

NE ECO2

Flight dishwashers



Five good reasons to choose the **NE ECO2** series

1 Hygiene

Tanks with rounded edges to prevent soil accumulation and automatic self cleaning cycle to provide thorough cleaning of the washing chamber.

2 Reliability

The user-friendly electronic card provides information on the operating status. Diagrams and spare parts available 24/7 on the internet.

3 Performance

The APRS (automatic proportional rinse system) controls the operating speed and modulates consumption according to the workload.

4 Economy

200 liters/h rinse water consumption at the DIN 10510 speed thanks to the ECO2RINSE section.

5 Quality

Machines built in a plant operating with an ISO 9001:2008 certified quality.





NE ECO2 series

Flight dishwashers



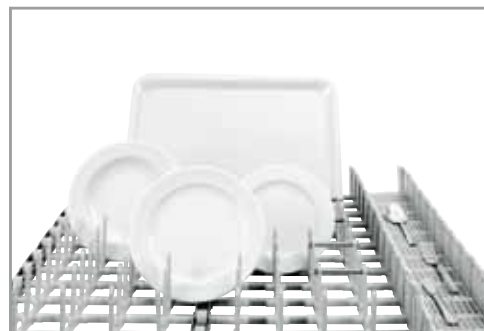
NE5002ECO2 PWP T1 WP6

THE RANGE

The NE ECO2 series is the top of the Comenda range. It is the ideal solution for large cafeterias, hospitals, hotels, in-flight catering and any other situation where there are significantly large and continuous work loads.

There are eight standard NE ECO2 versions but thanks to the various additional options and customised installations, no washing problem is too big for this range.

The NE ECO2 incorporates advanced technologies and ensures, significant water, energy and detergent savings, incomparable hygiene and the best operating flexibility and safety.



Applications



• Restaurants



• Hotels



• Canteens & Cafeterias



• Hospitals

ADVANTAGES

- Frame, tanks and panels in AISI 304 stainless steel
- Steam channel over the entire length of the machine
- Conterbalanced doors with springs
- Prewash and wash arms in stainless steel with negative moulded nozzles
- Deep drawn tanks with rounded corners and self draining pumps
- Electronic control panel with self diagnosys system
- 24V control circuit
- Stainless steel tank filters
- Side wash arms in each washing zone
- Triple rinse with PRS system
- Fully double wall execution
- Electrical connection for rinse aid and detergent pumps
- Economizer that activates rinsing only in the presence of dishware
- All components mounted on the front for easy maintenance

Savings



Comenda's industrial mission is environmentally friendly. For this reason the company has implemented the ECO2 Economy + Ecology project to develop and integrate a series of advanced technologies aimed at limiting consumption. With the ECO2 project, Comenda products perfectly combine maximum results with minimal environmental impact by implementing a true unending consumption circuit. All this has led to significant energy, water and chemical savings, the three most important aspects that Comenda monitors to efficiently protect the environment and protect people.

Heat recovery unit

This system lets the machine run with cold water. Water is pre-heated to 45/50 °C exploiting the heat and steam that would otherwise be dispersed in the air. Energy savings are significant (from 13 to 25 kW/hour according to the model).

Autotimer

Timer device that stops the pumps when the system is idle and, when reloaded, automatically restarts the system to optimise consumption.

Insulated panels

To save energy and to reduce noise and heat dispersion in the room.

Midwash plus

Unlike normal professional dishwashers, with the MWP only 50% of the clean rinse water is sent to the wash tank - the rest is used for prewash. This achieves two goals: the water in the prewash area is renewed much more quickly, and there is lower detergent dilution in the next wash tanks. Instead of being conveyed to the wash area in a cascade manner, the rinse water is partialised before being sent to the prewash area with immediate advantages like: dramatic reduction in the amount of detergent used, perfect cleaning and hygiene, reduced environmental impact and money saving as the result of reduced consumption.

