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Aerospray pro service manual

Aerospray 7152 service manual. Aero-spray.se. Aerospray hematology pro service manual. Manual spray machine. Spray manual.

The Aerospray Hematology Stat Model 7122 Applications Manual for the SLIDE STAINER/CYTOCENTRIFUGE covers installation, operation, and maintenance. It's essential to read this manual thoroughly before setting up and using the instrument for the first time. The manual provides information on the instrument's overview, key features, and general specifications. The SLIDE STAINER/CYTOCENTRIFUGE is designed for high-volume staining productivity with a carousel capacity of 1-12 slides. It features minimized reagent consumption, rapid staining, and barcode scanning for tracking specimens and reagents. The instrument also provides reagent and specimen traceability, user traceability, and administrator password protection. Other key features include an interactive touchscreen display, multiple languages support, and the ability to dry up to 12 slides per stain cycle. Additionally, the manual covers controlling and customizing stainer functions, preventive maintenance, and safety procedures. The instrument's general specifications are outlined in Table 1, including slide carousel capacity, rotation speed, reagent application rate, and drying time. The manual also includes tables on performance specifications, run time sequence, and approximate reagent consumption. Cytocentrifuge Rotor Speed: adjustable between 100 to 2000 rpm, with a tolerance of ±5%. Reagent consumption can be programmed by the user and should refer to Table 4 for approximate reagent consumption. The operating time is specified on Page 12. The instrument features four reagent nozzles (A-D), each with its specific purpose: A - Rinse, B - Thiazin Stain (Blue), C - ... (referring to Page 13), and D - Reagent Spray Nozzle. Only ELITechGroup reagents, including diluents, should be used. The instrument has a typical run time sequence represented by Table 3, which is applicable for the 12-slide carousel and presented as a general reference only. The actual cycle times may vary. The instrument also features a staining mode with medium and dark settings (5), fixation pump D (optional), and page 14 provides an overview of the instrument. Additionally, the instrument includes a carousel and rotor information table (Table 5) that specifies which slide staining carousel or cytocentrifuge rotor can be used. The instructions for using these components are found in this manual or the Cytopro Applications Manual (RP-517). The instrument has various symbols explained by Table 6, including Alternating Current (AC), Authorized Representative, and Biological Hazards (Biological Risks). all instrument functions can be accessed through the interactive touchscreen display. To start, ensure the instrument is powered on and ready to use. From here, you can navigate to different menus using the various button options on the front panel. These include Standby/Ready, Back, Stop, System Setup, Set Date/Time, Restore Defaults, Login, and Logout. For system setup, you'll need to modify software settings through the System Setup Menu (Section 3.1). Additionally, you can prime individual lines using Individual Prime or perform pattern and volume tests with Pattern Test and Volume Test respectively. Before operating the instrument for the first time, make sure to follow the instructions in this section. It's also important to unpack and inspect the instrument carefully, as any damage to the packaging or equipment may require contact with ELITechGroup before use. Once you're ready to begin, connect the drain tube and waste container according to the instructions in Section 2. Additionally, be sure to install a barcode reader if necessary, which allows for easy tracking of reagent bottles and specimen slides that contain barcodes. Before priming the stainer for operation, make sure to replace the alcohol in each reagent line with the correct reagent. This is important for proper performance and accuracy. Finally, don't forget to run a Clean cycle after setup to ensure the instrument is ready for use. 1. After starting up, this device cleans the reagent nozzles and carousel. 2. The first step purges each reagent line and cleans the empty carousel using methanol or Aerofix while displaying progress on the screen. 3. SECTION 2 SETUP AND PREPARATION FOR OPERATION 4. 2.2 Preparing the Stainer for Operation 5. Reagent Level Monitoring 6. The Reagent Level Detect monitors reagent levels and alerts you when they are running low or the waste container is full (when using a waste container with level detect, AC-182). 7. SECTION 2 SETUP AND PREPARATION FOR OPERATION 8. 2.2 Preparing the Stainer for Operation 9. Zeroing the Reagent Level Sensors 10. The Level Detect function must be zeroed at initial setup, when the stainer is moved, or if it's not reporting correctly. 