



## Rack conveyor dishwashers

## Efficiency and Rapidity



Elettrobar presents a complete range of rack conveyor dishwashers offering a choice of different throughputs, dimensions and configurations, to provide the optimal dishwashing solution for users of all types, ranging from a large company canteen to a small health facility.

The **Niagara** range offers single-rinse dishwashers with one or two wash tanks and throughputs of up to 270 racks/hour; the **Mistral** range is comprised of machines with double or triple rinse cycles, with recirculation and throughputs of up to 320 racks/hour; the dishwashers of the prestigious **River MULTI** range feature very low water consumption, with multiple rinse and rinse optimisation system as standard.

Whichever model you choose, it will have all the special features for which the Elettrobar brand is renowned: dual-flow pumps, spray arms with directional nozzles and concentrated washing action to obtain the best possible results and productivity; rinse systems designed to deliver significantly lower operating costs by reducing the consumption of water and detergent; double-skin construction, fully-moulded wash tanks integral dual strainers, counterbalanced doors that open to their full width for easy cleaning access; an intuitive user interface that is simple and easy to operate.



# High production

## DuoFlow

This tried and tested technology is exclusive to Elettrobar and guarantees that the electrical power supplied to the pump is converted into mechanical washing action in the most efficient way possible. Conventional pumps have one inlet and one outlet, the pressurised output flow is distributed to supply the upper and lower spray arms through a Tee joint; **DuoFlow** has instead one inlet and two tangential outlets, each of which is connected directly to the spray arms. By removing the Tee joint from the circuit, we have eliminated the main source of pressure loss, thereby ensuring better results for lower power consumption. To put it simply, with **DuoFlow**, the electrical power is used for washing dishes, not lost pushing water through elbow fittings!

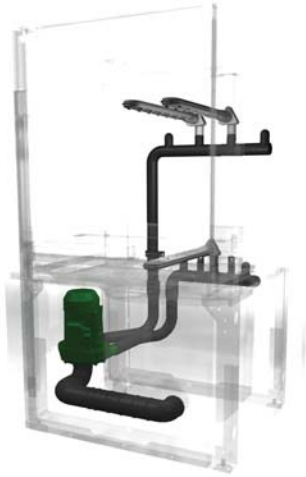
## IdroWash

And then there is the special design of Elettrobar spray arms, with convex dimples and large number of nozzles. This design creates more stable water jets, which reach the dishes when they are at maximum force, before they divide into droplets and their energy is dissipated. Each spray arm has 12 nozzles, compared with the 5-7 of the competition and, thanks to the stability of the jets produced, the arms can be positioned closer together. This creates a volume of water comprised of numerous separate jets, similar to the bristles of a scrubbing brush, that produces an outstanding washing action.



# elettrobar

## High production



### Pre-wash XL

It is a heavy module with length of 820 mm, with a complete **IdroWash** system with 3 arms. Most of the dirt is removed here and the most consistent fraction is collected by a drawer filter, which can then be emptied in just a few seconds without opening the door.

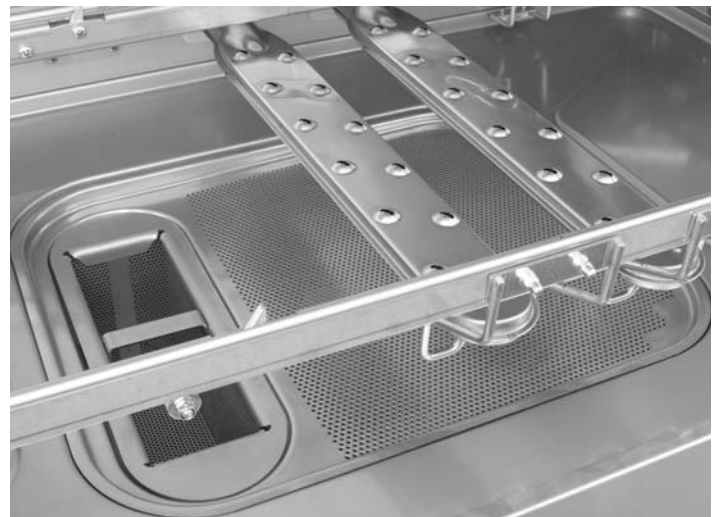


A second separation takes place in the **ProStrainer** surface filter, which is shaped in a way to convey the dirt into a removable basket. A third filter is found on pump suction.

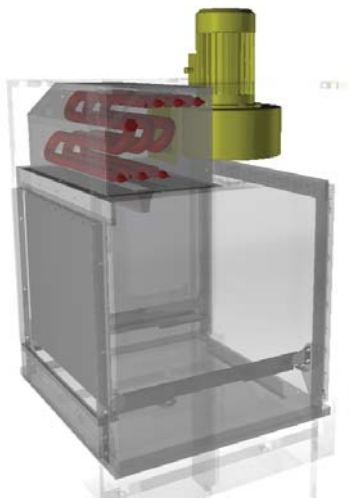


### Pre-wash XXL

It is a very heavy module with length of 1.150 mm, with a complete **IdroWash** system with 5 arms. Most of the dirt is removed here and the most consistent fraction is collected by a drawer filter, which can then be emptied in just a few seconds without opening the door. A second separation takes place in the **ProStrainer** surface filter, which is shaped in a way to convey the dirt into a removable basket. A third filter is found on pump suction.



In the pre-wash phase it is crucial that the temperature of the water remains constant; not too hot to prevent the residues of starch or cheese from drying on the tableware and not too cold to prevent the effectiveness of the detergent from decreasing. For this reason an active thermostatic adjuster is present, which uses a separate cold water entrance and a 10.500 W heating element to maintain the temperature of the bath at the desired value (default 55°).

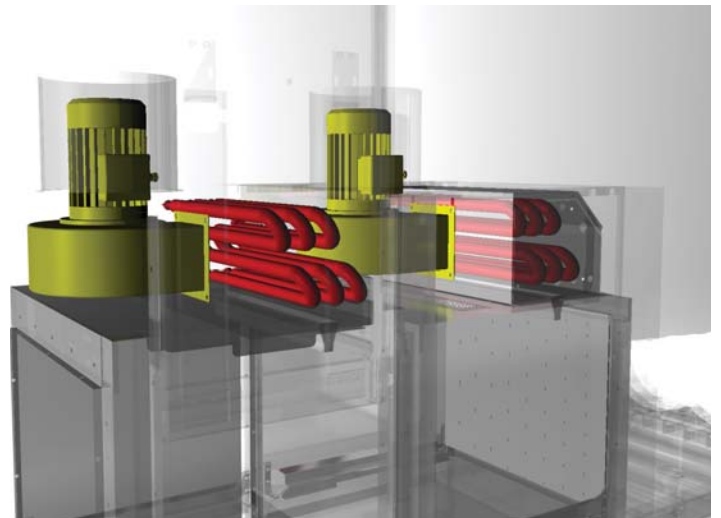


## ProWind Drying

It uses air at 70 °C, withdrawn from the outside and heated by a 6 or 9 kW heat exchanger. A 550 W radial turbo fan sends a flow of 1.400 m<sup>3</sup>/hour to two upper outlets; a shaped conveyor sends the air upwards again. Drying is optimised for plates but also for the glasses and concave objects that must receive air from below.

