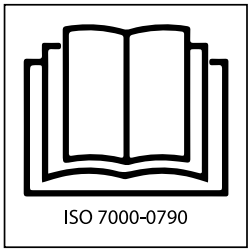
CONVECTION - STEAM OVEN
INSTRUCTIONS FOR THE INSTALLATION, USE AND MAINTENANCE



READ CAREFULLY THE INSTRUCTIONS BEFORE USING THE APPLIANCE

CONVECTION+HUMIDIFICATION

COMBI DIRECT

COMBI BOILER

107/111/207/211/120/220
ANALOGIC

UK

WARNING !

Before making any type of connection of this equipment (electrical or hydraulic), carefully read the instructions in this manual.

The installation must be carried out only by qualified technical personnel in compliance with the regulations in the destination country.

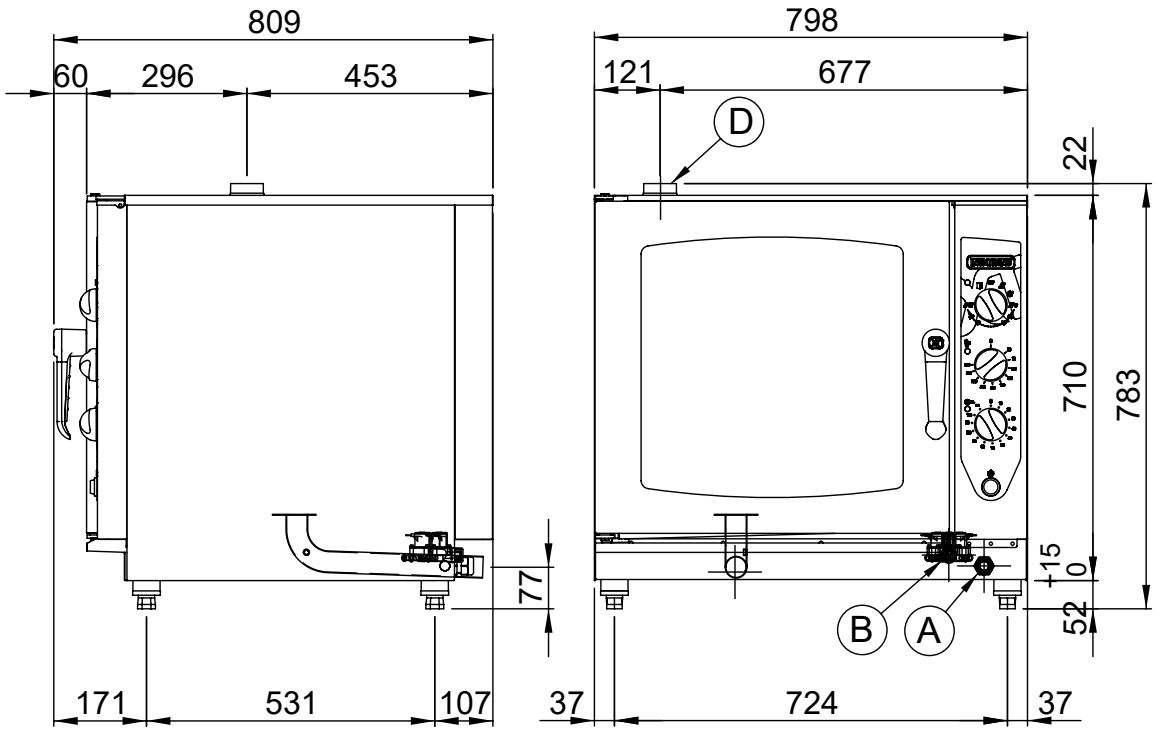
FOREWORD

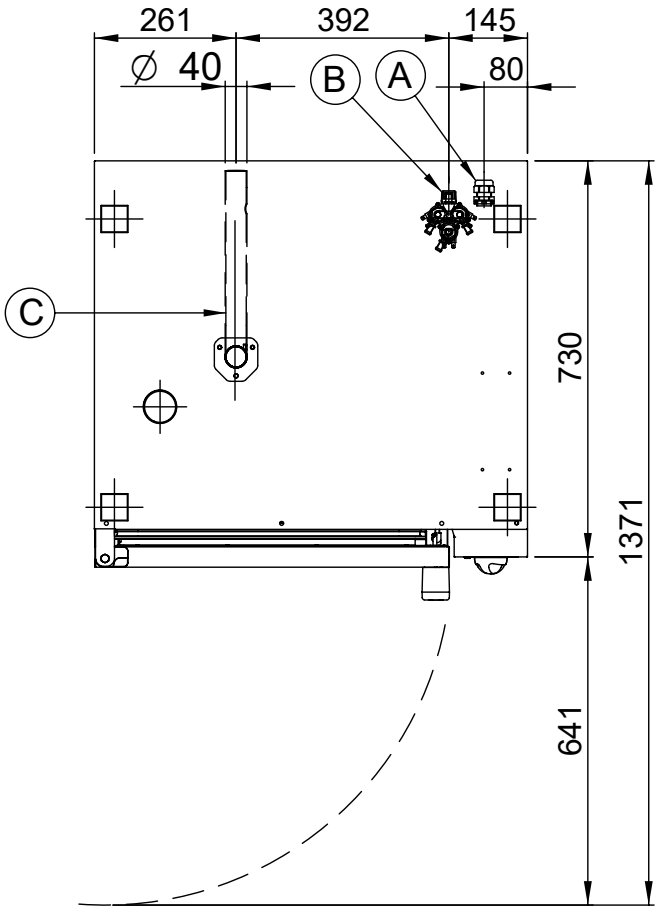
The contents of this manual are generic and not all the functions described may be available on your product.

The manufacturer declines all responsibility for possible inaccuracies contained in this pamphlet, due to printing or copy errors. We reserve the right to make on our own products those changes to be considered necessary or useful, without jeopardizing the essential characteristics.
Read the instructions for use very carefully paying particular attention to the rules concerning safety devices. This appliance must only be used for what it has been designed for and built for and that is: all baking of dishes and regenerating pre-cooked and/or frozen food.

INDEX

7 - 11 -20 X 1/1 - 2/1 GN ANALOGIC





A- Electrical connection

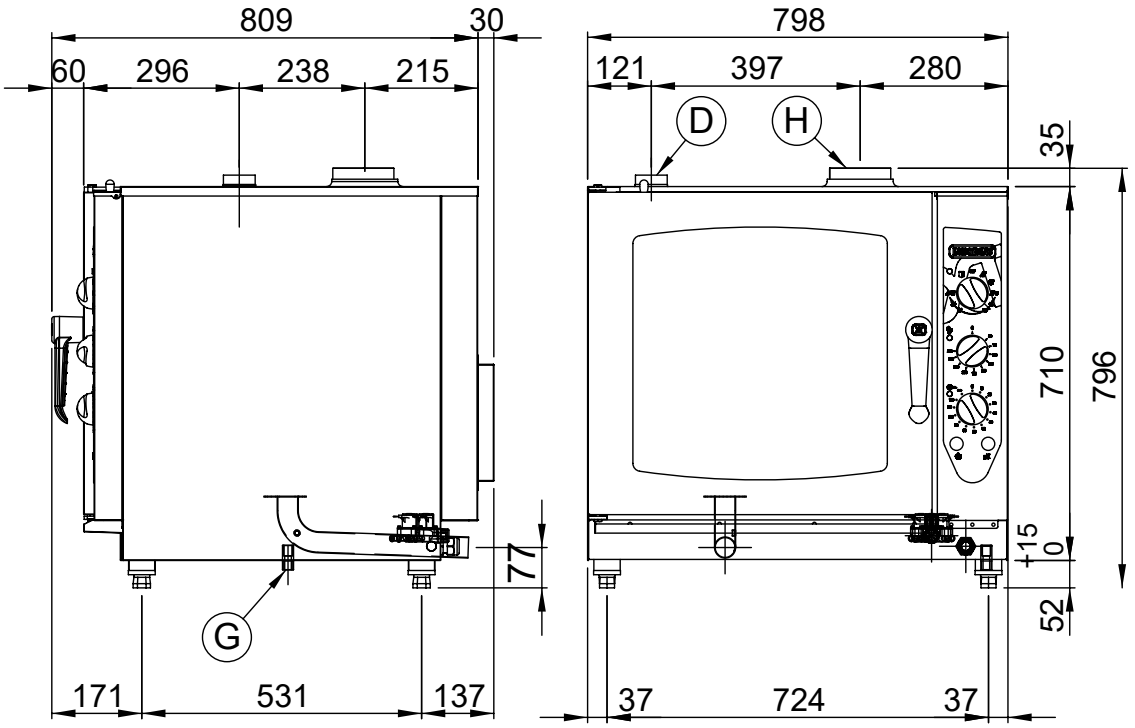
B- Water inlet Ø 3/4”

