduling, routing and resource utilization

- Access from anywhere through any device (via web portal) including web browser, smartphone, tablet, etc.
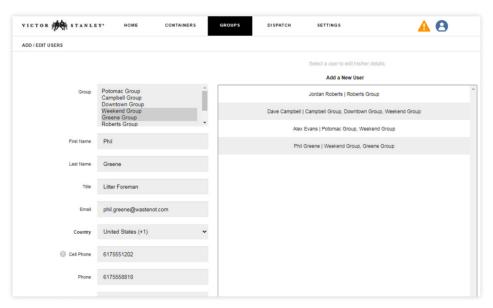
VICTOR STANLEY RELAY™ PORTAL

The Victor Stanley Relay™ Service is powerful and easy to use. Online demos are available upon request; please email relay@victorstanley.com for more details.
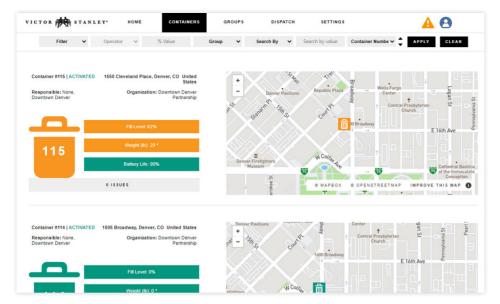
DASHBOARD

Identify high-priority containers and pressing issues at a glance. The onboard GPS module provides the coordinates of each container and communicates its location. In turn, our geocoding service automatically looks up the container's current street address and updates its location. Access from anywhere through any device (via web portal) including web browser, smartphone, tablet, etc. The Victor Stanley Relay App is available for download on your iPhone or iPad from Apple's App Store.

GROUPS

Create an unlimited number of users, administrators, and groups.
Manage user details for easy organization and reference. Use group assignments
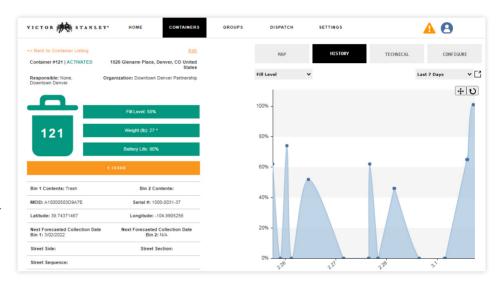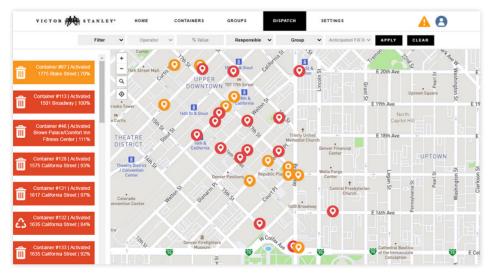so that users will only see containers they are responsible for.

CONTAINER SEARCH

View listings of all containers and use filters to narrow your search down by group or fill level. Search for individual bins by their container number or address, and sort the results to quickly find containers of interest.

CONTAINER DETAILS

Dive deeper with real-time and historical data for analysis and efficient dispatching. Technical details for each receptacle are available to maximize collection planning, scheduling, routing and resource utilization.

DISPATCH

Plan pickup routes and immediately dispatch notifications to relevant parties with the click of a button. Customizable alert triggers and push notifications can be set to transmit information regarding fill level spikes, container location, collection status and dispatch reporting.

	CCS-200SCL	CCS-210SCLW	CCS-220DCL	CCS-230DCLW	CCS-300SCW	CCS-310DCW
Cellular	✓	✓	✓	✓	✓	✓
GPS	✓	✓	✓	✓	✓	✓
Geocoding	✓	✓	✓	✓	✓	✓
Fill Level Sensing	✓	✓	✓	✓		
Smart Power Supply	✓	✓	✓	✓	✓	✓
Multi-use			✓	✓		✓
Battery Level	✓	✓	✓	✓	✓	✓
Estimated Weight	✓		✓			
Actual Weight Sensing		✓		✓	✓	✓
Usage	✓	✓	✓	✓	✓	✓

Model	Package and Compatibility	Example
CCS-200SCL	(1) Container (1) Wireless Device (1) Fill Level Sensor (1) Relay Subscription	SD-42 with fill level sensing and Relay Service
CCS-210SCLW	(1) Container (1) Wireless Device (1) Fill Level Sensor (1) Weight Sensor (1) Relay Subscription	SD-42 with fill level, weight sensing and Relay Service
CCS-220DCL	(2) Containers (1) Wireless Device (2) Fill Level Sensors (1) Relay Subscription	SD-242 with fill level and Relay Service
CCS-230DCLW	(2) Containers (1) Wireless Device (2) Fill Level Sensors (2) Weight Sensors (1) Relay Subscription	SD-242 with fill level, weight sensing, and Relay Service
CCS-300SCW	(1) Container (1) Wireless Device (1) Weight Sensor (1) Relay Subscription	S-42 with weight sensing and Relay Service
CCS-310DCW	(2) Containers (1) Wireless Device (2) Weight Sensors (1) Relay Subscription	DYN-242 with weight sensing and Relay Service
Others	Compatible with dual stream litter receptacles and recycling stations	SD-42 with split liner configuration (1) litter & (1) recyclables

But don't worry, we will configure the right solution for you…

SD-42

Sage Dual (SGE-236SA)
US Patents D783,919 S; D800,405 S.

