



# ELETTRODRAGO AVANT

# OUTPERFORMS ORDINARY ELECTRIC OVENS

INNOVATIVE TECHNOLOGY  
CONSTRUCTIVE ENERGY  
SAVING QUALITY:  
AN UNMATCHED  
ELECTRIC OVEN

Elettrodrago Avant offers baking that is gentle, homogeneous and always perfect, even with large-sized products. The heating system, based on ceramic heating elements, determines a uniform distribution of heat onto the product. Efficiency and performance have been improved to such a degree that no other current oven, in equal baking conditions and at high production levels, consumes less.

Elettrodrago Avant combines the baking characteristics of a mass oven, the flexibility of an electric oven, with the advantage of having the chambers totally independent, each with its own control board. The long tradition of the Polin oven, has its most advanced evolution with Elettrodrago Avant.



*Elettrodrago Avant 4 chambers, 3 doors*

# THE IDEAL OVEN FOR BAKING EVERY KIND OF BREAD

Thanks to its particular heating system based on ceramic heating elements, Elettrodrago Avant is the electric oven which allows the development of the bread being baked that is

closest to that which occurs in a combustion oven. The result is a baking that is always perfect even for products with pieces that are larger than 28 oz (800 grams).



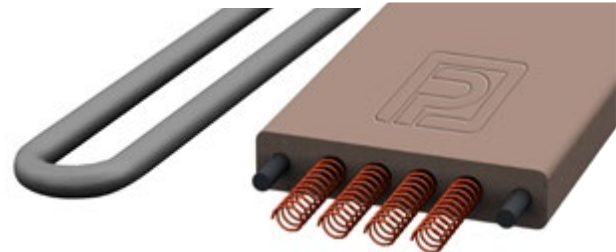


# ELETTRODRAGO AVANT USES AN EXCLUSIVE HEATING SYSTEM, BASED ON CERAMIC ELECTRIC ELEMENTS

## Polin ceramic electrical heating elements



To overcome the limitations of commonly used armoured elements, specific electrical heating elements have been made in order to create an optimal heat distribution in the baking chamber. The result is an exclusive system in which the heating elements are surrounded by a ceramic mass and housed in shaped steel pipes.



Normal resistances

Ceramic resistances

## Larger mass for a better release of heat



As a result of their greater mass and being housed in steel tubes, ceramic electric elements release heat in a homogeneous and gentle, fluid manner. The browning of the tubes determines a higher heat radiation.



The resistances of Elettrodrago are housed in shaped steel panels

## Greater radiating surface for a greater heat exchange

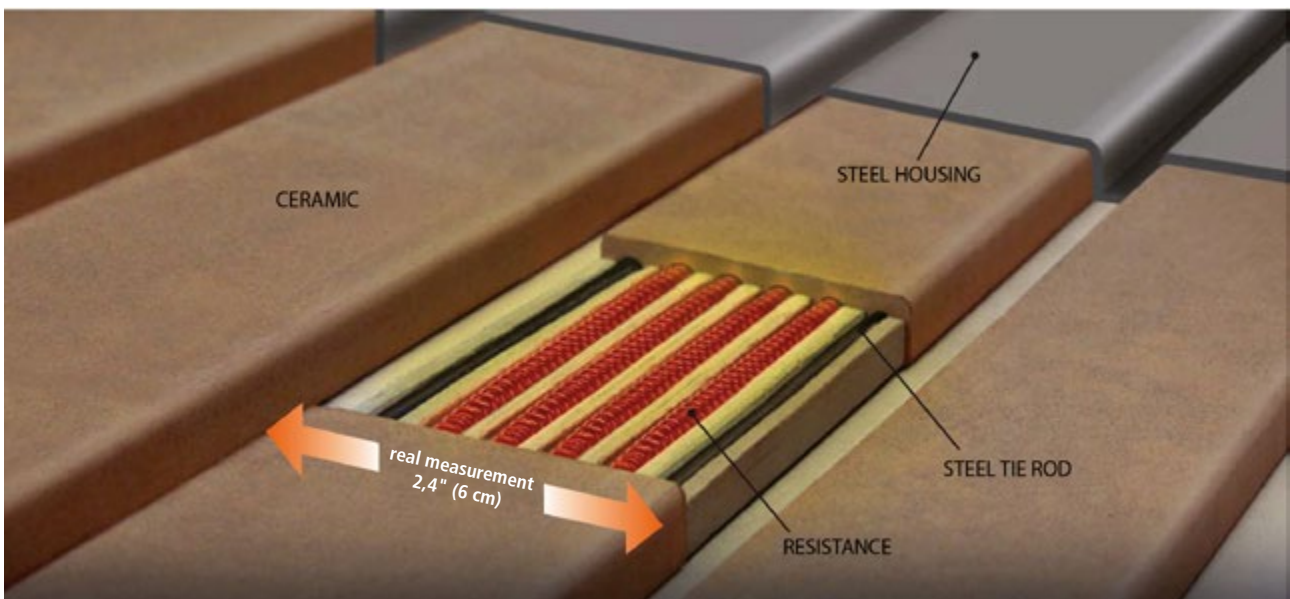


The first great advantage of the ceramic heating system is to offer a much higher radiating surface than conventional heating elements. This ensures a far more even heat irradiation.



