Chapter 1

Introduction

The patented ScriptPro Robotic Prescription Dispensing System is designed specifically for community, ambulatory, and managed care pharmacies. The system applies advanced technology to automate manual tasks, while reducing costs and dispensing errors. Robot systems also relieve pressure on pharmacy staff, providing time for counseling and better customer service. The system allows pharmacists time to assume more active roles in healthcare management.

This chapter includes the following topics:

How the System Works

The ScriptPro Robotic Prescription Dispensing System handles the pharmacy's most frequently dispensed tablets and capsules, and delivers filled and labeled vials at a rate of 150 prescriptions per hour. When a prescription is received from the pharmacy management system, the robot automatically selects the proper size vial and the designated drug, dispenses the required quantity, applies the label, and delivers the uncapped vial for final inspection and verification. The repetitive, manual aspects of dispensing most subject to human error are automated. The pharmacist maintains control of the dispensing process through prescription entry and approval of the finished product.

Features and Benefits

The ScriptPro Robotic Prescription Dispensing System is offered in the following sizes:

ScriptPro Robotic Prescription Dispensing Systems	
SP 50	50 Dispensing Cells
SP 100	100 Dispensing Cells
SP 200	200 Dispensing Cells
CRS	75 Dispensing Cells
CRS 150	150 Dispensing Cells
CRS 225	225 Dispensing Cells

NOTE: The total number of dispensing cells varies based on the robotics cabinet configuration.

Standard Features

The following are standard robot features:

- Robotic transport arm and gripper with optical counting sensor and barcode scanner.
- Vial labeling unit (thermal transfer or direct thermal printer) using standard label sizes
- Cell/drug label printer
- Report printer
- Computer control system
- SP Central control system
- Uninterruptible power supply (UPS)

Specific Features

The table below shows features specific to SP 200/SP 100/SP 50 robots.

Feature	SP 200	SP 100	SP 50
Universal medication dispensing cells with barcode identification and simple on-site adjustment for different tablet and capsule sizes	200 cells	100 cells	50 cells
Floor space required	22 square feet	18 square feet	16 square feet
Vertical vial dispensers	3 vial dispensers	3 vial dispensers	2 vial dispensers
OR Bulk Load vial dispensers	2 vial dispensers	2 vial dispensers	2 vial dispensers

NOTE: SP 200/SP 100/SP 50 robots can also be equipped with a spiral vial dispenser if the robot includes bulk load vial dispensers.

The table below shows features specific to CRS/CRS 150/CRS 225 robots.

Feature	CRS 225	CRS 150	CRS
Universal medication dispensing cells with barcode identification and simple on-site adjustment for different tablet and capsule sizes	225 cells	150 cells	75 cells
Floor space required	12.1 square feet	9.5 square feet	7 square feet
Bulk Load vial dispensers	2 vial dispensers	2 vial dispensers	2 vial dispensers

