Operator's Manual

Deko 190iX Washer Disinfector

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1. Safety instructions and warnings

Read all instructions before using the machine. When using an electrical appliance, basic precautions should always be followed including the following.

Caution! The operator of this instrument is advised that if the equipment is used in a manner not specified in this manual, the protection provided by the equipment may be impaired.

Warnings

The manufacturer cannot be held responsible for damage caused when the appliance is not used according to the instructions, or for uses other than those for which it was intended.

This special machine is suitable for the applications mentioned in the operating instructions. Do not use for purposes other than those for which it was designed, as these may be dangerous. The manufacturer cannot be held responsible for damage caused by improper use.

Do not allow children or unauthorised personnel access to the machine or its controls.

The process needs to be checked and documented by authorised persons regularly. See EN ISO 15883-1, -3, -5, and IEC 61010-2-40.

The program cycles must not be interrupted, as it would cause danger and affect the cleaning and disinfection result. If an interruption occurs, do not attempt to open the door but/instead start the process again, if possible. In case the fault condition occurs repeatedly, please call for service. In cases of emergency e.g. fire or flooding, cut off the services to the machine using the safety controls provided to the unit externally. The machine is completely isolated from the electric supply only when it is unplugged or the circuit breaker is turned off. This must be done before any repair work is carried out.

The machine is constructed in accordance with valid safety requirements. Any repairs shall only be carried out by an authorised and a suitably qualified and competent engineer.

The electrical safety of this machine can only be guaranteed if connected to an electrical system complying with all relevant regulations and checked by the regulating authority. The manufacturer cannot be held responsible for damage caused by incorrect wiring.

The machine shall only be installed by a suitably qualified and competent contractor. Before connecting the machine, the installer shall check that the voltage and frequency of the electrical supply correspond with the details on the data plate of the machine.

Only genuine Rhima parts or accessories shall be used with the DEKO 190 Ward Washer Disinfector. The performance and safety of non-genuine parts or accessories cannot be guaranteed and use of such parts or items may void the machine warranty. If you have specific questions about machine options or accessories, please contact your supplier.

The water in this machine must not be used as drinking water.

Only use detergents, which are intended for use in automatic washer-disinfectors. Do not use solvents in your machine, as there may be a danger of explosion.

Take caution when handling liquids such as detergents, rinsing or neutralising agents. These may contain acids or alkalis. Follow carefully the instructions and safety procedures on the product packaging and wear protective gloves and goggles. Read the Material Safety Data Sheets.

Do not allow any acids or solvents, especially hydrochloric acid and chlorides, into the wash chamber.

Use special inserts in accordance with the instructions provided.

When using the machine be careful not to scald or burn yourself, especially when opening the door. Baskets and inserts must first be allowed to cool down. Any water, which may have collected in incorrectly loaded items, will be very hot and should be emptied into the wash chamber.

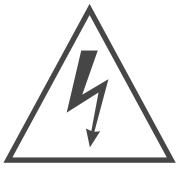
Touching the inner surfaces of the wash chamber or the heating elements immediately after the end of a program as they are very hot and may cause burns.

Do not hose the machine down to clean it.

Do not sit or lean on the open door. This could cause the machine to tip and cause damage to the user and the machine.

When disposing of an old machine, make sure the door catch is removed. This will prevent children at play from being accidentally locked in.
Be careful when removing the panels and working inside the machine because of possible burrs burns and sharp edges. If possible, use safety gloves and goggles.

The manufacturer cannot be held responsible for damage caused by failure to heed the warning and safety instructions.

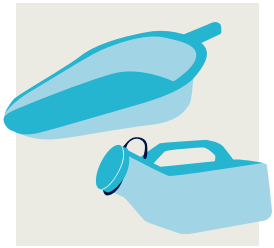


Dangerous voltage

Be aware of the steam discharge. The goods and racks are hot to handle. When you handle process chemicals - wear protection gloves and follow the suppliers' safety instructions.

2. Intended use of the machine

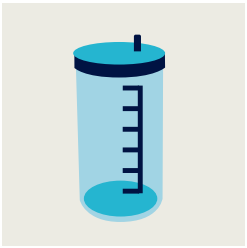
Items suitable for processing in a thermal disinfector
DEKO 190 ward washer disinfector is suitable for automatic cleaning and thermal disinfection of medical devices intended for re-use such as;


Bedpans and urine bottles


Bedpan buckets


Kidney bowls


Hospital bowls


Suction bottles

Products similar to the above and used for similar purposes. All products, accessories, and other items to be cleaned and disinfected in the DEKO 190 ward washer disinfector should have the following properties:

- Heat resistant to a temperature of up to 100 °C
- Corrosion resistance in the presence of heat and alkalinity

In case you have any questions regarding the suitability of items for being processed in the DEKO 190 ward washer disinfector, please contact its manufacturer for advice.

Restrictions of use
Re-usable utensils containing hazardous chemicals, gases, materials, parts, components and/or constructions and any other utensils which do not tolerate water treatment, spray washing and/or heat above +55 °C, disposable items, textiles and fabrics, wood, paper and pulp products, tissues and dissolving plastics must not be processed in the DEKO 190 ward washer disinfector.

Please see EN ISO 15883-1 and EN ISO 15883-3 for fields of application and restrictions of use.