ECO2RINSE

The neutral zone located between the last wash section and the pre-rinse zone reduces the amount of detergent present on the dishes thanks to a natural dripping. This system allows to reduce the amount of rinse water necessary to remove the detergent from the dishware.

Economizer

The rinse area is equipped with a water and energy savings device when the rinse cycle is on stand-by.

FEATURES

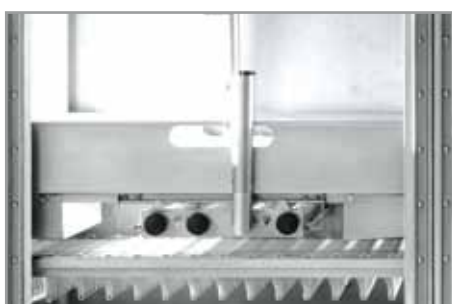
and details



1 INLET

An ergonomic 900 mm working height is designed to provide the best operating conditions for personnel.

The slanted bottom allows the collection of any solid residue inside the removable filters. It comes in various lengths, even in lowered versions to assist loading. A self-cleaning system is also included for specific needs. The wide working dimensions (620x430 mm) can accommodate various types of dishes and objects.



2 PREWASH PLUS

Additional pre-wash area where a part of the rinse water is reused. This process provides dual savings and is environmentally friendly. In fact PreWash Plus:

- saves on detergent: its concentration is partially diluted since

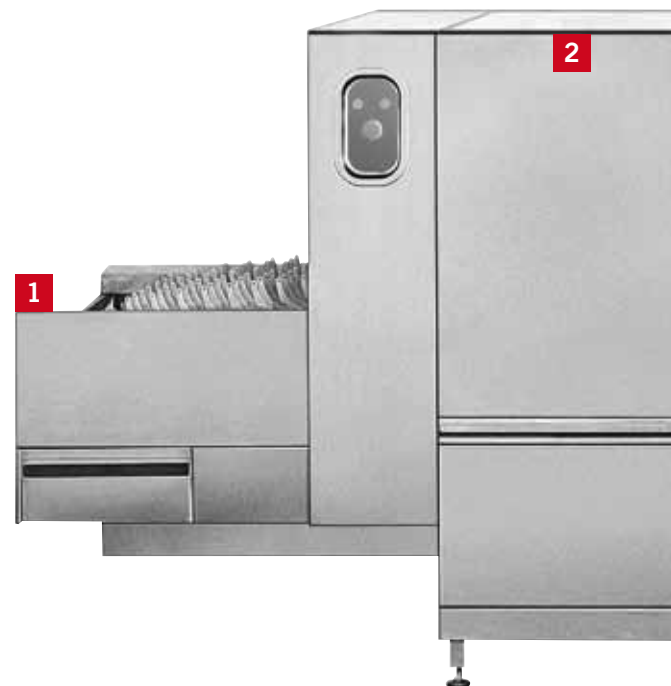
3 PRE-WASH

Completely removable top and bottom wash systems, equipped with drawn nozzles ensure optimum pre-wash.

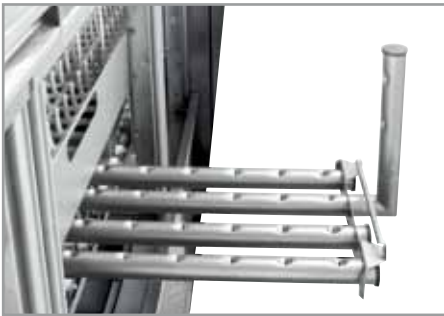
Constant temperature control with built-in cooling in the event set limits are exceeded.

The module is available in two versions:

- standard 600 mm version,
- “heavy duty” 900 mm version.