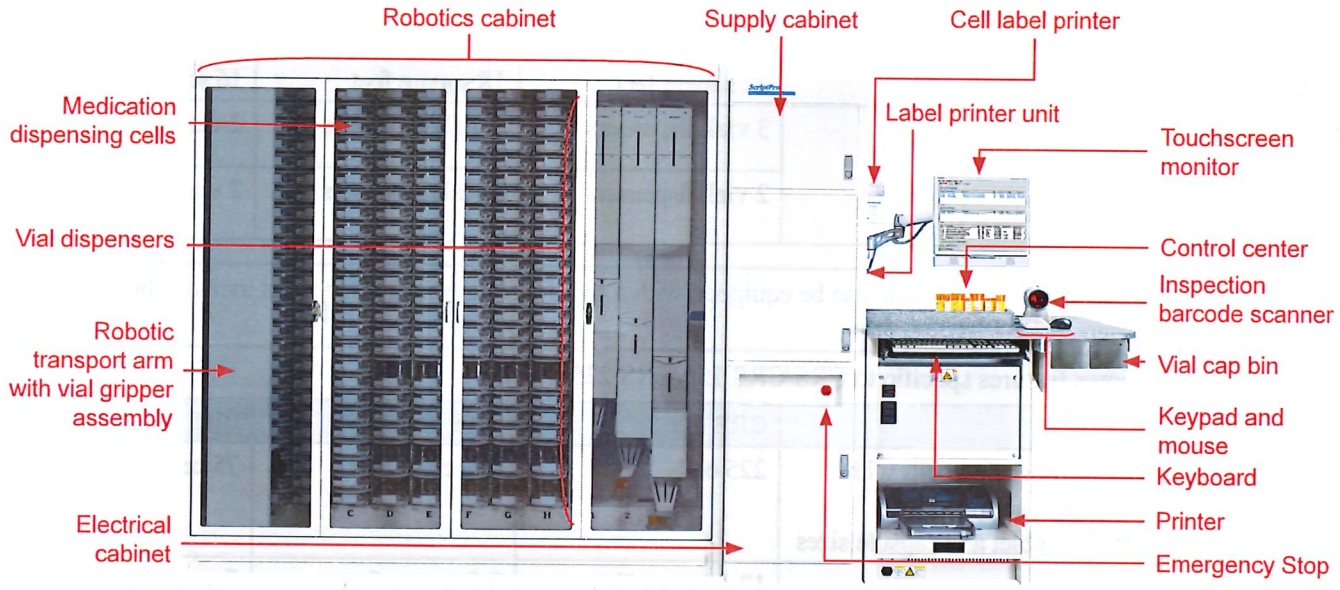
Benefits

The ScriptPro Robotic Prescription Dispensing System is a partner for profitability in today's community pharmacy. Robots use standard vials and labels, and works with the existing pharmacy computer systems. The robotic prescription dispensing system provides advanced technology that allows the pharmacy to realize numerous benefits, including:

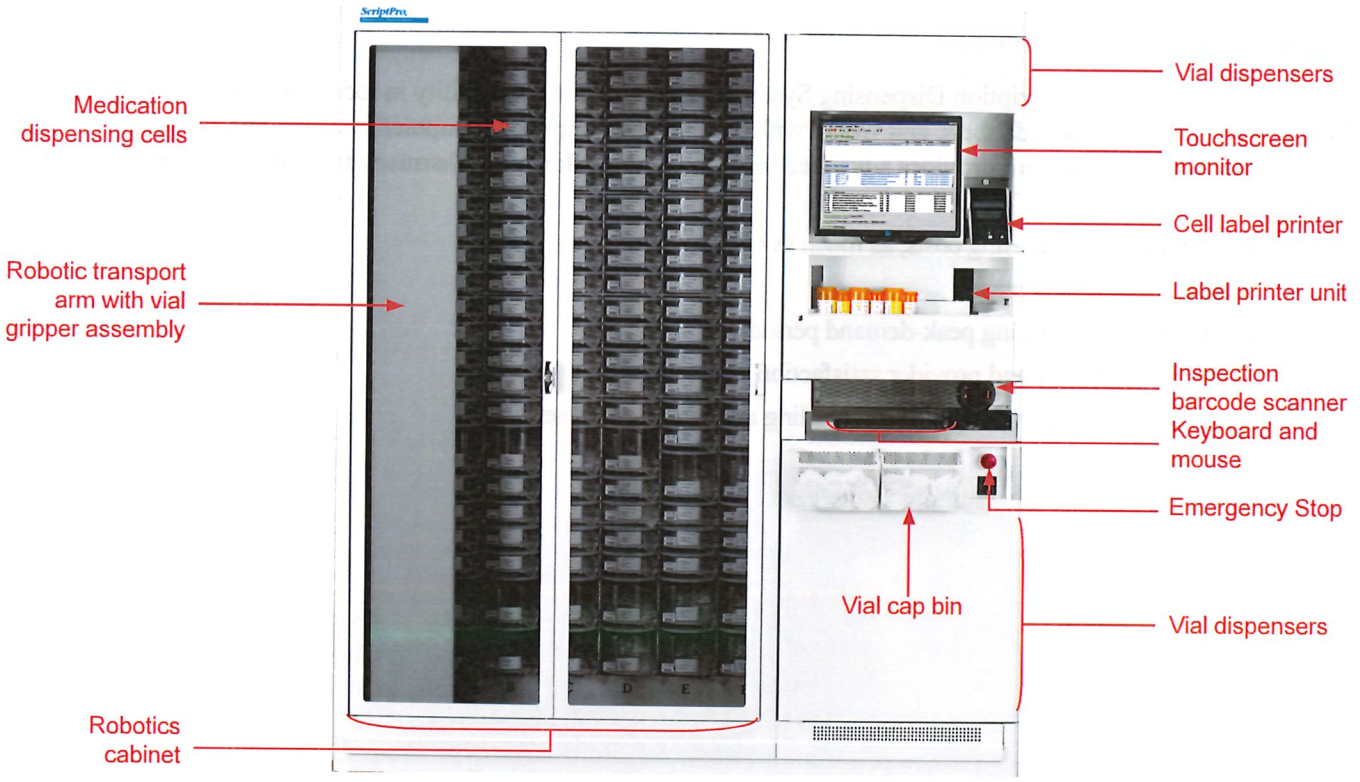
- Lower manual dispensing costs, as much as 66%
- Reduced dispensing errors
- Improved service during peak-demand periods
- Enhanced customer and provider satisfaction
- Increased time to provide patient counseling and other valued services