The air blades also have the effect of maintaining the steam inside; there is a dripping area between rinsing and drying.

The use of dry air at a relatively low temperature allows to treat even the most delicate glasses or plastic materials safely, which would risk melting if dried in a conventional dryer. The neutral dripping area between rinsing and drying allows the larger drops to fall naturally due to gravity before reaching the real drying area, where a relatively dry environment is maintained.



## DuoWind heavy-duty drying module

It has an overall length of 1.150 mm and has two inspection doors and residual water collection system.

It uses two 550 W fans that force 2.500 m<sup>3</sup>/h of hot air over the racks through a sequence of 3 funnel shaped deflector systems.

This allows effective mechanical removal of water droplets without the need to use elevated air temperatures that could damage glassware and create unnecessary discomfort for operators.

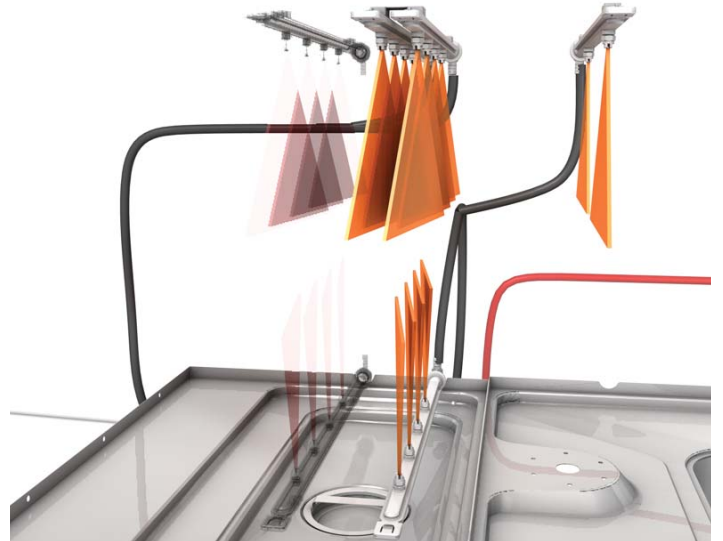
The air is heated by an 6+6 kW or 6+9 kW electrical system.

## Lower operating cost

### UltraRinse<sub>3</sub> Multiple Rinse

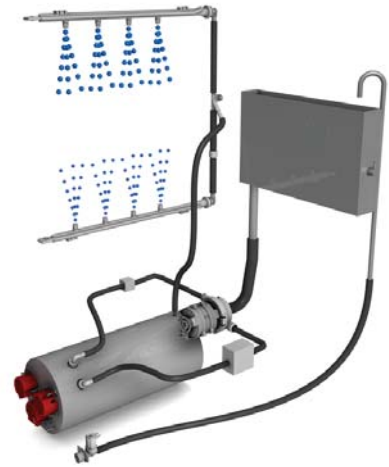
It re-uses the final rinse water several times to carry out an intermediate double rinse and preliminary rinse at the end of the wash area. The preliminary rinse removes most of the detergent present on the tableware, keeping it in the wash tank.

The double intermediate rinse completes removal and the final rinse distributes rinse aid onto the thoroughly clean tableware and promotes drying. This multiple and differentiated use reduces specific water consumption to very low values, with a saving of 36% with respect to the already excellent previous generation Elettrobar machines and by over 60% with respect to the average of competitor products.



### ProPortional Flow Change Device

Allows to change the water flow rate distributed through the rinse arm in a way to adapt and optimise consumption according to the advancement speed. This gives rise to a saving in water; depending on the program used it can reach 20% with consequent savings also in terms of energy, detergent and rinse-aid consumption.

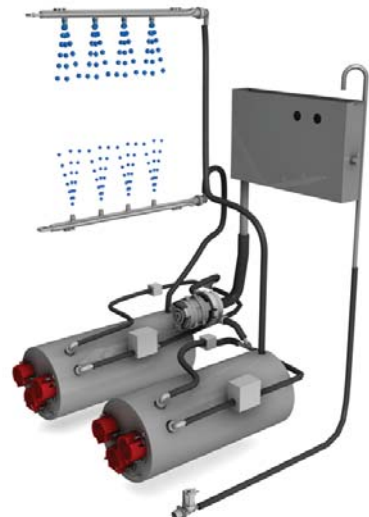


### ProPortional Flow Change Device plus

Allows to change the water flow rate distributed through a rinse arm in a way to optimise consumption according to the advancement speed and the type of object to be washed. There are two positive effects:

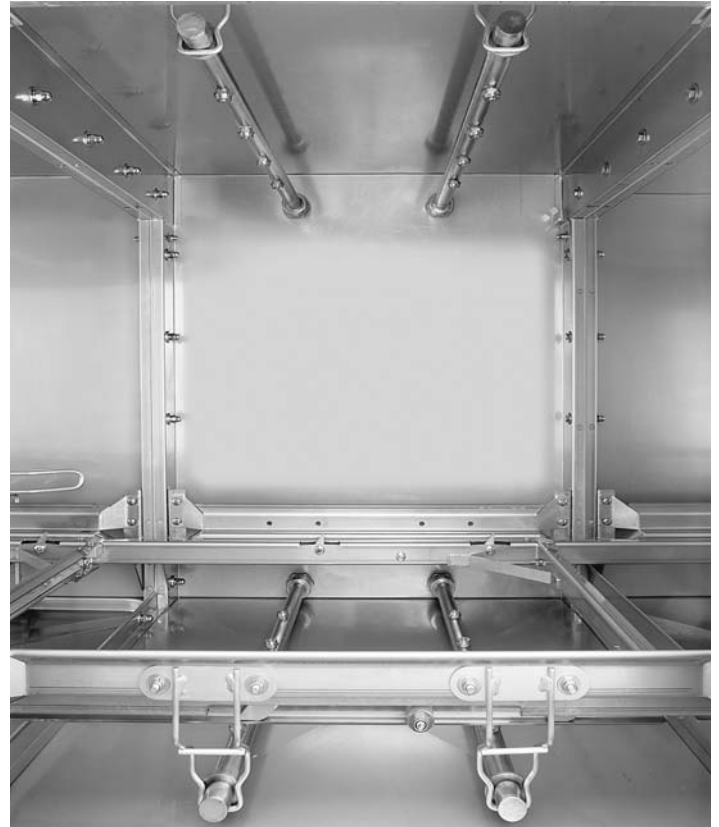
**Less water used: depending on the program used, up to 26%.**

**Optimisation:** the rinse is distributed according to the type of object to be washed and avoiding waste, thus guaranteeing the best result. For example, the glasses receive more water from below than above and plates more water from above than below.



