Biomedical Engineering Department
Indira Gandhi Memorial Hospital
Male', Republic of Maldives

Bedpan Washer

Technical Specification

1. Equipment Details

Equipment Name: Bedpan Washer / Bedpan Washer Disinfector
Category: Decontamination / Ward Sanitation Equipment

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2. Intended Clinical Use

The bedpan washer shall be designed for automated emptying, cleaning, thermal disinfection, and drying (where applicable) of reusable:

- Bedpans
- Urine bottles
- Buckets
- Suction bottles
- Similar reusable human waste containers

The unit is intended to support infection prevention and environmental hygiene in healthcare facilities.

Clinical Areas

Suitable for use in:

- General Wards
- ICU / CCU
- Isolation Wards
- Emergency Departments
- Pediatric Wards

3. General Design Requirements

The unit shall:

- Be freestanding floor-mounted
- Be compact and suitable for ward utility/sluice room installation
- Be constructed from **stainless steel (AISI 304 or AISI 316) or equivalent corrosion-resistant material**
- Have smooth internal and external surfaces for easy cleaning and infection control
- Be resistant to hospital-grade detergents and disinfectants
- Include sealed construction to minimize odor release during operation

Physical Dimensions

Preferred external dimensions:

- Width: approximately **540 mm** minimum
- Depth: approximately **600 mm**
- Height: approximately **1460 mm**

Equivalent dimensions acceptable based on manufacturer design.

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4. Chamber Capacity and Loading Configuration

The chamber shall accommodate at minimum:

- **1 bedpan + 1 urine bottle simultaneously**

or

- **Up to 4 urine bottles**

The system shall include:

- Universal holder/rack for secure positioning of bedpans and urine bottles
- Holder suitable for various commonly used bedpan and urine bottle designs
- Wall bracket or storage bracket for bedpans and urine bottles where applicable

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5. Functional and Operational Requirements

Control Interface

The unit shall include:

- User-friendly control panel
- LCD or digital display
- Clear cycle status indication
- Program selection interface
- Visual alarm/error indication

Preferred:

- Multilingual display with English language support

Hygienic Operation

The machine shall support hygienic hands-free operation.

Preferred methods include:

- Elbow-operated cycle start
- Foot pedal activation
- Touchless sensor activation

Elbow-start operation preferred.

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6. Wash and Disinfection Programs

The washer shall include minimum 3 pre-programmed cycles:

Short Cycle

For:

- Bedpans or urine bottles containing liquid waste

Standard Cycle

For:

- Bedpans
- Buckets
- Containers containing solid waste residues

Intensive Cycle

For:

- Suction bottles
- Heavy soiling
- Blood contamination

The unit shall allow programmable cycle adjustment by authorized service personnel where applicable.

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7. Cleaning and Disinfection Performance

The system shall provide:

- Automatic emptying
- Washing
- Rinsing
- Thermal disinfection

Preferred:

- Automatic drying phase or post-rinse drainage cycle

Thermal Disinfection

The washer shall achieve thermal disinfection compliant with applicable washer-disinfector standards.

Preferred:

- Final rinse/disinfection temperature of **≥80°C**
- Adjustable holding/disinfection time

Cycle parameters shall be automatically controlled and monitored.

8. Safety Features

The unit shall include:

- Door interlock system preventing opening during active cycle
- Overflow protection
- Leak protection
- Over-temperature protection
- Fault/error alarm indication
- Automatic cycle interruption in case of malfunction
- Safe containment of contaminated waste during emptying and washing

Preferred:

- Self-disinfection or chamber rinse function

9. Power Supply

The system shall operate on one of the following:

- **220–240 V AC, 50 Hz**, supplied with 13 A plug

Supplier shall confirm required electrical load and installation requirements prior to delivery.

10. Accessories

The unit shall be supplied complete with all standard accessories required for operation, including:

- Universal holder/rack for bedpans and urine bottles
- Wall bracket/storage bracket where applicable
- Drain connection accessories
- Water inlet hoses

- Power cable
- Any required mounting hardware
- Startup consumables if required by manufacturer

11. Standards and Regulatory Compliance

The equipment shall comply with latest applicable versions of:

- **ISO 13485** — Quality Management System
- **ISO 15883** — Washer-disinfectors (where applicable)
- **IEC 61010-1** or equivalent electrical safety standard
- Applicable local plumbing and electrical installation requirements

Regulatory approval:

- **CE Marked under EU MDR or applicable EU directives** and/or
- **US FDA registered/cleared** where applicable

12. Documentation

Supplier shall provide in English:

- User / Operator Manual
- Technical / Service / Maintenance Manual
- Cleaning and preventive maintenance procedures
- Installation requirements
- Spare parts list with manufacturer part numbers
- Recommended consumables list
- Compliance certificates
- Factory inspection / test certificate

13. Warranty and Support

Warranty

- Minimum **12 months comprehensive warranty** from date of installation and commissioning

Warranty shall include:

- Parts
- Labor
- Corrective maintenance

Training

Supplier shall provide:

User Training

For nursing/environmental services staff covering:

- Loading and unloading
- Cycle selection
- Routine cleaning
- Basic troubleshooting

Biomedical / Technical Training

For Biomedical Engineering staff covering:

- Preventive maintenance
- Fault diagnosis
- Routine servicing

Post-Warranty Support

Supplier shall provide:

- Spare parts availability for minimum **5 years**
- Technical service support
- Local service contact details