System Components

The ScriptPro Robotic Prescription Dispensing System provides compact and ergonomically positioned components that ensure a smooth and efficient workflow for the pharmacy.



SP 200 Robotic Prescription Dispensing System



CRS 150 Robotic Prescription Dispensing System

Robotics Cabinet

The following are the most commonly used robotics cabinet components.

Medication Dispensing Cells

The universal medication dispensing cells use barcode identification, and permit simple on-site adjustment for different tablet and capsule sizes. Each cell has a barcoded locator label, a product information label, a container for holding medication, a dry compartment, and an adjustable flowgate. Cells can be filled with tablets or capsules of any size or shape. Cells come in three different types—single, extended, or Robotic Cell Multiplexor (RCM). For additional information, see *Drug Layout Plan* on page 2-3.

Removing a Cell from the Robotics Cabinet

Electronic Door Locks

Robots equipped with electronic door locks (EDLs) provide a security measure which requires user authentication to open the robotic cabinet door(s). The system logs the date, time, operator initials (if applicable), action, and machine state every time the electronic locks are locked/unlocked, and on shutdown and startup of the robot. The system can also be configured to automatically relock the electronic locks after a specified period of time when the cabinet door is closed.

NOTE: The system only records the date and time if the EDL is accessed without power. For more information on EDLs, see the *Robotics Operator Guide*.

Locking Cell Column

Robots equipped with EDLs may also contain a locking cell column. The locking cell column provides pharmacies with an additional security measure, which prevents unauthorized users from accessing drugs loaded in column A of the robotics cabinet. EDLs can be opened independently of the locking cell column, thereby allowing a user access to the robotics cabinet, but keeping the cells in the locking cell column secure.

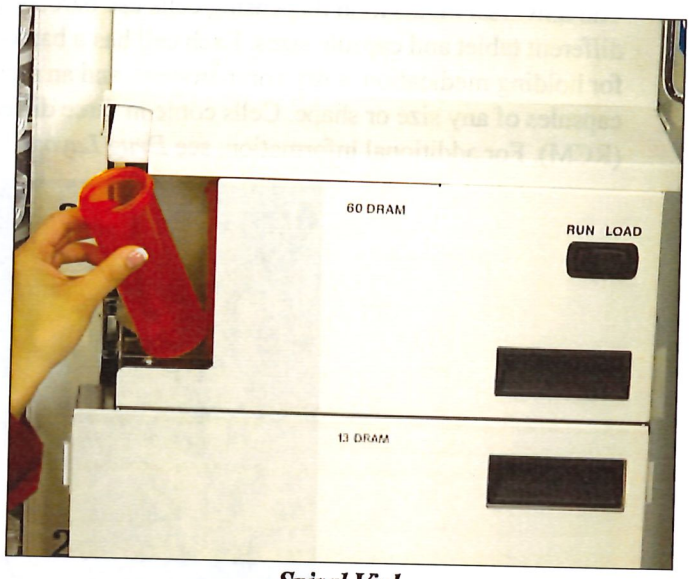
NOTE: For more information on locking cell columns, see the *Robotics Operator Guide*.