## DuoRinse

A sequential dual rinse system designed to offer maximum performance in heavy-duty applications and with infrequent changes of the water in the wash tanks. The system is comprised of two separate boilers, each of which feeds a pair of rinse arms, with the water flow pressurised by a dedicated rinse pump. This ensures excellent results independently of the water supply pressure, and the wash tanks receive sufficient water to ensure that dirt is adequately diluted.



## ProChem Detergent Management

It reduces the consumption of detergent from 20 to 60% depending on the program used. Not all of the rinse water reaches the wash tank, where detergent must be added, but just a fixed 100 lt/hour. The excess is introduced into the pre-wash, diluting the dirt in the most critical area of the entire dishwasher. The dishwashers are usually supplied without detergent and rinse aid dispensers; electronically-controlled peristaltic pumps are available as optionals, with assembly inside the machine and direct adjustment from the control panel.



## HiTech Rinse Arms

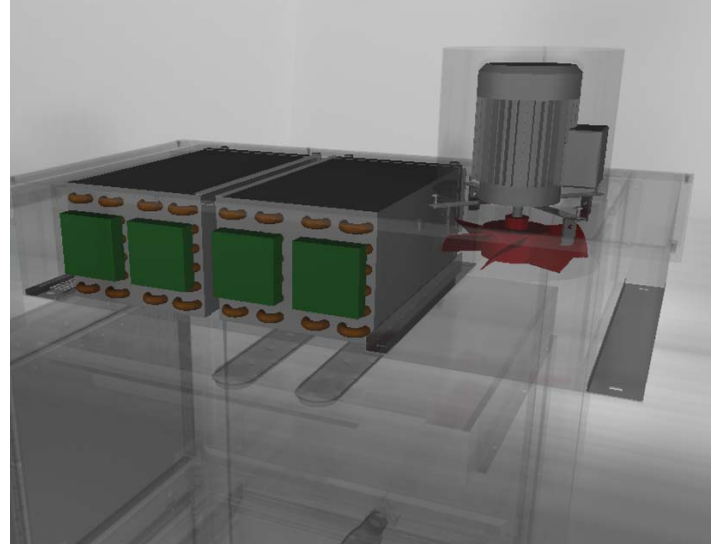
Manufactured in **ProComposit** composite material (matrix in resin with an isotropic load of glass fibre and micro-granules of talc); they are injection moulded and welded with vibration technology. Complex ducting is obtained, which promotes the flow of fluid, thus reducing pressure drops. There are a different number and type of stainless steel spray nozzles, obtained from precision mechanical machining, depending on the type of rinse. The composite arms are lighter, safe to handle, easy to clean and with longer duration over time with respect to the traditional steel arms.



## Lower operating cost

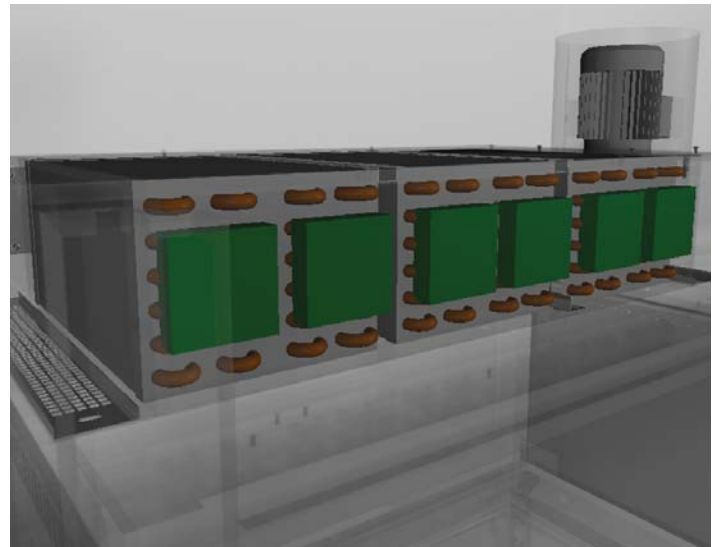
### ProHeat heat recovery system

This device condenses the water vapour inside the dishwasher, and uses the latent heat of the steam to heat the water before it enters the boiler, thereby allowing the installed power to be reduced by 5 kW. It uses an extractor fan to aspirate the steam and two heat exchanger coils with a total surface area of 26 m<sup>2</sup>; the standard heat exchangers are made of copper, but for applications using osmotic water, special stainless steel heat exchangers are available. In the River MULTI rack conveyor, the standard heat recovery system is controlled electronically, being switched on and off according to the temperature of the water supply.



### ProHeat heat recovery system plus

An evolution of the standard system, this modular system has three heat exchangers that work either in series or in parallel depending on the version, so as to achieve the maximum thermal efficiency. This leads to energy savings of up to 8 kWh per hour of operation.



### Heat pump

A system with high thermodynamic efficiency that heats the water before it enters the boiler, using heat gained from condensing the steam present inside the wash tank.

It is able to recover thermal energy equivalent to 3,7 times the electrical energy consumed, and allows the installed power to be reduced by a good 8 kW. The most important advantage that this system has over a normal recovery system, and one which justifies the higher purchase cost, is that the air emitted is not hot and humid but cool and dry, thereby making it much easier to maintain a good quality working environment in the dishwashing zone.





## AutoTimer modules

The timer controlled washing system reduces energy consumption during stand-by periods by progressively switching off all the electrical loads except for the heating elements of the wash tank and the boiler, which are controlled by their respective thermostats, so that the dishwasher is ready to resume work at any time. The machine re-starts when a rack is inserted.



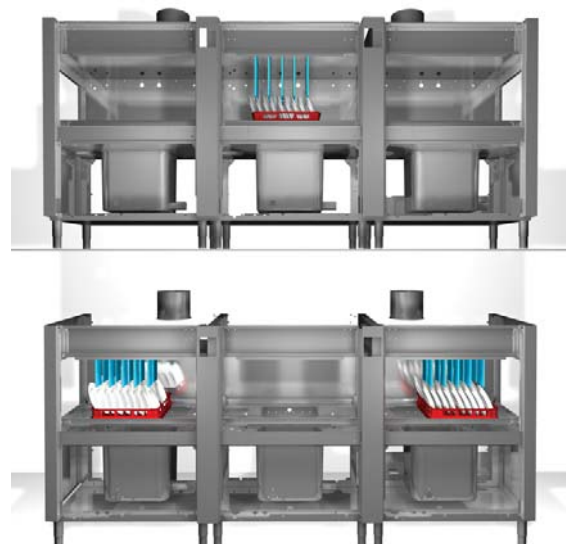
## RinsEconomizer

In any dishwasher, most of the power, water and chemical products are consumed during rinsing. For this reason, our rack conveyors are fitted as standard with a device that stops rinsing if there is no rack present. This electro-mechanical system is simple, effective and reliable.