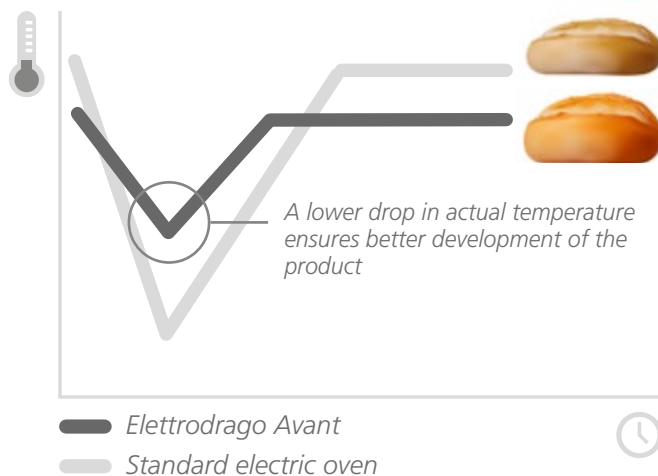
Normal resistances

Ceramic resistances



### Minor drop in actual temperature on the product when loading the oven

Because of the special heating system, the drop in real temperature on the product, when loading the oven, turns out to be much smaller than in other ovens of the same category.

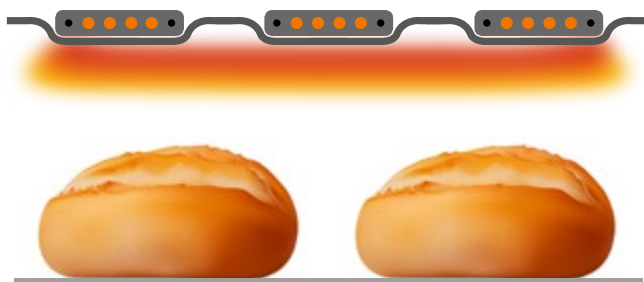


### Better uniformity of the temperature

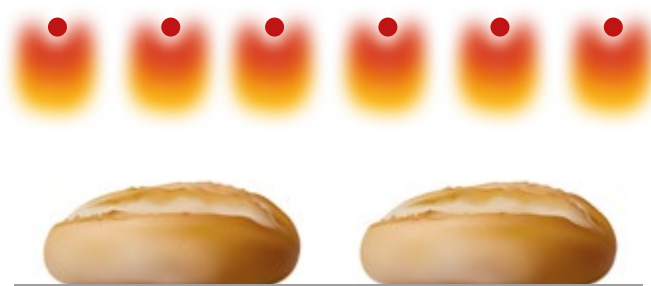
The greater radiating surface of the ceramic heating element ensures a uniform distribution of heat, reaching the product in a homogeneous way.



*Elettrodrago Avant heating elements*



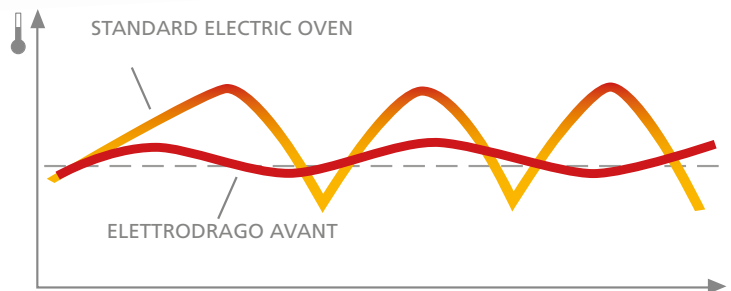
*Standard heating elements*





**+ More stability of the temperature on the product**

The larger and more uniform heat diffusion has an important effect of rendering a much more stable, actual temperature on the product, throughout the baking cycle.



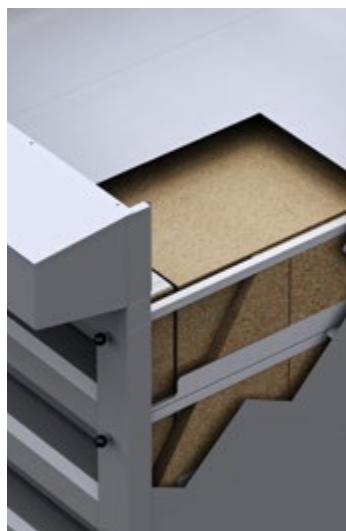
*Temperature patterns on the product*

**Great insulation of the oven with high quality materials**

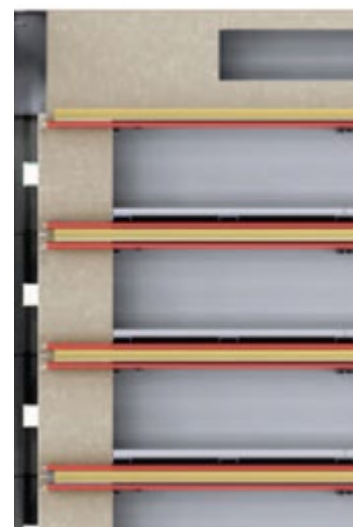


The outer insulation of the oven is sized to minimize the heat dispersion.

Moreover, unlike many ovens in its category, Elettrodrago Avant has an insulation system between chambers that further reduces the dispersion and ensures better heat uniformity. All insulations are made from high quality resin panels pressed at 264 lb/ft<sup>3</sup> (120 kg/m<sup>3</sup>).