Vial Dispensers

Depending on the robot build series, the robot may include vertical vial dispensers, bulk load vial dispensers, and/or spiral vial dispensers, which support standard pharmacy vials, and can use multiple vials to fill large quantity prescriptions.

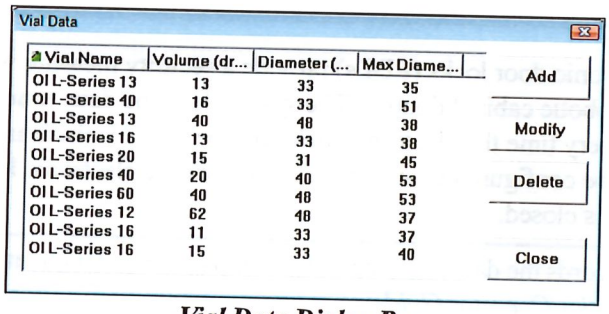
Vertical Vial Dispenser

Bulk Load Vial Dispenser



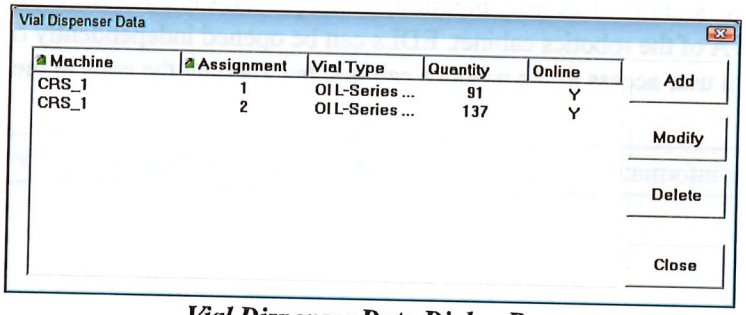
Spiral Vial Dispenser

The specific vials that can be used in the vial dispensers are listed in the **Vial Data** dialog box, accessed by making the following selections from the main menu: **Hardware**, **Vials**, **Vial Data**.



Vial Data Dialog Box

The vials currently used in the vial dispensers are listed in the **Vial Dispenser Data** dialog box, accessed by making the following selections from the main menu: **Hardware**, **Vials**, **Vial Dispenser Data**.



Vial Dispenser Data Dialog Box

When the system receives a script to fill, the system determines the optimum size vial to use. If the largest loaded vial cannot accommodate the script quantity, multiple vials are used.

Incorrect vial dispenser loading can result in a vial dispenser jam. It is important to load the vial dispenser with the correct size and type of vial, and to avoid loading warped or otherwise defective vials. When using vertical vial dispensers, alternate the direction of the open ends of the vials while loading. If the vial dispenser is overfilled, the weight of the vials can also cause a vial dispenser jam to occur.

NOTE: Actual fill quantities are determined by the size and brand of vial, and the size of the vial dispenser. Systems equipped with backloading vial dispensers can be loaded from the front or back causing the fill quantity to be slightly higher. For fill quantity information, see the ***ScriptPro Supplies Catalog***.

Vertical Vial Dispensers

SP 200/SP 100/SP 50 robots can be equipped with vertical vial dispensers. This table shows representative vertical vial dispenser fill quantities.

Dispenser	Vial Size	Approximate Fill Quantity
1	12/13 Dram	200
2	16 Dram	240
2	30 Dram	120
3	40 Dram	150
3	60 Dram	140

NOTE: Dispensers 2 and 3 are available on all SP 200/SP 100/SP 50 robots. Dispenser 1 is available only on SP 200 and SP 100 robots.