## Management of the ProActive

The various modules of the dishwasher are only activated if there are dishes to be rinsed. The system detects the positions of the racks inside the dishwasher and sends this information to the electronic control card, which activates the relative zones accordingly. This is an evolution of the Thermostop and Rinse Economizer systems that can provide significant savings in cases where the machine is used intermittently. In addition, the system manages sequential startup of the various zones after a shutdown, so as to avoid current surges that could damage the system.



## User-friendliness



### C4I Interface

It uses a 6" touch screen and two capacitive buttons, one with changing colour for immediate understanding of the appliance status. The interface allows to select a wash program from the many available and to display the status of each individual area, from the entry of the water to drying. Advanced self-diagnosis that includes a log of the alarms intervened and a troubleshooting function to identify possible solutions to problems encountered. The information is provided via icons and text messages in one of the pre-set languages. Display of daily and total operating hours. A series of menus with protected access allow the technicians to adjust each individual operational parameter, from the language to the advancement speed of the tableware, from the wash and rinse temperatures to the combination of pumps and arms to be activated. The connectivity is assured by an optional plug-in module that allows to access all functions through a PC connected via USB cable.



### ProSmart Interface

It uses a LED screen with 4 digits and two variable colour side bars. The interface allows to select a wash program from the many available. The tank and boiler temperatures and the number of operating hours are demonstrated on request; advanced self-diagnosis that includes an archive of alarms intervened.

The information is provided via codes and brief messages. A series of menus with protected access allows the technicians to adjust each individual operating parameter, the advancement speed of the tableware to the washing and rinsing temperatures.

## Programs

The dishwashers are fitted with a series of specific programs for the different conditions of use. The programs differ regarding temperature and power of the wash, the contact time, the temperature, flow rate and rinse distribution. Therefore, differently from most competitor products, limits are not given to just going "quicker" or "slower" but the percentage breakdown of the elements that contribute to washing are really changed, optimising the process in a way to wash greater quantities of tableware more effectively in a shorter period of time.

### C4I



**Plates**  
**High capacity**  
for fresh, light dirt.



**Plates**  
**General purpose**  
program for general use.



**Plates**  
**Prolonged contact**  
assures a contact time of 120" in compliance with the DIN 10634 Standard.



**Plates**  
**Intensive**  
for difficult to remove dirt, with washing temperature taken to 63 °C.



**Glasses**  
requires the use of relevant 50x50 cm baskets, rinse at 65 °C. When this program is selected, a system that lowers the boiler temperature to 65 °C is started automatically when the first basket of glasses transits under the rinse. There are no stand-by times.

### ProSmart

#### STANDARD PROGRAMS SP



**Plates**  
**High capacity**  
for fresh, light dirt.



**Plates**  
**General purpose**  
for fresh, light dirt.

#### ADVANCED PROGRAMS AP



**Plates**  
**Prolonged contact**  
assures a contact time of 120" in compliance with the DIN 10534 Standard.



**Glasses**  
requires the use of relevant 50x50 cm baskets, rinse at 65 °C. When this program is selected, a system that lowers the boiler temperature to 65 °C is started automatically when the first basket of glasses transits under the rinse. There are no stand-by times.

# Easy to clean



## Accessibility

All modules have fully opening counter-balanced doors that allow easy access to any point of the washing chamber. This is also valid for the integrated wash and dry module with unique surface; exclusive to Elettrobar. The electric and hydraulic components are accessed for maintenance by removing the front panelling, thus obtaining a completely free surface also in this case.



## Construction

Fully-moulded self-cleaning wash tank, wash chamber without internal piping, doors with insulated and counter-balanced double walls that are very light to lift. Easy to remove and replace wash and rinse arms, module separation curtains in plastic for use with foodstuffs which can be removed without the aid of tools. Construction with full double wall to reduce environment noise pollution to less than 70 db.



## ProStrainer

The filter is comprised of a flat surface that tilts towards the exterior of the machine, so that solid waste slides into the collection basket, which is positioned where it can be easily accessed by the operator and emptied in just a few seconds. The filter is either made from composite material or stainless steel, depending on the model.



## ProGressive\*

The pre-wash module and the washing module have a drawer pre-filter that collects the excess dirt eliminated by the "hydraulic brush", before it reaches the wash tank. The filter can be extracted without opening the door and can be emptied in just a few seconds. Its construction prevents dirty water dripping onto the floor during extraction. The organic waste does not end up in the drain but can be collected and re-cycled. In the machines with pre-wash, the second pre-filter with dense mesh network progressively filters the dirt, **ProGressive**, system and keeps the water in the wash tank extremely clean, with obvious advantages when washing glasses and particular tableware.

\* optional for Niagara and Mistral.

## Operational flexibility

### Modular construction

The dishwashers are available with and without pre-wash and with one or two wash tanks. They all have drying and heat recovery as standard. Versions can also be provided with corner pre-wash and drying for better adaptation to the conformation of the wash area, while the other elements available on request with surcharge complete the possibility of adapting the dishwasher to the user's needs.



### Simplified assembly

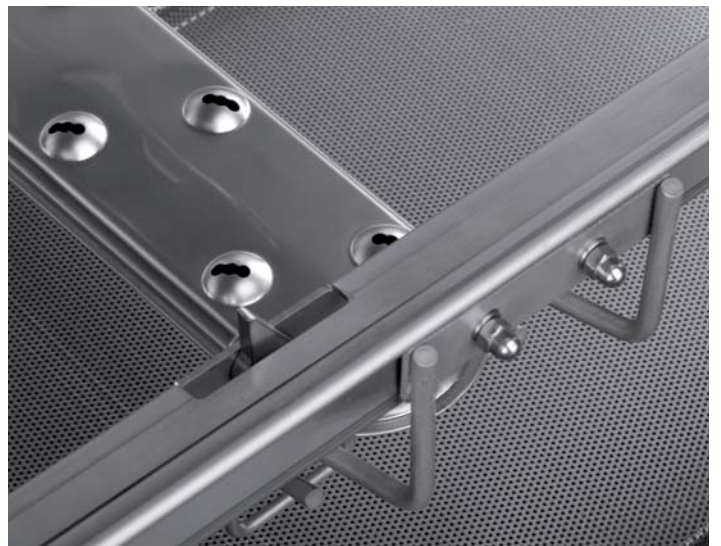
The modules are joined by an innovative system that makes the dividing and re-assembly operations very fast. The electric and hydraulic plants are also developed to greatly simplify these operations. In this way, no entrance is so narrow to not allow installation of a dishwasher.

A particular joint strengthening and centring system (patent pending) is used in the connection, which means silicone or other sealants do not have to be used.