*External insulation*



*Insulation between chambers*



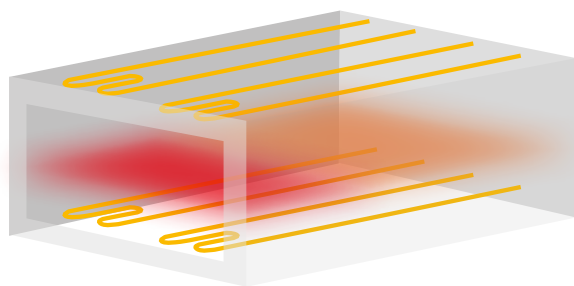
# THE AUTO LEVEL SYSTEM FOR PERFECT **UNIFORM BAKING**

## Optimum dispersion compensation at the mouth

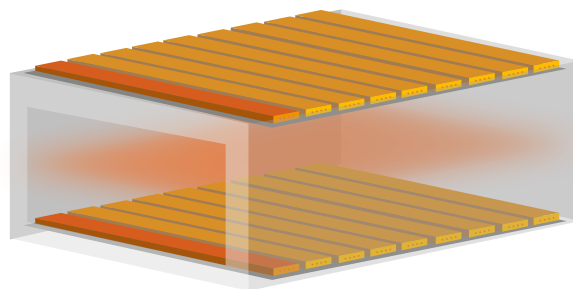


The exclusive monitoring and self-compensation system of the Elettrodrago Avant allows you to maintain a uniform temperature over the entire depth of the chamber. The system also intervenes on the dispersions at the mouth, monitoring it and automatically compensating it thanks to thermostatic set, independent heating elements.

Thanks to the transverse positioning of the heating elements, Autolevel is much more efficient than the standard systems with fixed calibration that do not have a control sensor, have longitudinal heating elements, and rely only on a small shaping in the mouth to increase heat radiation. Auto Level offers 3 different operating modes to optimally suit the baker's working methods.



*The risk of uneven heating is typical of longitudinal, fix setting electric elements*



*In Elettrodrago Avant, the heat in the chamber is more homogeneous thanks to the Autolevel system with transverse positioning of the heating elements*

## BETTER BAKING, **MORE PRODUCTIVITY**



Precisely because it is equipped with a special heating system, Elettrodrago Avant allows the baking times to be reduced, which always ensures an optimal development process of the product because it guarantees the right amount of heat necessary for each phase. This allows an increase in productivity without compromising quality.





# EACH CHAMBER HAS ITS OWN INDEPENDENT STEAMER

SATURATED STEAM, ALWAYS READY AND IN LARGE QUANTITY

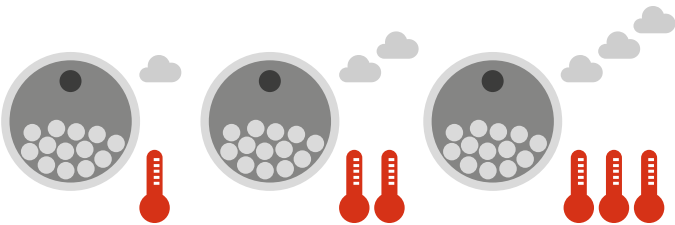
### Sized to give steam quickly and in quantities

The great mass, the size and insulation of the steam generators are designed to ensure the ability to readily generate steam in large quantities.



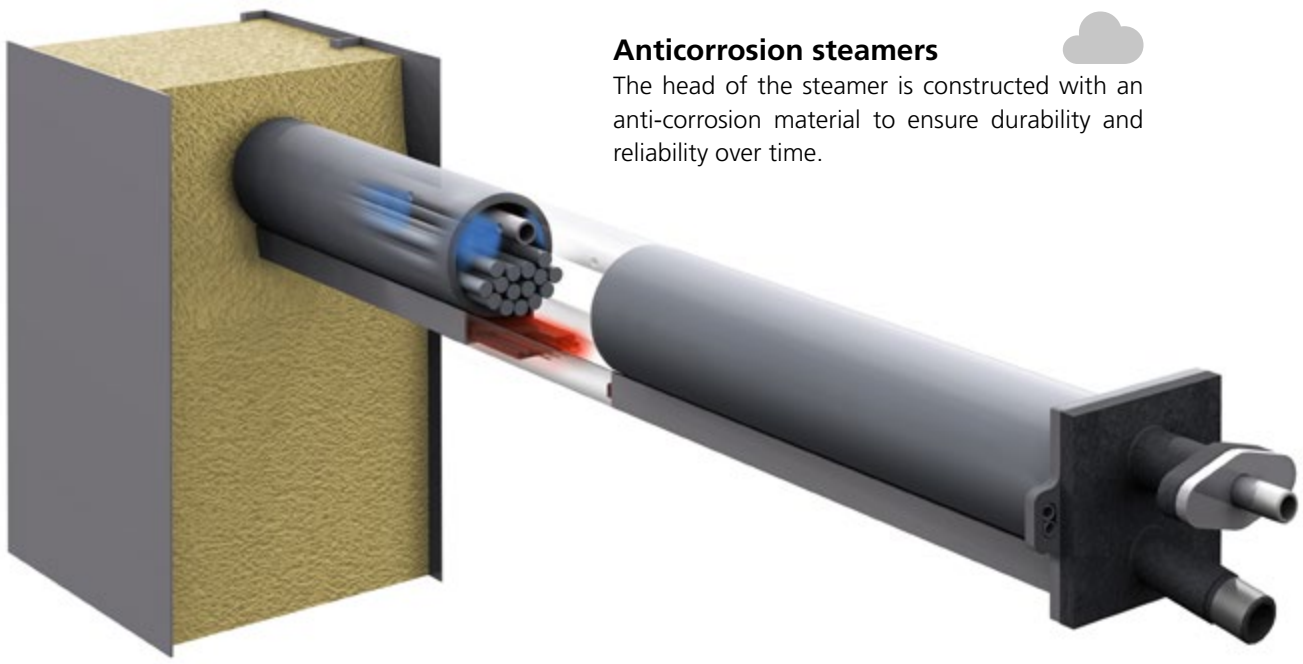
### Independent steamers with temperature control

Each steam generator has an independent temperature control to obtain the desired amount of saturated steam.