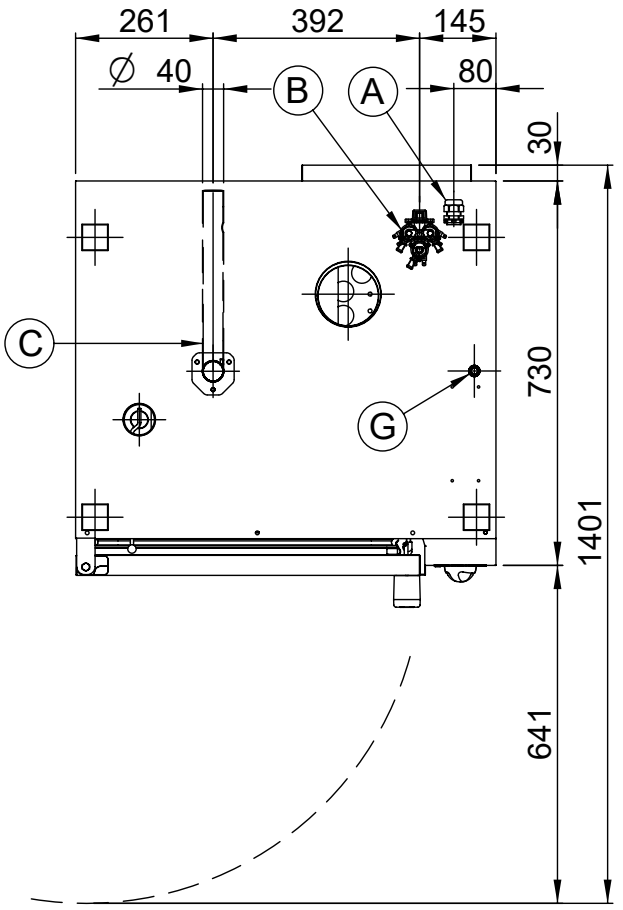
C- Water drainage Ø 40 mm

D- Cooking chamber relief valve Ø 60 mm

7 x 1/1 GN Electric

0.1A Dimensions mod. 7 x 1/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 798 x 809 x h 783	7 x 1/1 GN 14 x 1/2 GN	67 mm	Direct model 110 kg Boiler model 125 kg





A- Electrical connection

B- Water inlet Ø 3/4”

C- Water drainage Ø 40 mm

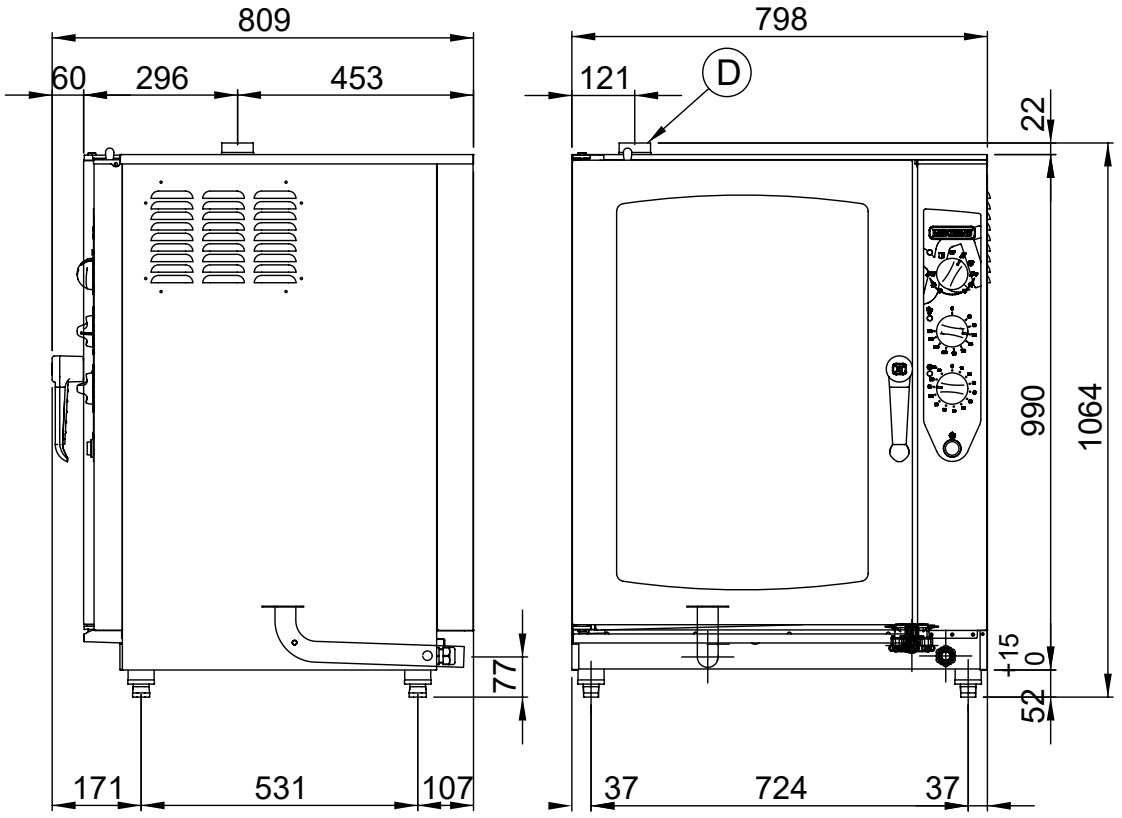
D- Cooking chamber relief valve Ø 60 mm

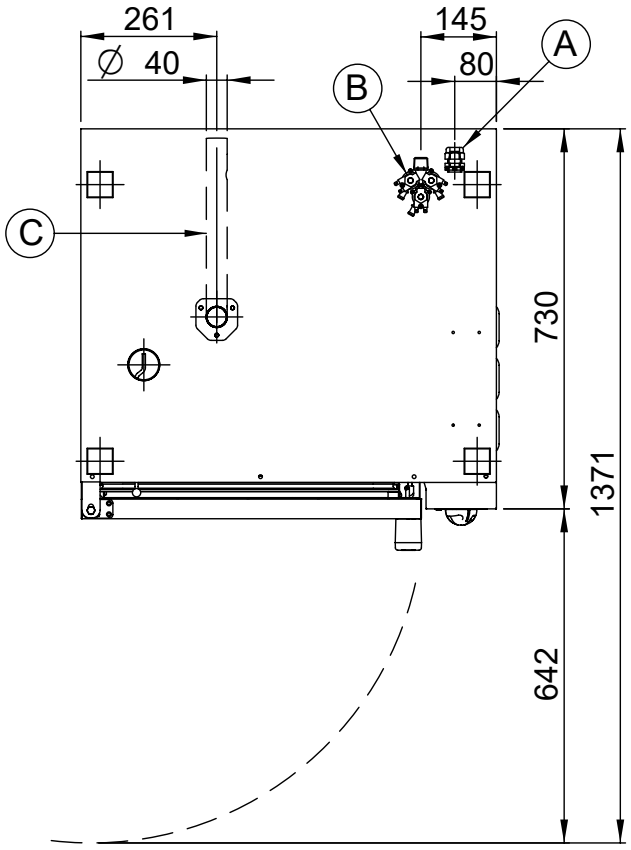
G 1/2“ coupling gas inlet

H Ø 120 mm fumes discharge

7 x 1/1 GN Gas

0.1B Dimensions mod. 7 x 1/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 798 x 839 x h 796	7 x 1/1 GN 14 x 1/2 GN	67 mm	Direct model 125 kg