11. If zeroing does not correct the problem, recalibrate the Level Detect function (Section 7.3). 12. SECTION 2 SETUP AND PREPARATION FOR OPERATION 13. 2.2 Preparing the Stainer for Operation 14. Zeroing the Reagent Level Sensors (continued) 15. Remove all reagent bottles and press Start. 16. NOTE: Vibrations or bumps to the instrument or lab bench can cause inaccuracies in zeroing or calibration. 17. After zeroing, press OK. 18. SECTION 3 CONTROLLING AND CUSTOMIZING STAINER FUNCTIONS 19. 3.1 System Setup Menu 20. Many software settings can be controlled from the System Setup menu, including creating, editing, and deleting stain programs, cytocentrifuge programs, tracking reagent information, etc. 21. SECTION 3 CONTROLLING AND CUSTOMIZING STAINER FUNCTIONS 22. 3.1 System Setup Menu Creating a Stain Program From System Setup, press Stain Programs. Press Add. Select Enter Program Name, and enter the desired name on the keypad. Press Enter on the keypad. The display returns to the Stain Programming Menu. 23. SECTION 3 CONTROLLING AND CUSTOMIZING STAINER FUNCTIONS 24. 3.1 System Setup Menu Editing, Renaming, or Adjusting Stain Programs (continued) Adjust the settings as needed. Press Save. 25. Administrator and User Accounts You can create one Administrator account and multiple (up to 50) user accounts. The Administrator controls access to the system by adding and editing user accounts. 26. SECTION 3 CONTROLLING AND CUSTOMIZING STAINER FUNCTIONS 27. 3.1 System Setup Menu Creating User Accounts Note: This function is available only if an administrator account has been created. Press System Setup. Enter the Administrator password. Press Enter. Press Users to reveal the Manage Users menu. Select Enable Global Login. 28. SECTION 3 CONTROLLING AND CUSTOMIZING STAINER FUNCTIONS 29. 3.1 System Setup Menu Creating User Accounts (continued) Enter a numeric passcode (at least 4 numbers) for the user account. Press Enter. Re-enter the passcode to confirm. Press Enter. 30. Managing User Access From the Manage Users screen, the Administrator has several options to manage user access to the instrument. 31. SECTION 3 CONTROLLING AND CUSTOMIZING STAINER FUNCTIONS 32. 3.1 System Setup Menu User LogIn/Logout (continued) Press Login. Enter the correct passcode for the selected user and press Enter. Once Login is complete, the display advances to the Main screen and the instrument is ready for programming and staining. 33. SECTION 3 CONTROLLING AND CUSTOMIZING STAINER FUNCTIONS 34. 3.1 System Setup Menu Using Reagent Information Tracking You can enter reagent information to help track reagent usage and expiration. Reagent information includes reference number, expiration date, lot number, date and time the To access and customize stainer functions, follow these steps: From System Setup, press Language to change the software language from the list on the left. Press Set Date/Time to select a 12-hour or 24-hour clock format. In System Log, plug a Flash Drive into the right USB port, then press Export to save logs as a CSV file that can be used in spreadsheet software programs. Under QC/Maintenance Tracking, enable Stain Slide Tracking by following specific instructions. Enable Cyto Slide Tracking for slide tracking in cytocentrifuge mode, refer to the Cytopro Rotor Applications Manual (Aerospray Models 7xx2) for complete information. If selected, Manual Entry allows manual entry of slide information using the keypad (limited to 24 characters). Restore Software Defaults by selecting Restore Defaults from System Setup; note that this will remove all personal settings and delete user names and passwords. To record specimen and reagent information, select QC/Maintenance Tracking, then enable Stain Slide Tracking. This changes the Start button on the Main menu to "Load Slides." Scan slides with the Barcode Reader by following specific instructions within System Setup. Manually entering reagent information involves pressing Reagents from the System Setup menu or pressing the reagent status icon on the Main menu to reveal the Reagent Information menu, then selecting the desired reagent and pressing Change. The Help Menu provides comprehensive on-screen help functions for various subjects including basic operation, loading the carousel, programming the number of slides, select intensity setting, and more. Operating and Maintaining the Stainer To ensure proper function, familiarize yourself with local regulations and recommended practices for the stainer. **Staining Protocol** 1. **Hub Pattern Test**: Perform once daily to verify the stainer's performance. 2. Select or validate the desired stain program. 