### Anticorrosion steamers

The head of the steamer is constructed with an anti-corrosion material to ensure durability and reliability over time.



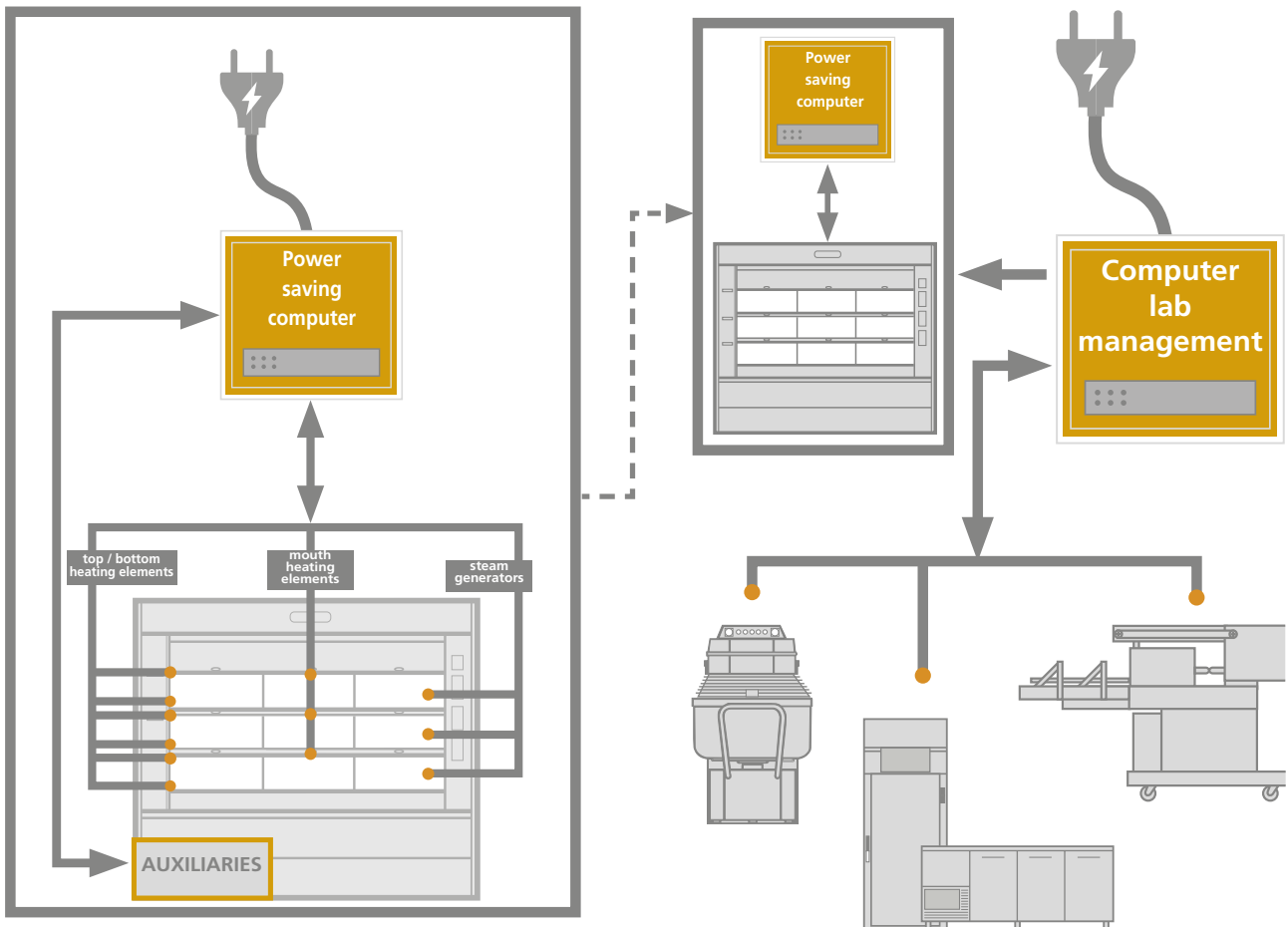
# OPTIMIZING THE OVEN AND WORKSHOP POWER

## Power saving computer







The power saving computer reduces the power required for the oven by making it work without ever exceeding a kilowatts value that can be set. The economizer directs the correct energy to various parts of the oven (heating elements, steam generators, auxiliaries) depending on the actual need.

## Computer lab management

The Computer Lab Management also includes the power economizer and further reduces the power required by the oven. Polin has developed a special control unit with a network of sensors that, through a dedicated software, verifies and manages the flow of energy used by the equipment of the bakery. The "free" kW are optimally directed to the oven. This system greatly reduces the amount of kW to be requested to the energy supplier.



