
**SDS-550 Sample Dilution System
Software Manual**

Product Warranty Statement

SD Acquisition, Inc., DBA CETAC Technologies (“CETAC”), warrants any CETAC unit manufactured or supplied by CETAC for a period beginning on the date of shipment and ending on the sooner to occur of: (a) the date that is twelve (12) months from the date of installation, or (b) the date that is thirteen (13) months from the date of shipment. Units found in the reasonable judgement of CETAC to be defective in material or workmanship will be repaired or replaced by CETAC without charge for parts and labor. CETAC reserves the right to change or improve the design of any unit without assuming any obligation to modify any unit previously manufactured.

This warranty does not cover any unit that has been subject to misuse, neglect, negligence, or accident. The warranty does not apply to any damage to the unit that is the result of improper installation or maintenance, or to any unit that has been operated or maintained in any way contrary to the instructions specified in the CETAC instruction and operation manual. Operation of the CETAC unit inside a laboratory fume hood is contra-indicated and will void the warranty. Any attempt to repair or alter any CETAC unit by anyone other than by CETAC authorized personnel or agents will void this warranty. If any non-CETAC component is installed in the CETAC manufactured unit without the approval of CETAC, the warranty will be voided. In addition, this warranty does not extend to repairs made necessary by the use of parts, accessories or fluids which are either incompatible with the unit or adversely affect its operation, performance or durability. CETAC’S obligation under this warranty is strictly and exclusively limited to repair or replacement of defective CETAC parts, and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any unit.

The foregoing express warranty is in lieu of all other warranties, expressed or implied, including warranties of merchantability and fitness for a particular purpose. CETAC shall not be bound by any representations or statements on the part of its employees or agents whether oral or in writing and including any made in catalogues and other promotional material including technical details and specifications except where such representations and statements are expressly made part of this contract. CETAC assumes no responsibility for incidental, consequential or other damages, even if advised of such a possibility, including but not limited to loss or damage of property, loss of revenue, loss of use of the unit, loss of time, or inconvenience. CETAC’s liability on any claim for loss or damage arising out of the sale, resale or use of any of its products shall in no event exceed the selling price of the unit.

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Products may not be returned which are contaminated by radioactive materials, infectious agents, or other materials constituting health hazards to CETAC employees.

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If an out of warranty defect exists, the buyer shall be notified of the repair cost. At such time the buyer must issue a valid purchase order to cover the cost of repair and freight, or authorize the products to be shipped back as is, at the buyer's expense. Failure to obtain a purchase order number approval within fifteen (15) days of notification will result in the products being returned as is, at the buyers expense.

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REVISIONS

CETAC Technologies strives to provide the scientific community with an unparalleled combination of effective technology and continuing value. Modular upgrades for existing instruments will continue to be a prime consideration as designs progress.

CETAC Technologies reserves the right to revise this document and/or improve

products described herein at any time without notice or obligation. Warranty registration entitles the named owner exclusively to manual change pages/new editions as they are published.

SAFETY

Instruments, accessories, components or other associated materials **may not** be returned to CETAC Technologies if contaminated with biohazard or radioactive materials, infectious agents, or any other materials and/or conditions that could constitute a health or injury hazard to CETAC employees. Call Customer Service and Support if there is any question or doubt relative to decontamination requirements.

All user-serviceable components are specifically identified in this document as such; the balance shall be assumed to require the expertise of a factory service technician/engineer for adjustment, repair, replacement, modification, etc. Others not so qualified and performing these actions shall do so at their own risk. Furthermore, never operate the instrument without first reading and understanding the *SDS-550 Sample Dilution System Operator's Manual* and ensuring that all components are properly installed and in good condition.

ORIGINAL PACKAGING

Retain original factory packaging for moves and factory return shipments. Shipping in anything other than the original fitted foam and container can result in incidental damage from which the purchaser will not be protected under warranty.

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Preface

Preface

The *SDS-550 Sample Dilution System Software Manual* explains the procedures for installing and using the CETAC SDS-550 System software.

Who Should Read This Manual

The primary audience for the *SDS-550 Sample Dilution System Software Manual* consists of analytical chemists and lab technicians. To use this manual effectively, you should have a strong knowledge of chemistry, a basic knowledge of electronic sampling equipment, at least a beginning level of computer experience, and working knowledge of ICP-AES or ICP-MS systems.

How to Use This Manual

The *SDS-550 Sample Dilution System Software Manual* contains three chapters. You should read the chapters sequentially the first time. Thereafter, refer to the chapters separately as needed. The first chapter explains how to install the SDS-550 System Software. The second chapter describes the software in detail. The third chapter outlines method development.

The *SDS-550 Sample Dilution System Software Manual* contains the following chapters:

Chapter 1, "Installing the SDS-550 System Software", provides you with instructions to install the software.

