APPLICATION

The Reliance Endoscope Processing System is an economical, easy-to-use high level disinfection system that can wash and high level disinfect up to two manually pre-cleaned, immersible, reusable, heat-sensitive, semi-critical devices such as GI flexible endoscopes and related accessories. The system utilizes Reliance™ HLD High Level Disinfectant, a proprietary, dry peracetic acid-generating oxidative chemistry. The Reliance Endoscope Processing System is designed to be versatile in meeting the growing demands of the modern flexible endoscope processing department, while offering the highest level of patient and staff safety. The Reliance Endoscope Processing System automated process offers the quality and the service Customers have come to expect and rely on from STERIS.

The Reliance™ Endoscope Processor is intended to be used solely with Reliance HLD High Level Disinfectant and Verify® Process Indicator for Reliance EPS Endoscope Processing System. Reliance HLD High Level Disinfectant is a proprietary, two-part, dry, single-use oxidative chemistry, designed to generate the high level disinfection solution within the Reliance Endoscope Processor. Do not substitute any other product for Reliance HLD High Level Disinfectant.

The Verify PI Process Indicator strips are qualitative chemical indicators of the presence of the Reliance HLD High Level Disinfectant active ingredient (peracetic acid). Only use Verify Process Indicator strips for qualitative detection of the presence of peracetic acid in the Reliance Endoscope Processing System.

DESCRIPTION

The Reliance Endoscope Processor is single door and designed as a freestanding unit (with countertop and panels). A drop-down door facilitates the loading of the unit. The processor features a state-of-the-art microcomputer control system with a user-friendly operator interface.

The Selections Checked Below Apply To This Equipment

**VOLTAGE**
- ☐ 208 V, 60 Hz, 3-Phase
- ☐ 230 V, 60 Hz, 1-Phase
- ☐ 460 V, 60 Hz, 3-Phase

**CONSUMABLES**
- ☐ Reliance HLD High Level Disinfectant
- ☐ Verify Process Indicator for Reliance EPS
- ☐ Klenzyme® Enzymatic Presoak and Cleaner
- ☐ CIP 200® Formulated Acid Cleaner

**ACCESSORIES**
- ☐ Dual Pre-Filter and Pressure Regulator Assembly - 1 Required for Each Processor
- ☐ Seismic Anchorage Kit
- ☐ Bar Code Reader
- ☐ Automated Leak Test for Olympus®, Pentax®, and Fujinon® Endoscopes¹
- ☐ Flow Unit 1 for Irrigation Tubes
- ☐ Flow Unit 2 for Olympus® 145/160/165/180 Series GI Endoscopes¹
- ☐ Flow Unit 3 for Pentax® Water Jet P/X/00/01 Series GI Endoscopes¹
- ☐ Flow Unit 4 for Pentax® 70/70K/72/72K/80K/81K/85/85K/90/90K Series GI Endoscopes¹
- ☐ Flow Unit 5 for Cook, Medovations and CONMED Lumened Dilators (See Table 3 for Model Numbers)
- ☐ Flow Unit 6 for Fujinon® 530 Series Colonoscopes With Water Tank Receiver Port¹

**ACCESSORIES (Cont’d)**
- ☐ Leak Test Hose for Olympus®¹
- ☐ Leak Test Hose for Pentax®¹
- ☐ Leak Test Hose for Fujinon®¹

1 Registered trademarks of Olympus Optical Co., Ltd., Pentax Imaging Company, and Fujinon Inc

Item ___________________________
Location(s) _______________________

SD859 (01/01/11)
The processor is preprogrammed with six complete standard cycles: SINGLE for one endoscope with or without a washing phase, DOUBLE for two endoscopes with or without a washing phase, D-SHORT and D-LONG.

A standard printer records important in-cycle alarm and cycle value data. Voltage-specific electrical wiring and flexible hoses needed to install the endoscope processor are provided with the processor.

A bar code reader (see ACCESSORIES) can be installed to input identification numbers for the Operator ID, Patient ID, Device ID, Procedure ID and Physician ID.

Reliance HLD High Level Disinfectant – A dry, single-use, oxidative chemistry for use only in the Reliance Endoscope Processor. When used in the Reliance EPS this chemistry is used to high level disinfect manually pre-cleaned, immersible, reusable, heat-sensitive, semi-critical devices such as GI flexible endoscopes, bronchoscopes and related accessories.

