Doser x100
Accessible Syringe Dosing Device

User’s Manual

Team 1
Megan Bowers
Robert Mock
Gabriel Goldman
Karen Young
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General

The Doser x100 is an accessible syringe dosing device that mechanically and electronically fills a ¼” diameter syringe to an accuracy of 0.01cc. The device helps people who are blind, hearing impaired, or lack fine motor skills as a result of stroke or heart attack that are insulin or heparin dependant. The Doser x100 is designed for these people to use the device at home on a regular basis. The device does not inject the medication; it is only used for filling the syringe with the medication.

The syringe is filled via a linear actuator and a stepper motor, and employs a microprocessor. This device uses an LCD display and Braille keypad, and text to speech for ease of operation.
**Preface**

This manual contains information for the Doser x100 accessible syringe dosing device.

The manual consists of the following sections:

- **Getting Started** - briefly describes the basic features of the device and the setting up the Doser x100.
- **Operating Basics** - describes the operating procedures to correctly dose a syringe
- **Troubleshooting** - possible solutions to malfunctions

**Help Menu**

The accessible syringe dosing device has a help option. Press help anytime for assistance.

The help menu displays the function of each key of the keypad as it relates to the command.

![Image of help menu displaying press help any time message](image-url)
Getting Started

It is recommended that the Doser x100 stand vertical and against a wall or on a flat sturdy surface.

General Features

- LCD display
- Braille Numerical Keypad
- Text-to-speech
- Wall outlet power supply

Installation

Power Cord: Power supply is contained in unit. Plug adapter into wall and into the side of the housing case.

Caution! Do not use near water. Unplug when not in use.
**User Interface**

The LCD displays menus and dosing amounts in units and command functions. The commands are entered by the user using the Braille keypad. All commands displayed on the device’s LCD will also be read aloud by the program’s text-to-speech feature. The accessible syringe dosing device has a help option. Press help anytime for assistance. The help menu displays the function of each key of the keypad as it relates to the command
Operating Basics

Install the syringe and medication by rotating the optical switch towards the left when the device is vertical and placing the plunger part of the syringe into the opening of the switch. Lift the steel clamp up slightly and slide the syringe into place. Then place the bottle piece onto the device. Make sure the needle punctures through the medication top. Then slide the arm of the bottle piece into the corresponding place on the case. The placement of the syringe should appear as below.
Turn on the device by switching the red I/O button on the device to the ON position, as seen below. The device will activate and a Welcome message will appear on the display followed by a Main Menu.

Main Menu

The Main Menu will display the Dosing command. Enter the amount of medication to be injected in units (1 unit = 0.01 cc). Press CLEAR if the incorrect amount is entered or if additional units must be added to the dose. Follow command prompts until dosing is complete.
Dosing

Enter amount of medication to be inserted into the syringe to the nearest 0.01cc. When dosing amount is confirmed, hold down steel tab that secures the syringe during dosing, as seen in the photo below.

When dosing is complete remove syringe and press ENTER to confirm removal of syringe and completion of dosing. If a second dosage of medication is required, when the device asks if dosing is complete, press CLEAR to enter a second dosage. If two types of medication must be administered together switch medication by removing the bottle apparatus and switching the medication. The medication for dosing must be in the Number 1 bottle slot. Leave the syringe in the device while switching medication.
When dosing is complete remove the syringe from the device and turn OFF the device by pressing the red I/O button to the OFF position.
Trouble Shooting

The Doser x100 is designed to have a removable front panel for easy trouble shooting of components.

Power Supply

If there is a lack of power to the device, check that all the connections are securely fastened. If the green light on the power pack does not turn on then there is no power to the circuit board and the power supply may need to be replaced. Replace the power supply with a US Digital PS-24 AC adapter (24V, 2.5A output).

Syringe

Syringe must be a ¼” diameter 1 cc syringe. Make sure the plunger of the syringe is completely inserted into the black LED on the small square piece. Make sure syringe is tightly secured by holding down the steel tab while dosing.

Circuit

Check to make sure that all wires are connected and no bare wires are touching each other. Check for any abnormally hot elements in the circuit. If any of these problems exist, unplug device and contact manufacturer.
References

The Doserx100 contains components from the following manufacturers:

- Digi-Key
- US Digital
- Haydon Switches and Instruments Inc.
- Jameco Electronics
- Mansfield Supply
- Sensory Inc
- PCB Express