Chapter 2, "Details of the SDS-550 System Software", describes the features of the software.

Chapter 3, “Method Development with the SDS-550 Software”, provides step-by-step instructions for a typical dilution method.

Conventions Used in This Manual

This manual uses certain conventions to distinguish different types of information easily. This section describes these conventions.

Instructions

All step-by-step instructions are numbered and in bold, as in the following example.

1 Replace the sample vial racks.

Many numbered instructions are followed by more detailed explanations.

Terminology

This manual frequently uses the following terms:

SDS-550 The SDS-550 Sample Dilution System.

Host computer The computer which controls the operation of the SDS-550 System.

Notes

Notes contain a reminder about the effect of particular actions. They are indicated as follows:

Preface

Note:

This example shows how a note is displayed.

Cautions

Cautions indicate situations that require immediate attention to prevent harm to the SDS-550 system. Cautions are indicated as follows:

CAUTION

This example shows how a caution is displayed.

Warnings

Warnings indicate situations that could cause bodily harm. Warnings are indicated as follows:

WARNING

This example shows how a warning is displayed.

Where to Go for More Information

In addition to the *SDS-550 Sample Dilution System Software Manual* you can refer to the following resources:

- *SDS-550 Sample Dilution System Operator's Manual.*
- CETAC Technologies Customer Service and Support:
 - Phone 1 (800) 369-2822 (USA Only)
 - Phone 1 (402) 733-2829
 - Fax 1 (402) 733-1932
 - E-mail custserv@cetac.com

1

Installing the System Software

Installing the SDS-550 System Software

Introduction to the SDS-550 System Software

The SDS-550 System software is designed for flexibility and ease of use. The software is compatible with most Microsoft® operating systems, including Windows® 2000, Windows XP, Vista and Windows 7. The computer must have an available serial port and at least 1 GB of memory (2 GB for Windows 7).

Installing the SDS-550 System Software

The SDS-550 System software is supplied on a CD-ROM. To install the software, follow the steps:

- 1 Start the host computer.**
- 2 Insert the SDS-550 CD-ROM into the host computer.**
- 3 In Windows Explorer, select the CD drive.**
- 4 Double-click Setup.exe. Follow the on-screen prompts to complete the software installation.**

**Details of the
SDS-550 System Software**

Details of the SDS-550 System Software

Description of the SDS-550 System Software

Entering the SDS-550 System Software

To enter the SDS-550 System Software, follow the steps below:

- 1 From the main Windows® screen, access the start button at the bottom left corner of the screen.**
- 2 Select Programs>>Sample Dilution System>>SDS-550 and double click.**

The main SDS-550 Sample Dilution Screen appears (Figure 2-1).

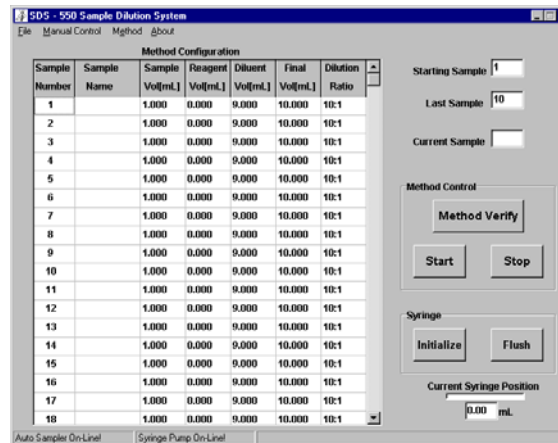


Figure 2-1. SDS-550 Sample Dilution Main Screen.

Note:

The main SDS-550 Sample Dilution Screen may also be accessed by double-clicking on the CETAC Dilution Program icon in the main Windows® screen.

There are three primary areas of the software: 1) the SDS-550 Sample Dilution System Main Screen, 2) the Manual Control Screen, and 3) the Configure Auto Sampler / Syringe Screen. The Manual Control Screen may be accessed directly at the menu bar at the top of the Main Screen. The Configure Auto Sampler / Syringe Screen may also be accessed at the same menu bar via the Method option. Following are descriptions of each of these three primary areas.

SDS-550 Sample Dilution System Main Screen

The Main Screen (see Figure 2-1) allows the user to enter sample, reagent, and diluent volumes (in mL) prior to starting a dilution sequence. The starting and last sample numbers are then entered and the sequence initiated by clicking the Start button. The sequence may be halted by clicking the Stop button. Controls are also included to initialize and flush the syringe.

Manual Control Screen

The Manual Control Screen (Figure 2-2) allows direct access to a particular sample vial position, the sample probe, the syringe assembly, and the Auto Sampler rinse pump. This screen is very useful for diagnostic tests and troubleshooting.

