### 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

#### 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

#### 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

#### 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

#### Medivators Website “Resource Center”
Go to: 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

## INTENDED USE AND GUIDELINES

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

### Guidelines for Reliable Disinfection
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
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 Hookup Block
8. Barcode Reader
9. Water Filtration System: 1 micron, 0.4 micron and 0.1 micron filters

### Fluids and Test Strips
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
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
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
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
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.

### Daily Service
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
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 Hookup 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
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
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
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
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

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Endoscope reprocessing the way it should be
ENDOSCOPE REPROCESSOR COMPONENTS AND THEIR FUNCTIONS

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RUN THE REPROCESSING CYCLE

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COMPLETED REPROCESSING CYCLE

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END OF DAY SHUTDOWN

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5. Use soap and water to clean lid gaskets

ENDOSCOPE REPROCESSING THE WAY IT SHOULD BE
IN-SERVICE GUIDE ADVANTAGE® PLUS

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