Verify Process Indicator for Reliance EPS – Developed exclusively for the independent monitoring of the Reliance HLD High Level Disinfectant used in the Reliance Endoscope Processing System. The Verify Process Indicator is used to indicate an effective dose of the peracetic acid is generated during the Reliance Endoscope Processing Cycle.

Klenzyme Enzymatic Presoak and Cleaner – Single enzyme-based detergent for surgical instruments, flexible endoscopes and other medical apparatus used in healthcare facilities. This product is provided in a special Bag-in-a-Box container developed to ease handling and installation.

CIP 200 Formulated Acid Cleaner – A liquid, acidic detergent system specially formulated to meet unique washing demands. This product is provided in a special Bag-in-a-Box container developed to ease handling and installation.

Exterior Dimensions (W x D x H):
- 38 x 32-1/2 x 47-11/16’’ (965 x 825 x 1211 mm)

Interior Chamber Dimensions (W x D x H):
- 24 x 19 x 23’’ (610 x 483 x 584 mm)

Loading Height:
- 23-15/16’’ (607 mm) with drop-down door open.

STANDARDS

The processor meets the applicable requirements of the following standards:
- Underwriters Laboratories (UL) Standard 61010-1.
- Canadian Standards Association (CSA) CAN/CSA-C22.2 No. 61010-1.
- ISO/DIS 15883-1: Washer-Disinfectors general requirements, definitions and tests.
- ISO/DIS 15883-4: Washer-Disinfectors, using chemical disinfection for thermolabile endoscopes, requirements and tests.

- Standards applied to demonstrate conformity to the directives: IEC-61010-1; IEC-61010-2-040; IEC-61326-1.

FEATURES

Rex® Microcomputer
This microcomputer monitors and controls the processor operations and functions. The cycle progresses automatically through the designated phases, as programmed.

Front-Loading Drop-Down Door
A front-loading, drop-down door is provided to facilitate loading of the unit. The door is constructed of 316 stainless steel covered with a plastic panel. The panel is strong and easy to clean. A tempered glass window allows the operator to view the chamber interior while a cycle is in progress. The panel and glass window remain relatively cool to the touch.

Service Access Panel
The front bottom service access panel provides easy access to the 0.2 µm bacterial-retentive filter, washer injection pumps and other components for maintenance.

Interior Fluorescent Light
A 20,000-hour life expectancy interior light allows operator to view the process and load during the cycle.

Bag-in-a-Box Compartment
A three-shelf compartment is provided at the right of the chamber. Two of the shelves are designed to receive a separate Bag-in-a-Box container provided with a specially designed connector. The Bag-in-a-Box compartment drop-down door is made of the same easy-to-clean plastic as the chamber door panel.

Washer Injection Pumps
The peristaltic washer injection pumps automatically inject the correct quantity of cleaner during the appropriate cycles. The pumps are conveniently positioned behind the front service access panel for easy maintenance.

Endoscope Processing Support
The endoscope processing support includes two control handle boots, labeled ‘A’ and ‘B’, for processing compatible flexible endoscopes. Additionally, each control handle boot can be adapted to process endoscopes that have special processing requirements (e.g., small diameters and no light guide cables). A dedicated process indicator clip on control handle boot A is designed to firmly hold the Reliance PI Process Indicator in place during the cycle.

The large mesh basket on the upper level of the endoscope processing support can hold up to two light guide cables and other compatible accessories. When required, fluid flow units can be connected to the two fluid flow ports in the large mesh basket. Bite blocks can be placed on the two accessory pegs.
On the lid of the Chemical Delivery System are two templates for measuring insertion tubes’ diameters. The small accessories basket and cover is stored under the large mesh basket and is designed to hold small compatible accessories such as air/water valves. The valve irrigators have been designed to hold suction valves during the processing cycle. Valves are held open inside the holder to ensure solution contacts inside surfaces.

Chamber
The high-quality, stainless-steel chamber is insulated to reduce heat loss and noise level. Four manifold connectors are provided at the back of the chamber: one is the hot water inlet to the Chemical Delivery System, two are connectors for the pressure sensors and one is for the endoscope processing support. The endoscope processing support is automatically connected to these manifold connectors when positioned correctly in the processor chamber.

