

## TECHNICAL SPECIFICATIONS FOR PLUSHER WDB DS SERIES BEDPAN WASHER DISINFECTORS

### PRODUCT

PLUSHER WDB DS series bedpan washer disinfectors are offered with single manual door system; together with washing arms and nozzles (5 fixed and 5 rotating). Dosing pump with flow meters already integrated to system. Unit is in free standing configuration with plinth as a fully automatic bedpan washer disinfectant. To assure fast & efficient disinfection, washer disinfectors have pre-set programs for different kinds of equipment with different specifications.

### APPLICATION

PLUSHER WDB DS series washer disinfectors are used in general-purpose emptying, washing and disinfection of bedpans and utensils in hospitals, eldercare homes and wards.

### OVERALL

Device is designed with digital screen and control panel. Brand marking is done by logo placed in control panel. Door system is secured through spring arms and with integrated bedpan holder. Firm fixing is done with suspension legs, which also enables leveling in non-flat surfaces. Up to 2 cans of 5 L detergents can be stored inside the base of device.

### CAPACITY

PLUSHER WDB DS is equipped with a support system which empties loads while closing door. It is possible to adapt loading mechanism to various urinals or containers. The standard system can be used with 1 urinal and 1 bedpan with its cover or 3 urinals (without emptying before) or various combinations of kidney shaped basins, drainage collection bottle or commodes. It is possible to have a small basket with hinged cover as an additional accessory, in order to wash and disinfect small objects and surgical instruments.



## TECHNICAL DATA\*

Specifications	PLUSHER WDS DS
Reference No.	311001
Door Formation	1
Door Configuration	Manual
Device Formation	Self Standing
Volume (L)	66
Capacity	1 Urinal + 1 Bedpan with Cover 3 Urinals
Washing Pump Power (kW)	0,8
Washing Pump Capacity (L/min)	350
Detergent Pump Capacity (mL)	24,5
Sealing Class	IP 45
Chamber Width (mm)	400
Chamber Depth (mm)	300
Chamber Height (mm)	550
Device Width (mm)	450
Device Depth (mm)	500
Device Height (mm)	1500
Weight (kg)	79

\* All values are rounded.

### DOOR FORMATION

Single door formation is available.

### DOOR CONFIGURATION

- Manual Horizontal Door – Available for all models.

### SERVICE ACCESS

A distance of minimum 80 cm is required for effective maintenance & service.

- Front Service – Standard in all models.

## VOLTAGE SUPPLY

Specifications	PLUSHER WDB DS				
Voltage (V)	200	200	230	230	400
Phase	1~	3~	1~	3~	3N~
Frequency (Hz)	50/60				
Installed Power (W)	4050				
Absorbed Power (W)	3200				
Absorbed Current (A)	16	9,5	14	8,5	5
Main Switch (A)	16				

- 400 VAC  $\pm$ 10% - 50 / 60 Hz – 3 Phase (N+G)
- 230 VAC  $\pm$ 10% - 50 / 60 Hz – 1 Phase

## INSTALLATION CONNECTIONS

- Cold Water Connection  
Connection :  $\frac{3}{4}$ " NPT\* (Building Side : Shut-off valve  $\frac{3}{4}$ " )  
Pres. / Temp. : Min. 3 bar – Max 7 bar / 5°C – 15°C
- Hot Water Connection  
Connection :  $\frac{3}{4}$ " NPT\* (Building Side : Shut-off valve  $\frac{3}{4}$ " )  
Pres. / Temp. : Min. 3 bar – Max 7 bar / 45°C – 60°C
- Drain Trap Connection  
Connection : DN( $\varnothing$ ) 110 mm  
Features : Corrosion & heat (93°C) resistant

\* NPT: Male pipe thread

## CONSUMPTION RATES

Specifications	PLUSHER WDB DS
Main Water Pressure	0,7 – 6 bar, 18 L/min
Consumption in Economy Cycle (L)	32 (4 Wash Phases)
Consumption in Normal Cycle (L)	48 (6 Wash Phases)
Consumption in Intensive Cycle (L)	64 (8 Wash Phases)
Consumption in Ring-Washing Cycle (L)	8 (1 Wash Phase)
Noise	54 dB(A)

## QUALITY AND CERTIFICATION

PLUSHER WDB DS series bedpan washer disinfectors are manufactured according to Medical Devices Directive 93/42/EEC. PLUSHER WDB DS series instrument washer disinfectors are manufactured according to device standard EN ISO 15883-1, -3. All processes across TBT are certified according to Quality Management System EN - ISO 9001:2008, Quality Management System for Medical Devices EN ISO 13485:2003 & EN 14001:2004 Quality Management System for Environmental Management.

## CONSTRUCTION

- Chamber : AISI 304 scotch brite brushed stainless steel.
- Door(s) : AISI 304 scotch brite brushed stainless steel.
- Storage Tank : AISI 304 scotch brite brushed stainless steel.
- Panels : AISI 304 scotch brite brushed stainless steel.
- Frame : AISI 304 scotch brite brushed stainless steel.

Areas with heat contact are insulated.

## DOOR SYSTEM

Tilting manual door has a tray type solution to collect any fluids that may leak during loading. Double wall construction with hermetically sealing through silicone gasket provides leak proof operation. Electrical impulsive door lock system prevent door from opening during cycle. Also another safety feature is added to mechanism which interrupts cycle if the door is opened incidentally.