Bulk Load

This table shows representative bulk load vial dispenser fill quantities.

Vial Size	Approximate Fill Quantity
12/13 Dram	400
16 Dram	300
30 Dram	170
40 Dram	125
60 Dram	Not Available

Spiral Vial Dispensers

SP 200/SP 100/SP 50 robots can be equipped with spiral vial dispensers. Spiral vial dispensers support 60 Dram vials with a fill quantity of approximately 31.

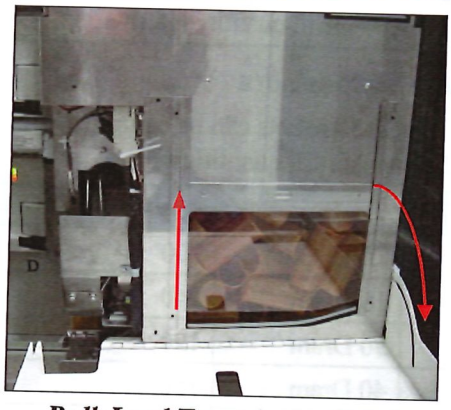
Vial Dispenser Access Door

Vertical and Bulk Load vial dispensers are equipped with an access door. Opening the access door provides the ability to remove vials and clear vial jams.

- For vertical vial dispensers, unlatch the door and pull towards you.
- For bulk load vial dispensers, unlatch the door, pull towards you, and slide the plastic cover up.

NOTE: Open vial access doors slowly so vials do not fall out. Close vial access doors slowly so vials do not become jammed by the door.

Vertical Vial Access Door



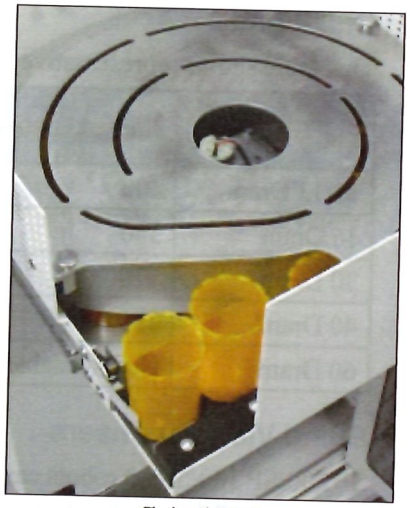
Bulk Load Front Access Panel

Vial Dispenser Chute

Vials travel through the vial dispenser chute and arrive for pickup by the gripper assembly.

Vertical Vial Dispenser Chute

Bulk Load Vial Dispenser Chute

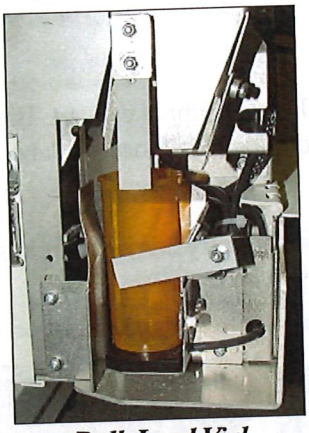


Spiral Vial Dispenser Chute

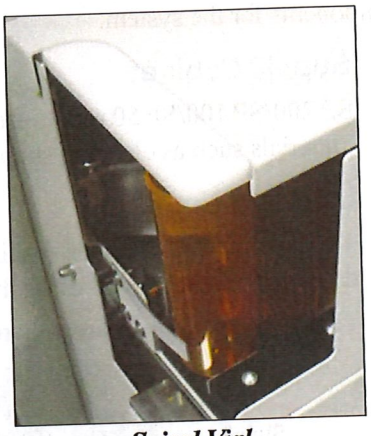
Vial Dispenser Flaps

The vial dispenser flaps help support the vial when it drops in the chute.