4 MAIN WASH



Like the pre-wash area, the main washing area is also equipped with all the technical features that guarantee excellent hygiene. Stainless steel top, bottom and side wash systems are easy to remove thanks to a self-supporting and self-centring guide system. The top and bottom pressure regulation system provides excellent results. Even with gastro-norm trays. Tank temperature is controlled by a thermostat and the water level is constantly monitored.

5 ECO2 RINSE

The main washing module has a drip area. When the dishware passes through this area, most of the soapy water is eliminated, allowing a high quality rinse with a reduced amount of water.



8 HEAT PUMP



Normally flight dishwashers are connected to 50 °C warm water mains. This is no longer required thanks to the heat pump. Infact the machine is connected to the cold water mains. This reduces installed electrical power

from 25 to 35 kW/hour according to the machine model. Another advantage is the slight reduction in humidity and heat dispersion providing improved working conditions due to a dryer and cooler work area.

6 ECORINSE: PRE-RINSE AND FINAL RINSE WITH PRS



Pre-rinse phase: water from the final rinse cycle is collected in a tank with a dual filter system and is pumped to a pre-rinse cycle.

This saves both energy and water. Final rinse phase: supply water is heated to 85 °C to sanitise dishes.

The rinse area is equipped with an economizer to reduce water and energy consumption.

Arms and nozzles are made of stainless steel and are all easy to remove. The PRS is a new and patented Comenda saving system.

PRS allows to save up to 33% of water, energy, detergent and rinse aid. PRS regulates correct rinse water quantity according to belt speed.

7 DRYER

Module available in different sizes with different outputs.

For specific customer needs, a bottom blower is also available.



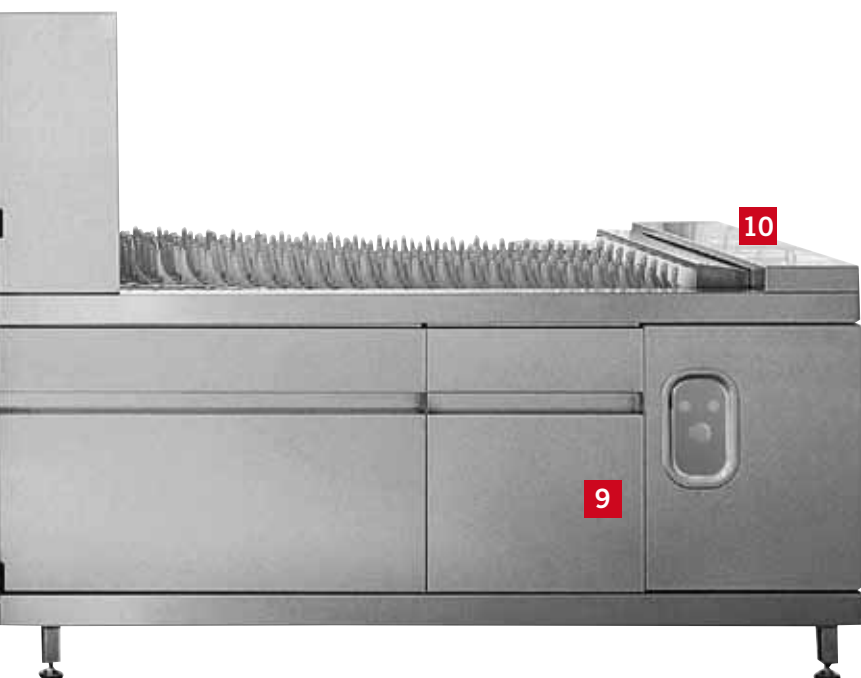
10 OUTLET

Available in various lengths. Its panelling is easy to remove for accurate cleaning. A limit switch at the end of the conveyor automatically stops the belt if dishes are not removed.

Start and stop buttons are mounded on the exit end to facilitate manual user control.

9 RCD RINSE CONTROL DEVICE

Guarantees an excellent rinse even with low pressure water flow. RCD complies with severe backflow prevention specified by WRAS and DVGW.