# THE ADVANTAGES

	OVEN POWER ECONOMIZER	WORKSHOP MANAGEMENT COMPUTER
 <p>MANAGEMENT OF THE OVEN POWER</p>	<p>With fixed limit. Allows you to set a kW value that the oven does not exceed.</p>	<p>With dynamic limit. The oven has a predetermined kW limit and can get to full power.</p>
 <p>USING "FREE" KILOWATTS</p>	<p>Within the limit of the oven, the kW are exploited to the maximum.</p>	<p>Every "free" kW that is not used by the workshop equipment is made available to the oven.</p>
 <p>POWER NEEDED AT THE LAB</p>	<p>Reduced because the oven works with less kW compared to its nominal power.</p>	<p>Reduced to the minimum due to the dynamic management of the oven and all of the workshop equipment.</p>
 <p>INITIAL COST ELECTRICAL ENERGY MANAGER</p>	<p>Reduced due to the lower power required for the oven.</p>	<p>Minimized due to the lower power required for the entire workshop management.</p>
 <p>MANAGEMENT OF ELECTRICITY OVERRUNS</p>	<p>Assurance of not exceeding thanks to the power limit that can be imposed in the oven.</p>	<p>Assurance of not exceeding thanks to the power limit that can be imposed to the entire workshop (oven + machines).</p>
 <p>POWER MANAGEMENT ACCORDING TO THE TIME BLOCK</p>	<p>For the oven: maximum use of time block with cheaper rate.</p>	<p>For the workshop: maximum use of time block with cheaper rate.</p>



# EACH CHAMBER IS A 100% INDEPENDENT OVEN

Each chamber can be managed as a real oven in itself. You can program turning-on, baking functions or exclude a chamber, if necessary. Each chamber is complete with serial splitter; a Super Power device is available in case a simultaneous use of both top and bottom is needed. The reliability of each keyboard is guaranteed by housing in individual sealed boxes.



DIGITAL STANDARD KEYBOARD



100-PROGRAM KEYBOARD

## FUNCTION KEYS: FOR A HIGHER QUALITY WHILE SAVING ENERGY



### ENERGY LEVEL KEY

Allows you to set the optimum quantity of energy according to the type of product, allowing a perfect quality of baking, without waste.



### CONTROLLED HEATING KEY

Adjusts the heating at the beginning of the shift, unifying the first baking to the following ones. It also eliminates unnecessary heat build-up and energy waste.



### PAUSE BUTTON BETWEEN TWO BAKINGS

Eliminates overheating of the bottom and reduces up to 18% energy consumption in non-productive phases.

## Standard digital keyboard



Allows you to control the oven in a fast and simple way, by managing all of its functions. The Standard Digital Keyboard allows you to separately control the temperature of chamber and mouth, the distribution of power between top and bottom, and the activation of the self-diagnostic program with alarm display and operating data storage.

## 100-Program keyboard



Many useful features in addition to those of the Standard Digital Keyboard, such as the possibility to store 100-Program with 4 temperature phases, adding settings:

- steam quantity dispensed automatically;
- open / close cycle of the automatic steam drain valve;
- energy ratio supplied to the top and to the bottom.



# YOUR BEST BAKING ASSISTANT

Polin integrated oven loader is an accessory designed to be seamlessly integrated with Elettrodrago. Made entirely of stainless steel, it allows you to rationalize the operations of loading and unloading the oven, giving you many benefits.



## ADVANTAGES

**1** Facilitates the oven loading phase, making it even easier for a single operator.

**2** With an optional accessory device also allowing the unloading of baked bread.

**3** It becomes comfortable work bench for the cutting or flipping operations in the neutral position.

**4** Manual load, with special trays or bread turners.

**5** Movement from the right or left, indifferently.

**6** Without hindrance: the rest position leaves the mouth and the area in front of it clear.

### INFINITY AUTOMATIC OVEN LOADER RANGE



Elettrodrago Avant can be equipped to be matched with automatic loading and unloading devices of the large Infinity range.

More ovens, side by side, can be loaded by the same device, with the advantage of a greater flexibility of production, and a reduction of the management costs.



# DESIGN FEATURES AND OPTIONS



## The excess steam disappears in an instant

The steam suction hood has a large surface area of extraction and a powerful extractor fan which ensures evacuation quickly and uniformly. Second speed optional.



## Automatic steam exhaust valves

They are combined with 100P keyboard and allow you to program the opening and closing of the steam exhaust during baking phases (optional).



## Steam extractor positioning

The extractor can be installed by choosing whether to prioritize the extractor in the chamber or the one in the hood.



## Grill for the hood

Functional grid to better distribute the suction evenly over the whole width of the hood.



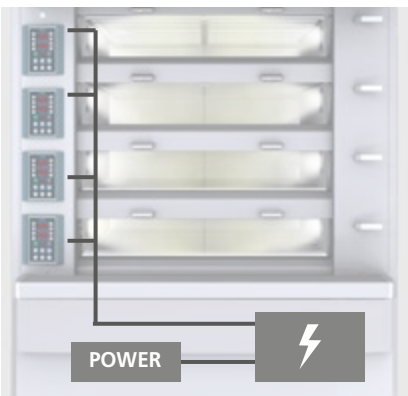
## Vent and hood filters

Modular filters positioned above the hood grill and vents to reduce cleaning operations (optional).



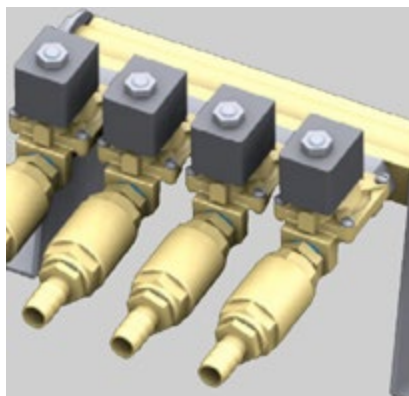
## Steam condenser

The air-cooled condenser, with low consumption, does not require refrigeration units and can be installed without ducting (optional).