### Basket conveyor

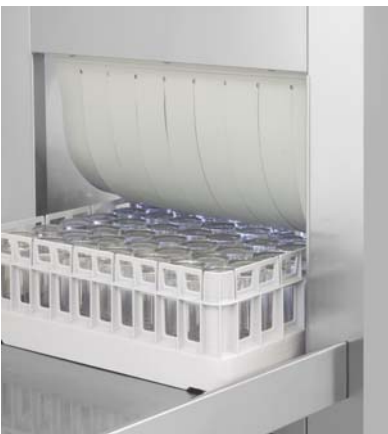
500 W advancement motor, conversion of movement via eccentric or oscillating slide. Basket guide with double lateral track to leave the central area of the basket completely free for the passage of the water; very thick stainless steel oscillating fingers. The oscillating slide moves on anti-friction plastic rolling material. Useful dimensions of the basket passage mouth: 500 x 450 mm. Anti-slip safety with oscillating arm and without friction disks in order to prevent any damage to the conveyor system in the event of accidental blockage of the basket. Set-up for connection with end run stop microswitch.





## Large actual aperture

The new rack conveyor dishwashers have an actual aperture of 45 cm, which allows easy loading using specific baskets, oven trays, Gastronorm trays, heat-insulated trays for distribution of food, plates also with large diameter, tall and valuable glasses, pans and various utensils.



# elettrobar

# niagara



These machines are characterised by their compact external dimensions, thanks to the rinsing system being incorporated in the wash module. The user interface is the acclaimed LED **ProSmart**, which provides simple and intuitive control of machine functions. Another fundamental feature is the low water consumption, which on some machines is as low as 1,1 litres per rack. All models are equipped as standard with the autotimer and rinse economizer, as well as integral steel filters in the wash tank. A wide choice of optional accessories, tables and rollerways means that the machine can be adapted perfectly to any installation requirements.

The range is divided into two types, according to the rinse technology used:

**Niagara 411** with mains water supply pressure (we recommend installing a pressure regulator with a pressure gauge, in cases where the supply pressure is not constantly equal to or greater than 2 bar).

**Niagara 412** with a boiler pressurised by a dedicated pump and water supplied via a steel break tank. In this case, water consumption is always constant regardless of the mains supply pressure, thereby allowing the full potential of the washing system to be used.



		411.1	412.1	411.2	412.2
<b>PROGRAMS</b>					
Program 1	racks/hour	120	160	210	270
Program 2	racks/hour	60	120	110	200
Program 3	racks/hour		60		110
Program 4 (glassware)	racks/hour		80		135
Wash temperature	°C	60	60	60	60
Rinse temperature	°C	80	80	80	80
Glassware program rinse temperature	°C		65		65
<b>IsyRinse</b> rinse system		●		●	
<b>ProRinse</b> rinse system			●		●
Break tank and rinse pump			●		●
<b>ProPortional</b> adaptive flow system			●		●
Maximum economy obtainable	%		20		25
Maximum water consumption	litres/hour	150	220	300	320
Minimum specific consumption	litres/rack	1,3	1,4	1,4	1,2
<b>ELECTRICAL POWER SUPPLY</b>					
Power with 15°C water supply	W	28.500	32.700	45.000	45.200
Power with heat recovery system	W	24.700	26.900	37.700	37.900
Power with 50°C water supply	W	22.000	23.200	30.000	30.200
<b>FEATURES</b>					
Full double wall construction		●	●	●	●
Double-skin insulated door		●	●	●	●
Fully moulded wash tanks		●	●	●	●
Wasch chambers without internal piping		●	●	●	●
Integral tank strainers <b>ProStrainer</b>		●	●	●	●
Stainless steel integral tank filter			●		●
Prefilter in each tank with <b>ProGressive</b> sequential filtering		○	○	○	○
Pump suction line safety filters		●	●	●	●
Heavy duty prewash <b>XL</b>				●	●
<b>DuoFlow</b> pre-wash pump	W			1.500	1.500
Corner prewash				○	○
Wash module with integrated rinsing		●	●	●	●
<b>DuoFlow</b> wash pump	W	1.500	1.500	1.500	1.500
Side rack rails		●	●	●	●
Dryer <b>ProWind</b>		○	○	○	○
Dryer <b>DuoWind</b>		○	○	○	○
Corner dryer		○	○	○	○
Stainless steel rinse arms		●	●	●	●
Heat recovery <b>ProHeat</b>		○	○	○	○
Heat pump		○	○	○	○
Rinse economizer		●	●	●	●
<b>AutoTimer</b> timer controlled washing		●	●	●	●
LED interface <b>ProSmart</b>		●	●	●	●
Fully adjustable		●	●	●	●
Advanced self diagnostic		●	●	●	●
Built-in USB connection		○	○	○	○
Pressure reducer with manometer		○		○	
Emergency stop switch		○	○	○	○
Travel limit microswitches		○	○	○	○
Detergent and rinse aid dispensers		○	○	○	○

# elettrobar

# mistral



These high-performance models represent the very heart of the Elettrobar range, with separate rinsing and washing and 5 spray arms with 60 nozzles per module. Simplicity itself to use, thanks to the **ProSmart** LED interface; cleaning is just as easy with wide inspections doors, extending even to the rinse module.

Models are available with one, two or three wash tanks, and can clean up to 320 racks/per hour and water consumption as low as 0,8 litres per rack.

The machines come in two types for different usage types, depending on the rinse technology used, but both types are equipped with the **ProRinse** rinse system:

**Mistral 415** with **DuoRinse** technology, designed for particularly heavy duty use, where a high water turnover rate in the wash modules is crucial to maintaining perfect results without having to resort to intermediate water changes during the wash cycle.

**Mistral 416** with **UltraRinse** technology, destined for users who are particularly concerned about reducing energy and water consumption, environmental impact and operating costs. Savings, particular in conditions of variable usage, are boosted by the **ProPortional** adaptive flow system, which can save up to 25% of rinse water in intermediate cycles.