SOLUTIONS

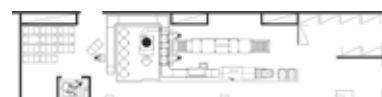
Customer needs are always paramount for Comenda. For this reason the infinite NE ECO2 configuration possibilities can be combined and integrated with other models and offer ideal solutions for any need. The following configurations are examples of NE ECO2 flexibility, able to satisfy large volumes and workloads and specific operating requirements through a simple, fast and automated process that can guarantee total hygiene in any situation.

XL models are available for specific needs with 850x430 mm working sizes. Various conveyor configurations are also available to wash dishes, trays, insulated trays of any size, utensils and pots.

Hospital

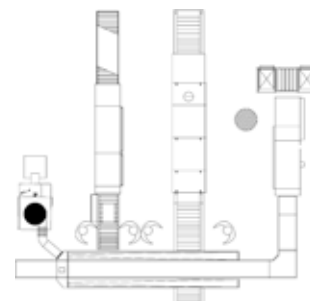
The most popular meal distribution model (600-800 servings) includes a centralised kitchen where customised meals are distributed on trays, carried by carts that keep food warm. After the meal, the carts are moved to the wash area where the trays are loaded and processed by customised systems. With Comenda products the washing process is divided in the following phases: first trays are placed on a conveyor belt. From here the dishes are removed from the trays and cleaned of any residue which is conveyed through a specific channel to the T5 waste disposal. Next, plates and racks with glasses are loaded on the NE 5502/AS flight machine with dryer.

Trays continue down the conveyor to the LAV 1001 machine. Here cutlery is magnetically picked, deposited in a soak tank and then loaded on the NE 5502 ECO2 in specific racks. Lastly, the trays exit the LAV 1001, perfectly dry, and automatically stacked.



University cafeteria

In this case the process is similar to the one above but, increasing the number of servings (900-1200) and, consequently, the volume of work, the NE 5502 ECO2 machine is equipped with a lowered entrance to permit four simultaneous loading stations. Additionally, the NE 5502 ECO2 is exclusively dedicated to wash dishes while glasses are loaded on another conveyor machine, the ACRS225 ECO2. The tray and cutlery washing process is identical to the previous with the addition of a deviator for carts loaded with clean trays.



Business complex

Here too the flight machine is equipped with a lowered entrance to accommodate four stations, exclusively dedicated to wash dishes. To satisfy an even heavier work load (up to 1500 servings), the NE 7002 ECO2 model, equipped with a more intense pre-wash cycle and higher productivity, is recommended.

As in the previous case, glasses are washed separately, but here an electronic rack conveyor model, the ACRS 260 ECO2 with an osmosis rinse system guarantees brilliant results. Trays and cutlery are automatically washed and dried in the LVP 1501 machine. An NG 902/AS washer with a drying unit dedicated to wash pots, pans and other kitchen utensils is included in this configuration.



Advanced TECHNOLOGIES

ELECTRONIC CONTROL PANEL

The re-styled and easy to use NE ECO2 control panel ensures simple and immediate machine use. Three access levels are provided: the user level is limited to machine start and stop functions, the system administrator level provides access to process settings where speed can be controlled and programme functions enabled or by-passed and the authorised technician level provides access to all parameters in every sector.

To ensure perfect washing results and total hygiene, the large quantity of data must be set and monitored.

The scrollable four-row LCD display shows the machine status, information messages, machine data and alarms.



Technical menu
Sanitising sys
Connected
120sec

Hygiene



The NE ECO2 series is fully designed to always guarantee excellent hygiene, from the main components to the smallest details, and is considered one of Comenda's strong points.

All structural and system components, including pumps and washing columns, in the NE ECO2 series are installed outside the washing area. This leaves only smooth surfaces inside that prevent any residue deposits. The wide filtering surface and deep drawn tank, without welding joints and with rounded corners, prevent dirt from accumulating, making inspection simple and easy.