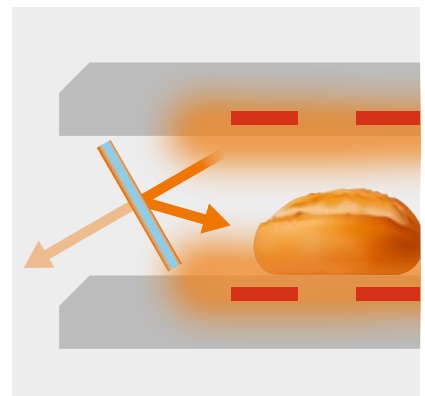
## Electronic control and separate power

The increased reliability and durability with a control card is also due to the division between electronics control and electromechanical power.



## Solenoid manifold water inlet

The hydraulic system ensures maximum reliability because it is built with high quality diecast material.



## Door mouth with low-emitting glass

The low emitting reflective glass allows a 4% reduction of dispersions.



**Ergonomic handles and levers**

New design of the handles and the doors opening levers made of cast aluminium.



**Protective box for control board**

Protects the electronic control board from flour dust, thus ensuring a longer duration in time.



**The doors are adapted to the working method**

When the tray is pushed at oven loading, the doors can open and close manually or automatically from the contact of the oven loading tray.

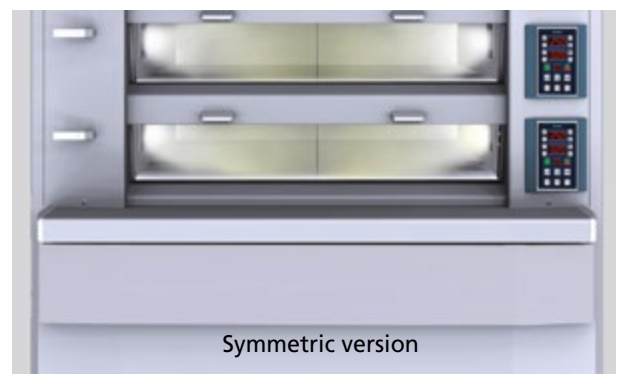


**Dual lights in the chamber**

A large glass for the double lights allows a perfect view of the product being baked. The light shades are made of cast aluminium with cooling duct. Lamp replacement is easy even from inside the chamber.



Standard version



Symmetric version

**Symmetrical oven**

Elettrodrago Avant is also available in symmetric version (optional).

**Electrical panel frontally accessible**

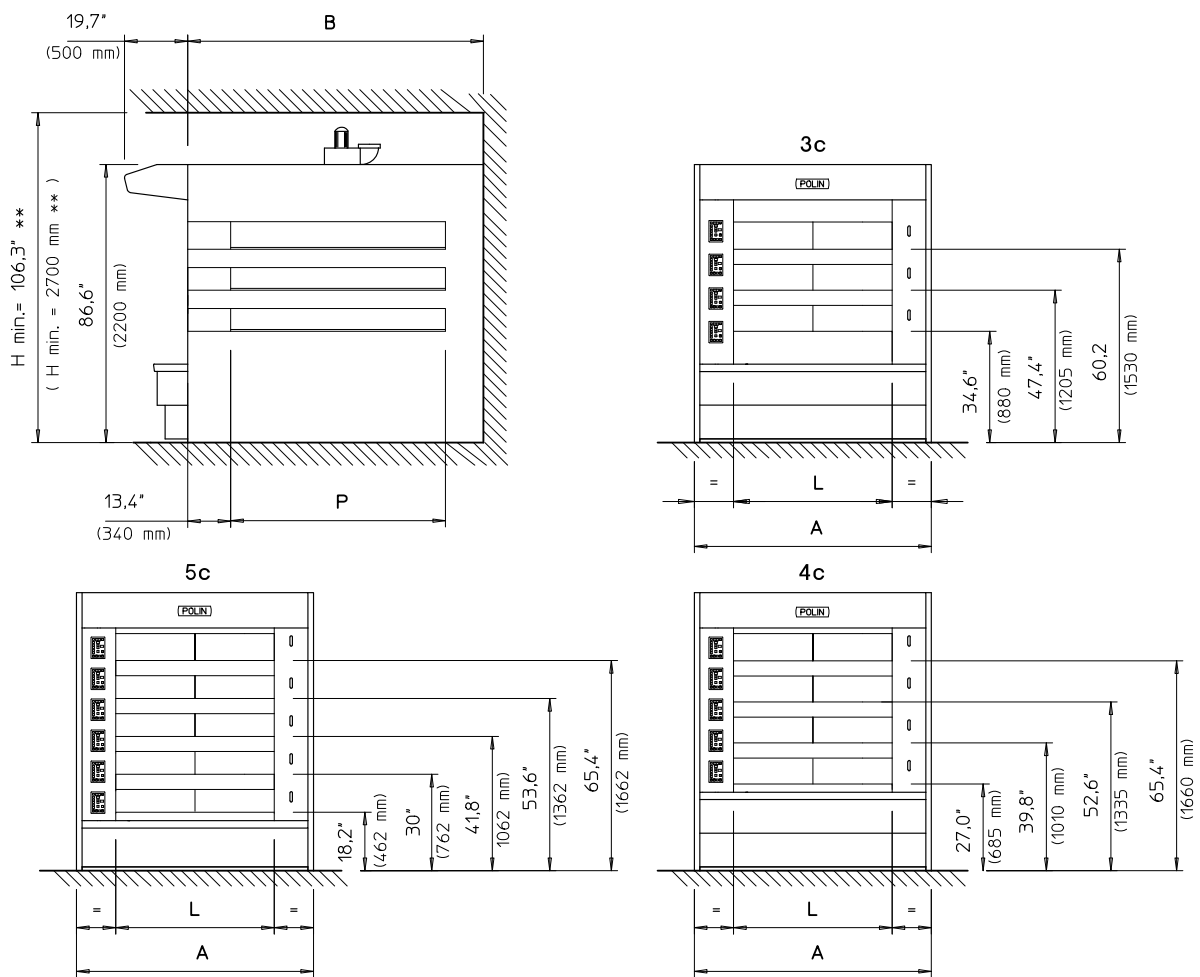
It allows you to carry out maintenance without moving the oven.