SDS-550 Sample Dilution System Software Manual
Details of the SDS-550 System Software

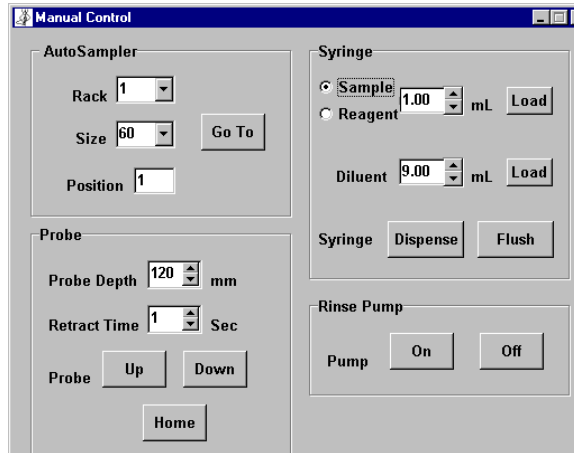


Figure 2-2. Manual Control Screen.

Configure Auto Sampler / Syringe Screen

The Configure Auto Sampler / Syringe Screen (Figure 2-3) allows the user to select the size and function (input or output) of the sample vial racks. Other controls allow setting the sample probe depth and retract time. The syringe offsets may be used to calibrate the syringe, and syringe speeds may be adjusted for uptake and dispensing.

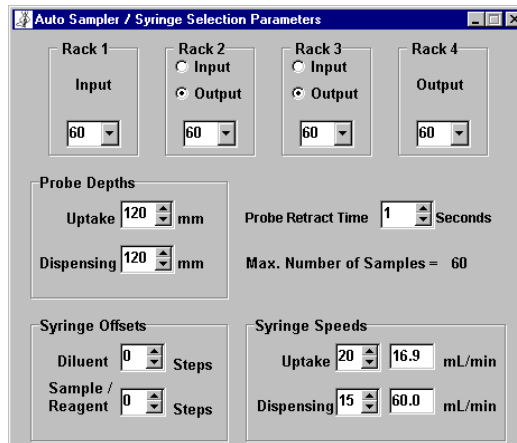


Figure 2-3. Configure Auto Sampler / Syringe Screen.

Details of the SDS-550 Sample Dilution System Main Screen

The SDS-550 Sample Dilution System Main Screen (Figure 2-1) has four sections: Method Configuration, a sequence setup area, Method Control, and Syringe.

Method Configuration

The large Method Configuration section (Figure 2-4) has a total of seven columns. The columns will contain information for sample number, sample name, sample volume, reagent volume, diluent volume, final volume, and dilution ratio.

NOTE:

All volumes in milliliters (mL).

Details of the SDS-550 System Software

Method Configuration						
Sample Number	Sample Name	Sample Vol[mL]	Reagent Vol[mL]	Diluent Vol[mL]	Final Vol[mL]	Dilution Ratio
1		1.000	0.000	9.000	10.000	10:1
2		1.000	0.000	9.000	10.000	10:1
3		1.000	0.000	9.000	10.000	10:1
4		1.000	0.000	9.000	10.000	10:1
5		1.000	0.000	9.000	10.000	10:1
6		1.000	0.000	9.000	10.000	10:1
7		1.000	0.000	9.000	10.000	10:1
8		1.000	0.000	9.000	10.000	10:1
9		1.000	0.000	9.000	10.000	10:1
10		1.000	0.000	9.000	10.000	10:1
11		1.000	0.000	9.000	10.000	10:1
12		1.000	0.000	9.000	10.000	10:1
13		1.000	0.000	9.000	10.000	10:1
14		1.000	0.000	9.000	10.000	10:1
15		1.000	0.000	9.000	10.000	10:1
16		1.000	0.000	9.000	10.000	10:1
17		1.000	0.000	9.000	10.000	10:1
18		1.000	0.000	9.000	10.000	10:1

Auto Sampler On-Line | Syringe Pump On-Line

Figure 2-4. Method Configuration Section.

The maximum number of samples is 180, using two 90-position input racks. You can scroll down to access higher numbered samples; a sample name of up to 10 characters can be entered next to a sample number.

The desired sample, reagent, and diluent volumes for a particular sample are entered in their respective cells. If no reagent is to be added, simply type "0" in that cell. To quickly enter the same volume of sample, reagent, or diluent for a large number of samples, enter the volume in the specific cell and double-click the left mouse key. The entered volume will appear in all cells below the first one selected. To change the volume after a certain number of samples, simply go to or scroll to the desired sample number and enter the new volume. You can again double-click the left mouse key to fill all cells below the first with the new volume.