A removable debris screen at the bottom of the chamber prevents large debris from entering the piping system and pump. The screen is provided with a handle and is easily removed for cleaning.

0.2 µm Bacterial-Retentive Filter
All the water supplied to the processor is filtered through a 0.2 µm bacterial-retentive filter which is conveniently positioned behind the service access panel, below the chamber door, for easy maintenance. To ensure parameters affecting filtration efficiency remain within specifications, a pressure hold integrity test is performed during each cycle.

Air Compressor
An air compressor is available to provide facilities that do not have a 50 psi (345 kPa) air supply with the means to operate the required 0.2 µm bacterial-retentive filter integrity test. Air compressor is supplied on preferred configurations but is a base model addition on other configurations.

**CYCLE DESCRIPTION**

**IMPORTANT:** Items to be high level disinfected must be manually pre-cleaned according to manufacturer recommendations before being placed in the endoscope processing support.

**Processing Cycles**
There are four processing cycle options to choose from:
- **SINGLE Endoscope processing cycle with washing phase**, used to process one endoscope through washing and high level disinfection (HLD) phases. Endoscope is placed in control handle boot "A."
- **SINGLE Endoscope processing cycle without washing phase**, used to process one endoscope through a high level disinfection phase only. Endoscope is placed in control handle boot "A."
- **DOUBLE Endoscope Processing cycle with washing phase**, used to process two endoscopes through washing and high level disinfection phases. One endoscope is placed in control handle boot "A" and one in control handle boot "B."
- **DOUBLE Endoscope Processing cycle without washing phase**, used to process two endoscopes through a high level disinfection phase only. One endoscope is placed in control handle boot "A" and one in control handle boot "B."

**Processing Cycle Description**
The total default cycle time with a washing phase is approximately 42 minutes. The total cycle time without a washing phase is approximately 30 minutes. Cycle time depends on the washing cycle settings entered in Supervisor mode. Temperature, pressure and quality of the building water supply can also influence cycle time.

NOTE: See Table 6 for more information.

The first phase of the processing cycle is an optional, programmable washing phase. This phase consists of a wash with Klenzyme Enzyme Presoak and Cleaner, followed by a rinse. The washing phase can be programmed ON or OFF. In the ON mode, the user can choose either one or two washing phases per processing cycle. Additionally the wash segment duration can be adjusted to be between 5 and 10 minutes. The Reliance Endoscope Processing System washing phase does not replace manual pre-cleaning by the user.

The second phase of the processing cycle is a required high level disinfection phase and cannot be adjusted by the user. In this phase the single use container Reliance HLD chemistry is dissolved with water at 50°C (122°F) and circulated throughout the processor and through the device lumens. During the first four minutes of this phase, peracetic acid is generated from the dry components creating the germicidal high level disinfection solution. This solution generation is
followed by a six-minute high level disinfection phase at 50°C (122°F).

The third phase of the processing cycle is a required rinse phase and cannot be adjusted by the user. The Reliance Endoscope Processor removes the high level disinfection solution using two rinses. The processor filters the rinse water (as well as all of the water used throughout the cycle) through a 0.2 µm bacterial-retentive filter. The processor also incorporates an automatic internal integrity check of the filter at the end of each processing cycle. If the integrity check fails, the user is alerted by an alarm and the cycle printout indicates a fault code for this filter integrity failure.

The fourth and last phase of the processing cycle is an air purge phase using HEPA-filtered air. The air purge helps to remove excess rinse water from the processed devices. The final air purge is preset to run for four minutes; additional air purge time may be selected by the operator for up to 30 minutes. If the devices are not removed from the processor at the end of the cycle, the air purge phase will continue for up to a maximum of 60 minutes.

**Decontamination Cycles**

The processor also features two decontamination cycles intended to prevent biofilm formation in the chamber and on the endoscope processor support. The first, called D-SHORT, consists of hot water at 82.2°C (180°F) circulating through the processor for 13 minutes, followed by a 10-minute hot air purge at 115.6°C (240°F). This cycle must be run every 54 hours. If a D-SHORT cycle is not completed within this time interval, the processor is locked out from use until a D-LONG cycle (see below) is run. D-SHORT is intended to prevent biofilm formation and contamination.