Vertical Vial Dispenser Flaps



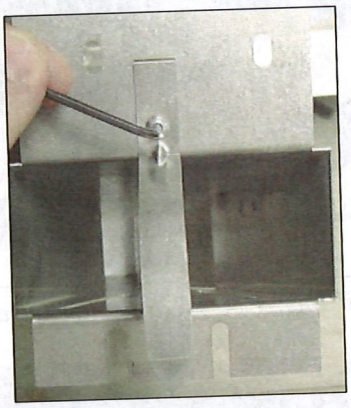
Bulk Load Vial Dispenser Flaps



Spiral Vial Dispenser Flaps

Vial Dispenser Drop Spring

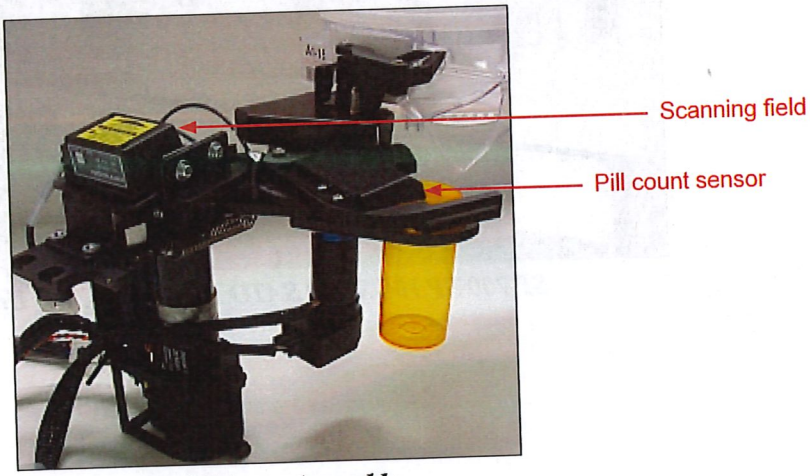
The vial dispenser drop spring holds the vial in place in the chute until the vial pickup area is clear.



Vial Dispenser Drop Spring

Vial Gripper Assembly

The vial gripper assembly, carried by the robotic transport arm, selects the proper vial from the vial dispenser, transports it to the medication cell for filling, verifies the cell location label, and delivers the filled vial to the labeling unit where labels are printed and applied.



Vial Gripper Assembly

Electrical Cabinet

The electrical cabinet, attached to the robotics cabinet, houses the supply cabinet, labeling unit, and electronic components for the system.

Supply Cabinet

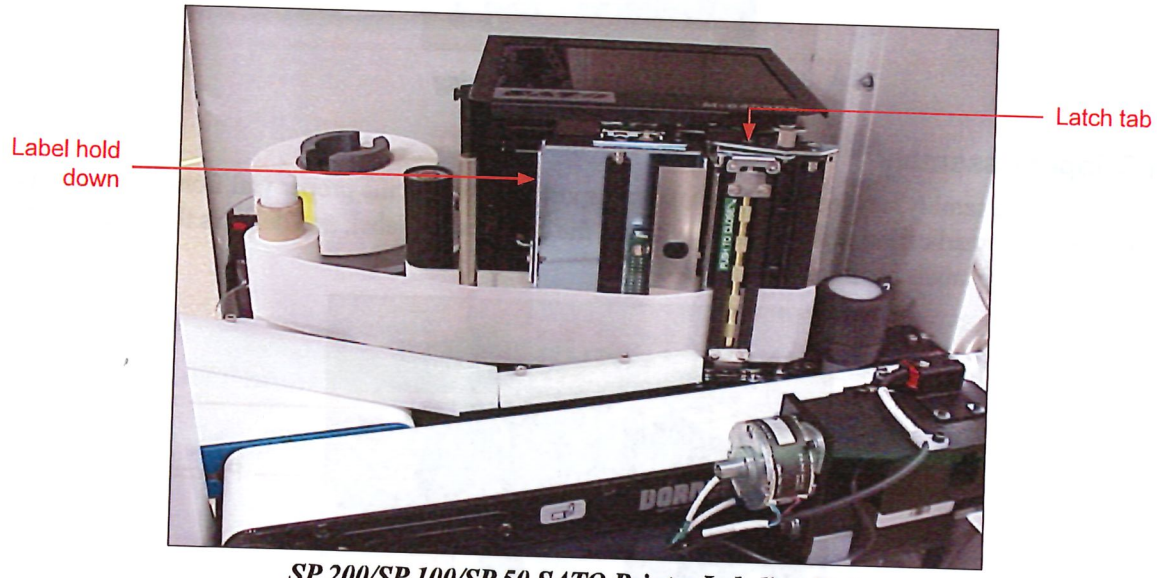
SP 200/SP 100/SP 50 robots are equipped with a supply cabinet. The supply cabinet provides storage for materials such as cleaning supplies and additional cell location label barcodes.