3. Operating instructions

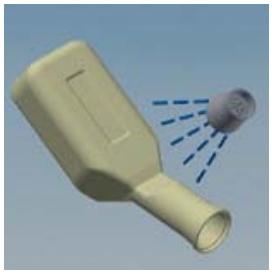
3.1. Washing and disinfection cycles

3.1.1 Standard cycles

Flush

The following cycle is used for emptying only. The items must be washed and disinfected before taken into use.

Phase	°C	Time	ml
Flush, cold water		~5 s	
Flush, warm water		~5 s	
Approximate total time		1 min	



Short

Phase	°C	Time	ml
Flush, cold water		~5 s	
Flush, warm water		~5 s	
Circulation wash with detergent		2 min	45
Circulation rinse, hot water		15 s	
Disinfection	90	1 min	
Approximate total time		10 min	

Normal

Phase	°C	Time	ml
Flush, cold water		~5 s	
Flush, warm water		~5 s	
Circulation wash with detergent		3 min	45
Circulation rinse, hot water		15 s	
Disinfection	90	1 min	
Approximate total time		11 min	

Intensive

Phase	°C	Time	ml
Flush, cold water		~5 s	
Flush, warm water		~5 s	
Circulation wash with detergent		5 min	45
Circulation rinse, hot water		15 s	
Disinfection	90	1 min	
Approximate total time		13 min	

3.2 Cycle parameters

Recommended cycle phase values:

	Time min, sec [t]	Temperature ºC [T]	Detergent volume ml [Q]	Note
Cold water flush				This is always the first phase
Warm water flush				
Circulation wash	1,00–20,00		0–99	
Circulation rinse, hot water	0,15–5,00			Compulsory before disinfection
Disinfection	0,01–5,00	80–95		
Wait	It's possible to program a 1–20 min waiting time at the end of the cycle			

- All cycles will start automatically with a cold water flush (container emptying phase)
- Warm water flush uses both cold and hot water, recommended after cold water flush
- Circulation wash includes time and detergent volume parameters
- Circulation hot water rinse is compulsory before disinfection, rinsing time can be adjusted
- Disinfection parameters are time and temperature, check appropriate time and temperature parameters to reach desired A0-value
- Waiting time after disinfection phase can be used to cool down the utensils

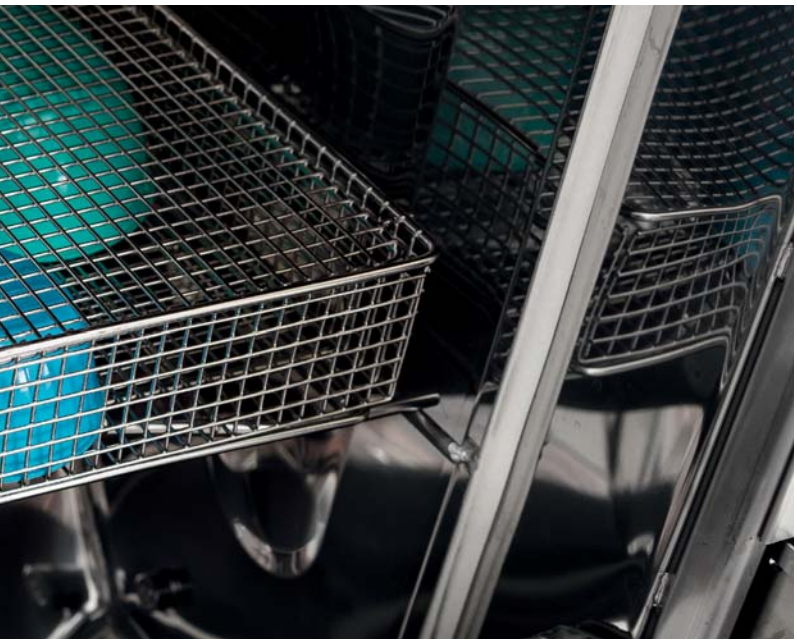
Note. The set disinfection time starts when the set temperature has been reached. Do not use raw water rinsing or washing after disinfection phase.

Note. If the cycle does not include disinfection phase, user will be cautioned before starting the cycle.

Read more from chapter 5 Programming, Maintenance manual.

3.3 Water quality

The machine is designed to use drinking water(WHO Guideline on Drinking Water Quality, 1996) or water purified by treatment equipment that include for example, a water softener, a deionizer or, if nessesary a reverse osmosis device. Note that many factors in water quality can affect process efficiency. Effective factors include water hardness, pH, microbiological purity and several reactive anions and cations. Water quality testing is described in EN ISO 15883-1.



Detergents are powerful and must be handled with care. In case of accidental contact with skin or clothing rinse immediately with plenty of clean water.In case detergent gets in contact with eyes, seek immediate medical attention.

3.4 Process chemicals

DEKO 190 ward washer disinfector is equipped with one adjustable dosage pump for detergent. As an option the machine can be equipped with a descaling liquid pump.

Depending on the materials of the medical device being processed a variety of different cleaning agents may be used. Generally, detergents shall be liquid, non-foaming, non-abrasive, free rinsing and biodegradable and have the authorities' approvals for their intended use, as required.

For chromium steel alkaline detergents in the pH range 8 –14 are preferred. Acid based detergents should only be used for stainless steel items. Medical devices made of aluminium need specific washing agents designed especially for them. Please note that different chemicals may require different process temperatures and times e.g. enzymatic cleaners a temperature between 30 - max 45 degrees Celsius, whereas an alkaline one a temperature between 60 to 90 degrees. The instructions from the manufacturer of the chemical e.g. regarding the concentration and temperature shall be followed. Volume of water in the washing phase is 11 litres.