Additionally, a series of special features promote total hygiene. In fact, Thermal Disinfection, a process when dishes are subjected to jets of extremely hot water for a prolonged period of time, can be used.

Wash pumps are self-draining and selfcleaning with clean water to remove any residue and provide total final cleaning.

The **Flux Control®** device constantly controls the quantity of water is adequate to ensure maximum results and total hygiene. It can also signal low water levels or waste during the rinse cycle.

The **Sanitizing System®** in each wash and rinse area, powerful jets of water with the addition of specific detergents are aimed at the internal surfaces by adjustable nozzles to guarantee maximum hygiene at the end of each cycle.

High accessibility is another feature provided for the entire system.

The loading and unloading shelves are equipped with easy to remove panels to permit accurate cleaning.

HPS Hygiene Plus System the system saves all the daily operating parameters and displays them on the screen or prints them.

This way the system is controlled meeting HACCP procedures.

The electronic control system affords numerous benefits including constant temperature monitoring in the pre-wash, wash, rinse and drying areas. Furthermore, any malfunction is immediately displayed. Control of the correct amount of clean water in the rinse area is another important aspect that influences hygiene quality.

The electronic control system also ensures perfect operating conditions. Being able to schedule maintenance, in fact, makes sure that it is correctly and routinely performed, indicating the hours remaining until the next operation.

The electronic system is multilingual and the user can easily select the language of the country where the machine is installed.

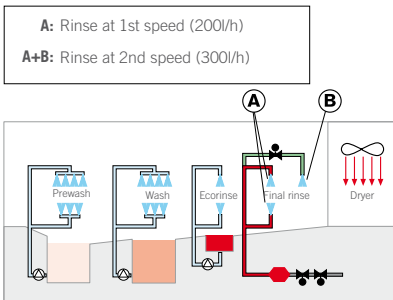


Consumption reduced by 33%



PRS & APRS

Despite operating at different speeds, conventional flight dishwashers always use the same amount of rinsing water, which leads to huge wastage. The patented system PRS and its evolution APRS are a true revolution as they adapt the amount of water to the workload and to the selected speed, saving as much as 33% in terms of water, electricity and chemicals.



PRS & APRS system

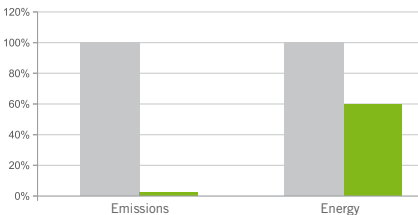
Energy saving and healthier environments



Heat pumps

The WP4, WP6 and WP8 heat pumps, which are designed for rack conveyor dishwashers, save up to 40% of the energy normally required to heat the water. The system's ability to absorb the heat generated by the machine considerably reduces thermal radiation because the cooled and dehumidified extracted air is pumped back into the room, creating the best possible environmental conditions in the washing area.

Three models available with different power ratings: the single-action WP4 preheats the rinse water, the double-action WP6 preheats the rinse water and one washing tank, the triple-action WP8 preheats the rinse water and two washing tanks.



	Emissions	Energy
STD standard	100%	100%
+ WP	2%	60%

Rinse aid reduced by 70%



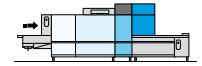
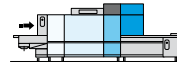
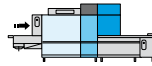
RAH – Rinse Aid Homogeniser (patented)

Rinse aid has a higher density than water, so the two substances cannot mix uniformly, which requires more surfactant to achieve good drying results. The RAH is designed to help combine these two liquids of differing densities. It is the ideal solution to this problem as it considerably reduces the amount of rinse aid required, leading to cost saving and reduced environmental impact.