The second decontamination cycle, called D-LONG, consists of a cycle in which CIP 200 Acid-Based Process and Research Cleaner is added to hot water at 82.2°C (180°F). The washing solution is then circulated through the processor for 20 minutes; this is followed by three rinses to remove the solution from the processor and a 10-minute hot air purge at 115.6°C (240°F). D-LONG is to be used on those occasions when the D-SHORT cycle has not been run within the past 54 hours. D-LONG is intended to prevent biofilm formation and contamination.

**TEST Cycle**

A TEST cycle program is available for service and maintenance.

**CONTROL SYSTEM**

**Design Features**

**Operator Interface Control Panel**, consists of a display screen, a touch pad, ON/OFF and UNLOCK toggle switches.

- **Display Screen** – The control display window features a 2-line x 16 characters, easy-to-read vacuum fluorescent display. The display shows cycle status, remaining time, alarms and instructional messages. The display also indicates abnormal conditions that may occur during a cycle.

- **Touch Pads** – Membrane-type touch pads allow the operator to select, start, stop, or abort cycles. An audible signal is heard to acknowledge that a pushbutton has been pressed.

- **Audible Signals** – The audible alarm signal warns the operator that an action must be taken or when a cycle is completed.

- **Cycle/Day Count Recall System** – A Cycle/Day Count Recall System reminds the operator when a complete preventive maintenance check is required.

**Cycle Configuration**

The control system offers three different modes. **Operator mode** allows an operator to only Start/Stop/Resume/Abort cycles. **Service mode** allows a service technician to perform preventive maintenance and testing. The Service mode also facilitates troubleshooting. **Supervisor mode** allows an authorized operator to modify the time value for the Cleaning Wash 1 and Air Purge phases, set date and time, program bar code IDs, and select the operating language and the "repeat washing" feature. In addition to the adjustment of cycle values, the following operating parameters can also be changed in Supervisor mode:

- **Time Display and Printout Units** – Standard AM/PM or 24 hour military time (MIL).

- **Temperature Display** – Celsius (°C) or Fahrenheit (°F). Temperature is set, displayed, controlled, and printed to the nearest 0.1 degree. Recalibration is not required when changing temperature units from °C to °F and vice versa.

- **Pressures** – may be programmed in psi or kPa. Recalibration is not required when changing unit pressure from psi to kPa or vice versa.

**TECHNICAL DATA**

**Control System**

Control system consists of microcomputer control boards and peripheral function circuit boards, located within the control board housing.

**Electronic Temperature Control**

Resistive Temperature Device (RTD) sensors are used instead of conventional thermostats, to provide accurate control inputs and readouts throughout all phases of the cycle.

**Electronic Pressure Monitoring**

Two pressure transmitter sensors are used to provide control measurements and readouts of the pressure developed within both control handle boots during the washing (optional) and HLD phases. A third pressure transmitter sensor is used to provide accurate pressure measurements during Filter Integrity Pressure Hold Test.

**Internal Battery**

An internal battery backs up all cycle memory for up to 10 years. If a power failure occurs during a cycle, the battery back-up system ensures that cycle memory will be retained and proper cycle completion will occur once power is restored. When power is lost, the cycle is held in phase until power is restored. Once power returns, the event is recorded on the printout and
the cycle automatically resumes or is aborted, depending on which phase the cycle was in at the time of power loss.

SAFETY FEATURES

Safety Door Switch
A microswitch prevents a cycle from starting if door is not fully closed.

Safety Stop
Pressing the STOP touch pad once automatically pauses operation of the unit and pressing the STOP touch pad a second time aborts the cycle.

Unlock Toggle Switch
Processor is provided with an UNLOCK toggle switch that must be pressed to open the door.

Labeling
The Reliance Endoscope Processing System is labeled with safety precaution labels and equipped with wall charts to warn and inform operator and service technicians of precautions to take and proper use of the processor.

Process Monitoring
The control system monitors pressures within the control handle boots and warns the operator if pressures drop below the minimum requirement or exceed the maximum requirement for safe and effective processing of the devices. Water and air temperatures within the processor chamber are monitored for safe processing. The rinse water quality is automatically monitored every cycle by a filter integrity pressure hold test. A vacuum switch in the cleaning solution injection line signals the control when there are insufficient reserves. A level float, consisting of a magnetic float switch, controls the sump water level.

Verify Process Indicator strips are designed to confirm an effective dose of peracetic acid during the high level disinfection process.

