

Washing of Carts, Instruments, Trolleys

- KEN have successfully been in the market since early 40's
- In 2010 KEN presented the new large scale cleaning, disinfecting and drying system CWD 5000
- CWD 5000 can be used for a vast number of articles needing exceptional cleaning and disinfection.



CWD 5000: General Information

- Meets all relevant standards, incl. ISO 158831, 2, 5, 6 and 7
- All stainless steel which is in contact with the process is AISI 316 L (acid proof)
- Loading on floor level; pit depth only 150 mm
- Compact size: hxwxd: 2660 x 2447 x 2650 mm
- Washing area: hxwxd: 1930 x 1040 x 2182 mm
- Standard with tempered glass doors
- Lowest Cost of Ownership in the market!



KEN CWD 5000

Low total investment/installation cost!

- ***Very compact***
- ***Energy optimized drying***

Low operating costs!

- ***Lowest water consumption in the market***
- ***Efficient spread of water***
- ***Intelligent pressure***
- ***Automatic self cleaning***
- ***No risk of cross contamination***
- ***Guaranteed high level of hygiene***

Great flexibility

- ***Many programmes***
- ***Many programme design possibilities***

KEN CWD 5000 – Unique drying

Energy Optimized drying

Drying by means of a “Closed Air Flow System”.

No fresh air is brought into the chamber and no hot humid air is being exhausted.

2 valves on top of machine – for over pressure and under pressure pressurization

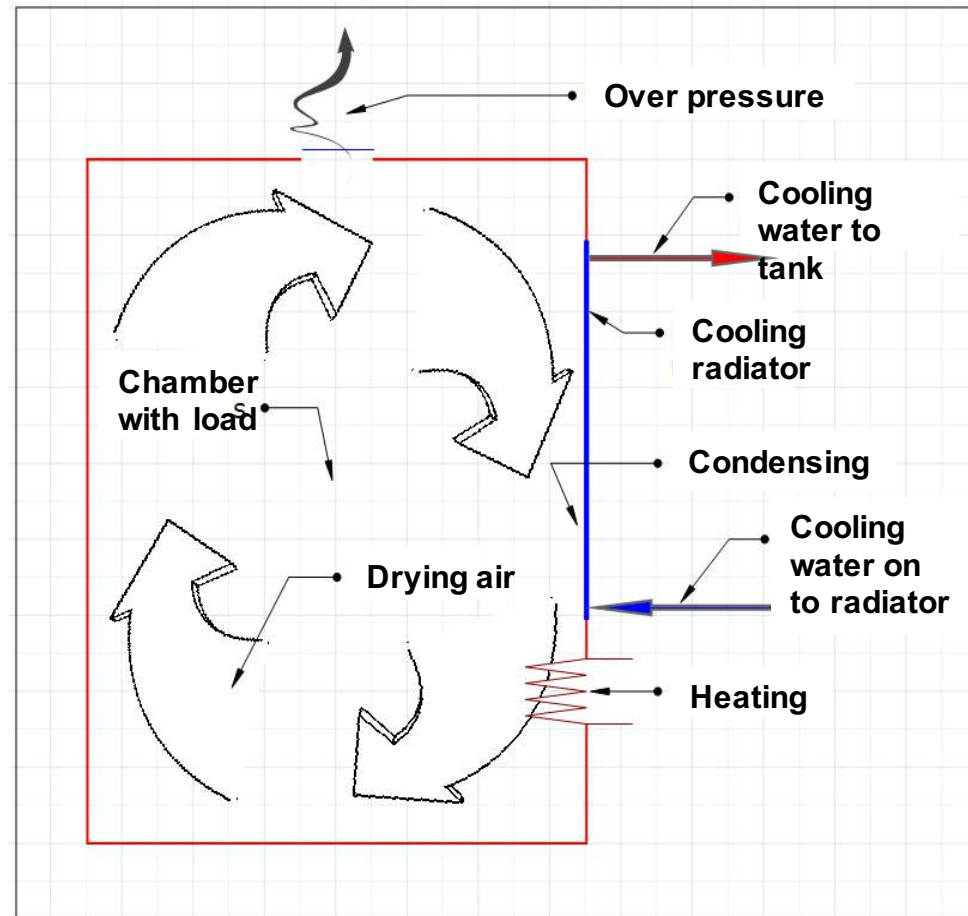
The under pressure valve uses a very small HEPA filter

The Closed Air System offers;

- *Costs for ventilation is very low as discharge is app. 10m³/h with air gab and no fresh air supply.*
- *Very low service costs for a very small HEPA filter (20*20 cm)*