A- Electrical connection

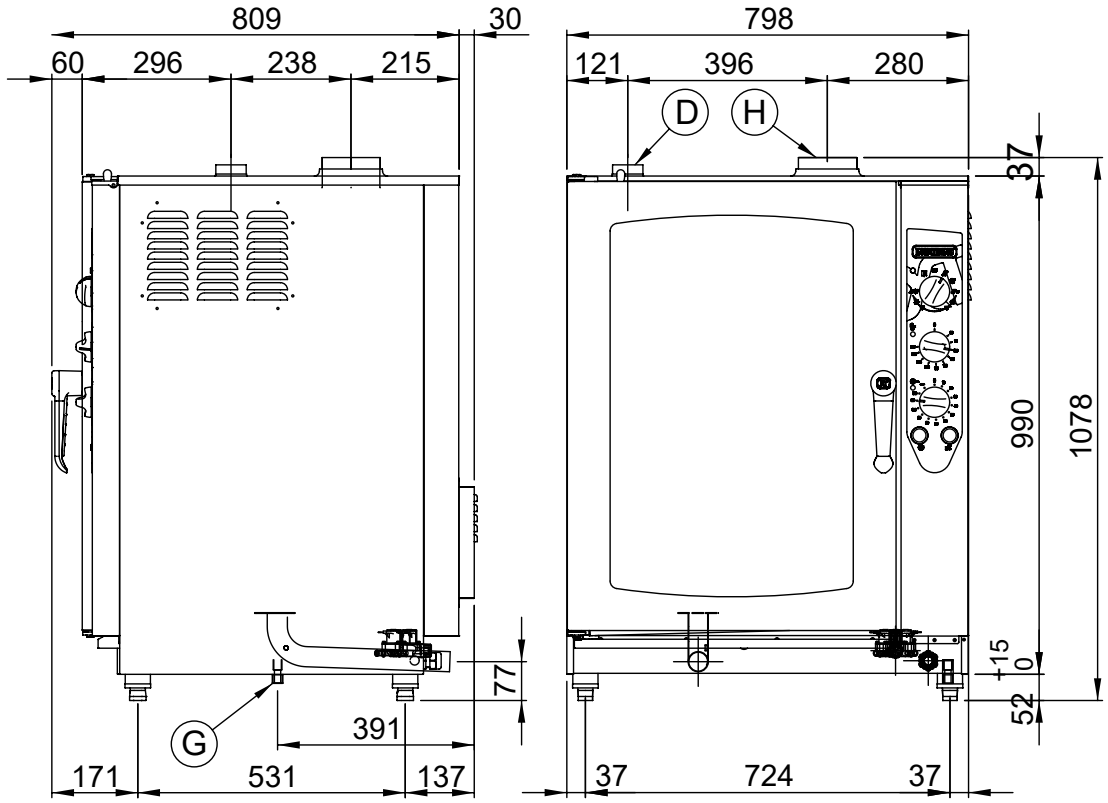
B- Water inlet Ø 3/4”

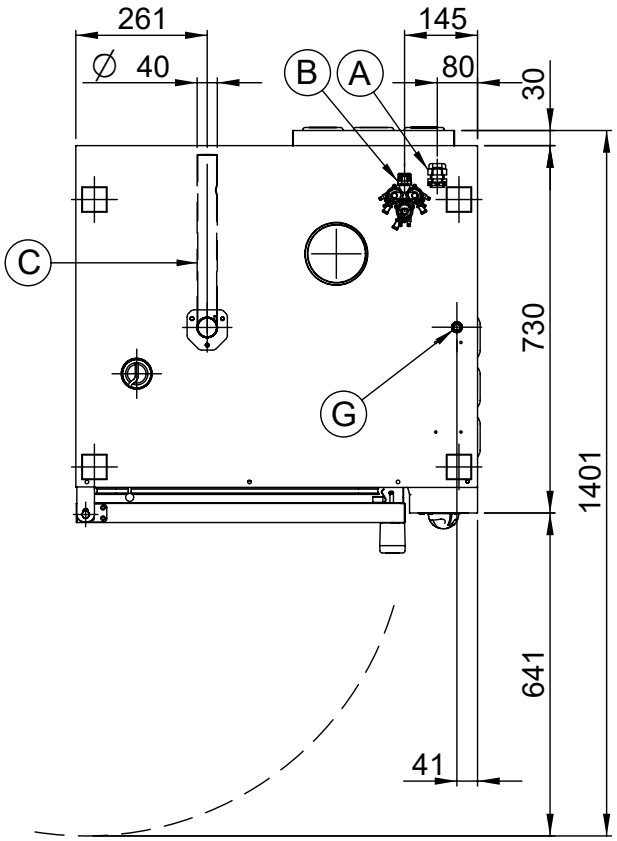
C- Water drainage Ø 40 mm

D- Cooking chamber relief valve Ø 60 mm

11 x 1/1 GN Electric

0.1C Dimensioni mod. 11 x 1/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 798 x 809 x h 1064	11 x 1/1 GN 22 x 1/2 GN	67 mm	Direct model 140 kg Boiler model 165 kg





A- Electrical connection

B- Water inlet Ø 3/4”

C- Water drainage Ø 40 mm

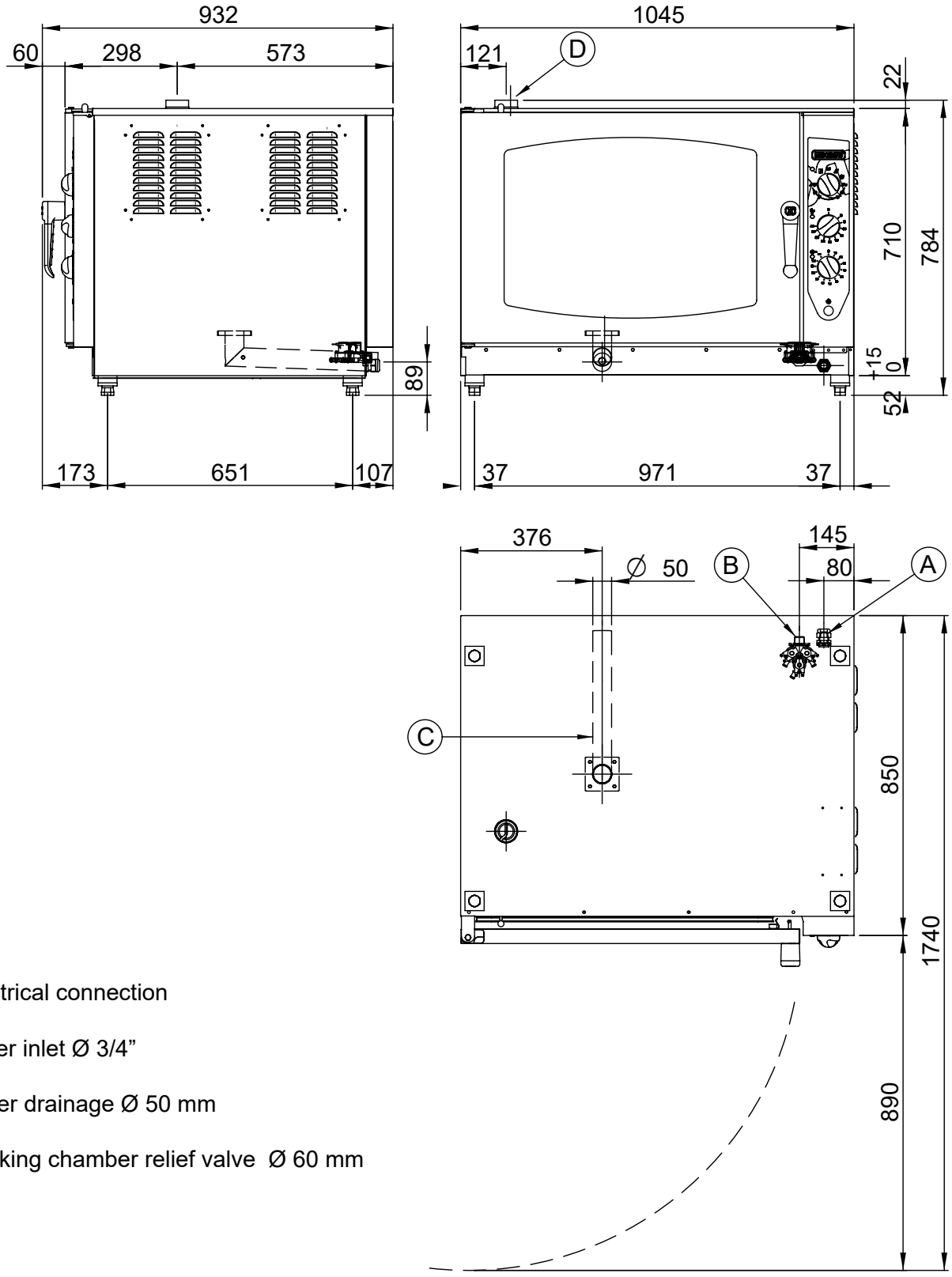
D- Cooking chamber relief valve Ø 60 mm

G 1/2“ coupling gas inlet

H Ø 120 mm fumes discharge

11 x 1/1 GN Gas

0.1D Dimensioni mod. 11 x 1/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 798 x 839 x h 1078	11 x 1/1 GN 22 x 1/2 GN	67 mm	Direct model 155 kg