3. If slide tracking is enabled, scan or enter slide information. **Operating Instructions** **Loading the Carousel** * Never load chipped or cracked slides; they may break during staining and require cleaning. * Load slides with labels facing outward on the carousel. * Always place the first slide in position 1, followed by subsequent slides in corresponding positions. **Using Blocking Slides** If the carousel is not full, use blank slides as blocking agents to prevent reagent overspray. **Performing a Stain Cycle** If you've created a stain program and it appears on the display, proceed. If not, access programs from the main menu. **Monitoring Reagent Levels** Regularly inspect reagent levels on the display (if enabled) and visually check the bottles. **Preventive Maintenance** * Access the Preventive Maintenance Log for tracking maintenance activities. * Daily: + Check reagent levels and expiration dates. * Monthly: + Disassemble and clean nozzles. + Disinfect reusable reagent bottles. **Long-Term Storage** If inactive for more than one week, perform long-term storage procedures to prevent nozzle clogging. • Precautions when cleaning and decontaminating the instrument, carousels, and nozzles are crucial to maintain its functionality and safety. • All procedures should be performed in a well-ventilated room by authorized personnel wearing protective gear. • Cleaning with 70 to 100% ethanol or methanol is allowed for outer surfaces, but parts that come into contact with biological specimens must be treated as potentially infectious. • The instrument should be decontaminated before returning it for service, and the operating authority must complete a disinfection declaration. • Disinfecting the instrument and carousels is mandatory when shipping them back to ELITechGroup. into the stainer bowl. Rinse the tubes with water, then return them to their original place in the Maintenance Kit or ... SECTION 6 NOZZLE MAINTENANCE AND PERFORMANCE 6.5 Performing the Slide Pattern Test This test can help identify whether poor staining is due to sample preparation issues, nozzle obstructions, or something else. Conduct this test when a Hub Pattern test produces normal results but staining is still inadequate. If you need assistance, contact your ELITechGroup representative. WARNING! Due to the electrical shock hazard, do not open this instrument or attempt internal repairs. Refer servicing to qualified service personnel and contact your dealer or ELITechGroup Service for further guidance. Table 13: General Troubleshooting and Diagnosis Problem Solution There is no power to the stainer when you check the facility outlet and the power cord connection. (Page 76) Reagent leaks may indicate an internal problem; consult Section 7.3 for more information. See the Aerospray Service Manual or contact your dealer or ELITechGroup for further assistance if needed. Error messages on the screen: If the display shows "Lid Not Shut", ensure that the lid is fully closed and latched. (Page 77) To determine this, press Stop; if the cycle stops, there may be a problem with the carousel position sensor, so consult the Aerospray Service Manual or contact your dealer or ELITechGroup for assistance. If the cycle continues, there may be an electronic issue; see below and Page 78 for more information. SECTION 7 SOLVING PROBLEMS 7.1 Troubleshooting Table 13: General Troubleshooting and Diagnosis (continued) Problem Solution Abnormal staining on entire surface of all slides Ensure that you have not programmed the stainer for fewer slides when staining a full carousel (7 or more slides). (Page 79) Make sure blood smears are completely dry and not too thick; consult Section 7.2 for more information. Increase the fixation setting to High if necessary, and contact ELITechGroup for information on slide quality. Refractile artifacts are observed in erythrocytes; use Aerofix (SS-048 or SS-148) fixative and refer to Section 7.2 for guidance. If you notice the reagent delivery system malfunctioning, the instrument may require service. Contact your dealer or ELITechGroup for assistance. WARNING: Failure to address a reagent level detect system error can lead to unexpected releases of highly flammable anhydrous alcohol. To resolve instrumentation issues, follow these steps: 7.3 Instrument Malfunction - If no reagent bottles are detected during calibration, display an error message. - Calibrate again by inserting reagent bottles in the enabled tray positions. - Ensure full, unopened 500 mL reagent bottles are used for calibration, as vibrations or bumps can cause inaccuracies. 7.4 Calibrating the Touchscreen - Press and hold Standby/Ready for 5 seconds. - Target appears; press its center with a finger, stylus, or similar tool. - Continue to press targets until all five have been pressed. 