CONSTRUCTION

Chamber
Chamber is constructed of 20 gauge, 316L stainless steel (#4 finish), and is seam welded. Chamber inhibits corrosive action of chemicals and is easy to wash, with no enameled surfaces to chip or crack.

Sump capacity is four gallons (15 L). Stainless steel 304 heating coils are included.

Insulated Construction
Insulated construction of chamber exterior reduces heat loss and noise level for both undercounter and freestanding units.

Piping and Recirculation System
All components of the recirculation system, including sump, screen, rotary spray arms, pump, Chemical Delivery System, water filter housing, piping and endoscope processing support, are constructed of 316L stainless steel, silicone, polypropylene, and/or hydrophilic polyvinylidene fluoride (PVDF). All materials are compatible with Reliance HLD High Level Disinfectant, Klenzime Enzymatic Presoak and Cleaner, and CIP 200 Formulated Acid Cleaner.

Stainless-Steel Pump
All phases are under pressure utilizing a 1.5 HP stainless-steel pump with a 66 U.S. gal/min at 52 ft. (249.8 L/min at 16 m) capacity. Pump impeller, shaft and casing (all stainless steel construction) are fitted with a mechanical seal. Pump impeller is mounted directly on motor shaft. Pump motor is thermally protected and is equipped with a totally enclosed frame (TEFC), magnetic starter and sealed bearings (requiring no periodic lubrication).

Removable Debris Screen
The debris screen, constructed of 304L stainless steel (#4 finish), is located at the bottom of the sump and prevents large debris from entering the piping system and pump. Screen can be easily removed for cleaning.

MOUNTING ARRANGEMENT

The Reliance EPS Processor is designed as a fully enclosed unit for recessed or freestanding installation. Casters and flexible utility hoses are provided to allow unit to be moved in and out of mounting location for maintenance purposes. Processor is inter-piped and inter-wired, requiring only one connection for each service and utility hook-up.

ACCESSORIES

NOTE: See Table 1 for more information.

Seismic Anchorage Kit
A seismic anchorage kit is available and meets seismic building code requirements for high risk seismic zones. Report is supplied with the seismic kit.

Bar Code Reader
Allows input and traceability of important data from printed bar codes such as Operator ID, Patient ID, Device ID, Procedure ID, and Physician ID.

Automatic Leak Test
This feature, when activated, detects leaks in flexible Olympus®, Pentax® and Fujinon® endoscopes1 prior to processing. The endoscopes are pressurized within the manufacturer’s specified ranges and leaks as low as 0.22 psig (15 mbar) is detected. Minimal pressure is maintained and monitored throughout the processing cycle.

1Registered trademarks of Olympus Optical Co., Ltd., Pentax Imaging Company, and Fujinon Inc.

Flow Units (1, 2, 3, 4, 5 and 6)

NOTE: See Table 3 for more information.

Flow Unit 1 is a Reliance Endoscope Processor accessory that must be used for processing Olympus®, Pentax® and Fujinon® endoscope1 irrigation tubes.
Flow Unit 2 is a Reliance Endoscope Processor accessory that is required for processing Olympus® 145/160/165/180 Series GI Endoscopes with an auxiliary water channel. This independent channel flows from the light guide control end connector to the distal tip without an access port on the control handle.

Flow Unit 3 is a Reliance Endoscope Processor accessory that is required for processing Pentax® P/X/00/01 Series GI Endoscopes fitted with a non-removable, mechanically-actuated valve at the control handle’s auxiliary water channel port.

Flow Unit 4 is a Reliance Endoscope Processor accessory required for processing Pentax® 70/70K/72/72K/80K/81K/85/85K/90/90K Series GI Endoscopes with a water jet channel. This independent channel flows from the light guide control connector to the distal tip.

Flow Unit 5 is a Reliance Endoscope Processor accessory that must be used when processing Cook, Medovations or CONMED esophageal dilators with a lumen (internal channel). Non-lumened dilators from Medovations, Pilling and Rusch do not require a Flow Unit to process.

Flow Unit 6 is a Reliance Endoscope Processor accessory that is required for processing Fujinon® 530 Series Colonoscopes with Water Tank Receiver Port.

PREVENTIVE MAINTENANCE

A global network of skilled service specialists can help provide periodic inspections and adjustments to help ensure low cost peak performance. STERIS representatives can provide information regarding annual maintenance programs.