Please follow the instructions of the manufacturer of the chemical additive for safe handling, data on the biocompatibility (e.g. the maximum permitted residual level on devices). Note that the residual level, which can be tolerated, will depend upon the nature of the chemical and the intended use of the product being cleaned. The specified performance may not be achieved if other process chemicals than those, which have been tested during type testing, or separately with certain process variables, are used.

Note. When using special chemicals, pls find out from the chemical supplier the suitability for chamber material AISI 304 (EN 1.4301, BS 304 S31) and chemical dosing system materials PVC and Silicone.

Chemical hoses are marked with the symbols:

Detergent: 

3.5 Detergent requirements

- Use only liquid detergents.
- The detergent must not foam. Even a small amount of foam will substantially decrease the cleaning effect.
- In case there is plenty of foam in the system the machine is unable to clean the goods and an automatic foam removal control will start. The machine will take in clean water and flush the foam into the outlet.
- The detergent must be smooth and free of any particles so that the washing nozzles or detergent pump valves are not blocked.
- Commonly used detergents are highly alkaline with a pH-value between 10 and 14.
- A strongly alkaline liquid will corrode aluminium and its colouring. Please use special washing agents for aluminium items.
- Recommended dosage is normally 2–5 g/l. The used detergent concentration is related to
  - the degree of water hardness
  - the degree of uncleanness
  - the water temperature
- Ideally the temperature of washing water should be approx. +60°C, in case of washing loads contaminated by blood or other protein based contaminants the temperature should be approx.. +55°C.

4. Loading the machine

4.1 Loading

Opening and closing the door
The door can only be used when the power is switched on.

Manual door:
Open the door by turning the door handle upwards and pull the door open. Close the door by lifting and pushing the door and lock the door by turning the door handle downwards.

Non-touch door:
Open the door by putting hand/elbow on front of the photo-cell and door will be opened automatically. Close the door by putting hand/elbow on front of the photocell and door will be closed automatically.

Bedpan bucket
Bucket is placed on the grating; the mouth of the bucket facing left. Before placing the bucket on the grating it has to be emptied into the machine.

Start the **”NORMAL”**-cycle.

Bedpans
are placed in the stationary turning stand in the door when the stand is in the upper position. Bedpans are emptied automatically when the door is closed. Lid and seating are placed between the supporting rails of the side and back walls.

Start the **”NORMAL”**-cycle.

Urine bottles
are pushed over the spray tubes in the door. Urine bottles can be washed together with bedpans, bedpan buckets or wash pans. Urine bottles cannot be washed when an instrument a utensil basket is being used.

Start the **“SHORT”**-cycle.

Kidney bowls
The kidney bowls are washed either upside down in a washing basket or with a special washing rack accessory. Fold down the washing tray on the back of the washing chamber and place the washing rack as shown.

Start the **“SHORT”**-cycle.

Suction bottles
Place the sucktion bottle washing rack on the brackets provided in the chamber. Empty and place the suction bottle carefully to avoid any splashes on the rack as shown. The bottle should be facing down towards the rotating bottom washer.

Start the **”INTENSIVE”**-cycle.

Shoes
Turn the washing tray down from the back of the chamber and place the shoe washing rack as shown. Please note textile shoes are not suitable to wash in the machine. Also be sure the shoes withstand a minimum clearance of 100 degrees.

Start the **“SHORT”**-cycle.

Working solution bottles
Working solution bottles can be washed using a accessory washing rack. Rack is placed on top of the bottom washer on the right side of the chamber. The bottles are placed on the shower tubes of the rack. Bottle caps and other small utensils are washed in special washing basket including the Working solution bottle- rack set.

Note! Do not pour soapy liquids or liquids which may cause foaming in to the chamber or the drain!

Start the **“INTENSIVE”**-cycle.

Instruments
Surgical and other instruments can be pre-washed in the DEKO 190 ward washer disinfector before the actual washing and disinfection and sterilization. This feature is suggested when transporting the instruments to a service center from a longer distance.

Place the instruments inside a washing basket on top of the washing tray. Please make sure the lid of the basket holds the instruments steady during the cycle to avoid any movement and damage caused by the washing pressure.

Start the **“INTENSIVE”**-cycle.

After the cycle any upwards turned or water filled utensil indicates the utensils needs to be washed again after proper adjustments of the truck.

Water blocks the steam disinfecting the surface of the utensil and the process in not fully succeeded.

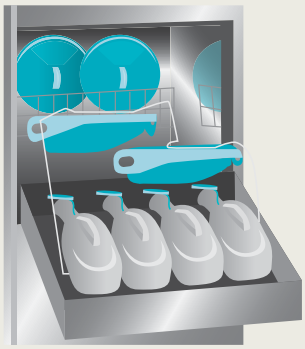
Other objects
Washbasins are placed facing down on top of the washing tray. Cleaning brushes and toilet brushes can be washed inside a washing basket.

Note.