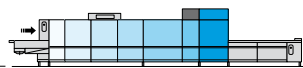
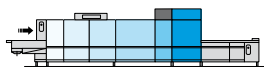
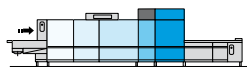
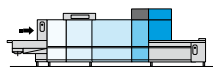


RAH system

Technical info



NE EC02 MODELS	NE3002 EC02	NE4002 EC02	NE5002 EC02
Speed according to DIN10510	1,1	1,4	1,55
Dishes/h capacity with 2 minutes contact time in compliance with DIN 10510	2200	2800	3100
Maximun dishes/h capacity	3300	4200	4650
Machine lenght with standard dryer (mm)	4900	5500	5800
Rinse water consumption (first/second speed)	200/300	200/300	200/300
Total installed power (with 55°C warm water connection) kW	35,5	37	38,7
Energy consumption kWh	24,85	25,90	27,09
Total installed power (with 15°C cold water connection and HRU) kW	35,5	37	38,7
Energy consumption kWh	24,85	25,90	27,09
Total installed power (with 15°C cold water connection and WP4) kW	33,2	34,7	36,4
Energy consumption kWh	23,24	24,29	25,48
Total installed power (with 15°C cold water connection and WP6) kW	-	21,23	21,93
Energy consumption kWh	-	14,86	15,35
Total installed power (with 15°C cold water connection and WP8) kW	-	-	-
Energy consumption kWh	-	-	-
Installed power increase for machines with dryer tunnel ARC for dishes	9	9	9
Installed power increase for machines with dryer tunnel ARC for trays	12	12	12
Sanitising system	optional	optional	optional
PRS	included	included	included
MWP	optional	optional	optional
RAH	optional	optional	optional
RCD	optional	optional	optional



NE5502 EC02	NE7002 EC02	NE7502 EC02	NE9002 EC02	NE9502 EC02
1,85	2	2,3	2,45	2,75
3700	4000	4600	4900	5500
5550	6000	6900	7350	8250
6400	7950	8550	9350	9950
200/300	200/300	200/300	200/300	200/300
52,2	52,9	66,4	67,1	80,6
36,54	37,03	46,48	46,97	56,42
52,2	52,9	66,4	67,1	80,6
36,54	37,03	46,48	46,97	56,42
49,9	50,6	64,1	64,8	78,3
34,93	35,42	44,87	45,36	54,81
35,43	36,13	49,63	50,33	63,83
24,80	25,29	34,74	35,23	44,68
32,2	32,9	48,4	49,1	62,6
22,54	23,03	33,88	34,37	43,82
9	9	9	9	9
12	12	12	12	12
optional	optional	optional	optional	optional
included	included	included	included	included
optional	optional	optional	optional	optional
optional	optional	optional	optional	optional
optional	optional	optional	optional	optional



ECO2: THE FORMULA FOR ENERGY SAVING

Comenda's philosophy is represented by a green petal defining the company commitment to research and application of high-tech formulas which combine high performance with energy savings. ECO2 is the key to the entire production: eco-friendly solutions granting excellent results and a healthier working environment. This "green" philosophy also inspires the NE ECO2 series: a vast range of washing systems that can adapt to a great variety of different needs, always guaranteeing top performance with very low operating costs and reduced water and detergent consumption. ECO2 accessories like the WP heat pump can be fitted to the NE ECO2 machines achieving a higher energy efficiency and improved working conditions.



AFTER SALES SERVICE IN JUST A CLICK

Being a specialist in warewashing, Comenda provides outstanding innovative solutions and a complete and reliable after sales service. To provide its customers with the best possible real time support, Comenda offers - along with its wide network of high qualified technicians nationwide and worldwide - an easy to use online tool at www.comenda.eu for online assistance and ordering spare parts. More than 700 users already registered. Authorised distributors access the website with their own password and consult the entire e-documentation and download instruction manuals as well as wiring, hydraulic and installation diagrams. Exploded views can be accessed in a few clicks and orders can be automatically sent directly to the spare parts office.