		415.1	416.1	415.2	416.2	415.3	416.3
<b>PROGRAMS</b>							
Program 1	racks/hour	200	200	270	270	320	320
Program 2	racks/hour	150	150	200	200	250	250
Program 3	racks/hour		95		140		160
Program 4 (glassware)	racks/hour		95		140		160
Wash temperature	°C	60	60	60	60	60	60
Rinse temperature	°C	80	80	80	80	80	80
Glassware program rinse temperature	°C		65		65		65
<b>DuoRinse</b> rinse system		●		●		●	
<b>UltraRinse<sub>3</sub></b> rinse system			●		●		●
Break tank and rinse pump		●	●	●	●	●	●
<b>ProPortional</b> adaptive flow system			●		●		●
Maximum economy obtainable	%		20		25		25
Maximum water consumption	litres/hour	300	160	400	220	490	320
Minimum specific consumption	litres/rack	1,5	0,8	1,5	0,8	1,5	1,0
<b>ELECTRICAL POWER SUPPLY</b>							
Power with 15°C water supply	W	40.900	29.000	46.400	34.400	64.400	52.400
Power with heat recovery system	W	35.600	25.100	40.600	28.600	59.100	47.100
Power with plus heat recovery system	W	34.100	23.600	39.100	27.100	57.600	45.600
Power with 50°C water supply	W	26.900	21.000	30.900	25.000	43.900	38.000
<b>FEATURES</b>							
Full double wall construction		●	●	●	●	●	●
Double-skin insulated door		●	●	●	●	●	●
Fully-moulded 70-litre tanks		●	●	●	●	●	●
Wasch chambers without internal piping		●	●	●	●	●	●
Integral tank strainers <b>ProStrainer</b>		●	●	●	●	●	●
Stainless steel integral tank filter		●	●	●	●	●	●
Prefilter in each tank with <b>ProGressive</b> sequential filtering		○	○	○	○	○	○
Pump suction line safety filters		●	●	●	●	●	●
Heavy duty prewash <b>XL</b>				●	●	●	●
<b>DuoFlow</b> pre-wash pump	W			1.500	1500	1.500	1.500
Corner prewash				○	○	○	○
First wash module						●	●
<b>DuoFlow</b> first wash pump	W					1.500	1.500
Main wash pump		●	●	●	●	●	●
<b>DuoFlow</b> wash pump	W	1500	1500	1.500	1500	1.500	1.500
“Hydraulic brush” operation		●	●	●	●	●	●
Rinse module with inspection door		●	●	●	●	●	●
Side rack rails		●	●	●	●	●	●
Dryer <b>ProWind</b>		○	○	○	○	○	○
Dryer <b>DuoWind</b>		○	○	○	○	○	○
Corner dryer		○	○	○	○	○	○
<b>HiTech</b> rinse arms		●	●	●	●	●	●
Stainless steel final rinse arms		●	●	●	●	●	●
Power management <b>ProPower</b>		●	●	●	●	●	●
Heat recovery <b>ProHeat</b>		○	○	○	○	○	○
Heat recovery <b>ProHeat plus</b>		○	○	○	○	○	○
Heat pump		○	○	○	○	○	○
Rinse economizer		●	●	●	●	●	●
<b>AutoTimer</b> timer controlled washing		●	●	●	●	●	●
LED interface <b>ProSmart</b>		●	●	●	●	●	●
Fully adjustable		●	●	●	●	●	●
Advanced self diagnostic		●	●	●	●	●	●
Built-in USB connection		●	●	●	●	●	●
Main on-board switch		○	○	○	○	○	○
Emergency stop switch		○	○	○	○	○	○
Travel limit microswitches		○	○	○	○	○	○
Detergent and rinse aid dispensers		○	○	○	○	○	○

● Standard - ○ Optional

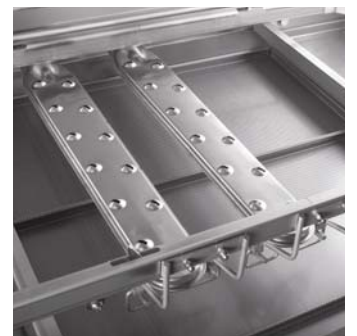
# elettrobar

## river MULTI



The models with the most advanced technology and innovation content of the entire Elettrobar range are characterised by very low water consumption, down to 0,6 litres per basket, and an impressive range of standard features: integrated drying in the rinse module with drip zone, heat recovery system, adaptive power management, dynamic control of different wash zones, triple filtering with removable drawer-type filters which can be removed without opening the doors of the dishwasher, inverter for speed control, advanced electronics with touch-screen interface, and much more.

Their most distinguishing feature is, however, the **ProPortionalplus** system, the only such system available on the market, which not only regulates rinse water consumption according to the speed of the rack conveyor, but also allows the distribution of rinse water to be varied to suit the type of items being washed: mainly from the top for plates and cutlery, mainly from below for glasses and containers, equal distribution top and bottom for mixed item loads. Rinse water is distributed more effectively and more efficiently than with any other rinse system on the market, making for improved performance and reduced operating costs.



		414.1	414.2	414.3
<b>PROGRAMS</b>				
Program 1	racks/hour	210	270	300
Program 2	racks/hour	160	210	250
Program 3	racks/hour	120	165	230
Program 4 (glassware)	racks/hour	120	160	160
Program 5	racks/hour	95	180	210
Wash temperature	°C	60	60	60
Rinse temperature	°C	80	80	80
Glassware program rinse temperature	°C	65	65	65
<b>UltraRinse<sub>3</sub></b> rinse system		●	●	●
Break tank and rinse pump		●	●	●
<b>ProPortional plus</b> adaptive flow system		●	●	●
Maximum economy obtainable	%	25	25	25
Maximum water consumption	litres/hour	160	200	200
Minimum specific consumption	litres/rack	0,7	0,6	0,6
<b>ELECTRICAL POWER SUPPLY</b>				
Power with 15°C water supply	W	37.400	44.100	46.800
<b>FEATURES</b>				
Double-skin insulated door		●	●	●
Fully moulded wash tanks, volume 70 lt		●	●	●
Wash chambers without internal piping		●	●	●
Integral tank strainers <b>ProStrainer</b>		●	●	●
Stainless steel integral tank filter		●	●	●
Prefilter in each tank with <b>ProGressive</b> sequential filtering		●	●	●
Pump suction line safety filters		●	●	●
Ultra heavy duty prewash <b>XXL</b>			●	●
<b>DuoFlow</b> pre-wash pump	W		2.700	2.700
Corner prewash			○	○
First wash module				●
<b>DuoFlow</b> first wash pump	W			2.700
Main wash pump		●	●	●
<b>DuoFlow</b> wash pump	W	2.700	2.700	2.700
“Hydraulic brush” operation		●	●	●
Rinse module with inspection door		●	●	●
Traino cesti con guide laterali		●	●	●
Rack speed controlled via electronic inverter		●	●	●
Heavy duty dryer <b>ProWind</b> with door		●	●	●
Corner dryer		○	○	○
<b>HiTech</b> rinse arms		●	●	●
Stainless steel final rinse arms		●	●	●
Detergent saving device <b>ProChem</b>		●	●	●
Power management <b>ProPower</b>		●	●	●
Heat management <b>ProSteam</b>		●	●	●
Heat recovery <b>ProHeat</b>		●	●	●
Active modules' management <b>ProActive</b>		●	●	●
Rinse economizer		●	●	●
<b>AutoTimer</b> timer controlled washing		●	●	●
LCD touch screen interface <b>C4I</b>		●	●	●
Fully adjustable		●	●	●
Advanced self diagnostic		●	●	●
Built-in USB connection		●	●	●
Main on-board switch		○	○	○
Emergency stop switch		○	○	○
Travel limit microswitches		○	○	○
Detergent and rinse aid dispensers		○	○	○

## Adaptation options



### Corner pre-wash

Replaces the in-line pre-wash allowing to save space in the L and C-shaped installations.