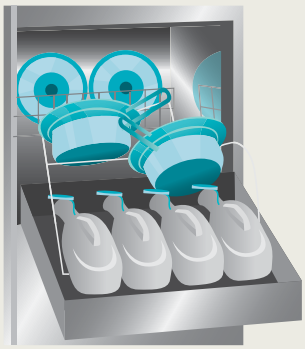
- Do not pour soapy liquids or liquids which may cause foaming or liquids containing sand in to the chamber or the drain.
- Make sure that no sand or other solid material enters the drain of the machine.
- The Intended use of the machine (Chapter 2)

Loading examples and accessories

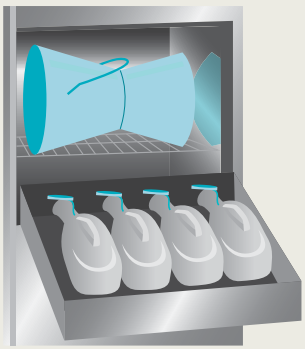
2 bedpans with lids and 4 urine bottles



Racks for different kind of bedpans



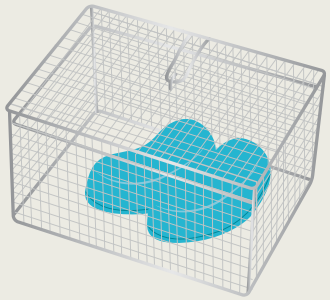
Bedpan bucket and 5 urine bottles



4 wash basins and 4 urine bottles

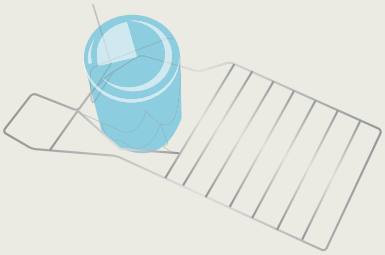
Basket for small items and 4 urine bottles

Utensil basket

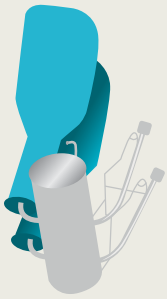


Shoe rack

Suction bottle rack



Rack for 4 extra urine bottles



Kidney bowl rack

See items suitable for processing in a thermal disinfector on page 4.

4.2 Controls

4.2.1 Operating systems, manual door

1 USB memory stick connector

2 Main display and operation keys

3 Main switch

4 Door handle

5 Panel printer (option)

6 Detergent container
(lockable door as option)

Note. The door is interlocked without power.

Touch screen display for user interface

USER:	User mode
PROGRAMMING:	Programming cycles
SERVICE:	Service mode

Alphanumeric keyboard to enter characters

A-Z a-z 0-9 Change to alphabet / number

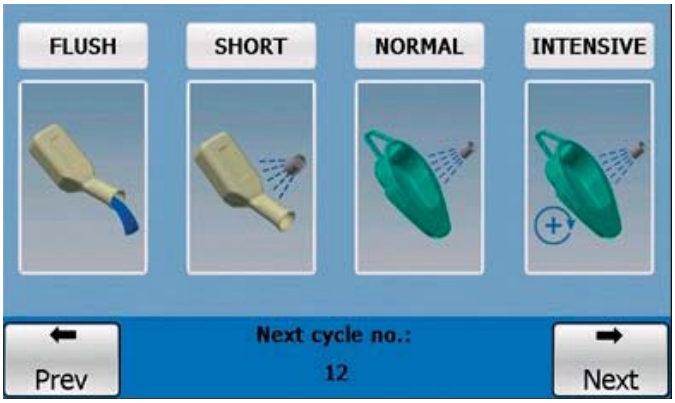
← → Backward / Forward

↵ ENTER

← Delete backward

4.2.2 Operating systems, non-touch door

4.2.3 Running a cycle



1. Open both water supply taps (cold and hot water) "In a steam heated model, open also steam and condensate valves".
2. Switch the machine ON, after about 1.5 min the following display appears and the machine is ready for use.

4.2.4 Definitions of the buttons

To start
FLUSH -cycle

To start
SHORT -cycle

To start
NORMAL -cycle

To start
INTENSIVE -cycle

Back to previous display
(main menu)

To next display
(programs 4–8)

You can see the content of the program by pressing the program name button above the symbol.

If the machine is unused for a period of ten minutes it will go into standby mode. Pressing the "CONTINUE" key brings the machine out of standby and opens the door interlock (manual door).

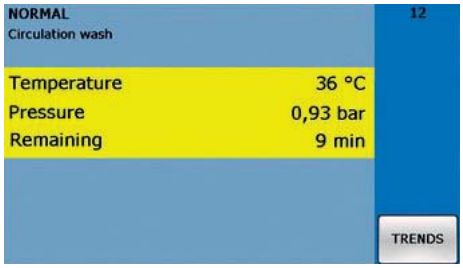
Note! If the chamber temperature is over 60°C, the cycle will not start before the chamber is cooled down. Cool the chamber by opening the door.

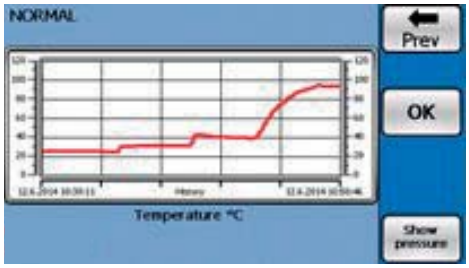
The selected cycle may be cancelled by pressing the "CANCEL" key within 5 seconds.

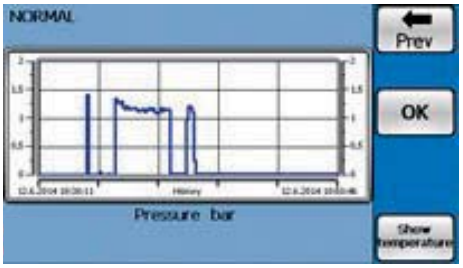
If the selected cycle does not include disinfection phase (e.g. emptying cycle), a notice will appear on the display must be accepted by pressing OK key or cancelled by "CANCEL" key.