7.5 Service Information - Contact ELITechGroup's Service Department for operation or performance questions. - For U.S. customers, contact by telephone. - Authorized dealers outside the U.S. offer local service and support. Eosin Stain concentrate requires dilution as directed, associated with Hazard and Precautionary statements Warning. H302 Harmful if swallowed, H371 May cause damage to organs if swallowed. Page 94 APPENDIX B Risk and Safety Phrases Reagents SS-148, SS-148-EU. Aerofix Additive for Methanol is associated with the following Hazard and Precautionary statements Warning. H302 Harmful if swallowed. P264 Wash hands thoroughly after handling, P270 Do not eat, drink or smoke when using this product. P301+312 IF SWALLOWED: Call a POISON CENTER, a doctor if you feel unwell. Page 95 APPENDIX B Hazard and Precautionary Statements SS-029C and SS-029C-EU. Aerospray Nozzle Cleaning Solution is associated with the following Hazard and Precautionary statements Warning. H319 Causes serious eye irritation, H314 Causes severe burns and eye damage. P280 Wear protective gloves, protective clothing, eye protection. P303+P361+P353... APPENDIX C Accessories and Supplies. Only replacement parts supplied by ELITechGroup should be used in this instrument. Use of non-approved parts may affect the performance and safety features of this product. ACCESSORIES REFERENCE NUMBER Slide Carousel (12-Slide Capacity).....AC-188 Cytopro Cytocentrifuge Rotor.....AC-160 STAINS AND CLEANING REAGENTS Nozzle Cleaning Solution, 355 mL.....SS-029... Page 97 ELITechGroup Inc. 370 West 1700 South Logan, Utah 84321-8212 800 453 2725 +1 435 752 6011 WWW.ELITECHGROUP.COM... Page 1 AEROSPRAY CYTOLOGY Slide Stainer/Cytocentrifuge MODEL 7522 USER'S MANUAL... Page 2 WARNING! If power is lost while stainer is running, lid will remain locked until power is restored. Do not attempt to open lid while power is off. Multiple languages supported for high-volume staining productivity up to 30 slides per stain cycle. Automatic Clean Cycle feature to purge reagent spray nozzle with approved alcohol. Available worldwide from ELITechGroup, empty bottles can be obtained locally for use with approved alcohol. The instrument's touchscreen display allows users to control all functions interactively. The standby/ready button indicates the instrument's status - blue means it's ready, amber means it's in standby mode, and pressing it runs a system clean cycle. The system setup menu lets users modify software settings. The instrument also features function keys for stain programs, cyto programs, delete/edit/user, and zero. For new instruments, follow the sequence for unpacking and installing: install the drain tube, connect it to the waste container, and cut off excess tubing as needed. When using reagents, ensure proper safety measures are taken. A barcode reader can be connected to track reagent bottles and specimen slides with barcodes. If not installed, information can be entered manually. The instrument requires priming before use, which can be done by pressing the A prime button. Two clean cycles are available: system clean and acid alcohol wash. Before using the instrument, perform pattern and volume tests. Reagent level monitoring detects low levels or a full waste container. 1. The Reagent Level Detect Setup menu can be accessed by pressing Level Detect. 2. Before entering the setup menu, ensure that the stainer is turned ON for at least 30 minutes to stabilize level sensors and enable instrument use. 3. In the System Setup menu, users can control software settings, including creating, editing, and deleting stain programs and tracking reagent information. 4. To create a new stain program, press Stain Programs from System Setup and erase any existing programs that exceed the 12-program limit. 5. Users can customize their stain program by selecting the Wash tab, setting desired program settings, entering a name using the keypad, and pressing Save. 6. Administrator accounts can be created to control user access, while multiple user accounts (up to 50) can also be managed. 7. Users must log in with a password to run cycles on the instrument; enabling Global Login allows for this option. 8. Reagent information can be scanned or manually entered into the instrument for use in Stain Programs and Cytocentrifuge programs. 9. Level Detect functions alert when reagents are running low or waste containers need attention. 10. Users can adjust settings, such as date and time, beep volume, and startup alerts from System Setup menu options. Scanning Slides with Barcode Reader for Complete Instructions B. Section 3: Controlling and Customizing Stainer Functions 1. Enter Information for Daily, Weekly, and QC Slide Prompts in Corresponding Fields. See Using Preventive Maintenance Log (Section 5.1). Enable Reagent Tracking To Activate Reagent Tracking: 1. From System Setup, Select QC/Maintenance Tracking. 2. Section 3: Controlling and Customizing Stainer Functions Recording Specimen and Reagent Information Scanning Slides with Barcode Reader 1. From System Setup select QC/Maintenance Tracking. 