SDC-36

SD-242

A-36

LTE Cat M1, Worldwide W-CDMA (UMTS) and GPRS/EDGE coverage

Onboard GPS module for concurrent reception of up to 3 GNSS (GPS, Galileo, GLONASS, BeiDou), for accurate geolocation and automatic address entry and updates

Automatic address lookups and record updates

Proprietary Victor Stanley Street Level Sensing™ technology — current and historic container fill levels

Self-contained and managed

Single wireless device, single service fee — even for dual container litter receptacles and recycling stations

Battery life display with low percentage indicator

Estimated container weight based on historical data and waste stream type

Proprietary Victor Stanley Street Level Sensing™ technology with integrated weight sensor for measured weight ± 3 lbs (1.36 kg)

Outdoors, high-use, commercial, and urban environments. Indoors, courtyards, mixed-use developments, etc.

PHYSICAL CHARACTERISTICS

- Stealthy enclosure hidden within and compatible with most Victor Stanley receptacles, recycling stations and lids.

- Tamper resistant hardware

- 16-gauge spun sheet metal

- Flame retardant ABS device enclosure

- 1/8" abrasion resistant acrylic sensor cover

- Water-resistant gasket

- All fabricated metal components are steel shotblasted, etched, phosphatized, preheated and electrostatically powder-coated with TGIC polyester powder coatings

- Environmental – IP Rating: IP 67 (Dust Tight & Immersion). Operational Temperature (ambient):
  - Typical: -10°F to +110°F (-23°C to +43°C)
  - Rated: -40°F to +140°F (-40°C to +60°C)
  - Environmental Chamber Tested: -40°F to +122°F (-40°C to +50°C)

FEATURES

- Continuously and automatically monitors fill level, weight, location, system temperature, and collection status

- Provides real-time and historical information for analysis and efficient dispatching

- Relay is hosted on a scalable, secure, resilient, and redundant Internet of Things (IoT) specific enterprise-grade cloud computing platform

- Monitors any waste stream – solids, recyclables, etc.

- Zero maintenance

- No installation required

- Off the shelf, economical and easily replaceable Lithium/Iron Disulfide batteries offering superior performance in extreme temperatures

- Additional data access via APIs, JSON, CSV, Excel, XML, and others

- The Victor Stanley Relay™ App is available for download from Apple's App Store. You can also access the web portal from any device, including your web browser, smartphone or tablet.

- Identity and access management

- Dual container compatible – In certain configurations, one wireless device is capable of monitoring dual container litter and recycling stations while requiring only one Relay service fee. See Package and Compatibility matrix for details.

- Automatically transmits and updates container location when relocated

- Self-contained power supply with an estimated life of 6+ years (typical use monitors once per hour and reports twice daily on average). Battery life may vary depending on configuration, transmission frequency, wireless signal strength and temperature. See battery life expectancy matrix below for further details

- Wireless remote configuration and software updates

- Wireless communications and push notification alerts

- Data can be captured and analyzed to improve efficiencies and operational results

BATTERY LIFE EXPECTANCY

Environmental		Configuration						Battery
Ambient Temperature (Avg.)	Wireless Signal Strength (Avg.)	Configuration	Readings (Avg. Per Day)	Reporting (Avg. Per Day)	GPS Usage (Avg. Per Activation)	GPS Usage (Avg. Per Year)		Life Expectancy* (Years)
-10°F to +110°F (-23°C to +43°C)	90% to 100%	A	24	1	1	1		10
		B	24	2	1	1		6-3/4
		C	24	3	1	1		4-1/2
		D	24	4	1	1		3-1/2
		E	24	5	1	1		2-3/4
		F	24	6	1	1		2-1/4

*All battery claims depend on the cellular network, location, signal strength, environment, configuration, usage, 10% battery manufacturer defect rate, and many other factors; actual results will vary. This document contains typical information specific to products manufactured at the time of its publication for reference only. Contents herein do not constitute a warranty.
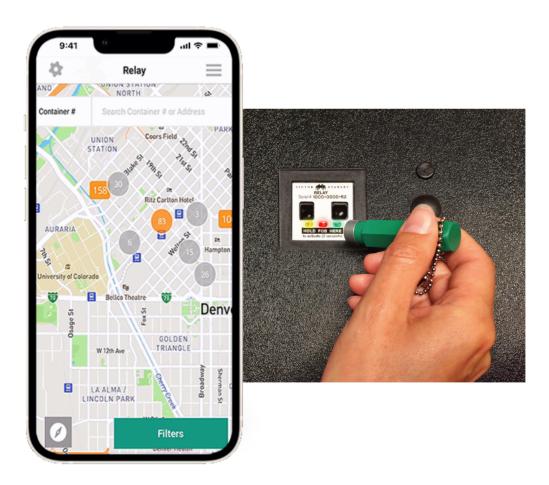
*Information and specifications are subject to change without notice

ACTIVATION

Victor Stanley Relay™ Sensors come fully integrated with any Victor Stanley side loading litter receptacle or recycling station and are ready to be activated once the container has been anchored on site.

Activation of the Relay Service is performed by simply waving the provided magnetic fob over the activation indicator at the center of the sensor. Activation confirmation can be done in the field using any internet connected smartphone or mobile device.

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VICTOR STANLEY®

Create a timeless moment.®