4.2.5 During a cycle the display will indicate

Name of the cycle / cycle phase / chamber temperature / pump pressure / remaining cycle time / current cycle number and 'Trends' key for temperature and pressure graph viewing.





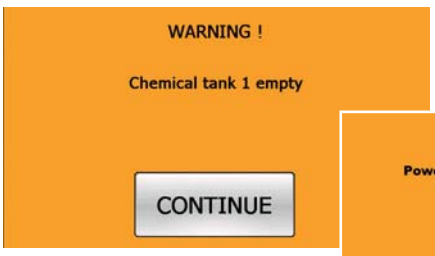


4.2.6 End of cycle

The end of the cycle is indicated with an audible buzzer and the text "Loading door can be opened". Press "OK", open the door and unload the chamber.

4.2.7 Malfunctions

WARNING indications, which can be corrected by the User, appear on the display as shown below. If the actions recommended on the display have been taken, press the "CONTINUE" key. After the fifth indication (door open or lack of chemical) the machine will switch over into FAULT condition.



4.2.8 Warning notifications

Warning text	Explanation
Chemical tank 1 empty	Change or re-fill the detergent container 1.
Chemical tank 2 (optional) empty (Option)	Change or re-fill the detergent container 2.
Loading door is open	The loading door is open or not closed correctly.
Chamber too hot for starting the cycle. Wait or open the door to cool the chamber. Or press “CANCEL” to stop the cycle.	A new cycle will not start if the chamber temperature is over 60 ºC.
No disinfection	Must be confirmed by the user if the cycle does not include disinfection phase.
Cycle No. # OK, No disinfection	Must be confirmed by the user if the cycle does not include disinfection phase.
Open water valves	Water valves shall be open when starting.
Power cut during the cycle	There has been a power cut and the cycle must be restarted.
Periodic service is needed	Will appear when machine requires preventive maintenance if feature has been enabled.

4.2.9 Other menus

Pressing PREVIOUS button gives access to the MAIN MENU, of which:

USER:	Machine operating mode
PROGRAMMING:	Programming mode, new programs creating / editing / deleting (requires password)
MAINTENANCE:	Service mode (requires password)

4.3 Incomplete operating cycle

Fault display appears if the recommended actions after warning indication have not been taken or some detector/ component is broken. Service shall always be contacted if a Fault condition occurs.

In a Fault condition an ERROR code will be displayed identifying a possible cause of the fault. By pressing Info the possible cause and recommended actions for repair are displayed.

See also APPENDIX 1, List of malfunctions.

Note. After an incomplete operating cycle all items in the washing chamber must be washed and disinfected again !

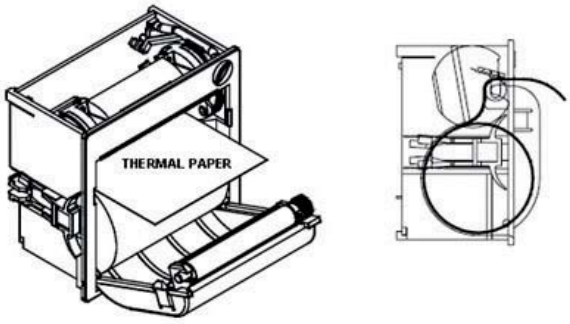
Note. Actions to be taken in Fault cases are described in maintenance manual.

4.4 Panel printer

DEKO 190 can be equipped with an optional panel printer. It prints cycle reports with all basic data and events. The printer is a thermal printer and the paper report is archivable.

Cycle report is printed automatically during the process.

There is a led button on top right to feed paper and to indicate the status of printer.



Install the paper according to the picture above. The thermal paper with preservability of 10 years can be ordered from Rhima or it's representatives.

Cycle Report:

Cycle Report:
Owner: PMK Hospital
Machine: 4
Serial number: HK01
Cycle Name: BEDPAN
Cycle number: 1452
Cycle start time: 06-08-21 15:45:03
15:45:10 Cold water flush start
15:46:00 Cold water flush end
15:46:03 Warm water flush start
15:46:34 Warm water flush end
15:46:37 Circulation wash start
15:47:26 Chem flow OK
15:47:30 Chem : set 30 ml
T:47 °C
15:48:30 Circulation wash end
15:48:33 Hot water rinse start
15:49:30 Hot water rinse end
15:49:33 Disinfection 90 °C start
15:55:26 Temperature attained
T: 93 °C
15:56:26 Disinfection end
T:91 °C
15:56:31 Disinfection time 60 s
Cycle end time:06-08-21 15:56:45
Cycle passed

Signature

5. Recycling and disposal instructions

Packing materials are recyclable and shall be disposed of in accordance with local regulations.

Electronic control cards and components shall be removed and delivered to respective collection locations.

Machine framework and other metal parts can be recycled and delivered to metal collection locations.

Please follow the instructions and regulations of the local authorities by on the disposal of a used machine.

Chemicals (e.g. detergents) shall be disposed of according to the instructions of the chemical's supplier.

The device is marked with a recycling symbol, so be it must not be disposed of as mixed waste in the EU. (WEEE Directive 2002/96 / EC on waste electrical and electronic equipment).

Please beware of using appropriate safety wear (eg. gloves, respirator) when disassembling the machine. It shall always be assumed that there may be harmful microorganisms present.