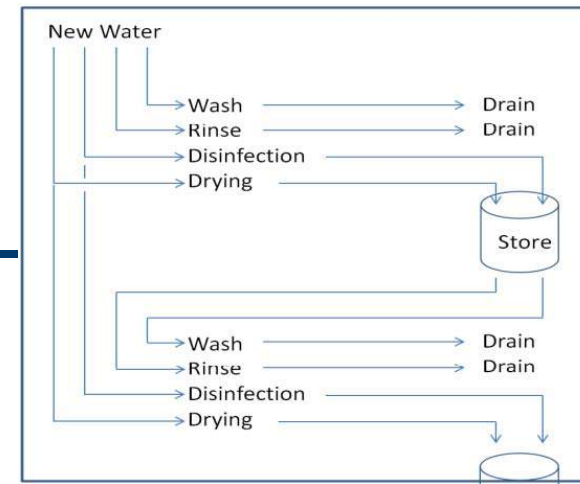
KEN CWD 5000 – Unique Drying

- New energy-saving drying system based on a Closed Air flow System
 - No air supply necessary – cost saving!
- Hot and wet air is circulated in the machine with ventilators and is cooled down by passing a condenser
- By cooling down humidity is condensed and is running out of the system
- Condenser is connected to cold deionized water
- Water coming out of the closed air flow system, has a temperature of 60 - 70° C (energy recovery)
- This hot water is pumped into the storage tank to be used during next washing process



KEN CWD 5000 – water consumption

*The lowest water consumption in the market
– by far!*



Possibility to reuse disinfection water for washing

Possibility to reuse cooling water from drying for final rinse

Double use of water saves time for preheating and saves the cost for RO-water

Only reuse of water which is not / will not be contaminated

The upper and lower washing point of the washing frame can be defined to wash where goods is located.

CWD 5000: Unique Washing System

- Washing frame with fixed spray nozzles.
- Automatic chemical dosing system with flow control
- Makes washing from all four sides possible
- Position of washing frame can be individually programmed for every program.
- Both thermal and chemical disinfection can be done in the CWD 5000.



KEN CWD 5000 – spread of water



Efficient spread of water

Two hydraulic couplings in the bottom will automatically connect to the trolleys. The couplings are level with the floor when not in use.

A simple "pilot jet, act as guaranty that the trollies are connected correctly thus the pressure in the trolleys nozzles is ensured.

All this leads to;

Water consumption – examples :

- ▶ Rinse. Approx. 75 liters / no reuse
- ▶ Wash. Approx. 75 liters / no reuse
- ▶ Disinfection. Approx. 75 liters / can be reused
- ▶ Drying. Approx. 50 liters / can be reused
- ▶ Cooling: Approx. 50 liters / can be reused

KEN CWD 5000 – Self cleaning



Minimal time consumption for self-cleaning

The machine chamber floor is elevatable in the range 0 - 45 °
0-35 °

Is primarily used during the self cleaning program

It is possible to define an own cleaning program where the machine automatically makes a cleaning and disinfection.

The cleaning is also made under the floorboards without heavy lifting or special procedure before starting the program.

The program can be configured with the same parameters as any other program

KEN CWD 5000 - Safety

No risk of cross contamination

- Ao surveillance of storage tank
- Temperature controlled storage tank
- Time controlled storage of water in tank

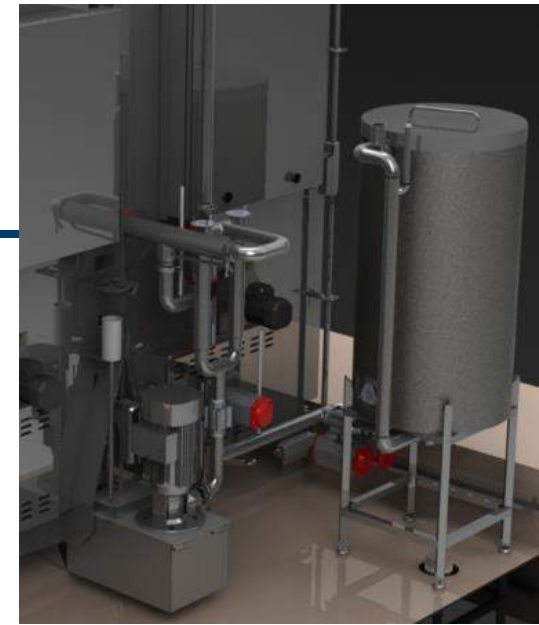
The machine is fully drainable.

- Selection made through programming

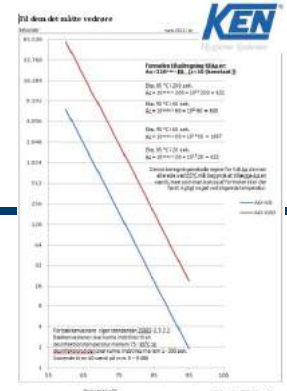
Total Drainage made with vacuum, (vacuum cleaner principle).