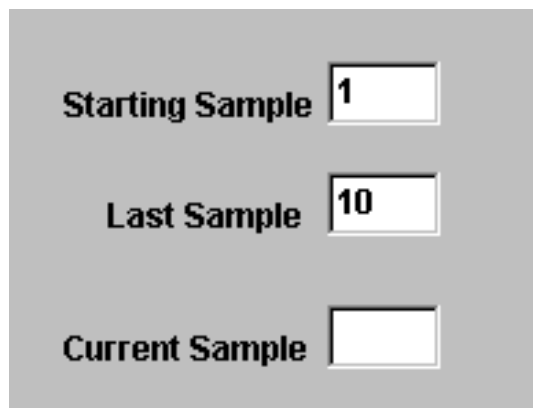
The values in the final volume column will be the sum of the sample, reagent, and diluent volumes. To update a final volume for a specific sample after changing a sample, reagent, or diluent volume, click on the Method Verify button in the Method Control section. The dilution ratio

will also be updated in the last column. Note that the dilution ratio will be indicated in whole numbers; fractions will be rounded.

A final volume or dilution ratio can also be updated via the top menu bar by selecting Method>>Method Verify.

Sequence Setup

To designate a particular starting and last sample for a dilution sequence, go to the upper right of the Main Screen (Figure 2-5). Enter the sample numbers for the starting and last samples. To perform a dilution for only one sample, enter the same sample number for both the starting and last sample. As the automatic dilution sequence progresses, the current sample number will be updated.



The image shows a screenshot of the 'Sequence Setup' section of the software interface. It consists of three vertically stacked input fields on a light gray background. The first field is labeled 'Starting Sample' and contains the number '1'. The second field is labeled 'Last Sample' and contains the number '10'. The third field is labeled 'Current Sample' and is currently empty.

Figure 2-5. Sequence Setup Section.

Method Control

In the Method Control section (Figure 2-6) you can update new method configuration entries (e.g. sample volume) by clicking on the Method Verify button. Clicking on the Start or Stop buttons will begin or terminate a dilution sequence.

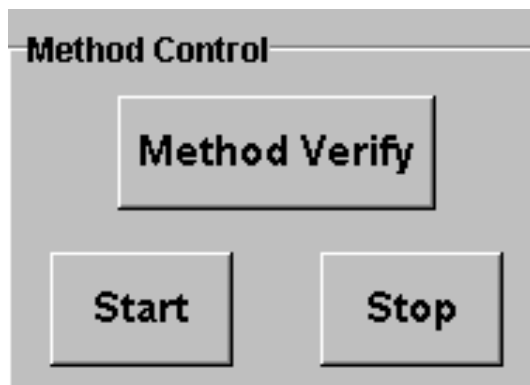


Figure 2-6. Method Control Section.

Syringe Section

In the Syringe section (Figure 2-7) you can test communications to the syringe assembly by clicking on the Initialize button. If communications have been established, the syringe plunger will move slightly (up and down). If no movement is observed, refer to Chapter 3 “Installing the SDS-550 System” and Chapter 4 “Verifying Installation” in the *SDS-550 Sample Dilution System Operator’s Manual*.

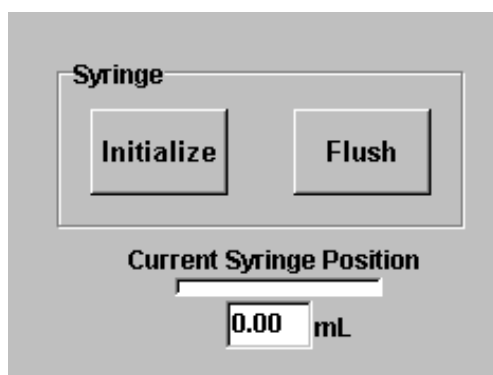


Figure 2-7. Syringe Section.

The Flush button will initiate *two* 10.0 mL load and dispense cycles of the syringe. Flushing should be performed at the rinse station.

CAUTION

Ensure that the diluent uptake line is immersed in the appropriate solution. Repeated operation of the syringe without liquid could result in seizure of the syringe.

Details of the Manual Control Screen

The Manual Control Screen (Figure 2-2) is divided into four sections: Auto Sampler, Syringe, Probe, and Rinse Pump. Details are given below for each section.

Auto Sampler

The Auto Sampler section (Figure 2-8) allows you to choose the rack position, rack size, and vial position. The pull-down selections for rack positions are numbers 1 through 4. Rack #1 refers to the far left rack position; rack #2 the middle left rack position; rack #3 the middle right rack position; and rack #4 the far right rack position.

Details of the SDS-550 System Software

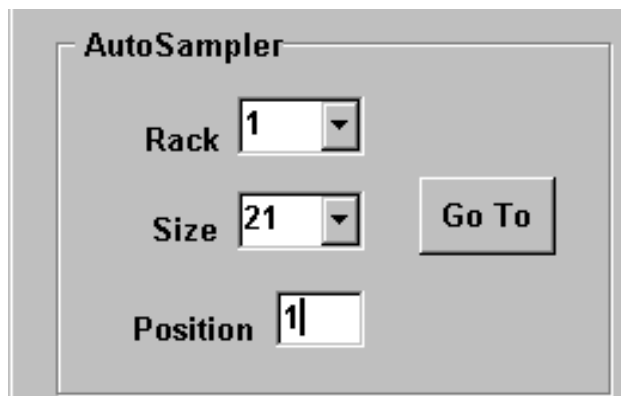


Figure 2-8. Manual Control Screen – Auto Sampler.