6. Procedure in case of serious incident

A notice to the user
Any serious incident that has occurred in relation to the device should be reported to Rhima in your applicable region and the competent authority of the Member State in which the user is established.

7. Declaration of conformity

- No ... (unique identification of the product): NA
- Name and address of the manufacturer:
  KWC Nordics Oy, Vartiokuja 1,
  76850 Naarajärvi, FINLAND
- This declaration of conformity is issued under the sole responsibility of the manufacturer **KWC Nordics Oy**
- Object of the declaration: **DEKO 190, Ward Washer Disinfector** intended for use for emptying, flushing, cleaning and thermal disinfection of containers used to hold human waste for disposal by one operating cycle.
- The object of the declaration described above is in conformity with the relevant Community harmonization legislation: **The quality system for the design, manufacture and final inspection of the aforesaid product has been evaluated and meets the provisions of Council Directive 93/42/EEC as set out in Annex II (excluding section4). And the Restriction of Hazardous Substances Directive (RoHs 2011/65/EU).**

References to the relevant harmonized standards used or references to the specifications in relation to which conformity is declared:

- **EN 61010-1:2010**
  Safety requirements for electrical equipment for measurement, control, and laboratory use, General requirements
- **EN 61010-2-040:2015**
  Particular requirements for ward disinfectors used in medical, pharmaceutical, veterinary and laboratory fields.
- **EN 61326-1:2013**
  Electrical equipment for measurement, control and laboratory use EMC requirements.
- **EN ISO 13485:2016**
  Medical devices. Quality management systems. Requirements for regulatory purposes
- **EN ISO 14971:2012**
  Medical devices. Application of risk management to medical devices.
- **EN 1717:2000**
  Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow
- **EN ISO 15883-1:2006**
  Washer-disinfectors, Part 1: General requirements, definitions and tests
- **EN ISO 15883-3:2006**
  Washer-disinfectors, Part 3: Requirements and tests for washer-disinfectors employing thermal disinfection for human waste containers.
- **ISO 15883-5:2021**
  Washer-disinfectors, Part 5: Performance requirements and test method criteria for demonstrating cleaning efficacy.

CE 0537

This product complies with the essential requirements of the applicable European laws and Directives with respect to safety, health, environment and consumer protection. Design, manufacture and final inspection in KWC Nordics Oy are evaluated by Eurofins Expert Services Oy which Notified Body is no. 0537 under the Council Directive 93/42/EEC.

Antero Asikainen, Managing Director

Appendix 1:
List of malfunctions

Nr	Explanation	Actions
1	Door opened during the cycle.	Check and adjust microswitch of the door and function of the interlock.
2	Open circuit in controlling temperature sensor T1.	Check the sensor and connections. If necessary, change the sensor.
3	Short circuit in controlling temperature sensor T1.	Check the sensor and connections. If necessary, change the sensor.
4	Open circuit in verifying temperature sensor T2.	Check the sensor and connections. If necessary, change the sensor.
5	Short circuit in verifying temperature sensor T2.	Check the sensor and connections. If necessary, change the sensor.
6	Disinfection temperature over set value.	Temperature 15 °C over set value. Check heating coils and contactor; steam pressure and steam valve in steam heated machines.
7	Power supply phases in wrong order.	Pump is running wrong direction, change phase order of the power cable.
8	The machine does not get water.	Check water supply solenoid valves, mud filter and water level switch in tank, air valves must be open.
9	Water level switch of the tank does not change position or circulation water pump does not work. There is water in the tank/chamber when there should not be any.	Check water level switch and pump. Check function of air valves. Drain blocked? Leakage of water valves?
10	Fault in heating, temperature does not rise (20 °C /10 min).	Check heating contactor, coils and overheating protector. Steam supply in steam heated models. There is water in chamber bottom (water trap) => check the function of siphonage valve. Air valve(s) are not open. foam in steam generator.
11	Low circulatin water pressure.	Check circulation pump and it's running direction. Foaming? Check pressure sensor. Air valves and siphonage valve must be closed during recirculation wash. Chamber outlet or drain sieve blocked? Check function of tank valve (part 2.40); only in open air gap models.
12	Temperature difference between sensors T1 and T2 is over 2 °C.	Calibrate the temperature sensors T1 and T2.
13	Water tank is not empty.	Check pump is running. Check function of water level switch. Drain blocked?
14	Door is not interlocked.	Check the function of interlock and micro-switch (manual door model).
15	Door lock does not open (automatic door only).	Check and adjust lockmotor and microswitches.
16	Door is open (automatic door only).	Check and adjust doormotor and microswitches.
17	Door does not open (automatic door only).	Check and adjust doormotor and microswitches.
18	Thermal relay of circulation water pump tripped.	Check the reason for pump's overload (obstacles inside piping?) Reset the thermal relay.
19	Door lock opened during the cycle.	Check and adjust microswitch of the door lock.
20	Temperature has dropped under the set value.	During disinfection the temperature has dropped under the set value. Check: heating coils, contactor and overheating protector. Foam or scale in steam generator? Check steam pressure and valves in steam heated machines.
21	Fault in detergent flow sensor.	Check flow sensor and dosing system.
22	Temperature difference between sensors T1 and T2 is over 10 °C.	By starting the machine the temperature difference between sensors ia over 10 °C, calibrate temperature sensors T1 and T2.
23	Chemical container empty.	Fill/change the container, check detector.
24	Door is not closed in the beginning of the cycle.	Check door microswitch and door functions.
25	Pressure sensor p1 has short circuit.	Check the sensor and connections. If necessary, change the sensor.
26	Electric board temperature too high.	Automatic thermostat max 50 °C on electric board. Does the fan run? Ambient temperature >50 °C?