A- Electrical connection

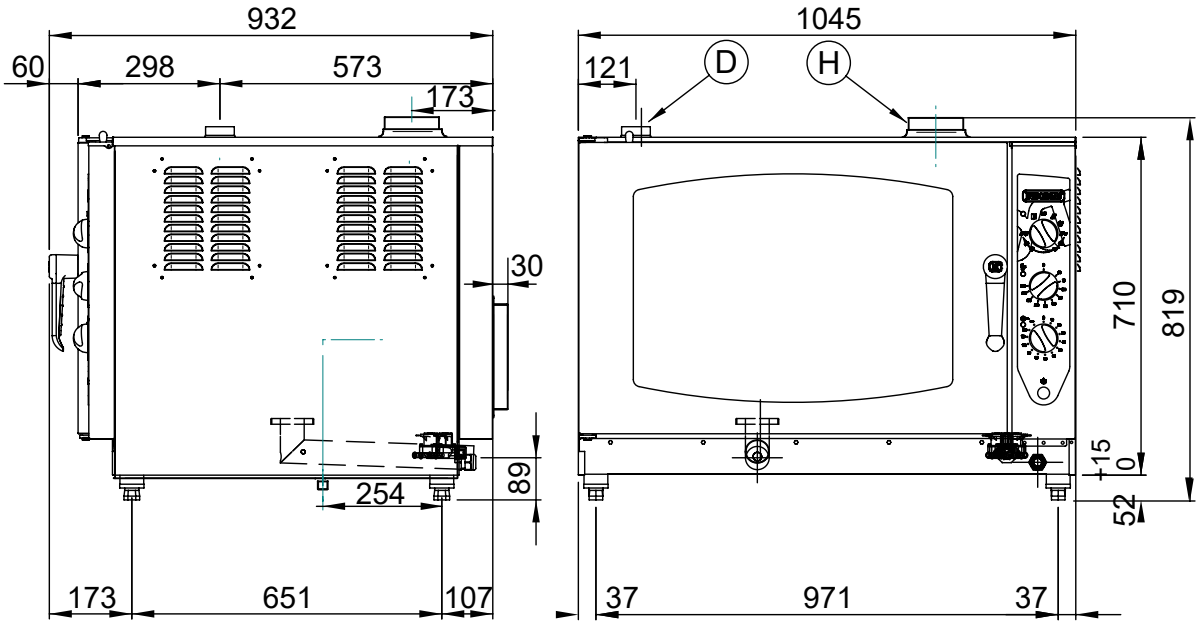
B- Water inlet Ø 3/4”

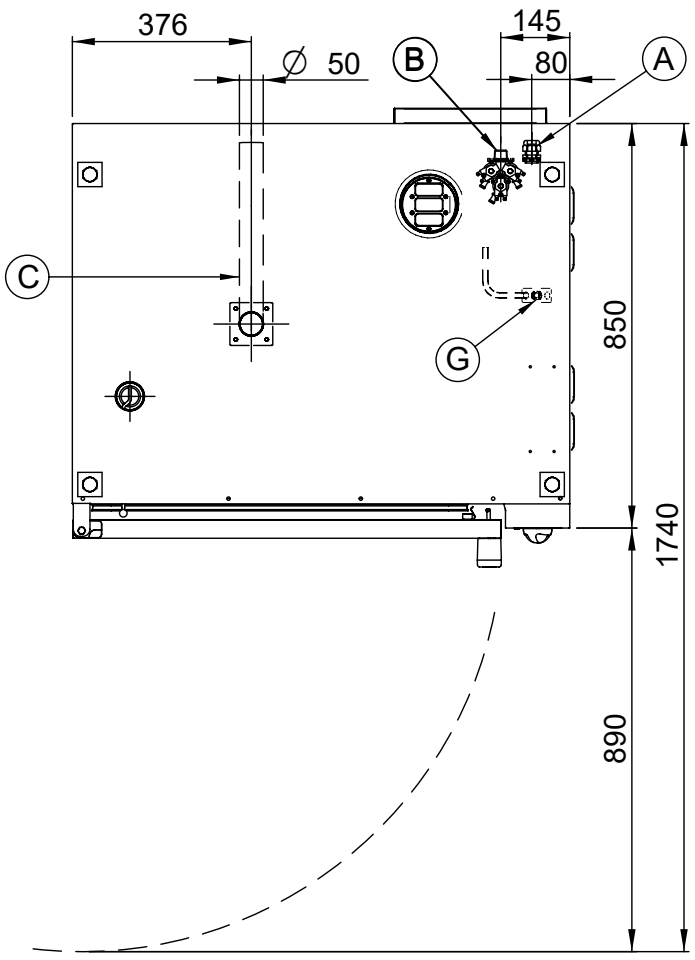
C- Water drainage Ø 50 mm

D- Cooking chamber relief valve Ø 60 mm

7 x 2/1 GN Electric

0.1E Dimensions mod. 7 x 2/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 1045 x 932 x h 784	7 x 2/1 GN 14 x 1/1 GN	67 mm	Direct model 155 kg





A- Electrical connection

B- Water inlet Ø 3/4”

C- Water drainage Ø 50 mm

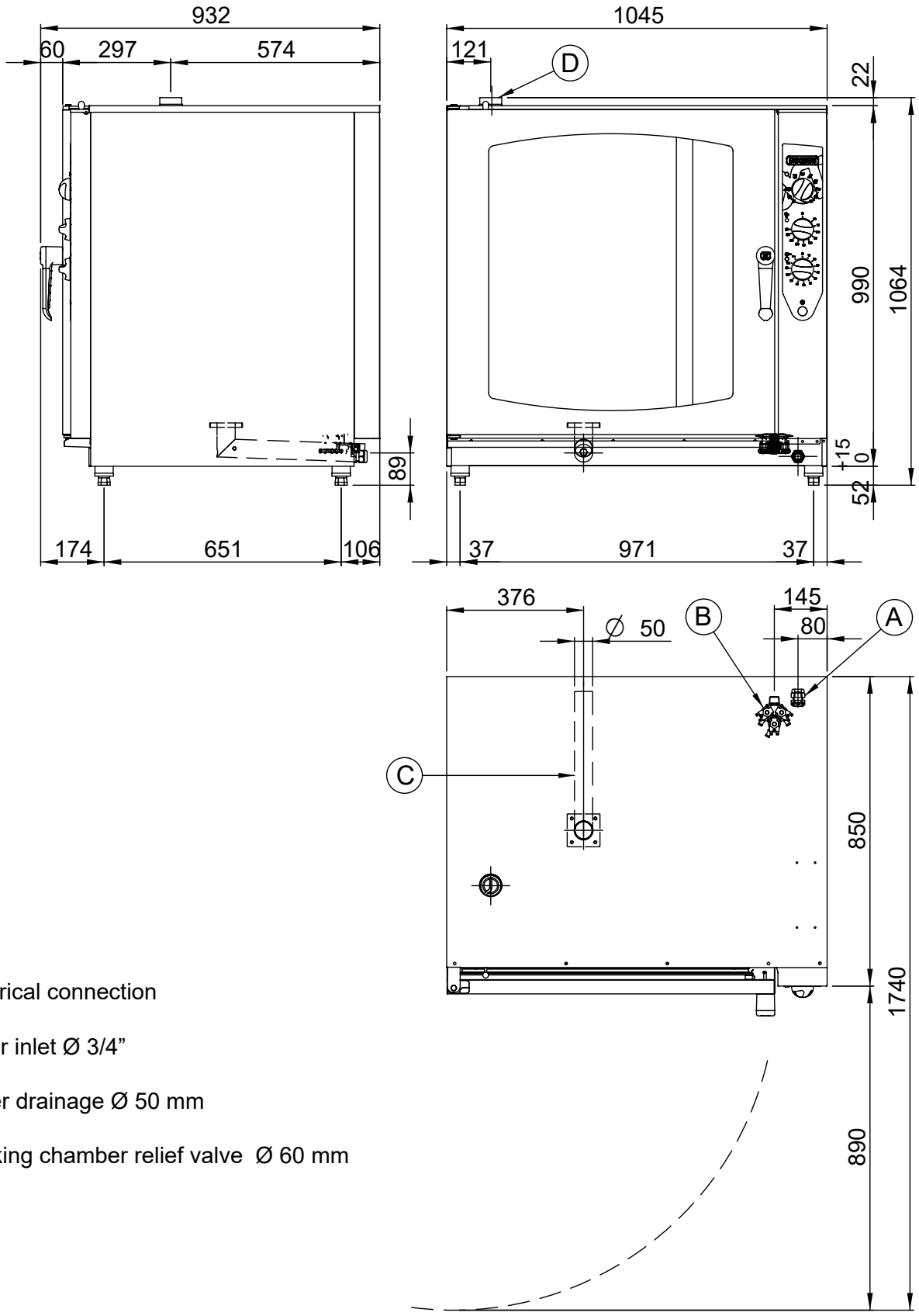
D- Cooking chamber relief valve Ø 60 mm

G 1/2“ coupling gas inlet

H Ø 120 mm fumes discharge

7 x 2/1 GN Gas

0.1F Dimensions mod. 7 x 2/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 1045 x 962 x h 819	7 x 2/1 GN 14 x 1/1 GN	67 mm	Direct model 165 kg