The pull-down choices for rack sizes are 21, 24, 40, 60, and 90-position CETAC vial racks. Three choices are also given for Gilson-style 14, 44, and 60-position vial racks. These are indicated by the choices G14, G44, and G60, respectively.

NOTE:

An optional tray adapter is required to use Gilson-style racks with the SDS-550. Contact CETAC Customer Service and Support for details.

The desired vial position is typed into the designated box. The first vial position for all vial racks begins at the upper left position of the rack and increases to the end of the first rack column. The position count begins again at the top of the next column. A top view diagram of a 21-position rack with the designated vial positions is given in Figure 2-9. To move the sample probe to the desired vial position, click on the Go To button.

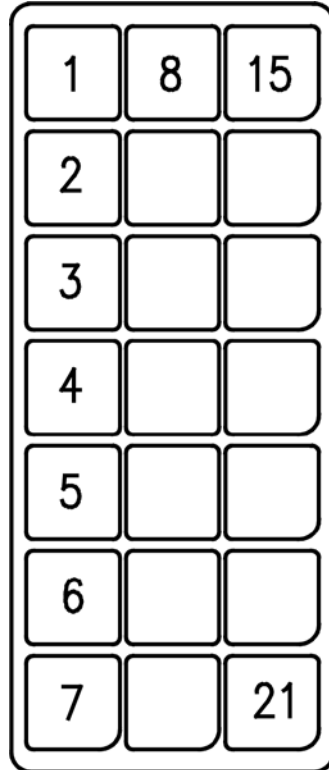


Figure 2-9. Example of Vial Positions (21-position rack).

CAUTION

Ensure that the proper sample vial rack(s) and/or sample vials are in the correct position(s) in the sample tray. Solution spills could result from incorrect placement of the above items.

Probe

The probe section (Figure 2-10) allows you to set the depth of the sample probe extension and the speed of the probe retraction. Probe depth is

Details of the SDS-550 System Software

given in units of millimeters. The maximum probe depth is 150 mm; the minimum depth is 50 mm.steps.

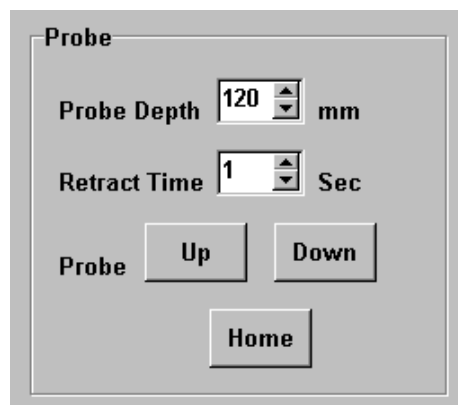


Figure 2-10. Manual Control Screen - Probe.

The probe retraction time may be set from 1 to 10 seconds. A higher retraction time (2 sec and greater) can help prevent adherence of a liquid drop on the end of the probe.

The probe may be extended or retracted by clicking on the Up or Down button, respectively. The Home button at the bottom of the section will return the sample probe assembly to the Auto Sampler rinse station.

Syringe

The Syringe section (Figure 2-11) allows you to control the loading of sample, reagent, and diluent. The solenoid valve can be set to “sample” or “reagent” by selecting either of the two radio control buttons. Enter the desired volume of sample or reagent (1.0 to 10mL) and then click on the Load button. The selected volume of sample or reagent is then loaded by the syringe pump.

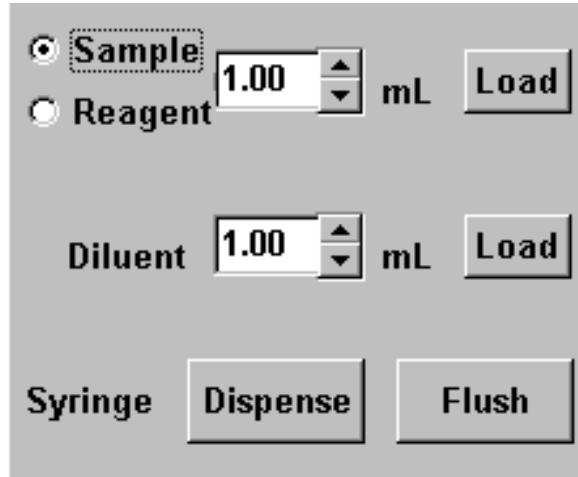


Figure 2-11. Manual Control Screen – Syringe.