2. Select Enable Stain Slide Tracking. Note: Selecting Enable Stain Slide Tracking changes the Start Button on Main Menu to "Load Slides". See Scanning Slides with Barcode Reader. Page 42 Section 3: Controlling and Customizing Stainer Functions Manually Entering Specimen Information With Stain Slide Tracking and Manual Entry enabled in QC Maintenance menu: 1. Press Load Slides on Main Menu. 2. Press Add to Reveal Keypad. 3. Enter slide information (maximum of 24 characters) and press Enter. Section 3: Controlling and Customizing Stainer Functions The Help Menu The Help Menu provides comprehensive on-screen help function for the following subjects: Help Screens Basic Operation Loading Carousel Programming Number of Slides Using Help 1. Press Help to access help function. 2. Select desired topic. 3. Use direction arrows to navigate. 4. Press Exit to return to Main Menu. Section 4: Operating the Stainer Suggested Staining Protocol NOTE: Samples and slides should be prepared and fixed according to recommendations in Appendix E or equivalent. Perform Hub Pattern Test (once per day). Select or verify desired stain program. Section 4: Operating the Stainer LOADING THE CAROUSEL CAUTION: Never load chipped or cracked slides into instrument. Loading a 12-Slide Carousel (Slide Labels Toward Outer Rim) Labels Toward Outer Rim Specimen Side Loading a 30-Slide Carousel (Slide Label Toward Center) Labels Toward Center Specimen Side Reattaching the Carousel Lid Section 4: Operating the Stainer Performing a Stain Cycle NOTE: Sample slide preparation guidelines can be found in Appendix E. 1. Insert a carousel loaded with specimen slides and close instrument lid. 2. If Slide Tracking is not enabled, select number of slides to be stained. Slide selection defaults to full carousel at end of run, after pressing Stop or selecting number greater than full carousel default. Given article text here. Looking forward to seeing everyone at the meeting tomorrow and discussing our strategies in detail. Before we dive into our discussion, I'd like to remind you that it's essential to access the Reagent Information menu by pressing the bottle icons on the right side of the Main menu and then press Change to scan or manually enter reagent information. Please note that it's crucial not to put residual reagent from a used bottle into a new bottle as this can lead to an accumulation of residue on the slides and may be a source of contamination. We will now proceed with emptying the Waste Container, where The Reagent Level Detect function automatically monitors the waste level and indicates when the waste container should be emptied, although it's still necessary to check waste levels visually. To ensure we are taking preventative measures, please note that daily maintenance/quality control is required by disassembling and manually cleaning all nozzles. Furthermore, monthly maintenance involves checking the Preventive Maintenance Log and performing the recommended tasks. It's also essential to store the instrument properly if it will be inactive for more than one week to prevent clogging. Additionally, we have guidelines for replacing fuses, cleaning the stainer and carousels, decontaminating the stainer and carousels, and shipping or disposing of the stainer or carousels. operator must complete a Hazard Free Certification form, or distributor/service center won't accept the instrument;... Section 6: Nozzle Maintenance and Performance 6.1 Nozzle Disassembly and Cleaning Nozzle maintenance requires nozzle maintenance kit and SS-029 nozzle cleaning solution. Always wear protective clothing and eye protection when using SS-029 nozzle cleaning solution, dispose of used solution properly. If compression screw cannot be easily loosened, use light penetrating oil and a 5/8-in. Section 6: Nozzle Maintenance and Performance 6.2 Nozzle Reassembly Hold your thumb or a nozzle strainer over the end of the tube to keep nozzle parts in the tube. Discard cleaning solution according to Swirl Cone Grooves applicable statutes. Section 6: Nozzle Maintenance and Performance 6.3 Manual Priming Remove carousel from bowl, remove nozzle connected to line to be manually primed. Insert priming tool nozzle adapter into nozzle holder. Section 6: Nozzle Maintenance and Performance 6.4 Performing the Volume Test The Volume Test requires nozzle maintenance kit. NOTE: The Volume Test must be performed weekly. Hold a Volume Test tube to cover selected nozzle, select Volume Test from Maintenance menu, page 66 Section 6: Nozzle Maintenance and Performance 6.5 Line Flush The Line Flush is semi-automated procedure for cleaning reagent lines. Follow screen prompts as sequence progresses. Section 6: Nozzle Maintenance and Performance 6.6 Performing the Slide Pattern Test This test can differentiate poor staining results from sample preparation problems, or nozzle obstructions. Perform the Slide Pattern Test when Hub Pattern Test produces normal result, but staining is still inadequate. Section 7: Solving Problems 7.1 Troubleshooting The following table helps identify and solve routine problems with stainer. More