A- Electrical connection

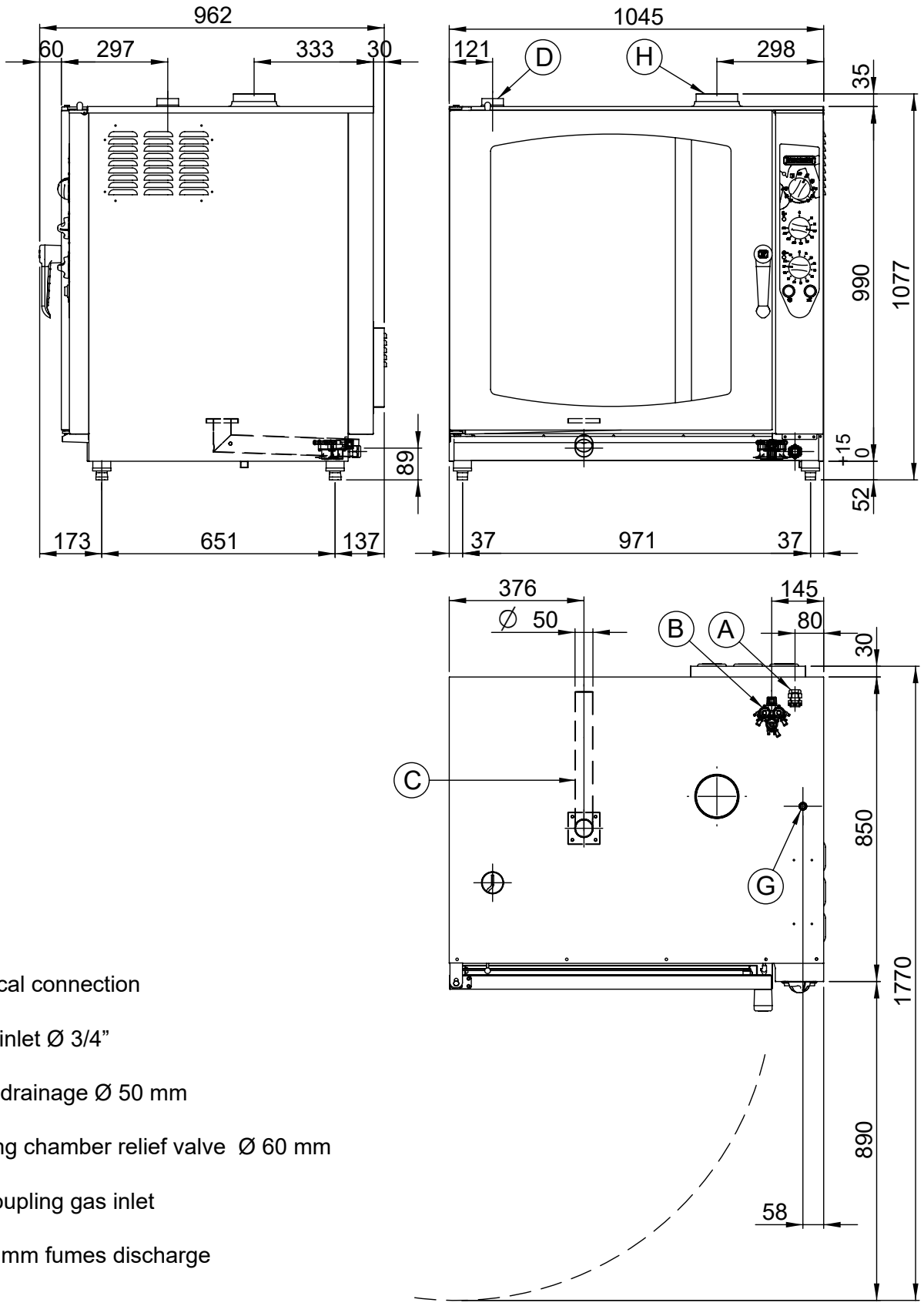
B- Water inlet Ø 3/4”

C- Water drainage Ø 50 mm

D- Cooking chamber relief valve Ø 60 mm

11 x 2/1 GN Electric

0.1G Dimensions mod. 11 x 2/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 1045 x 932 x h 1064	11 x 2/1 GN 22 x 1/1 GN	67 mm	Direct model 195 kg



A- Electrical connection

B- Water inlet Ø 3/4”

C- Water drainage Ø 50 mm

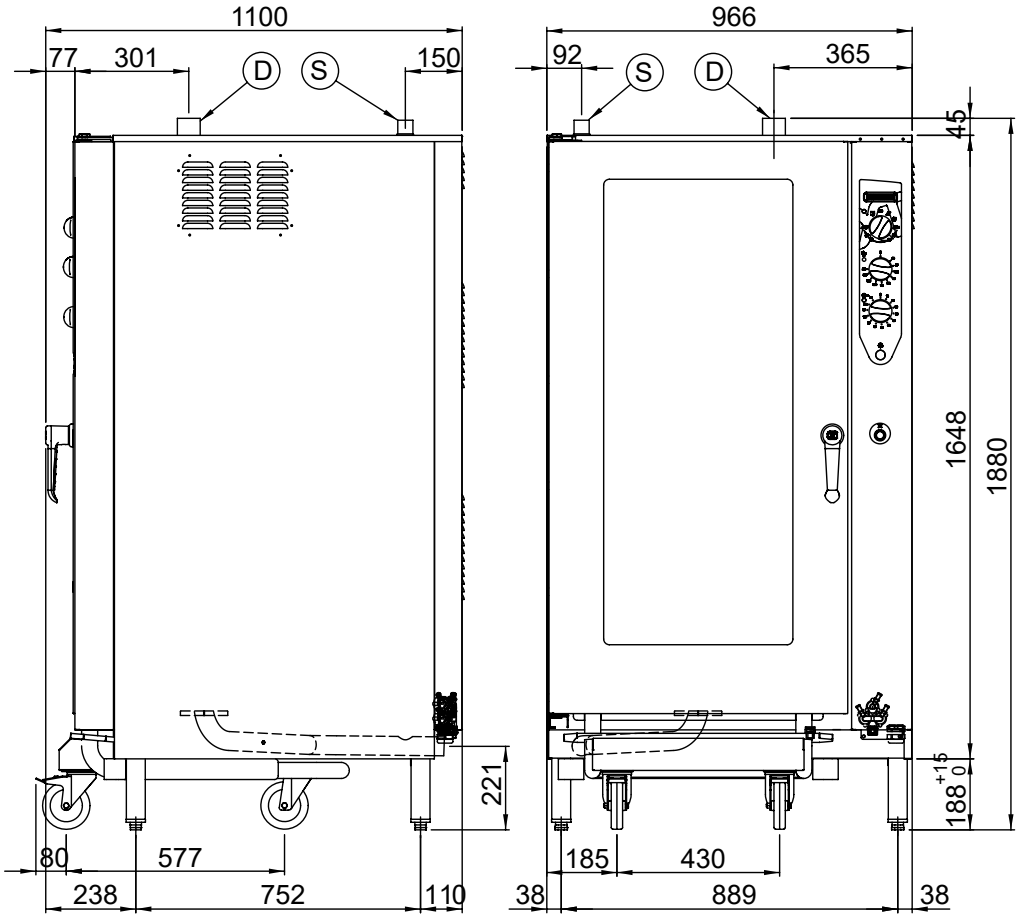
D- Cooking chamber relief valve Ø 60 mm

G 1/2“ coupling gas inlet

H Ø 120 mm fumes discharge

11 x 2/1 GN Gas

0.1H Dimensions mod. 11 x 2/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 1045 x 962 x h 1077	11 x 2/1 GN 22 x 1/1 GN	67 mm	Direct model 220 kg



A- Electrical connection

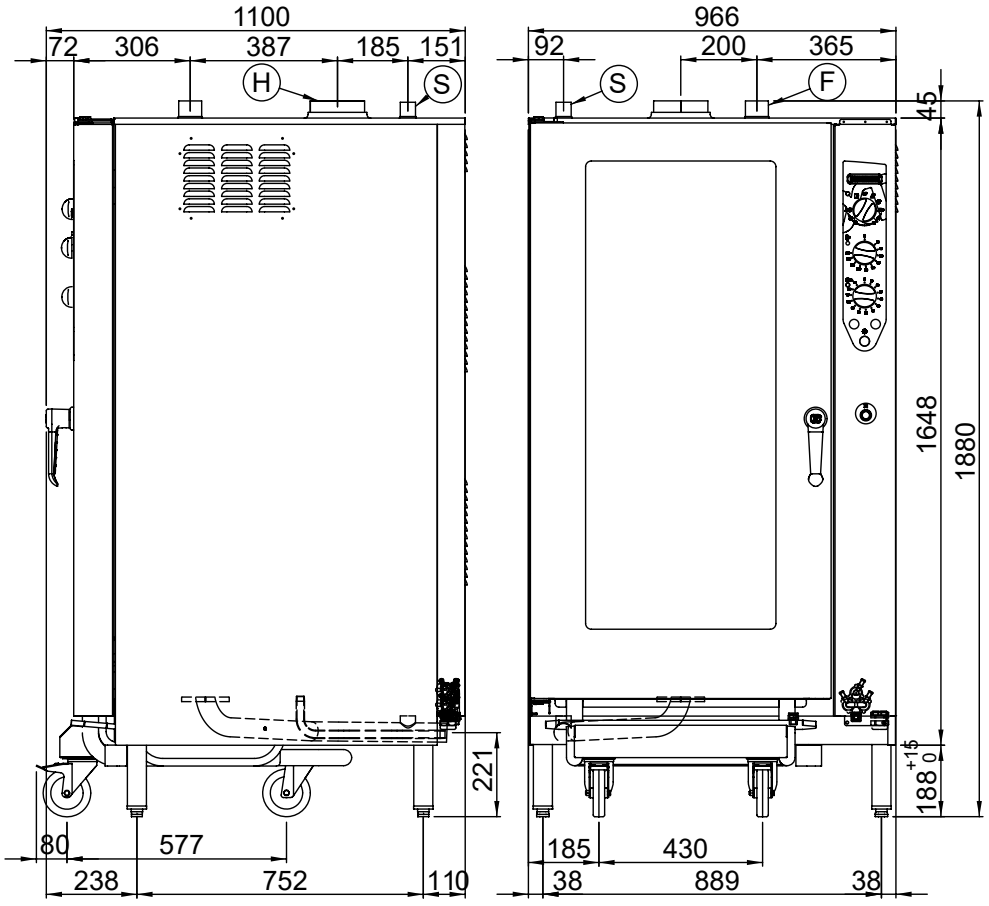
B- Water inlet Ø 3/4”