Appendix 2
User maintenance

Purging and disinfecting the WD

All parts of the machine supplying water and detergent to the load or chamber are purged and disinfected during a normal operating cycle. The wash chamber and pipework of the machine have been designed so that any remaining process water shall flow to the machine drain.

If the machine has not been operated within 24 hours, it is recommended that a short cycle including disinfection be run before placing a load into the machine for processing. However, all the cycles validated and sealed by the manufacturer include a disinfection phase as the last phase of the process.

Service engineers shall pay attention to the state of the machine before dismantling any parts of the chamber or pipework. Unless informed otherwise, it shall always be assumed that there may be harmful microorganisms present on occurrence of a Fault condition or water system breakdown.

Methods of cleaning

- **Daily:** Check that all the washers rotate freely and the spray holes are not blocked.
- In case the fixed or rotating washers or nozzles get blocked the cleaning effect will deteriorate. Please take care of keeping the nozzles clean.
- **Weekly:** Use a toilet brush and clean the outlet sieve by brushing it a few time
- Clean the outer stainless steel panels with diluted washing agent and soft washcloth; flush, wipe and dry.
- Chamber cleaning: Maintenance manual, Appendix 3: Maintenance instructions

User maintenance procedures

1 Check the function of the drain by pouring a bucket of water into the bottom of the chamber. The water must be drained immediately to the sewer. If the water does not disappear from the washroom immediately, this is a sign of a possible blockage / partial blockage in the sewer. Check the drain for any foreign objects. Brush the drain with a toilet brush.

2 Check that the nozzle holes in the side and bottom washers are free of foreign objects and clean. Check that the side and bottom washers rotate freely by grasping the washer by hand and rotating the washer. If the washer does not rotate freely, it must be cleaned.

3 Make sure the machine takes detergent. Monitor detergent consumption with a marker pen the liquid level in the detergent container and the date on which the machine is used.

4

Check the appliance for a clean odor after a disinfection program. If there is a washroom a clear odor of secretions, this mark is either:

- Insufficient washing power (wrong program for these utensils).
- Possible incorrect loading, which prevents water from penetrating everywhere.
- A utensil that has fallen into the drain or a possible technical fault in the device.

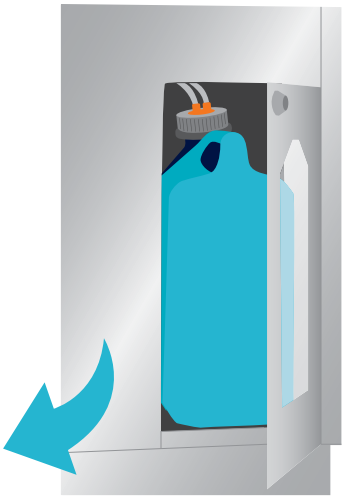
The cause of the odor should always be determined. Contact service if necessary.

Wiping the outer casing and buttons

Clean the stainless steel machine external surfaces and display of the device with a microfiber cloth or a damp microfiber cloth. Also, be sure to regularly clean the storage space in the detergent dispenser. All the washing chamber parts of the machine are washed and disinfected during the program. See Appendix 3: User maintenance checklist.

Detergent tank replacement and dosing system rinse

On machines where programs are run less frequently, and on machines where it can take up to weeks between uses e.g. in insulation room machines, the detergent system can also be flushed by running the washing program on an empty machine, so that the detergent in the detergent system changes, preventing the detergent from settling in detergent pump and hoses.



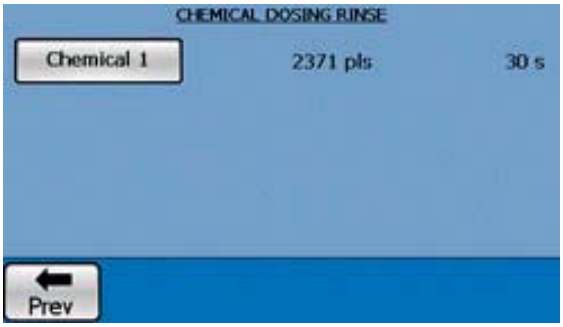
1. Take out the detergent container.

2. Remove the suction pipe from the container. Replace the container.

3. Flushing of chemical dosing systems

To avoid problems in chemical dosing like solidified detergent and blocked piping it's very important to flush the system regularly with hot water.

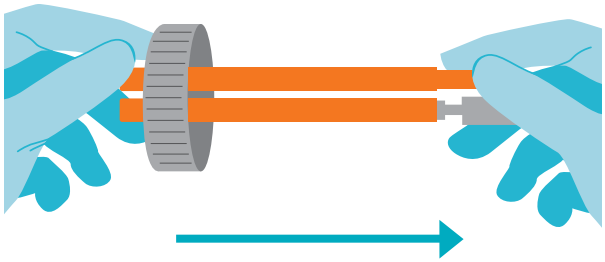
It's recommended to flush the dosing systems every two weeks and whenever detergent container is changed. detergent container is changed.