# CHARACTERISTICS

CONTROLS FOR EACH CHAMBER	
Digital keyboard with two baking phases	✓
100-Program Digital keyboard with four baking phases	○
Electronics control separate from the power control	✓
Controlled heating function	✓
Energy level	✓
Stand by energy function	✓
Programmable auto start per chamber	✓
Separate controls for chambers and mouth to compensate mouth dispersion	✓
Autolevel system	✓
Energy distributor top / bottom	✓
Timer with buzzer for end of baking	✓
Programmable automatic chamber shutdown	✓
Automatic valve opening / closing cycle for steam discharge	○
OVEN CONTROL	
Bakery management computer	○
Economizing computer	○
"Super Power" control	○
CONSTRUCTION COMPONENTS	
Baking surfaces in reinforced concrete	✓
Variable steam vacuum positioning	✓
Removable grid for hood	✓
Double lights for chamber (1xL = 33,1" / 84 cm)	✓
Electrical panel with front access	✓
Doors mouth, low-emitting glass	✓
Diecast manifold for water inlet solenoid valves	✓
Precompressed insulation panels	✓
Insulation between chambers	✓
Control board protecting box	✓
HEAT SYSTEM	
Mass ceramic heating elements	✓
STEAM SYSTEM	
Steamer fittings in anti-corrosion material	✓
Independent steamer for each room with timed solenoid valve	✓
Automatic steam extractor valve	○
Hood with steam suction	✓
Steam condenser	○
Hood filters and cleaning and steam exhaust vents	○
OTHERS	
Symmetric oven	○
Steam controls to the opposite side	○
Integrated oven loader	○

✓ STANDARD ○ OPTIONAL





\*\* 110" (2800 mm) with a 2 speed motor

	Chambers	Baking sup. in <sup>2</sup> (sq)	Overall dimensions		Working dimensions of the chambers		Electrical power with steamer		
					Width L	Depth P	Maximum	Economizing computer	Bakery management computer
			n°	Width A in (mm)	Depth B in (mm)	in (mm)	in (mm)	kW	kW
3,2/84x126-3	3	4.960 (3,2)	58,1 (1475)	74,8 (1900)	33,1 (840)	49,6 (1260)	22,5	17	8,5
4,2/84x126-4	4	6.510 (4,2)		74,8 (1900)		49,6 (1260)	30	22	12
5,3/84x126-5	5	8.215 (5,3)		74,8 (1900)		49,6 (1260)	37	30,5	20
4,3 / 84x170-3	3	6.665 (4,3)		92,1 (2340)		66,9 (1700)	27,5	21	11
5,7 / 84x170-4	4	8.835 (5,7)		92,1 (2340)		66,9 (1700)	36,5	27,5	15
7,1 / 84x170-5	5	11.005 (7,1)		92,1 (2340)		66,9 (1700)	45,5	37	23,5
5,4 / 84x214-3	3	8.370 (5,4)		109,4 (2780)		84,3 (2140)	33	25,5	13
7,2 / 84x214-4	4	11.160 (7,2)		109,4 (2780)		84,3 (2140)	43,5	33	17
9,0 / 84x214-5	5	13.950 (9)		109,4 (2780)		84,3 (2140)	54,5	44	28
6,5 / 84x258-3	3	10.075 (6,5)		126,8 (3220)		101,6 (2580)	38	30,5	15
8,7 / 84x258-4	4	13.485 (8,7)		126,8 (3220)		101,6 (2580)	50,5	38	20
10,8 / 84x258-5	5	16.740 (10,8)	126,8 (3220)	101,6 (2580)	63	51	32,5		
4,7 / 124x126-3	3	7.285 (4,7)	73,8 (1875)	74,8 (1900)	48,8 (1240)	49,6 (1260)	26	20	11
6,2 / 124x126-4	4	9.610 (6,2)		74,8 (1900)		49,6 (1260)	34,4	26	15
7,8 / 124x126-5	5	12.090 (7,8)		74,8 (1900)		49,6 (1260)	42,8	34,5	24
6,3 / 124x170-3	3	9.765 (6,3)		92,1 (2340)		66,9 (1700)	31,5	24	14
8,4 / 124x170-4	4	13.020 (8,4)		92,1 (2340)		66,9 (1700)	42	31,5	18
10,5 / 124x170-5	5	16.275 (10,5)		92,1 (2340)		66,9 (1700)	52	42	27
8,0 / 124x214-3	3	12.400 (8)		109,4 (2780)		84,3 (2140)	38	30,5	18
10,6 / 124x214-4	4	16.430 (10,6)		109,4 (2780)		84,3 (2140)	50,5	38	23
13,3 / 124x214-5	5	20.615 (13,3)		109,4 (2780)		84,3 (2140)	63	51	32
9,6 / 124x258-3	3	14.880 (9,6)		126,8 (3220)		101,6 (2580)	44,5	36,5	21
12,8 / 124x258-4	4	19.530 (12,6)		126,8 (3220)		101,6 (2580)	58,5	44	28
16,0 / 124x258-5	5	24.800 (16)		126,8 (3220)		101,6 (2580)	73,5	59	37,5