difficult problems may require technical service. Contact ELITechGroup representative for assistance. WARNING! Due to electrical shock hazard, do not open instrument or attempt internal repairs. Refer servicing to qualified service personnel. Section 7: Solving Problems Problem Solution Error messages on screen. If display shows Lid Not Shut: Verify that lid is fully closed and latched. If Lid Not Shut indication remains, contact ELITechGroup for assistance. Section 7: Solving Problems Problem Solution Abnormal staining on entire surface of all slides. Check reagent level on display and/or in reagent bottles. Make sure external reagent dip tubes are securely attached to each bottle (Section 2.1). Open lid and verify that each reagent pump is primed, by pressing corresponding prime button. Section 7: Solving Problems Problem Solution The slides Troubleshooting issues with the Aerospray Cytology Stainer/Cytocentrifuge involves checking reagent levels, addressing electronic malfunctions, and resolving instrument malfunctions. If slides are not rinsing well due to an empty Reagent E reservoir, check the level and perform a Spray Pattern test if necessary. Also, ensure proper bluing delivery from Reagent C to achieve correct staining results. In case of electronic failures, observe obvious malfunctions like scrambled or inoperative display panels, and try resetting the instrument by switching off power for 10-20 seconds before turning it back on. If there are air or reagent leaks causing issues with liquid spray from nozzles, inspect external delivery lines and components carefully. The Reagent Level Detect System may show errors if bottles are not calibrated correctly, so follow calibration procedures to ensure correct detection and proper functioning of the stainer. For service information, contact ELITechGroup's Service Department for assistance in resolving questions about operation or performance. Additionally, the Cytopro Cytocentrifuge allows rapid sedimentation of specimen cells onto microscope slides for staining purposes, with independent functions for cytocentrifugation and staining. A variety of proprietary Aerospray Cytology reagents are available from ELITechGroup, including Hematoxylin I and II stains that can be used in progressive or regressive staining functions. Critical Reagent Components include Nozzle Cleaning Solution (SS-029) containing 40-55% Methyl Alcohol and 1-3% Oxalic Acid, which plays a crucial role in maintaining instrument performance. Water Concentrate contains oxalic acid, SS-051A Aerospray Cytology EA-50 Stain, and ethanol. Appendix B details risk and safety phrases for SS-029 and SS-051B Aerospray Nozzle Cleaning Solution Concentrate. Hazard statements include H226 - Flammable liquid and vapor, H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled, and more. Precautionary statements include P210 - Keep away from sparks, open flames, hot surfaces, heat, and No smoking. Appendix C: Accessories and Supplies states that only replacement parts supplied by ELITechGroup should be used in this instrument to ensure performance and safety features are not affected. For supplies associated with cytocentrifugation, refer to the user's manual for the Cytopro Cytocentrifuge Rotor. Appendix D: Stain Modes and Programming Options outlines staining sequence tables and program settings. Staining can be adjusted by altering general settings, intensity stain settings, and wash settings. Carbowax must be removed before staining successfully occurs. Selecting the optimal program settings for staining is crucial in achieving satisfactory results while conserving reagent. To begin, select the minimum value that produces desired outcomes. Consult Appendix D and Table 14 for guidance on stain modes and programming options. The following examples illustrate the application of different program settings to buccal specimens prepared using a smear technique: * Prewash Alcohol: This setting is suitable for applications requiring a clear background. * Bluing Spray: Ideal for highlighting cellular structures, especially in tissues with abundant collagen. * Nuclear/Htox Spray: A combination of two stains that target nuclei and cellular debris. * Acid Alcohol Wash: Effective for removing excess stain and preserving specimen integrity. To ensure optimal results, follow these general guidelines: 1. Load specimens of similar type into the same carousel to maintain consistency. 2. Adjust stain intensity settings according to the specimen type, as cytocentrifuged body fluid preparations require less intensity than smears. 3. Avoid spreading smear on the edges of the slide and use coated slides (SS-118) for better adhesion. By understanding the principles of staining and program settings, you can achieve high-quality results in your cytological analyses. Dye determination method published in 1934 by R.W. Payne, using phosphotungstic acid for precipitation.