The machine has no "Dead Legs"

- All pipes and surfaces have slope towards the drain or drainage points



KEN CWD 5000 - Hygiene



Guaranteed high level of hygiene

Type of desinfection can be programmed to follow a predetermined Ao or an Temp/Time setting

Ao can be set between 60 - 9999

Wash from all angles warrants high hygiene

The washing frame is designed to ensure wash from four sides

Specially designed spindles moves the frame up- and downwards

The design of the spindles is very open and ensures a high level of hygiene .

KEN CWD 5000



Guaranteed high level of hygiene

Chemical residues in the final rinse can be controlled (0-1000uS)

If purity of the water is not achieved according to preset value, the final rinse is repeated followed by a new measurement.

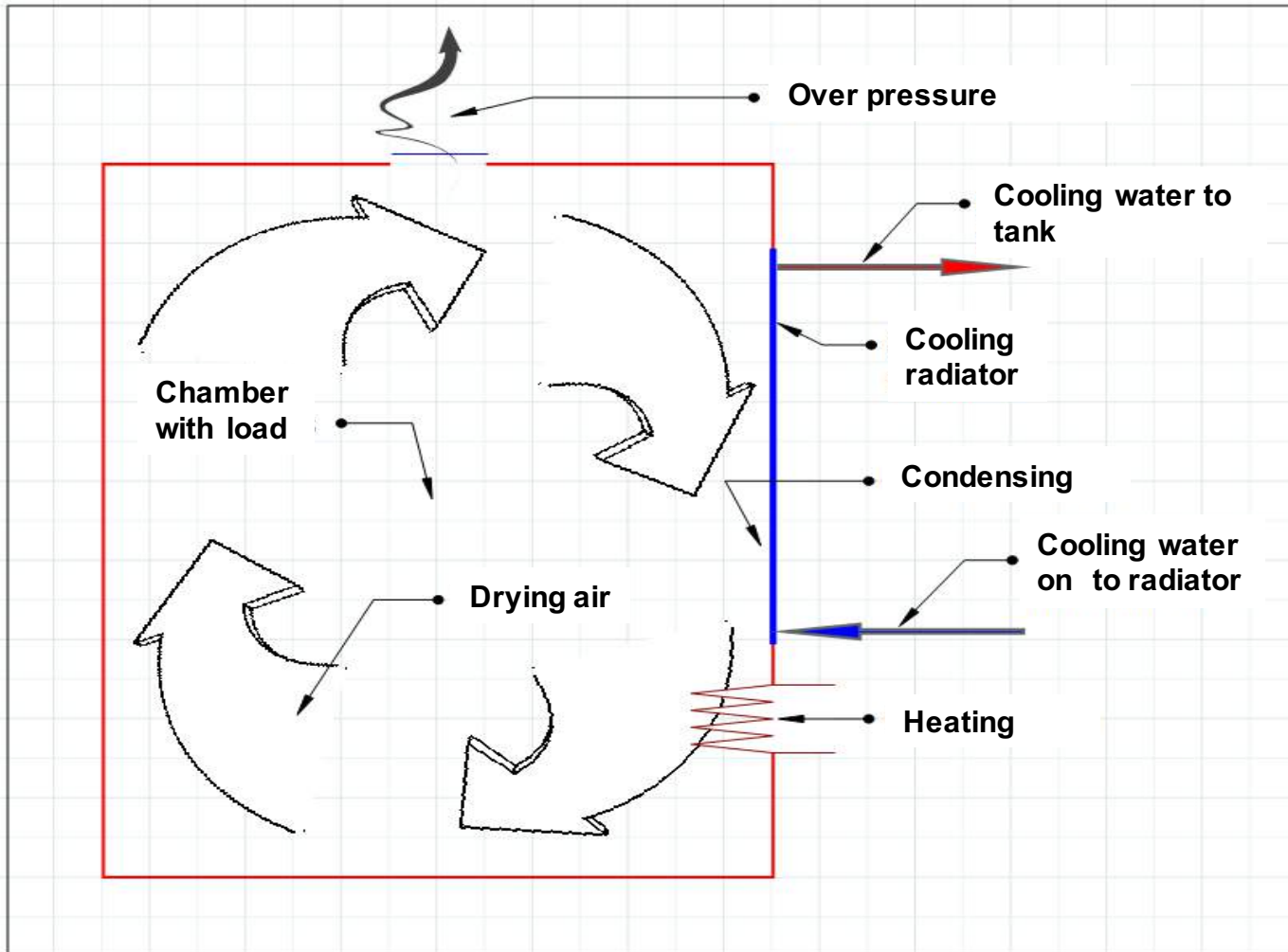
This control can be made 1-9 times, and if purity of the water is not achieved an alarm will appear

Adjustable floor 0 – 5°

Used to ensure water runs effectively of the goods

Can be programmed freely 0-5 °

KEN CWD 5000– Drying and Cooling



KEN CWD 5000

Multiple programmes

CWD5000 has min. 18 programme "spaces"