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## WASHING CHAMBER

Washing chamber is deep-drawn in a single unit with rounded edges for easy self cleaning and prevention of residues. Chamber includes a DN90 socket for siphon as well. Thermal and sound insulation in chamber provides silent operation with minimal change in ambient temperature. Drain control system prevents use of machine if the drain is closed so there is a possibility of remaining residue in chamber.

Chamber is surrounded by 14 jets with below listed functions:

- Rotating Jet (1) : With its wide radius it is used to clean outside and inside of containers.
- Fixed Jet (6) : Cleaning inside of urine bottles and external surface of the containers.
- Rotating Jet (7) : With its small radius it is used to clean internal surfaces of containers.

## STEAM GENERATOR

Thermal disinfection is reached by self generated steam coming from the integrated steam generator (2,7 kW). Steam generator provides steam through the jets for optimized disinfection. Steam generator is equipped with water level monitor which protects generator heaters in case there is no water, an internal monitoring temperature probe and a safety overheating protection thermostat.

## **DOSING SYSTEM**

An adjustable dosing pump with monitoring system provides a chemical to water is used to supply chemicals. Electrically controlled leak system is used to detect possible leaks in dosing system. Dosing system is equipped with a flow meter for precise quality injection of chemicals during the cycle. In case of an interruption, an alarm will be seen on screen. It is optional to have a second dosing pump with flow meter.

## **WASHING PUMP SYSTEM**

System consists of a water storage tank with 2 water level controllers, a DVGW certified plumbing system designed to isolate the potable water pipeline according to DIN EN 1717 and a pressure booster electric pump (0,8 kW) with monitored washing system and electronic nozzle control together with solenoid valves connected to jets. Direct connection with solenoid valves provides easy personalization of program and also the water consumption rates are cut into half with this system in order to save energy and reduce operating costs. Validation of cleaning is provided automatically by an electronic device which stops the cycle if the water is not flowing to jets during washing or rinsing phases.

## **TEMPERATURE SENSORS**

PT 1000 temperature sensor is located in chamber for continuous monitoring. An entry port is available in chamber for placing temperature sensors which is used for periodical audits in hospitals.

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## **HYGIENE SAFETY**

Hygiene is ensured by 3 systems in PLUSHER WDB DS. Total Emptiness System (T.E.S.) automatically empties all remaining water in water pump, water storage tank and pipes at the end of each cycle. That minimizes microbial contamination risk inside PLUSHER WDB DS.

In case PLUSHER WDB DS is not used for more than 24 hours after the last cycle, during stand by mode, it automatically starts a self disinfection program in order to minimize the risk of microbial contamination through pumps, valves and pipes.

After each disinfection phase the water of the final cooling rinse is automatically disinfected in the steam generator to minimize microbial contamination risk.

## **CHAMBER AIR COOLING (C.A.C.)**

It is possible to have an optional cooling system for loads. After the disinfection phase cold air is given by a fan to the washing chamber and lowers temperature. This system also reduces condensing steam and partially dries containers inside the chamber.



## DOCUMENTATION

A USB port is present to enable connection to a computer or PCM for updates, unloading memory of last 10.000 cycles and error statistics. It is possible to manage self diagnostics and also to constantly monitor hygiene functions during a cycle.

## SOFTWARE

Control system is operated through a programmable microprocessor for automated operation. Software includes 3 programs which are NORMAL for solid waste, ECONOMY for liquid waste and INTENSIVE for tough wastes. A dedicated button is present for RING-WASHING the sink of slop-sink in the combined sluice units. A cycle consists of 6 steps:

- 1- Cold water rinsing
- 2- Warm water rinsing (hot water from city supply & detergent if equipped)
- 3- Heating of washing chamber by steam
- 4- Disinfection for at least 1 minute 80°C in order to reach A0 value of minimum 60 which can be adjustable.
- 5- Cooling by not water automatically disinfected during process, immediately before to rinse the washing chamber. (Disinfected Water Cooling)
- 6- Total automatic emptying of water residues in the water pump, tank and pipes. (Total Emptiness System – T.E.S.)

## CONTROL SYSTEM & SCREEN

Touch panel has buttons for control and 40 (2x20) character digital screen. System is able to inform user about the malfunctions and errors thanks to self-diagnosis system. Screen shows chosen program and phases, the lowest temperature present in the washing chamber during complete cycle process, A0 value reached in disinfection phase and at the end of cycle. There is also an acoustic signal for any operating malfunction or alarm.

System automatically informs user in screen if cycle is interrupted (including power failures in city supply) and cycle restarts after 20 seconds to provide disinfection. If the disinfection is failed door remains closed and a warning message appears in screen in order to warn operator and also prevent contamination of operator.

## OPTIONS, ACCESSORIES & SUPPLEMENTARY EQUIPMENT

PLUSHER WDB DS series include wide range of optional features and may be also customized upon request. Below are standard optional features offered:

- Dosing Pump For Softener
- Chamber Air Cooling (CAC)
- Bluetooth Application Module
- USB Application Module
- Blind Application

Standard accessories for PLUSHER WDB DS series are as below. Customized accessories are available upon request through wide range of inserts and trays available:

- Small Items Insert Basket
- Slop Sink With Shelf
- Ring-washing System
- Holder Designed For Japanese System
- Holder Designed For Austrian System
- Holder Designed For German System
- Holder Designed For Italian System
- Holder Designed For French System



## PACKING

PLUSHER WDB DS series bedpan washer disinfectors are foam supported in critical parts like screen(s) at first. Protective foam and device is rounded by a bubble wrap. Finally it is placed on a pallet and cased with a multi layer carton box or wooden crate (optional) in order to stand against possible damages during transport.

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