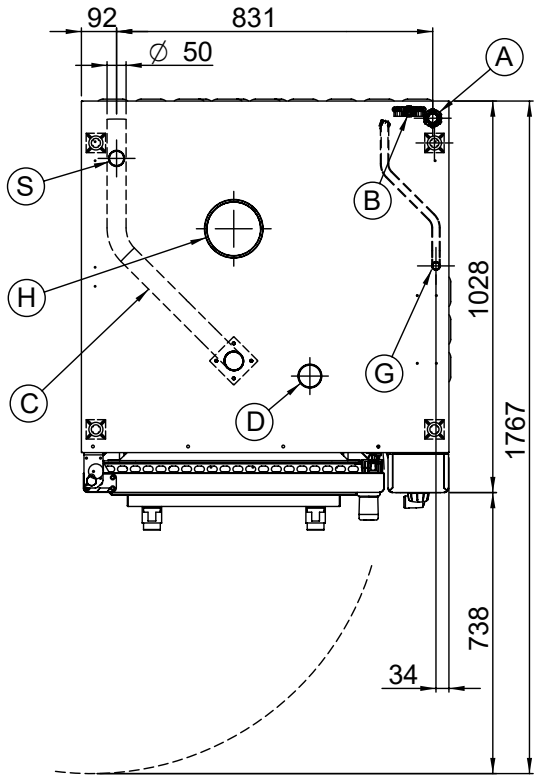
C- Water drainage Ø 50 mm

D- Cooking chamber relief valve Ø 60 mm

20 x 1/1 GN Electric

0.1L Dimensions mod. 20 x 1/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 966 x 1100 x h 1880	20 x 1/1 GN	65 mm	Direct model 410 kg





A- Electrical connection

B- Water inlet Ø 3/4”

C- Water drainage Ø 50 mm

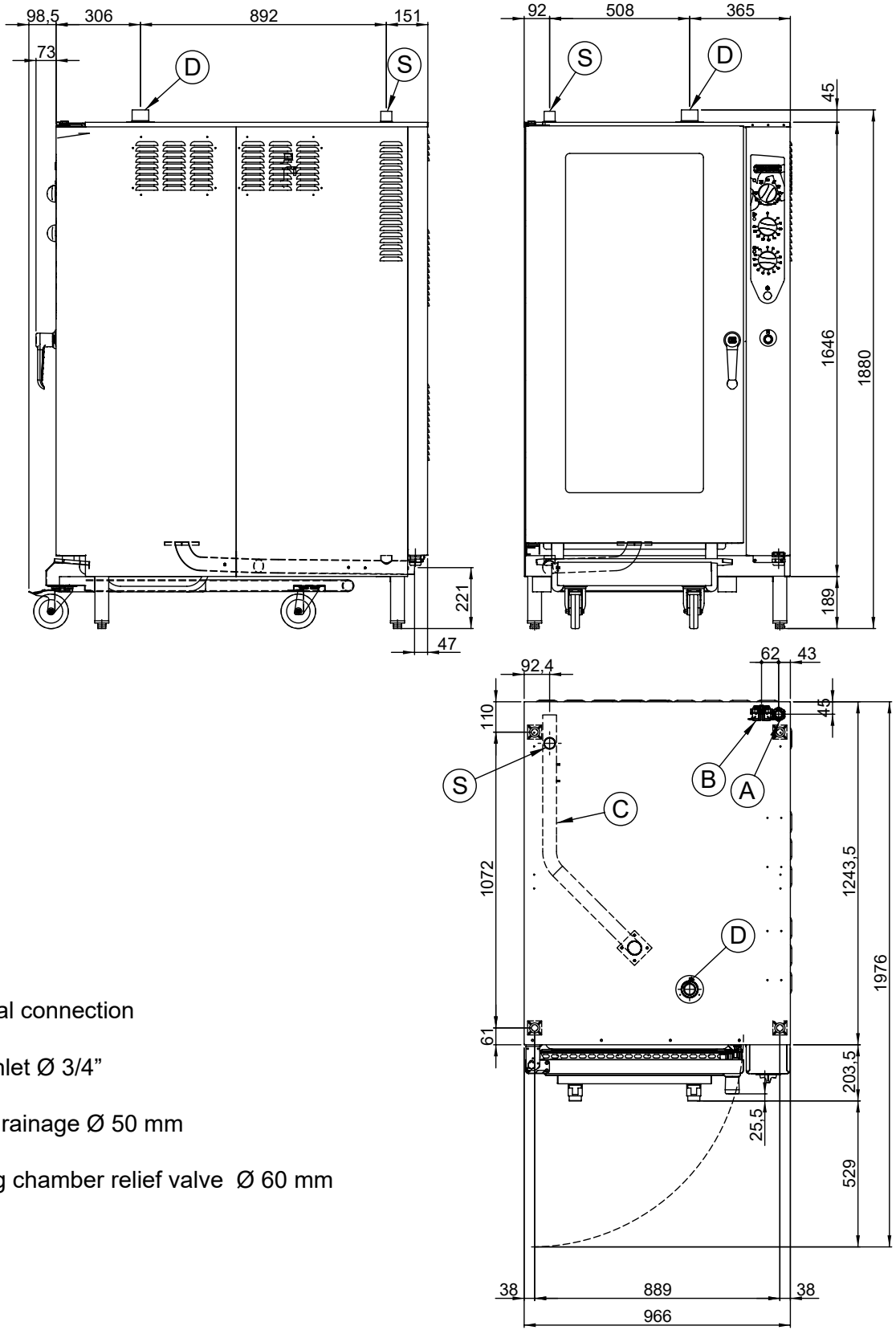
D- Cooking chamber relief valve Ø 60 mm

G 1/2“ coupling gas inlet

H Ø 120 mm fumes discharge

20 x 1/1 GN Gas

0.1M Dimensions mod. 20 x 1/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 966 x 1100 x h 1880	20 x 1/1 GN	65 mm	Direct model 450 kg