Labeling Unit

The labeling unit receives the filled vial on the entry conveyor, prints and applies the prescription label, and delivers the labeled vial using the exit conveyor.

Thermal transfer and direct thermal printers are available. The direct thermal printer does not use ribbon.

SP 200/SP 100/SP 50 VS25 Printer Labeling Unit



SP 200/SP 100/SP 50 SATO Printer Labeling Unit

CRS/CRS 150/CRS 225 VS25 Printer Labeling Unit

NOTE: For information on changing labels and cleaning the labeling unit, see the *Hardware Maintenance Guide*.

Uninterruptible Power Supply (UPS)

If there is a power loss in the pharmacy or if the system is unplugged from its power source, the UPS begins to beep, the robot automatically shuts down, and a teal-colored screen appears. The robot may finish the script it is working on, or it may produce an unlabeled vial.

NOTE: The UPS is located behind the control center panel for SP 200/SP 100/SP 50 robots. The UPS is located behind the lower Vial Access Door for CRS/CRS 150/CRS 225 robots.

CAUTION: Do not interfere with the auto shutdown or try to restart SP Central when power has been lost. Wait for the computer to complete the shutdown process. Contact ScriptPro Customer Service, if necessary, to bring the system back online when power is restored.

CAUTION: Never remove power from the system in a non-emergency situation without properly shutting down the system. To ensure proper shutdown, contact ScriptPro Customer Service.

Exterior Components

The following are commonly used exterior components.

Exterior Component	Description
Monitor	The touchscreen monitor is attached to the robot to allow operators access to the software while standing at the robot.
Report Printer	The report printer prints reports sent to the printer from the robot.
Cell Label Printer	The cell label printer is used to print labels when a new drug is assigned to a cell.
Inspection Barcode Scanner	Used to scan vial barcodes, cell location labels, and drug stock bottle barcodes during operation. To scan a barcode, position the barcode four to eight inches in front of the scanner. Scan patterns can vary depending upon barcode types and densities.
Keyboard	The robot includes a standard keyboard.
Keypad	SP 200/SP 100/SP 50 robots include a numeric keypad. The keypad can be used as a substitution for the numeric pad located on the keyboard if an operator does not want to pull out the keyboard drawer.

Electronic Components

The following are commonly used electronic components.

Electronic Component	Description
Central Processing Unit (CPU)	The robot runs off a central processing unit (CPU). The CPU is located in the computer cabinet.
Bulkhead	The bulkhead allows all control cables to connect in one area.
Power Supply	For information on the uninterruptible power supply (UPS) in relation to the robot, see *Uninterruptible Power Supply (UPS)* on page 1-11. Please refer to the UPS user's manual for general UPS information.
Device Master	Used to connect serial devices and running applications that benefit from real-time performance speed.
Network Switch	A network device that selects a path or circuit for sending a unit of data to its next destination. It actively looks at the traffic it receives, and based on the destination address, directs that traffic only to the port needed. The switch listens to each port simultaneously without any interference.
Hardware Firewall	Separates a local area network (LAN) into two or more parts for security purposes.
Network Hub	Connects multiple devices, causing them to act as a single network segment.
XFC Interface	A printer intercept, which allows a printer to be connected to the robot.
Orbital Wedge	Connects the keypad and barcode scanner to the bulkhead.