CAUTION

Ensure that the sample probe and/or reagent uptake line are immersed in the appropriate solution. Repeated operation of the syringe without liquid could result in seizure of the syringe.

The desired volume of diluent (1.0 to 10 mL) is selected and loaded in the same manner as for sample or reagent. Note that the total volume of sample, reagent, and diluent must not exceed 10.0 mL. If the sum of the volumes exceeds 10.0 mL, the syringe will not activate when the Load button is selected.

CAUTION

Ensure that the diluent uptake line is immersed in the appropriate solution. Repeated operation of the syringe without liquid could result in seizure of the syringe.

The contents of the syringe may be removed by clicking on the Dispense button. Ensure that the sample probe is positioned over a selected collection vial to prevent any spills on the Auto Sampler.

Details of the SDS-550 System Software

The Flush button may be used to rinse the syringe assembly with the desired diluent or deionized water. Click the Home button to move the syringe assembly to the rinse station, then click the Flush button. The Flush button will cause the syringe to load and dispense *twice* with 10.0 mL of diluent.

Rinse Pump

The rinse pump section (Figure 2-12) allows you to turn on or off the peristaltic pump on the back of the Auto Sampler. This feature is useful for cleaning the rinse station and filling it with the desired rinse solution.

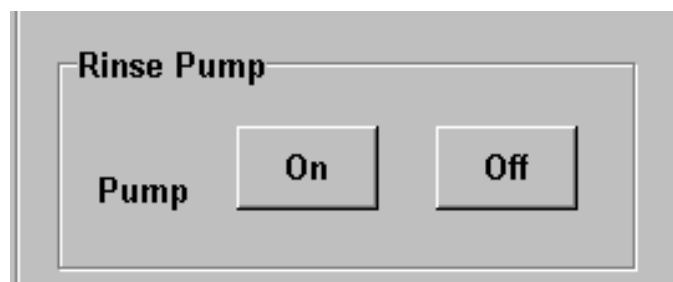


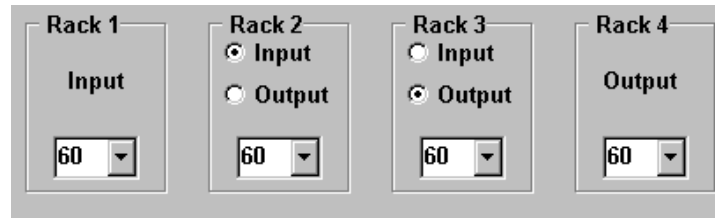
Figure 2-12. Manual Control Screen – Rinse Pump.

Details of the Configure Auto Sampler / Syringe Screen

The Configure Auto Sampler / Syringe Screen (Figure 2-3) has five sections: rack parameters selection, sample probe depths, probe retract time, syringe offsets, and syringe speeds.

Rack Parameters

The top of the Configure Auto Sampler / Syringe Screen (Figure 2-13) allows you to select the size of the input and output racks. Choices are 21, 24, 40, 60, and 90-position CETAC racks, and 14, 44, and 60-position Gilson-style racks. Note that rack #1 (the left most rack) is always an input rack and rack #4 (the right most rack) is always an an output rack. Rack #2 and rack #3 may be designated as input or output by selecting the appropriate radio control button.

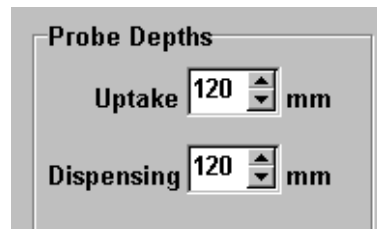


The screenshot shows four rack configuration panels. Rack 1 is labeled 'Input' and has a dropdown menu set to '60'. Rack 2 has radio buttons for 'Input' (selected) and 'Output', and a dropdown menu set to '60'. Rack 3 has radio buttons for 'Input' and 'Output' (selected), and a dropdown menu set to '60'. Rack 4 is labeled 'Output' and has a dropdown menu set to '60'.

Figure 2-13. Rack Parameters Section.

Probe Depths

The sample probe depth (Figure 2-14) for sample uptake and dispensing may be selected in this section. Probe depths are given in units of millimeters; the minimum depth is 50 mm. The maximum probe depth is 150 steps. The selected uptake probe depth should be sufficient to immerse the probe far enough for the desired sample volume. The probe depth for dispensing the diluted sample should extend into the collection vial to eliminate spills on other vials, the sample rack, or the Auto Sampler.



The screenshot shows a section titled 'Probe Depths'. It contains two rows: 'Uptake' with a spinner box set to '120' and 'mm' to its right, and 'Dispensing' with a spinner box set to '120' and 'mm' to its right.

Figure 2-14. Probe Depths Section.