# CHARACTERISTICS

	Chambers	Baking sup.	Overall dimensions		Working dimensions of the chambers		Electrical power with steamer		
					Width L	Depth P	Maximum	Economizing computer	Bakery management computer
	n°	in <sup>2</sup> (mq)	Width A in (mm)	Depth B in (mm)	in (mm)	in (mm)	kW	kW	kW
8,0 / 156x170-3	3	12.400 (8)	86,4 (2195)	92,1(2340)	61,4 (1560)	66,9 (1700)	36,5	29	18
10,6 / 156x170-4	4	16.430 (10,6)		92,1 (2340)		66,9 (1700)	48,5	36,5	22
13,3 / 156x170-5	5	20.615 (13,3)		92,1 (2340)		66,9 (1700)	60,5	49	31
10,0 / 156x214-3	3	15.500 (10)		109,4 (2780)		84,3 (2140)	44,5	36,5	21
13,5 / 156x214-4	4	20.925 (13,5)		109,4 (2780)		84,3 (2140)	58,5	44	28
16,7 / 156x214-5	5	25.885 (16,7)		109,4 (2780)		84,3 (2140)	73	59	37,5
12,0 / 156x258-3	3	18.600 (12)		126,8 (3220)		101,6 (2580)	52	44	25
16,0 / 156x258-4	4	24.800 (16)		126,8 (3220)		101,6 (2580)	69	52	33
20,1 / 156x258-5	5	31.155 (20,1)		126,8 (3220)		101,6 (2580)	86	69,5	44
9,4 / 186x170-3	3	14.570 (9,4)		98,4 (2500)		92,1 (2340)	73,2 (1860)	66,9 (1700)	38,5
12,5 / 186x170-4	4	19.375 (12,5)	92,1 (2340)		66,9 (1700)	50,5		38	25
15,8 / 186x170-5	5	24.490 (15,8)	92,1 (2340)		66,9 (1700)	63		51	32,5
12,0 / 186x214-3	3	18.600 (12)	109,4 (2780)		84,3 (2140)	46,5		38,5	24
16,0 / 186x214-4	4	24.800 (16)	109,4 (2780)		84,3 (2140)	61,5		46,5	33
19,9 / 186x214-5	5	30.845 (19,9)	109,4 (2780)		84,3 (2140)	77		62	39
14,0 / 186x258-3	3	21.700 (14)	126,8 (3220)		101,6 (2580)	54,5		47	29
19,0 / 186x258-4	4	29.450 (19)	126,8 (3220)		101,6 (2580)	72,5		54,5	39
24,0 / 186x258-5	5	37.200 (24)	126,8 (3220)		101,6 (2580)	90		73	46
11,9/234x170-3	3	18.445 (11,9)	117,3 (2980)		92,1 (2340)	92,1 (2340)		66,9 (1700)	45,5
15,9/234x170-4	4	24.645 (15,9)		92,1 (2340)	66,9 (1700)		60,5	45,5	32
19,9/234x170-5	5	30.845 (19,9)		92,1 (2340)	66,9 (1700)		75,5	59,5	40
15,0/234x214-3	3	23.250 (15)		109,4 (2780)	84,3 (2140)		55,5	48	28
20,0/234x214-4	4	31.000 (20)		109,4 (2780)	84,3 (2140)		74	55,5	39
25,1/234x214-5	5	38.905 (25,1)		109,4 (2780)	84,3 (2140)		92	74	48
18,1/234x258-3	3	28.055 (18,1)		126,8 (3220)	101,6 (2580)		65,5	58	33
24,1/234x258-4	4	37.355 (24,1)		126,8 (3220)	101,6 (2580)		87,5	65,5	45
30,2/234x258-5	5	46.810 (30,2)		126,8 (3220)	101,6 (2580)		109	87	56
12,6/248x170-3	3	19.530 (12,6)		123,0 (3125)	92,1 (2340)		97,6 (2480)	66,9 (1700)	46,6
16,8/248x170-4	4	26.040 (16,8)	92,1 (2340)		66,9 (1700)	61,8		46,5	32
21,0/248x170-5	5	32.550 (21)	92,1 (2340)		66,9 (1700)	77		61,5	41
16,0/248x214-3	3	24.800 (16)	109,4 (2780)		84,3 (2140)	56,9		49,5	29
21,2/248x214-4	4	32.860 (21,2)	109,4 (2780)		84,3 (2140)	75,6		57	39
26,5/248x214-5	5	41.075 (26,5)	109,4 (2780)		84,3 (2140)	94,3		75,5	49
19,2/248x258-3	3	29.760 (19,2)	126,8 (3220)		101,6 (2580)	67,3		59,5	34
25,6/248x258-4	4	39.680 (25,6)	126,8 (3220)		101,6 (2580)	89,4		67	46
32,0/248x258-5	5	49.600 (32)	126,8 (3220)		101,6 (2580)	111,5		89,5	57