A- Electrical connection

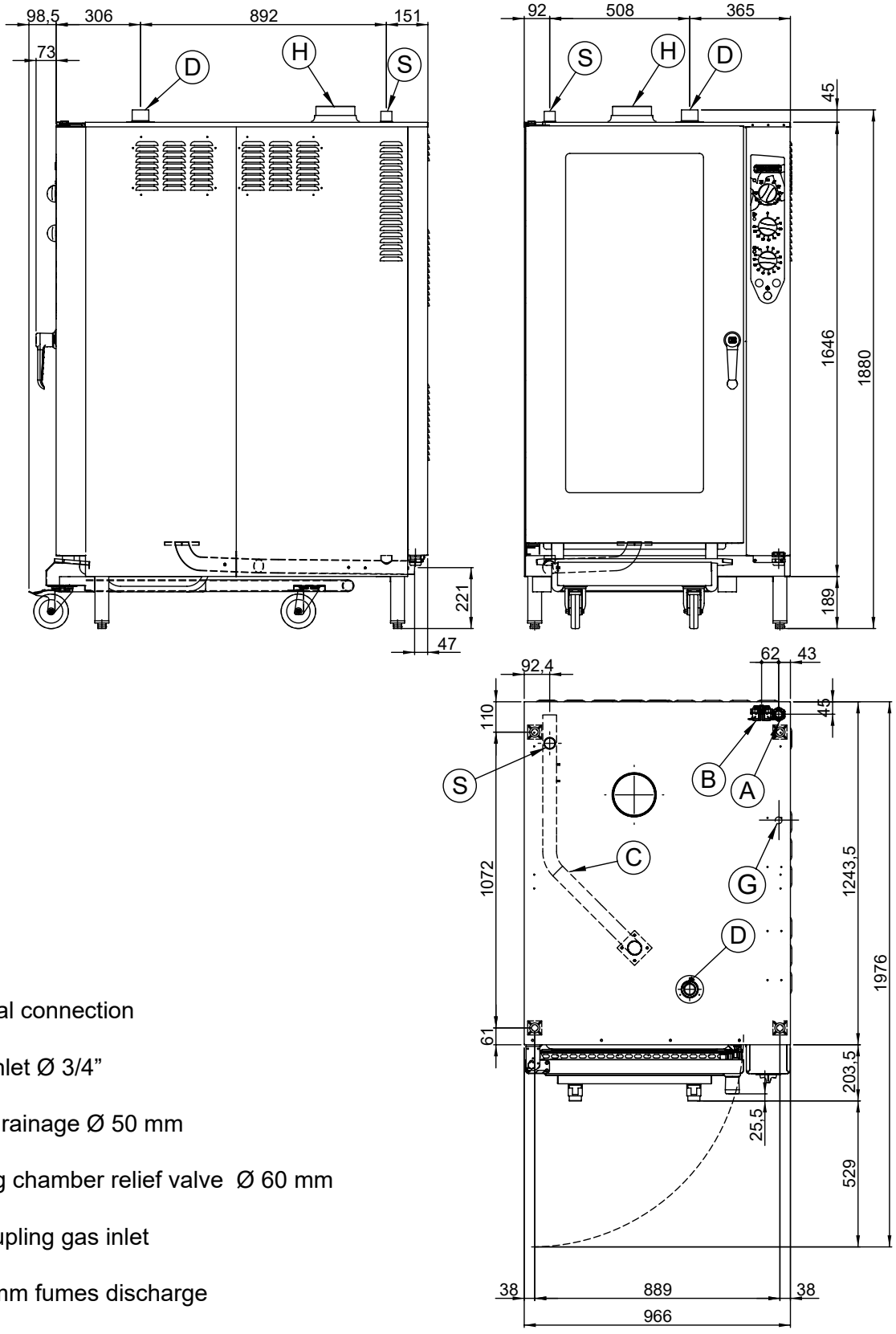
B- Water inlet Ø 3/4”

C- Water drainage Ø 50 mm

D- Cooking chamber relief valve Ø 60 mm

20 x 2/1 GN Electric

0.1N Dimensions mod. 20 x 2/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 966 x 1422 x h 1880	20 x 2/1 GN	65 mm	Direct model 470 kg



A- Electrical connection

B- Water inlet Ø 3/4”

C- Water drainage Ø 50 mm

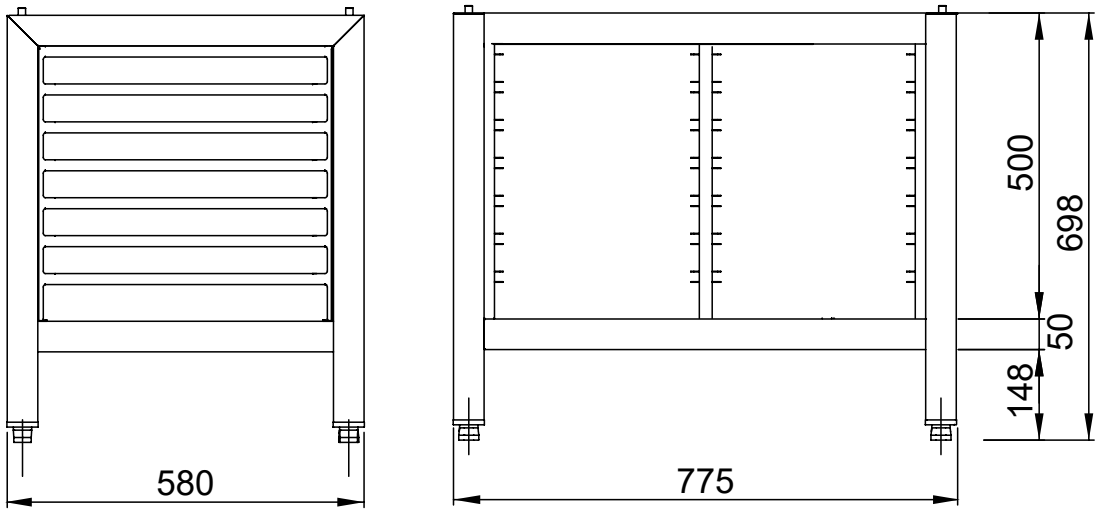
D- Cooking chamber relief valve Ø 60 mm

G 1/2“ coupling gas inlet

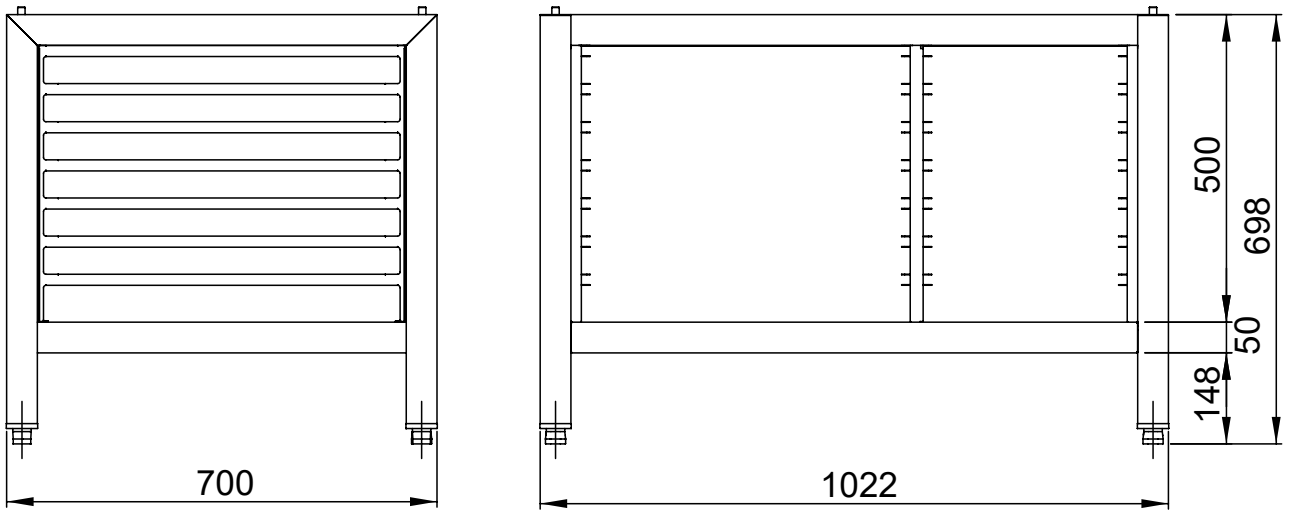
H Ø 120 mm fumes discharge

20 x 2/1 GN Gas

0.1P Dimensions mod. 20 x 2/1 GN			
Dimensions	Capacity	Trays distance	Empty weight
mm 966 x 1422 x h 1880	20 x 2/1 GN	65 mm	Direct model 510 kg



SG-61C (1/1 GN)



SG-62C (2/1 GN)

INSTALLATION

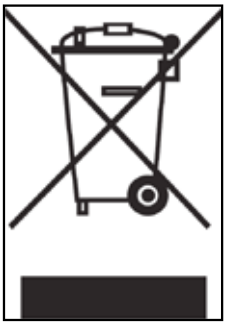
1.0 DECLARATION OF CONFORMITY

The Manufacturer declares that the appliances conform to the EEC norms.
They must be installed in accordance with current standards, especially regarding aeration of the premises and the exhaust gas evacuation system.

Note: The Manufacturer declines all and every responsibility for any direct damages caused by: an incorrect use, wrong installation or bad maintenance.

1.1 EUROPEAN DIRECTIVE ROHS 2011/65/UE

This appliance is marked according to the European directive 2011/65/UE on Waste Electrical and Electronic Equipment (WEEE). By ensuring this product is disposed correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.



The symbol on the product, or on the documents accompanying the product, indicates that this appliance may not be treated as household waste.

Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

Disposal must be carried out in accordance with local environmental regulations for waste disposal.

VERY IMPORTANT: according to the model of oven, its dimensions and its weight, use suitable facilities to handle goods during transport and installation, able to guarantee stability in order to avoid overturning, falls or uncontrolled movements of the appliance or its components.

Keep the oven packed until you reach the site where the oven is going to be installed.

The packaging makes the handling of goods easier and protects the oven from accidental push.