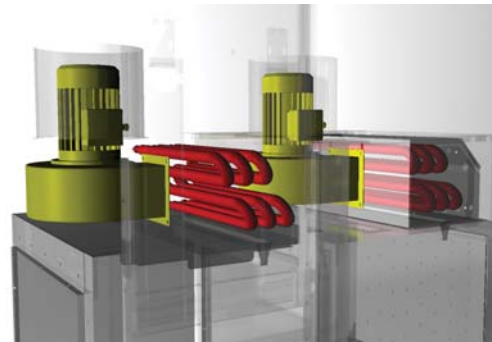
### In-line drying

This optional module measuring 600 mm is developed to house the **ProWind** drying system; refer to the detailed description for information.



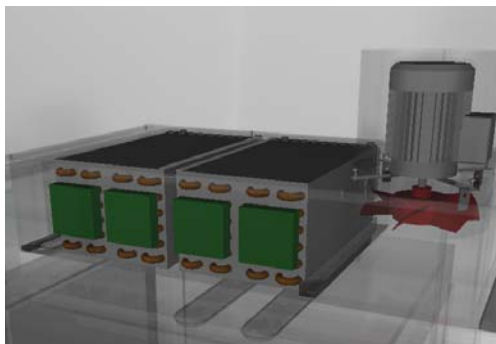
### Corner drying

It replaces in-line drying, allowing to save space in the L or C-shaped installations.



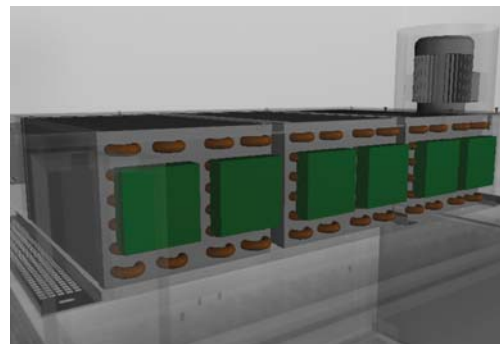
### Sequential drying

This optional 1.150 mm long module is recommended for items that require a larger air flow and longer drying time.



### Heat recovery system

It uses the highly efficient **ProHeat** system to reduce the quantity of steam emitted, condensing it and using the latent heat recovered to heat the water feed to the boiler.



### ProHeatplus recovery system

An evolution of the standard system, this modular system has three heat exchangers that work either in series or in parallel depending on the version, so as to achieve the maximum thermal efficiency.



**Heat pump**

A system with high thermodynamic efficiency that heats the water before it enters the boiler, using heat gained from condensing the steam present inside the wash tank.



**Neutral zone module**

(wash and rinse zone) for Mistral and River MULTI

550 mm long, this module is equipped with an inspection door and is recommended for applications where continuous washing of longer items up to 600 mm in length, to avoid the possibility of the washing water mixing with the rinse water.



**Neutral zone entry module**

300 mm long, this module can be ordered in combination with machines of any model.



**Detergent and rinse aid dosing devices**

Peristaltic with electronic adjustment, mounted inside the machine.



**Emergency switches**

The manual reset type; they are positioned in inlet or outlet according to the layout of the washing area.



**Pressure reducer with pressure gauge**

For the Niagara 411 family only, it is essential when the feed pressure is not constant and deviated greatly from the optimal value of 2 bar.

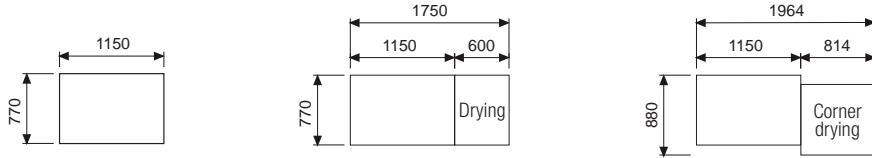


**Isolating switch on the machine**

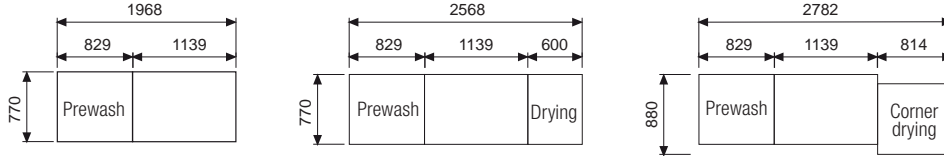
Installed in an easily accessible position, it allows physical disconnection from the electric power supply at the end of the day.

