



INNOVA®  
CARE CONCEPTS

# BED WASHING SYSTEM

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## BED WASHING SYSTEM

### / Bed Washing System

The Innova Bed Washing System is an automated bed washing system proven to reduce bacteria by up to 99%. This significantly reduces the risk of healthcare associated infections (HCAIs).

## BED WASHING SYSTEM

### Unlike other automated bed washing tunnels, Innova's Bed Washing System doesn't use chemicals

Instead, the innovative system uses precision robots and high-temperature steam to provide a consistent and controlled quality of thermal disinfection.

It is the only system on the market that can clean and disinfect IPX4 (non-washable) beds.

Beds can be washed, dried, and ready for patient use in 6 minutes - no manual cleaning required.

### Infections

According to NICE, it is estimated that 300,000 patients a year in England develop a healthcare-associated infection (HCAI).

### Unnecessary Deaths

Figures obtained from the World Health Organization (WHO) confirm there have been 37,000 attributable deaths across Europe due to HCAs.

### Financial Impact

In reference to NHS facilities where HCAs were found, NICE have estimated it to cost the NHS over £1 billion per year.





## / Key Features

- No chemical cleaning agents, making this solution for cleaning beds very environmentally friendly
- Automated mattress handling
- Can clean technologically advanced beds (IPX4 - non washable beds)
- Washing, disinfection and drying all in one
- Uses one tenth of the water of traditional washing tunnels
- Thermal disinfection - innovative washing process with robots applying high temperature steam. Completely automated process
- Intensive programme available for extremely dirty beds
- 10 beds cleaned every hour
- RF tags report on real-time data with the location of the bed available at all times



## / How Does the Bed Washing System Work?

### 1 Input Cabin

The bed is scanned, identified, and checked to prompt the Bed Washing System to commence the right programme.

### 2 Mattress Lift

The mattress is automatically lifted from the bed.

### 3 Washing Cabin

Precision robots clean all the components of the bed and mattress in the washing cabin using steam.

### 4 Mattress Washer

The mattress is cleaned and dried on every side.

### 5 Output Cabin

The mattress is automatically lifted back on to the bed.

### 6 Output

The bed can immediately be made up and used.







BED WASHING SYSTEM

## / Cleaning and Disinfecting

### Benefits of using the Bed Washing System:

Using just steam, and no other chemicals or detergents, the Bed Washing System produces steam at high temperature (minimum 165°C) and high pressure (7 bar) to provide unrivalled cleaning power.

- Minimum log>5 reduction in micro-organisms meets ISO-15883-6 standards for thermal disinfection
- Precision cleaning eliminates stains and micro-organisms
- Immediate drying with compressed air enhances bed and mattress lifespan
- Suitable for cleaning other medical equipment, such as wheelchairs, IV poles and utility carts
- Cleaning process can be reproduced and validated to enhance hygiene standards



BED WASHING SYSTEM

## / Investment

Research conducted by Weber Hospital Systems shows that the Bed Washing System is more than 20% cheaper than manual cleaning and disinfection and 21% cheaper than other mechanised solutions.

### Sustainability

It has the lowest energy and water consumption in the market, whilst hospitals can also reduce their spend on chemical cleaning agents.

### Reduce Cleaning Time

On average, it takes 25 minutes to clean one hospital bed and mattress by hand. The Bed Washing System can clean, disinfect and dry a bed in as little as 6 minutes.

### Save 23% Each Month

Our research has shown that in a typical 600-bed hospital, it costs £30.99 per bed per month to clean them manually. With the Bed Washing System, that number drops to £23.87. That's a saving of 23% per month!

### Save £616,000 Over 10-Years:

If you pull together all the savings that the Bed Washing System can provide in different areas in a 600-bed hospital, the savings could be as much as £616k over 10 years!

Costs	Manual	Bed Washing System
Cost per bed per cleaning	£7.50	£5.78
Cost per bed per month	£30.99	23.87
Cost after year 1 for 600 beds	£223,128	£171,864



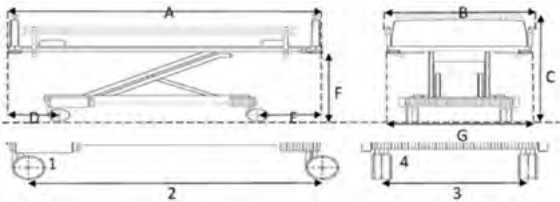
/ Maintenance

Service	Inspect	Prevent	Life-Cycle
Online Monitoring (Internet Connection)	✓	✓	✓
On-Call Technical Support	✓	✓	✓
Annual Inspection	✓	✓	✓
Half Yearly Preventive Maintenance		✓	✓
Preventative Exchange of Parts		✓	✓
Spare Part Service Kit		✓	✓
Special Discount		✓	
Unlimited On-Site Support			✓
Training	Optional	Optional	Optional