NOTES

NOTE: See Table 4 and Table 5 for more information.

1. Where required by local codes, installation of a backflow preventer, such as Wilkins 975XL 1/2” NPT or equivalent (not provided by STERIS) is available for hot and cold water inlets.

2. Pipe sizes shown indicate terminal outlets only. Building service lines (not provided by STERIS) must supply the specified pressures and flow rates.

3. Disconnect switches (with OFF position lockout only; not provided by STERIS) should be installed in electric supply lines near the equipment.

4. Clearances shown are minimal for installing and servicing the equipment. Refer to equipment drawing for specific details.

5. Customer must ensure processor stands on noncombustible, nonslip floor.

The base language of this document is ENGLISH. Any translations must be made from the base language document.
Table 1. Accessories - Processor

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>OVERALL DIMENSIONS W x L x H Inches (mm)</th>
<th>SHIPPING WEIGHT lb (kg)</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seismic Anchorage Kit (MB00-0016)</td>
<td>8 x 6 x 3 (203 x 152 x 76)</td>
<td>1 (0.5)</td>
<td>A seismic anchorage kit is available for high-risk seismic zones.</td>
</tr>
<tr>
<td>Bar Code Reader (MB00-0048)</td>
<td>11 x 14 x 4 (279 x 356 x 102)</td>
<td>2 (0.9)</td>
<td>Bar code reader to read data barcodes (includes instructions).</td>
</tr>
<tr>
<td>(Required) Dual Pre-Filter and Pressure Regulator Assembly (MB00-0067)</td>
<td>11 x 16 x 21 (279 x 406 x 533)</td>
<td>28 (13)</td>
<td>Reduce the particulate and microbial load on the final 0.2 µm filter (includes instructions).</td>
</tr>
<tr>
<td>Installation Kits</td>
<td>12 x 48 x 4 (305 x 1219 x 102)</td>
<td>28 (13)</td>
<td>Main Electric Supply Cord, Flexible Hose and Pressure Regulator for Cold Water Inlet, Service Handles.</td>
</tr>
<tr>
<td>Automated Leak Test Assembly Kit (MB00-0029)</td>
<td>N/A</td>
<td>N/A</td>
<td>Automated leak test of Olympus®, Pentax®, and Fujinon® Endoscopes. Kit includes hardware and instructions to install and perform leak testing automatically.</td>
</tr>
</tbody>
</table>

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Table 2. Accessories - Leak Test Hoses

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>ILLUSTRATION</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leak Test Hose Assembly Kit for Pentax® Endoscopes (MB00-0041)</td>
<td><img src="leak_test_hose_pentax.png" alt="Image" /></td>
<td>To connect to Leak Test Port of Pentax® Endoscopes.</td>
</tr>
<tr>
<td>Leak Test Hose Assembly Kit for Olympus® Endoscopes (MB00-0042)</td>
<td><img src="leak_test_hose_olympus.png" alt="Image" /></td>
<td>To connect to Leak Test Port of Olympus® Endoscopes.</td>
</tr>
<tr>
<td>Leak Test Hose Assembly Kit for Fujinon® Endoscopes (MB00-0043)</td>
<td><img src="leak_test_hose_fujinon.png" alt="Image" /></td>
<td>To connect to Leak Test Port of Fujinon® Endoscopes.</td>
</tr>
</tbody>
</table>

