



# IN-SERVICE GUIDE ADVANTAGE® PLUS



FOR FACILITY USE ONLY

Staff Name: \_\_\_\_\_

Training Date: \_\_\_\_\_

Trainer: \_\_\_\_\_

# INTENDED USE AND GUIDELINES

## Intended Use

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|--|--|
| 1. High-level disinfection of flexible endoscopes                                |  |
| 2. Operator Safety Overview: appropriate PPE: mask, gown, gloves, eye protection |  |

## Guidelines for Reliable Disinfection

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|---|--|
| 1. Detergent Solution - (optional) used in the wash cycle, must be low-foaming, free-rinsing, neutral in pH and use according to manufacturer's instructions      |  |
| 2. Disinfectant Solution - required for high-level disinfection cycle   |  |
| 3. Olympus®, Pentax®, Fujinon®, Storz® - Endoscope cleaning and disinfection guidelines   |  |
| 4. SGNA, ASGE, ASTM, APIC and AORN - Endoscope cleaning and disinfection guidelines   |  |
| 5. SGNA approved reprocessing steps - endoscope bedside pre-cleaning, leak testing, manual cleaning, high-level disinfection and storage standards and guidelines |  |

# PRODUCT FAMILIARIZATION

## Endoscope Reprocessor Components and their Functions

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|---|--|
| 1. Basin Components: Lid, Left and Right Basin, Fluid Inlet, Spray Head, Connection Manifold, Drain, Overflow and Spray Arm |  |
| 2. PC and PC Connections: On/Off Switch, USB Ports, Serial Ports, CD Drive, Mouse Connection, Power Connection              |  |
| 3. Control Panel: Controls, Touchpad, Function Buttons, Selection Buttons   |  |
| 4. Foot Switch to open/close Basin Lid  |  |
| 5. Interior Components: Access Door, Pressure Gauge, Detergent Reservoir, Alcohol Reservoir, Leak Test Pressure Gauge       |  |
| 6. Back Components: Water Supply Inlet, Drain/Discharge Opening, Air Compressor, Casters                                    |  |
| 7. Connection Hook up Block   |  |
| 8. Barcode Reader   |  |
| 9. Water Filtration System: 1 micron, 0.4 micron and 0.1 micron filters   |  |

## Fluids and Test Strips

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|--|--|
| 1. High-Level Disinfectant (HLD) - Rapicide® PA high-level disinfectant, Part A and Part B |  |
| 2. Detergent - recommended detergent is Medivators Intercept®                              |  |
| 3. Alcohol (70% Isopropyl) - used to dry inside of endoscope channels                      |  |
| 4. Test Strips - used to test the concentration of the HLD after each cycle                |  |

# OPERATOR CONTROLS

## Control Panel

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|---|--|
| 1. Basin Control Buttons (Basin Specific): Open/Close, Start, Cancel, Menu, LED |  |
| 2. Touchpad and Mouse Buttons   |  |
| 3. Function Buttons: F1-F5 and ABC for keyboard appearance                      |  |
| 4. Selection Buttons: OK, Cancel, Scroll Up, Scroll Down                        |  |

## Software System Programs

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|---|--|
| 1. Open LIO (Logic Input/Output) - Main software to run an endoscope cycle                                    |  |
| 2. LIO User Screen: Menu Bar, Program Status/Progress, Program Messages, Reservoir Status, System Information |  |
| 3. Management - Database for user and run/cycle information   |  |
| 4. Server - Controls communication between LIO, Management and Advantage Plus                                 |  |
| 5. Print Service (optional) - Prints cycle log  |  |
| 6. Login Name and Password - Many processes require the appropriate authorization                             |  |
| 7. Backups - A backup must be manually executed   |  |

# FLUID LOADING AND UNLOADING

## Loading and Refilling Fluids

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| 1. Fluid Reservoir Status percentage appears in footer of screen                                |  |
| 2. Detergent and Alcohol Loading - Run "Replace Fluids" then remove and refill                  |  |
| 3. Loading Disinfectant - Run "Replace Fluids" Rapicide PA Part A and Part B bottle replacement |  |

## SYSTEM OPERATIONS

### Startup

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| 1. Verify power, air source and incoming external water pressure regulator is 35-40 PSI during flush or fill cycle. If not, check filters for replacement. Otherwise, call Medivators Technical Support. |  |
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### Daily Service

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|---|--|
| 1. Check Air Pressure (2.8-3.0 BAR) & Leak Test Gauge (0.24-0.25 BAR)               |  |
| 2. Inspect Connection Block and O-rings for wear                                    |  |
| 3. Check Drain Screens for excessive soil and replace if needed                     |  |
| 4. Check Fluid Levels - Rapicide PA Parts A & B, detergent (if applicable), alcohol |  |