## niagara

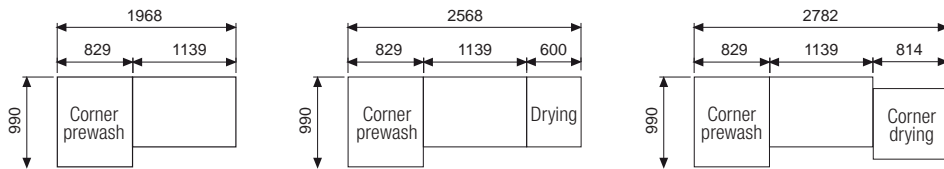
### Niagara 411.1\_412.1



### Niagara 411.2\_412.2

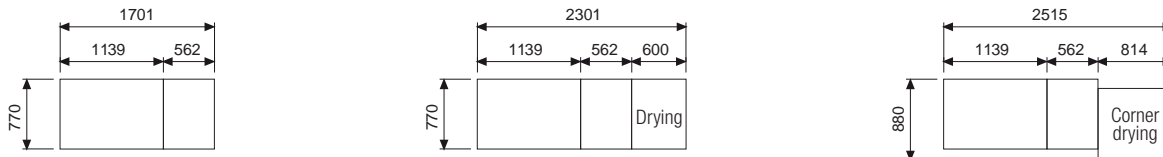


### Niagara 411.2\_412.2 *corner prewash*

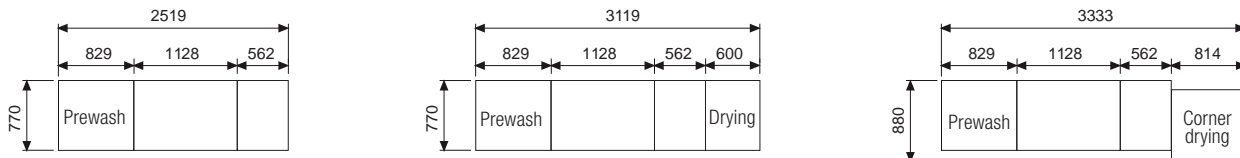


## mistral

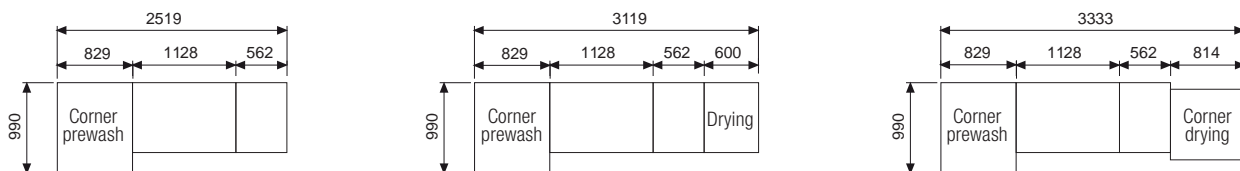
### Mistral 415.1\_416.1



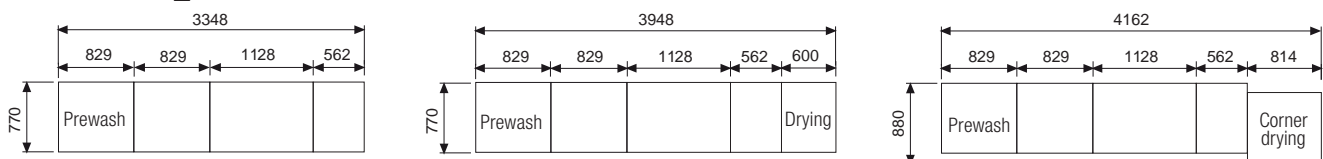
### Mistral 415.2\_416.2



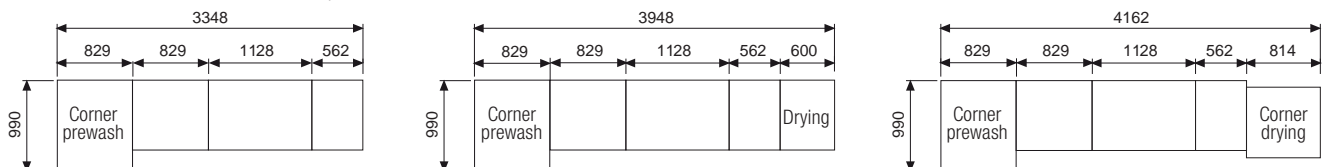
### Mistral 415.2\_416.2 *corner prewash*



### Mistral 415.3\_416.3

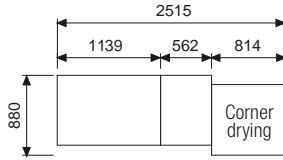
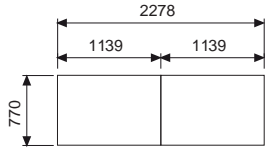


### Mistral 415.3\_416.3 *corner prewash*

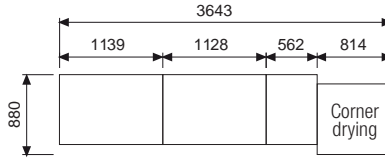
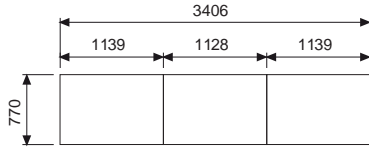


**river** MULTI

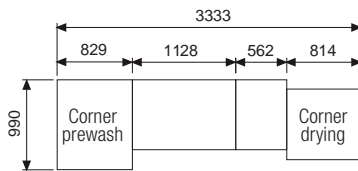
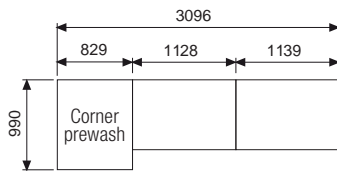
**River MULTI 414.1**



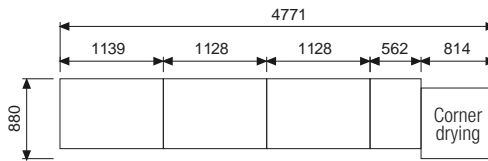
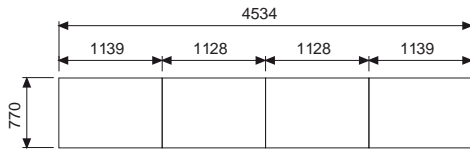
**River MULTI 414.2**



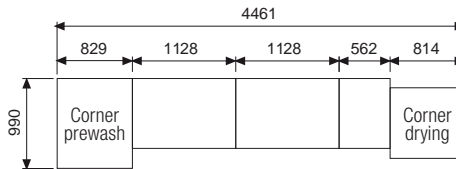
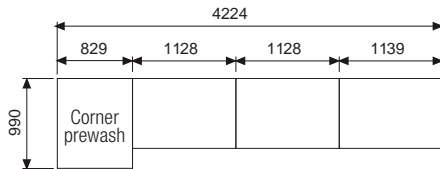
**River MULTI 414.2 corner prewash**



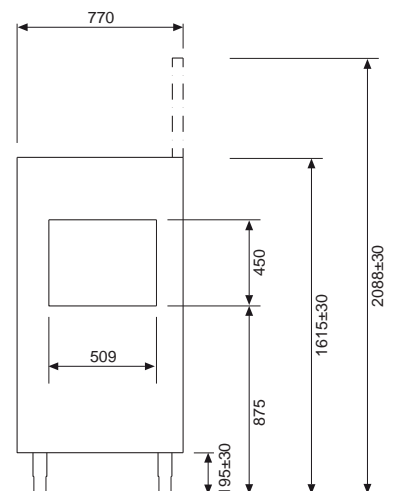
**River MULTI 414.3**



**River MULTI 414.3 corner prewash**



**Large aperture**



Warning: The consumption and performance data indicated refer to machines installed and operating in ideal conditions and may vary according to installation conditions.  
The technical data furnished in this catalogue are for guidance purposes only and may be modified in accordance with the continuous technological development of our products.

# elettrobar

The Benefit Makers

During more than forty years of business, we have produced more than a million industrial dishwashers at our two Italian plants. These numbers reflect our unrivalled experience in the sector. Building on this experience, we have continued to develop competitively-priced innovative products for leading players in the catering industry, providing effective, consistent benefits for their various enterprises. This is why we at Elettrobar claim to be more than just a dishwasher manufacturer: we are benefit makers.

Our company is fully aware of the increasing importance of environmental protection issues and for many years has played its part, developing and patenting innovative technologies able to reduce water, energy and detergent consumption without impairing performance.

We adopt extremely stringent ISO 9001:2008 certified quality control procedures to build products that can withstand even the harshest operating conditions. Our dishwashers are manufactured at facilities that lead the way as regards workplace safety and environmental impact, as confirmed by ISO 14001:2004 certification.

## Eurotec Service

Our commitment to quality does not end when the machine leaves the factory, but continues throughout the entire life-cycle of the product:

EurotecService is the specialised division that oversees both our replacement parts service and our after-sales service, with particular emphasis on training and qualification of our extensive network of dealerships and service centres that covers the whole of Italy.

This division is also responsible for pre-sales, logistics and customer care activities, thereby promoting an intrinsically synergistic approach to all activities that have a direct bearing on customer satisfaction.



**ITW FOOD EQUIPMENT GROUP**

**Eurotec s.r.l. - ELETTRORBAR division**

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