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1Registered trademarks of Olympus Optical Co., Ltd., Pentax Imaging Company, and Fujinon Inc.
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>ILLUSTRATION</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Unit 1 (EPSC001INT)</td>
<td><img src="image1" alt="Flow Unit 1 Illustration" /></td>
<td>To process Olympus®, Pentax®, and Fujinon® endoscope irrigation tubes.</td>
</tr>
<tr>
<td>Flow Unit 2 (EPSC002INT)</td>
<td><img src="image2" alt="Flow Unit 2 Illustration" /></td>
<td>To process Olympus® 145/160/165/180 Series GI Endoscopes with an auxiliary water channel.</td>
</tr>
<tr>
<td>Flow Unit 3 (EPSC003INT)</td>
<td><img src="image3" alt="Flow Unit 3 Illustration" /></td>
<td>To process Pentax® Water Jet P/X/00/01 Series GI Endoscopes fitted with an auxiliary water channel port located on the control handle.</td>
</tr>
<tr>
<td>Flow Unit 4 (EPSC004INT)</td>
<td><img src="image4" alt="Flow Unit 4 Illustration" /></td>
<td>To process Pentax® 70/70K/72/72K/80K/81K/85/85K/90/90K Series GI Endoscopes with a water jet channel.</td>
</tr>
<tr>
<td>Flow Unit 5 (EPSC005INT)</td>
<td><img src="image5" alt="Flow Unit 5 Illustration" /></td>
<td>To process Cook (SGD-5/6/7/8/9/10/11/12/12.8/14/15/16/17/18/19/20-70 and SGD-5/6/7/8/9/10/11/12/12.8/14/15/16/17/18/19/20-100) Medovations 1214-15/18/21/24/27/30/33/36/39/42/45/48/51/54/57/60) and CONMED (000270-000275, 000277-000281 and 000288-000291) Lumened Dilators.</td>
</tr>
<tr>
<td>Flow Unit 6 (EPSC006INT)</td>
<td><img src="image6" alt="Flow Unit 6 Illustration" /></td>
<td>To process Fujinon® 530 Series Colonoscopes with Water Tank Receiver Port.</td>
</tr>
</tbody>
</table>

*Registered trademarks of Olympus Optical Co., Ltd., Pentax Imaging Company and Fujinon Inc.*
### Table 4. Engineering Data

<table>
<thead>
<tr>
<th>SHIPPI NG WEIGHT</th>
<th>OPERATING WEIGHT</th>
<th>A-WEIGHTED EQUIVALENT SURFACE SOUND dB</th>
<th>HEAT LOSS BTU/hr (W)</th>
<th>COLD WATER U.S. gal (L) PER CYCLE</th>
<th>HOT WATER CONSUMPTION PER CYCLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>lb (kg)</td>
<td>lb (kg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>730 (331)</td>
<td>660 (300)</td>
<td>65.4</td>
<td>2420 (710)</td>
<td>0.76 (2.9)</td>
<td>12.28 (46.4)</td>
</tr>
</tbody>
</table>

### Table 5. Utility Requirements

<table>
<thead>
<tr>
<th>ITEM</th>
<th>HOT WATER (HW)</th>
<th>COLD WATER (CW)</th>
<th>AIR*</th>
<th>DRAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>5/8&quot; Barbed M</td>
<td>1/2&quot; NPT M (BSPT M)</td>
<td>1/4&quot; OD</td>
<td>1-1/2&quot; ID (30 mm)</td>
</tr>
<tr>
<td>Dynamic Pressure</td>
<td>40 to 50 psig (2.76 to 3.45 bar)</td>
<td>30 to 80 psig (2.06 to 5.52 bar)</td>
<td>50 to 125 psig static (3.45 to 8.62 bar)</td>
<td>N/A</td>
</tr>
<tr>
<td>Building Water Supply Temperature</td>
<td>110°F (43°C) to 118°F (48°C)</td>
<td>70°F (21°C) maximum</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Maximum Flow Rate</td>
<td>2.3 U.S. gal/min (9.8 L/min)</td>
<td>1.9 to 4.2 U.S. gal/min (7.19 to 16.28 L/min)</td>
<td>0.2 cfm</td>
<td>4.0 U.S. gal/min (15.0 L/min)</td>
</tr>
<tr>
<td>Quality</td>
<td>Potable Water, 300 ppm max CaCO₃</td>
<td>300 ppm max CaCO₃</td>
<td>See Note Below</td>
<td>N/A</td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>208 V, 60 Hz, 3-Phase, 30 Amp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>230 V, 60 Hz, 1-Phase, 40 Amp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>460 V, 60 Hz, 3-Phase, 15 Amp</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CUSTOMER IS RESPONSIBLE FOR COMPLIANCE WITH APPLICABLE LOCAL AND NATIONAL CODES AND REGULATIONS.**

**NOTE:** Maximum particulate size: 5 microns. Maximum dew point: 3-7°C (37-45°F). Maximum oil concentration: 5 mg/m³.

*Not required with Preferred Configuration or system with optional air compressor installed.*
Table 6. Cycle Description Chart