### Prepare Endoscope for Reprocessing

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|---|--|
| 1. Place the endoscope in the basin with control knobs facing up in the lower left corner |  |
| 2. Install the Channel Separator onto the endoscope                                       |  |
| 3. Locate proper Hook up Connector Block and insert into manifold                         |  |
| 4. Connect the tubing from the Connector Block to the endoscope                           |  |
| 5. Place accessory bag into basin away from drain, tucked under the endoscope             |  |

### Endoscope Reprocessing Cycle Summary

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|---|--|
| 1. Cycle Startup Phase - Monitoring of system sensors   |  |
| 2. Leak Test, Channel Monitoring and Channel Blockage Monitoring - continuous throughout cycle                |  |
| 3. Detergent Flush Phase - Water and detergent (if applicable) fill basin for soak and flush through channels |  |
| 4. Disinfectant Phase - Endoscope is flushed and soaked with Rapicide PA high-level disinfectant              |  |
| 5. Rinse Phase - Basin fills with water twice and channels are flushed with water                             |  |
| 6. Alcohol Phase - Alcohol injected into channels to facilitate drying  |  |
| 7. Air Purge Phase - Air is purged through channels to assist drying  |  |

### Run the Reprocessing Cycle

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|--|--|
| 1. Use Barcode Scanner or manually choose Operator, Endoscope Program, Physician and Patient codes where applicable and close lid to start cycle |  |
|--|--|

### Complete the Reprocessing Cycle

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|---|--|
| 1. Take sample of disinfectant and test MEC using Rapicide PA Test Strip; dispose of sample               |  |
| 2. Retrieve Endoscope - Scan or Enter Operator ID and press Open  |  |
| 3. Disconnect hookup, remove endoscope and store reprocessed endoscope with all removable parts detached. |  |
| 4. Remove hookup connector block.   |  |

### End of Day Shutdown

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| 1. Wipe down connector blocks with lint-free cloth and store    |  |
| 2. Install Disinfection Blocks                                  |  |
| 3. Wipe lid and control panel with non-scouring cleansing agent |  |
| 4. Wipe basin and inside lid with a lint-free cloth.            |  |
| 5. Use soap and water to clean lid gaskets                      |  |

## MAINTENANCE

### Weekly Maintenance

1. Inspect connector blocks for wear and tear	
2. Lubricate and inspect manifold O-rings	
3. Clean Basin Drain Screens	
4. Run Waterline Disinfection	

### Monthly Maintenance

1. Replace Basin Drain Filters	
2. Clean Spray Arm Filters	

### Three Month Maintenance

1. Replace 1 Micron and .4 Micron Water Filters every 3 months or if below 35 psi	
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### Six Month Maintenance

1. Replace 0.1 Micron Water Filter every 6 months or if below 35 psi	
2. Replace Vapor Management Filter (if applicable)	
3. Run Waterline Disinfection (if applicable)	
4. Replace Air Filters	

## TROUBLESHOOTING

### Error Reports

1. Error Types: System, Bar Code, Endoscope, Reprocessing, Control, Warnings	
2. Operator Messages and Program Errors - appear in Reports Field	
3. Color-coded Program Status - Orange, Gray, Red, Blue	
4. Canceling and Restarting a Program	

## SYSTEM ADMINISTRATION

### Software System Programs

1. Open LIO (Logic Input/Output) - Main software to run an endoscope reprocessing cycle	
2. Management - Database for user and run/cycle information	
3. Server - Controls communication between LIO, Management and ADVANTAGE Plus and networked units. (Only available to System Administrators)	
4. Server Software	

### Management Programs

1. General Applications: Cycles, Events, Instruments/ Endoscopes, Users, Physicians/Assistants	
2. Entering data specific to facility	
3. Data Management/Printing	
4. Backups - Perform regularly and initiate manually	
5. Importing/Exporting Data	

### Data Entry with Barcoding

1. Data fields	
2. Adding Endoscope Types, Parameters Sets, and New Endoscopes	
3. Adding Users/Operators and Physicians/Assistants	
4. Editing and Deleting Data	

### Reports: Run/Cycle Data Recorded

1. View Cycle Logs - Open Management in MDS folder	
2. Select report criteria, time period and run reports & details	
3. Other reports - Events	
4. Printing Reports	

### Medivators Website “Resource Center”

Go to: [www.minntech.com/medivators](http://www.minntech.com/medivators), Select “Resource Center” and “User Library” for detailed user guides and hook up matrices, report forms and logs, and product bulletins

Medivators Customer and Technical Support Toll Free: Phone: 1-800-444-4729 • FAX: 1-866-421-7696