Probe Retract Time

The probe retract time (Figure 2-15) may be set from 1 to 10 seconds. A higher retraction time (2 seconds and greater) can help prevent adherence of a liquid drop on the end of the probe. The maximum number of samples (as determined by the rack parameters) will be indicated below the probe retract time box.

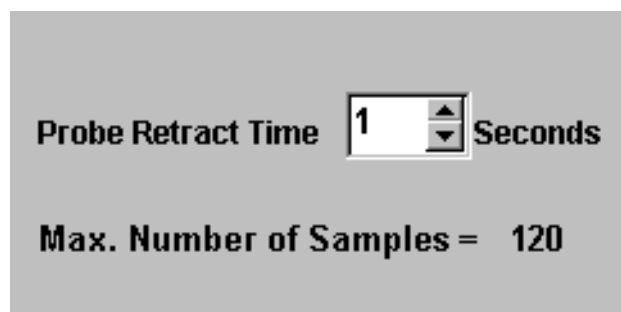


Figure 2-15. Probe Retract Time.

Syringe Offsets

Syringe offset settings (Figure 2-16) can be used to make fine adjustments to the volume of sample, reagent, and diluent. Offset settings are given in units of steps from 1 to 30, with 5 steps equal to approximately 0.02 mL. The effect of an offset setting can be measured by weighing the total volume of sample, reagent, and diluent before and after an offset setting change.

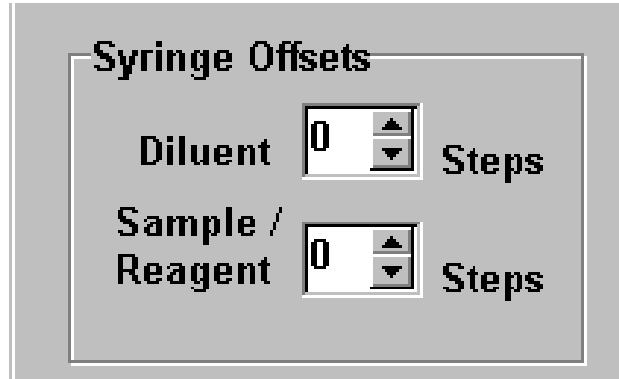


Figure 2-16. Syringe Offsets.

Syringe Speeds

Syringe speeds (Figure 2-17) can be adjusted for sample uptake and dispensing. Recommended factory settings are 20 (approximately 17 mL/min) for sample uptake and 15 (approximately 60 mL/min) for dispensing.

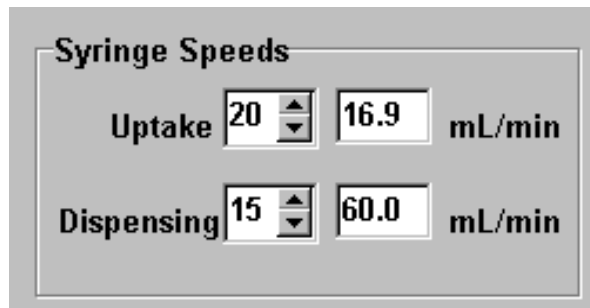


Figure 2-17. Syringe Speeds.

SDS-550 Sample Dilution System Software Manual
Details of the SDS-550 System Software

**Method Development with the
SDS-550 Software**

Method Development with the SDS-550 System Software

Method development is performed via two separate screens: the Configure Auto Sampler/Syringe Screen and the Main SDS-550 Sample Dilution System Screen. The Manual Control Screen can be used prior to method development for SDS-550 System diagnostics and to flush the syringe assembly and Auto Sampler rinse station.

Following are step-by-step instructions for developing a method for a 10x dilution. Suggested SDS-550 setup procedures performed via the Manual Control Screen are included.

CAUTION

Ensure that all SDS-550 System components have been correctly installed and verified before proceeding with method development. See Chapter 3 “Installing the SDS-550 System” and Chapter 4 “Verifying Installation” in the *SDS-550 Sample Dilution System Operator’s Manual*.”

Example of a 10x Dilution Method

- 1 Start the host computer and turn power on to the Auto Sampler and Dilution Module.**
- 2 Place the rinse station and diluent solution uptake lines in their respective containers.**

CAUTION

Ensure that adequate volumes of rinse and diluent solution are provided for the intended dilution method.

- 3 In the main Windows® screen double-click on the icon for SDS-550. Alternatively, select the Start button at the bottom left of the screen and go to Programs>>Sample Dilution System>>SDS-550**

The Main SDS-550 Sample Dilution System Screen will appear.

- 4 From the top menu bar select Manual Control**

The Manual Control Screen appears.

- 5 Click the Pump On button to start the Rinse Pump.**

Allow the rinse station to fill and then flush for 5 minutes.

NOTE:

If the rinse station is not filling, see Chapter 3 “Installing the SDS-550 System” and Chapter 7 “Troubleshooting the SDS-550 System” for details regarding the rinse station.