All programmes can be made active or inactive

Active: can be actively used and selected from the userpanel

Inactive: cannot be used or selected – but can be made active

For example in connection with validation/service

Many design possibilities

Each programme can have 9 programphases

In each programphase you can freely choose between 5 phasetypes

1. Wash
2. Rinse
3. Disinfection
4. Drying
5. Cooling

Name of phase can be changed

Programmedstillinger - Diverse
I programmedstillinger kan de enkelte programmer justeres og rykkes belønnes. Der er plads til 18 programmer. I hvert program kan op til 9 faser indstilles. Hvis flere kan indstilles. For hver fase kan et antal parametre indstilles. Indstillinger for den enkelte fase vil være ulik, og listen vil være ulik for det enkelte program.



CWD 5000: Washing program

Standard washing program (example)

1. Pre-rinse with cold water without chemicals
2. Washing with 50° C hot water with chemicals (from storage tank)
3. Rinse with hot water from storage tank without chemicals
4. Thermal disinfection process with 85° C hot water (ionized) without chemicals or chemical disinfection with 55° C hot water
5. Drying process with 70 - 80° C hot air

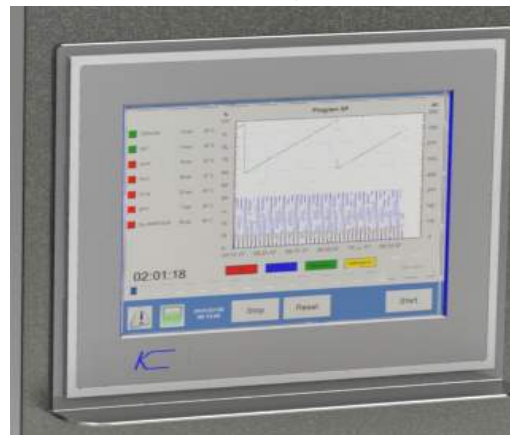
Water consumption: 150 liter

Process time: 50 – 60 minutes (depending on water temperatures)



CWD 5000: Controller

- Standard Beckhoff controller with open program structure
- Standard with 9 programs; can be individually adjusted by trained technician
- Easy operation with graphic display 12"
- Displays program steps, target and actual values, temperature, batch number and error messages
- Thermal disinfection controlled by A° value (600). A° 3000 can be reached.
- Documentation of the various parameters is guaranteed for all charges
- All parameters are double checked by 2 independent controllers



CWD 5000: The Cost saving solution

- Energy recovering system
- Minimized water consumption – only 75 litres / program step
- Storage tank of 200 litre for reusing of heated cooling water and hot water from disinfection process.
- Storage tank is insulated and temperature controlled by two PT 100 sensors
- Minimized energy consumption for heating
- Minimized chemical consumption
- Minimized costs for ventilation of the room

CWD 5000: Other USP

- With inclining floor (up to 45°)
- Self cleaning program
- One way filter catches smallest particles
- Energy saving interior lights
- Heat and noise insulated glass doors
- Possibility for XML protocol for traceability
- Noise level at less 60 dB



KEN CWD 5000 – News

Frequency controlled pumps

“Soft start-up” – gentle to the goods

Reduced water consumption (-25%)

From standard 75 litre to 55 litre

Short heating-up

Less consumption of detergents

Low sound level

KEN CWD 5000 – The right Energy solution

ENERGIRAPPORT FRA

Energisparepotentialer
hos
Odense Universitetshospital
Svendborg Sygehus

IKKE TIL OFFENTLIGGØRELSE



Delrapport vedr. nylantægsrådgivning på vaskemaskine for vogne mm.

Udarbejdet af: JOMA oktober 2009

enervision
rådgivende Ingeniører

HYG/CEN
Centrum für Hygiene
und medizinische Produktsicherheit

Certificate

for the company

KEN A/S
Bøgebjergvej 60
5672 Broby / Denmark

manufactured
„KEN CWD 5000“

can be certified that this machine fulfills the requirements and therefore the type test of
EN ISO 15883-1 (2009)
“General requirements, terms and definitions and tests”
and
EN ISO 15883-2 (2009)
“Requirements and tests for washer-disinfectors employing thermal disinfection for
surgical instruments, anaesthetic equipment, bowls, dishes, receivers, utensils, glass-
ware, etc.”

Tested in program for “Surgical instruments”

Identification Number: 99276
Schwerin, 21.06.2013


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Scientific-Technical Director

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KEN CWD 5000/L

KEN CWD 5000

5000

Useable washing area: D = 2420mm, W = 1040mm, H = 1930mm

KEN CWD 5000-L

5000L

Useable washing area : D = 2840mm, W = 1290mm, H = 1930mm