Technical Specification

Type	Description	Value
Electric	Connection type	Hard wire within junction box
	Voltage (phase)	3 phase + N + PE
	Voltage (nominal)	400V
	Frequency	50 Hz
	Circuit protection	160 Amps
Compressed air	Type protection	Fuse gl/gG or circuit breaker type C
	Connection type	3/4"
	Pressure	6 Bar
Demineralised hot/cold water	Peak consumption	1500 L/min
	Connection type	3/4"
	Pressure	2 Bar
Open drain	Peak consumption	5 L/min
	Drain size	50mm
	Peak flow	30 L/min
Air inhaust/exhaust	Connection type	Floor sink
	Conn type in	ø 500mm
	Conn type out	ø 500mm
Data Port	Flow in/out	4000 m²/h
	Connection	TCP/IP with connection to internet
	Cable	Cat-5 or Cat-6
	Port IP setup	RJ45 port with static IP address



Physical Specification

	Description	Value
Bed Washing System dimensions	Length	11600mm
	Width	4000mm
	Height	2700mm
Bed Washing System weight	Parameter VDS	
	Weight	134400 N
	Parameter VDS	Noise
Bed Washing System noise	Maximum radiation	75 dBA
	Length (A)	max 2450mm
	Width (B)	max 1100mm
Bed dimensions	Height (C)	max 1330mm
	Height lying surface with mattress	min 900mm
	Distance wheel short (D)	min 150mm max 400mm
	Distance wheel long (E)	min 340mm max 670mm
	Wheel diameter (1)	min 125mm max 150mm
	Length wheel distance (2)	min 300mm max 900mm
	Width wheel distance (3)	min 600mm max 770mm
	Wheel thickness (4)	min 30mm max 75mm
Mattress dimensions	Bed weight	max 2500 N
	Length	min 900mm max 2100mm
	Width	min 850mm max 925mm
	Height	min 120mm max 200mm
	Mattress weight	max 300 N

# CASE STUDY

## BED WASHING SYSTEM

### / Herlev Hospital - Bed Washing System

Herlev Hospital has undergone a vast number of changes to enhance the quality of care that they provide. Alongside the construction of two new buildings at the site, containing an emergency room, maternity ward, a paediatric ward and almost 300 single-bed rooms, Herlev Hospital also added a new wing. Prior to construction taking place in 2014, the hospital went through a full process to identify the most efficient way of cleaning the beds for their new wing, with a particular focus on sustainability and infection prevention.

The hospital had two Bed Washing Systems installed with the addition of an automated storage area, with a capacity for more than 130 beds with mattresses. After these facilities were installed, Herlev Hospital made history by becoming the first hospital in the world to fully automate the storing, cleaning and disinfection of their hospital beds.

#### The Challenge

Their previous method of cleaning was by hand, taking around 15 minutes to clean one hospital bed and mattress. With an 800-bed hospital, they needed a quicker and more efficient system in place that could clean around 300 beds per day as well as being sustainable and environmental friendly.

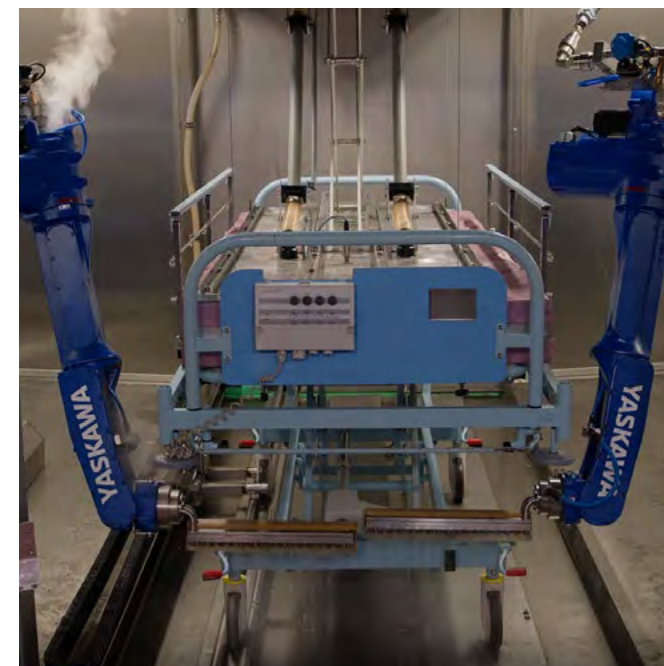
#### The Solution

Installing two Bed Washing Systems, Herlev Hospital now have a process in place that can effectively clean and disinfect 300 beds per day, using just steam, and no other chemicals or detergents.

The Bed Washing System produces steam at high temperature (minimum 165°C) and high pressure (7 bar) to provide unrivalled cleaning power. As a result, beds can be washed, dried, and ready for patient use in just 6 minutes, with no manual cleaning required, delivering a 15 minute bed turnaround using these systems.

It has also meant that they have reduced their bed maintenance staff by 20%, helping to reduce costs and ensuring nursing staff can spend more time caring for a patient.

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