- 6 Click the Pump Off button to stop the Rinse Pump.**

- 7 Click Home then Syringe Flush.**

The probe assembly will move to the rinse station. 10 mL of diluent solution will be loaded and dispensed *twice*. The diluent will be dispensed into rinse station.

NOTE:

A specific vial in a sample rack can be used as a dispense tube. Access the Auto Sampler section in the Manual Control Screen and choose a rack (1 to 4), rack size, and vial position and click the Go To button. In the Syringe section enter 10.0 mL as the diluent volume and click the adjacent load button. Then click the Syringe Dispense button to deposit the diluent into the selected vial.

8 Click the Home button on the bottom left of the Manual Control Screen.

The sample probe assembly returns to the Auto Sampler rinse station.

9 Close the Manual Control Screen.

10 In the top menu bar of the Main SDS-550 Sample Dilution System Screen, select Method>>Configure Auto Sampler/Syringe.

The Configure Auto Sampler/Syringe Screen appears.

11 Select the number and size of the input and output rack(s).

For example, assume that the desired number of 10x dilutions (to a final 10-mL volume) is 120. Rack 1 is always an input rack; rack 4 is always an output rack. Select Rack 2 as an input rack and rack 3 as an output rack via the radio control buttons. Then select 60 as the rack size for all input and output racks. Below the “Max. Number of Samples” will update to 120.

12 Select sample probe depths for uptake and dispensing.

Select sample probe depths which will immerse the probe far enough for the desired sample volume (uptake) and extend sufficiently into the collection tube (dispensing) to avoid spills. Probe depths from 120 to 150 mm (maximum) are suggested.

13 Select the probe retract time.

Enter a probe retract time of 1 second for fastest probe movement. A retract time of 2 or 3 seconds can help prevent sample droplets from adhering to the probe, although the probe will return to the rinse station between dilutions.

14 Select the syringe offsets.

Syringe offsets will initially be set at 0. The diluent and sample reagent offsets can be adjusted if the measured weight of deionized water deviates significantly (± 0.02 mL) from the desired volume. For example, the diluent offset may be adjusted if the measured weight of deionized water is less than 9.98 mL or greater than 10.02 mL. A change in the offset of 5 steps is approximately equal to 0.02 mL.

15 Check the syringe speeds.

The syringe speeds should be set to an uptake setting of 20 (approximately 17 mL/min) and a dispense setting of 15 (approximately 60 mL/min.).

16 Close the Configure Auto Sampler / Syringe Screen.

The SDS-550 Sample Dilution System Main Screen will be left open.

17 Enter the desired sample volume(s) in mL.

This is the volume of sample to be taken for dilution. Enter the volume in the appropriate cell. To copy this volume into all cells below that cell, double-click the left mouse key. If a specific sample volume is required in the middle of like volumes, simply enter that volume for the particular sample.

18 If desired, enter the desired reagent volume(s) in mL.

If no reagent is to be added to the diluted sample, enter 0. Again, double-click the left mouse key to fill all cells with a 0.

19 Enter the desired diluent volume(s) in mL.

Double-click the left mouse key to fill all cells with the same diluent volume. Again, different diluent volumes can be entered for specific samples.

NOTE:

The information from the configure Auto Sampler / Syringe Screen will automatically set the total number of samples at 120. You can scroll down the Method Configuration window from 1 to 120. If desired, sample names can be entered.

20 Click the Method Verify button.

Final volume (in mL) and dilution ratio information will be updated based on the entered sample, reagent, and diluent volumes.

21 Enter the starting sample and last sample numbers.

For example, enter 1 for the starting sample number and 120 for the last sample number if all 120 samples are to be diluted. If a smaller dilution sequence is to be performed, enter the appropriate starting and last sample numbers (ex. 1 to 20, 5 to 15, 40 to 47, etc.). To dilute just one sample, enter that sample number as both the starting and last sample number.

NOTE:

The SDS-550 software does not accommodate a random sequence of samples, such as 1,4,23,95 being processed in that order. The samples of interest should be grouped in a consecutive numbered order, such as 1-4, 7-10, 36-39, etc.

CAUTION

Ensure that all appropriate sample vials and racks are correctly placed before starting an automatic sequence. This can prevent sample spills, damage to the sample probe, and incorrect dilutions.

22 Go to the top menu bar and select File>>Save Method to save the dilution method.

23 Click the Start button to begin the automated dilution sequence.

The SDS-550 will process the desired number of samples according to the prescribed dilution method. To stop the sequence at any time, click the Stop button.

24 To exit the software, go to the top menu bar and select File>>Exit.

A prompt will appear asking if you wish to close the application (Yes or No). Click on the Yes button to return to the main Windows® screen.

SDS-550 Sample Dilution System Software Manual
Method Development with the SDS-550 Software