### SINGLE OR DOUBLE ENDOSCOPE PROCESSING CYCLE

#### WITH WASHING

<table>
<thead>
<tr>
<th>Phase</th>
<th>WASH</th>
<th>RINSE</th>
<th>HLD</th>
<th>RINSE 1</th>
<th>RINSE 2</th>
<th>AIR PURGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water type</td>
<td>HTW</td>
<td>HTW</td>
<td>HTW</td>
<td>HTW</td>
<td>HTW</td>
<td>HTW</td>
</tr>
<tr>
<td>Set point temperature °C</td>
<td>Heated to 48.0 (118.4)</td>
<td></td>
<td>Heated to 50.0 (122.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>05:00</td>
<td>00:40</td>
<td>05:00</td>
<td>00:40</td>
<td>10:00</td>
<td>00:40</td>
</tr>
<tr>
<td>Adjustable: [05:00-10:00]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Generation: 04:00*</td>
<td>Disinfection: 06:00</td>
</tr>
<tr>
<td>Chemical additive</td>
<td>Klenzyme</td>
<td>Klenzyme</td>
<td></td>
<td></td>
<td></td>
<td>Reliance DG</td>
</tr>
<tr>
<td>Concentration mL/L</td>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### REPEAT WASHING

### OPTIONAL PHASES

<table>
<thead>
<tr>
<th>Phase</th>
<th>WASH</th>
<th>RINSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water type</td>
<td>HTW</td>
<td>HTW</td>
</tr>
<tr>
<td>Set point temperature °C</td>
<td>Heated to 82.2 (180.0)</td>
<td>Heated to 115.6 (240.0)</td>
</tr>
<tr>
<td>Time</td>
<td>13:00</td>
<td>20:00</td>
</tr>
<tr>
<td>Venting: 10:00</td>
<td>Cooling: 10:00</td>
<td></td>
</tr>
<tr>
<td>Chemical additive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentration mL/L</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 6. Cycle Description Chart

#### Decontamination cycle only, do not run with endoscopes

### D-SHORT

<table>
<thead>
<tr>
<th>Phase</th>
<th>WASH</th>
<th>AIR PURGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water type</td>
<td>HTW</td>
<td></td>
</tr>
<tr>
<td>Set point temperature °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>°F</td>
<td>Heated to 82.2 (180.0)</td>
<td>Heated to 115.6 (240.0)</td>
</tr>
<tr>
<td>Time</td>
<td>13:00</td>
<td>20:00</td>
</tr>
<tr>
<td>Venting: 10:00</td>
<td>Cooling: 10:00</td>
<td></td>
</tr>
<tr>
<td>Chemical additive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentration mL/L</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### D-LONG

<table>
<thead>
<tr>
<th>Phase</th>
<th>WASH</th>
<th>RINSE 1</th>
<th>RINSE 2</th>
<th>RINSE 3</th>
<th>AIR PURGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water type</td>
<td>HTW</td>
<td>HTW</td>
<td>HTW</td>
<td>HTW</td>
<td></td>
</tr>
<tr>
<td>Set point temperature °C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Heated to 115.6 (240.0)</td>
</tr>
<tr>
<td>°F</td>
<td>Heated to 82.2 (180.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>20:00</td>
<td>00:30</td>
<td>00:30</td>
<td>00:30</td>
<td>14:00</td>
</tr>
<tr>
<td>Venting: 10:00</td>
<td>Cooling: 04:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical additive</td>
<td>CIP200</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentration mL/L</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>(2)</td>
</tr>
</tbody>
</table>

#### Legend

- **HTW**: 0.2 µm filtered hot tap water
- **Not applicable**

HLD = High Level Disinfection Phase in the Reliance Endoscope Processor.

**NOTE:** Times shown in Cycle Chart do not include fill and drain times. These times may vary depending upon facility supplies.
Refer to the Following Equipment Drawing for Installation Details

<table>
<thead>
<tr>
<th>Equipment Drawing Part Number</th>
<th>Equipment Drawing Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>920-011-656EN</td>
<td>Reliance Endoscope Processing System</td>
</tr>
</tbody>
</table>

Dimensions are inches [mm]

- FRONT VIEW
  - 38 [965]

- SIDE VIEW
  - 23-15/16 [607]
  - 47-11/16 ± 1/4 [1211 ± 6]
  - 32-1/2 [826]

Dimensions are typical - drawing is not to scale.

Not For Installation