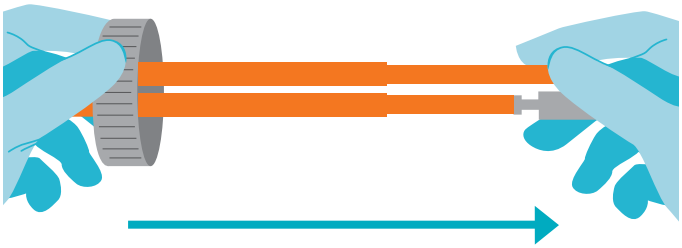


Fill a bucket with hot tap water. Remove the detergent suction tubes from the detergent container and place then into the bucket of hot water. In user mode press "Next" –key to find "Chemical dosing rinse". Press it to flush the chemical dosing system. Repeat the flush 3 times.

Place the suction tubes into detergent container and press "Chemical dosing rinse" once more to refill the system with detergent.

When you handle process chemicals - wear protection gloves and follow the suppliers' safety instructions.

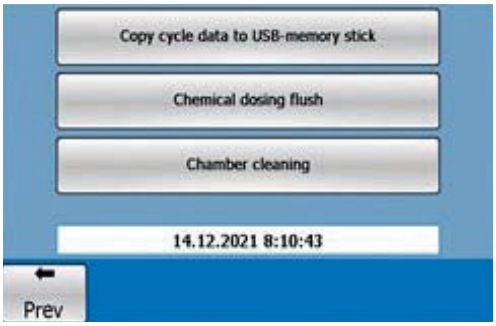




4. When necessary adjust the length of the suction pipe and place it in the new container
The telescopic suction tube for the detergent is adjusted to its longest position. When the suction tube is placed in the detergent container, the tube is pushed to the bottom of the container, so that the machine also takes the detergent from the bottom of the container.

5. Fill the dispensing system hoses with detergent by pressing again Chemical dosing flush button.

Set the date and time in user's mode
It's possible to set the date and time also in user's mode by pressing the time window.



Periodic deck maintenance
Periodic maintenance (checking and calibrating the functionality according to the equipment manufacturer's checklist) is performed annually, either by the manufacturer or distributor or by a service center authorized and trained by the manufacturer or by the hospital's own service personnel, after receiving the manufacturer's maintenance training.

Important Warranty Information

Thank you for purchasing one of our appliances. This product has been designed and built according to the latest technological innovations and with correct installation, daily cleaning, and regular maintenance, it should provide many years of reliable service in commercial environments.

TAKING DELIVERY OF YOUR RHIMA WASHER DISINFECTOR

When taking delivery of your appliance, please take careful note of any damage to the packaging, or if the 'TIP'n'TELL indicates a fall has occurred during transportation.
Take photographs of any damage and/or the 'TIP'n'TELL' indicator, alert the delivery driver and refuse delivery if appropriate as Rhima Australia will not be held responsible for damages caused by third parties during transport or caused whilst unloading and placement of the appliance.

WARRANTY CONDITIONS AND COVERAGE

Your Rhima appliance is warranted against defects in materials or workmanship for a period Rhima Australia of 12 calendar months from date of purchase, unless additional warranty has been purchased at time of sale, or if the appliance is covered by a Service Agreement that includes a warranty extension component. In order to prevent potential premature failure of components, the appliance must be cleaned daily by the operator and serviced regularly by a Rhima technician or Rhima authorised service agent.

The following conditions and limitations apply in Rhima's sole judgement, to Warranty service:

1. To obtain a warranty service, purchaser must contact the Rhima Service department in your region quoting the model and serial number of your appliance
2. Repairs or adjustments by unauthorised persons may void warranty and under no circumstances will Rhima be held liable to reimburse a third-party or the owner for un-authorised repairs carried out on this product.
3. Warranty does not include travel time to customer sites if located more than 75kms outside of capital cities. Travel time will be quoted depending on customer location. Rhima may, at its discretion, choose not to charge travel time if an authorised service agent is located within 75km of the customer site.
4. Warranty service is only performed during business hours *(Mon-Fri 08.30-17.00 hrs)* excluding public holidays. If Warranty service is required outside of the normal business hours, additional costs will be applicable, and advised at time of booking.
5. Warranty does not include Validation services to ensure compliance with ISO15883 and AS4187 or regular preventative maintenance services required. A validation and preventative maintenance program/agreement can be quoted on request to ensure your appliance is operating safely, efficiently, reliably and to the relevant AS4187 and ISO15883 standards.
6. Warranty does not include rectification of issues due to incorrect installation, incorrect water supply pressures or temperatures, blocked building drains, unsuitable detergents/chemicals being used, physical damage, electrical surges, or other acts of god.
7. Warranty does not include adjustments to wash or disinfection temperatures, or detergent.
8. Warranty does not include rectification of issues due to foreign objects in drains including wipes, small bowls or instruments, etc. failure of water inlet valves, or failures deemed due to fair wear and tear
9. Warranty does not include issues found to be due to incorrect use, operational issues, or lack of cleaning or maintenance or defects to racks or accessories.

For a full list of warranty conditions, inclusions and exclusions, please refer our website in the applicable region by scaning the supplied QR code below.

Rhima Australia

Rhima New Zealand

Rhima Singapore

Australia Tel: 1300 347 944
New Zealand Tel: 0800 902 054
Singapore Tel: +65 9107 8943

DETERGENTS

To request detergents or rinse additive contact your local Rhima Service centre below:

Australia: **1300 347 944**
New Zealand: **0800 902 054**
Singapore: **+65 9107 8943**

Mediwash

5 Litre

For washing glass & instrument washing