1.6 TECHNICAL DATA FOR ELECTRICAL CONNECTION

CONVECTION + HUMIDIFICATON / COMBI DIRECT					
Model	**Power loading and voltage**	**no. and motor power**	**Heating power**	**Absorbed current**	**Feed cable section**
7 x 1/1 GN Electric	8.40 kW 380 - 415 V 3N~ 60 Hz	1 x 250 W	8.0 kW	13.0 A	5 x 2.5 mm^2
11 x 1/1 GN Electric	16.5 kW 380 - 415 V 3N~ 60 Hz	1 x 370 W	16.0 kW	25.0 A	5 x 6.0 mm^2
7 x 2/1 GN Electric	16.5 kW 380 - 415 V 3N~ 60 Hz	1 x 370 W	16.0 kW	25.0 A	5 x 6.0 mm^2
11 x 2/1 GN Electric	23.2 kW 380 - 415 V 3N~ 60 Hz	1 x 550 W	22.5 kW	34.0 A	5 x 10.0 mm^2
20 x 1/1 GN Electric	30.0 kW 380 - 415 V 3N~ 60 Hz	2 x 750 W	28.0 kW	44.0 A	5 x 10.0 mm^2
20 x 2/1 GN Electric	52.0 kW 380 - 415 V 3N~ 60 Hz	2 x 750 W	50.0 kW	76.0 A	5 x 16.0 mm^2
7 x 1/1 GN Gas	0.40 kW 230V~ 60Hz	1 x 250 W	--	1.8 A	3 x 1.5 mm^2
11 x 1/1 GN Gas	0.52 kW 230V~ 60Hz	1 x 370 W	--	2.3 A	3 x 1.5 mm^2
7 x 2/1 GN Gas	0.52 kW 230V~ 60Hz	1 x 370 W	--	2.3 A	3 x 1.5 mm^2
11 x 2/1 GN Gas	0.70 kW 230V~ 60Hz	1 x 550 W	--	3.1 A	3 x 2.5 mm^2
20 x 1/1 GN Gas	1.80 kW 230V~ 60Hz	2 x 750 W	--	8.0 A	3 x 2.5 mm^2
20 x 2/1 GN Gas	1.80 kW 230V~ 60Hz	2 x 750 W	--	8.0 A	3 x 2.5 mm^2

COMBI BOILER						
Model	**Power loading and voltage**	**no. motor and power**	**Heating power**	**Boiler power**	**Absorbed current**	**Feed cable section**
7 x 1/1 GN Electric	8.40 kW 380-415 V 3N~ 60 Hz	1 x 250 W	8.0 kW	8.0 kW	13.0 A	5 x 2.5 mm^2
11 x 1/1 GN Electric	16.5 kW 380-415 V 3N~ 60 Hz	1 x 370 W	16.0 kW	16.0 kW	25.0 A	5 x 6.0 mm^2

1.8A TECHNICAL DATA TABLE FOR GAS CONNECTION

1.8A Cooking chamber heating				Valid for: **AT - CY - HR - DK - EE - FI - GR - IE - IS - IT LV - LT - LU - MT - NO - PT - GB - CZ - SK SI - ES - SE - CH - TR**					
Category				**I2H**		**I2E**	**I3+**	**I 3B/P**	
Construction				**Type A3 - B23**					
Oven model				107	111	207	211	120	220
				106	110		210	120	220
						606	610		
Nominal power rating				11,6 kW	16 kW	16 kW	22 kW	29 kW	39 kW
Minimum power heating				8,5 kW	12 kW	12,5 kW	16 kW	22 kW	29 kW
Gas consumption	Methane G20 (34,02 MJ/m³)		m³/h	1,228	1,693	1,693	2,328	3,068	4,127
	Butane G30 (45,65 MJ/kg)		kg/h	0,915	1,262	1,262	1,735	2,287	3,076
Gas flow adjustment (no. of anticlockwise revolutions from screw limit stop A) Fig.2.8B	Methane	G20	rpm	**7,0**	**6,5**	**7,1**	**8,5**	**8,0**	**9,5**
	Propane	G30 G31	rpm	**1,2**	**1,2**	**1,4**	**2,0**	**1,75**	**2,25**
Max. power No. of revolutions for gas mixer fan at max. speed (C) Fig.2.8A	Methane	G20	rpm	4.050	4.170	4.340	4.750	3.800	4.550
			frequency Hz	135	139	144,6	158,3	126,6	151,6
	Propane	G30 G31	rpm	4.050	4.170	4.340	4.750	3.800	4.550
			frequency Hz	135	139	144,6	158,3	126,6	151,6
Min. power No. of revolutions for gas mixer fan at max. speed (C) Fig.2.8A	Methane	G20	rpm	3.000	3.150	3.460	3.520	2.850	3.800
			frequency Hz	100	105	115,3	117,3	95,0	126,6
	Propane	G30 G31	rpm	3.000	3.150	3.460	3.520	2.850	3.800
			frequency Hz	100	105	115,3	117,3	95,0	126,6
Nominal gas pressure measured at the entrance of the gas valve. Position (Z) Fig.2.8B	Methane	G20	mbar	20					
	Butane	G30	mbar	28 min. / 50 max.					
	Propane	G31	mbar	30 min. / 50 max.					

1.8B TECHNICAL DATA TABLE FOR GAS CONNECTION

1.8B Cooking chamber heating		Valid for: **BE – DE – FR - NL HU - PL - RO**					
Category		**I2H I2HS**		**I2E+**	**I2L I3+**	**I2ELL I3B/P**	
Construction		**Type A3 - B23**					
Oven model		107	111	207	211	120	220
		106	110		210	120	220
				606	610		
Nominal power rating		11,6 kW	16 kW	16 kW	22 kW	29 kW	39 kW
Minimum power heating		8,5 kW	12 kW	12,5 kW	16 kW	22 kW	29 kW
Gas consumption	Methane G20 (34,02 MJ/m³) m³/h	1,228	1,693	1,693	2,328	3,068	4,127
	Methane G25 (29.25 MJ/m³) m³/h	1,428	1,969	1,969	2,707	3,569	4,800
	Methane G25.1 (29.3 MJ/m³) m³/h	1,425	1,966	1,966	2,703	3,563	4,792
	Butane G30 (45,65 MJ/kg) kg/h	0,946	1,262	1,262	1,735	2,287	3,076
Gas flow adjustment (no. of anticlockwise revolutions from screw limit stop A) Fig.2.8B	Methane G20 rpm	**7,0**	**6,5**	**7,1**	**8,5**	**8,0**	**9,5**
	Methane G25 rpm	**14,0**	**15,0**	**12,2**	**14,0**	**14,0**	**19,0**
	Methane G25.1 rpm	**20,0**	**17,0**	**15,0**	**16,0**	**14,0**	**19,0**
	Butane G30 G31 rpm	**1,2**	**1,2**	**1,4**	**2,0**	**1,75**	**2,25**
Max. power No. of revolutions for gas mixer fan at max. speed (C) Fig.2.8A	Methane G20 rpm	4.050	4.170	4.340	4.750	3.800	4.550
	frequency Hz	135	139	144,6	158,3	126,6	151,6
	Methane G25 rpm	4.050	4.170	4.550	4.750	3.800	4.550
	frequency Hz	135	139	151,6	158,3	126,6	151,6
	Methane G25.1 rpm	4.050	4.170	4.550	4.750	3.800	4.550
	frequency Hz	135	139	151,6	158,3	126,6	151,6
	Butane G30 G31 rpm	4.050	4.170	4.340	4.750	3.800	4.550
	Propane frequency Hz	135	139	144,6	158,3	126,6	151,6
Min. power No. of revolutions for gas mixer fan at max. speed (C) Fig.2.8A	Methane G20 rpm	3.000	3.150	3.460	3.520	2.850	3.800
	frequency Hz	100	105	115,3	117,3	95,0	126,6
	Methane G25 rpm	3.000	3.150	3.560	3.520	2.850	3.800
	frequency Hz	100,0	105,0	118,6	117,3	95,0	126,6
	Methane G25.1 rpm	3.000	3.150	3.560	3.520	2.850	3.800
	frequency Hz	100	105	118,6	117,3	95,0	126,6
	Butane G30 G31 rpm	3.150	3.150	3.460	3.520	2.850	3.800
	Propane frequency Hz	105	105	115,3	117,3	95,3	126,6
Nominal gas pressure measured at the entrance of the gas valve. Position (Z) Fig.2.8B	Methane G20 mbar	20 min. / 25 max.					
	Methane G25 mbar	20 min. / 25 max.					
	Methane G25.1 mbar	25					
	Butane G30 mbar	28 min. / 50 max.					
	Propane G31 mbar	30 min. / 50 max.					

2.0 INSTALLING THE APPLIANCE

The water, electricity, gas and the premises on which the appliances are installed comply with the relative installation and safety standard.

Install the oven on aerated premises and level with the adjustable feet.

For table top models, keep at least 6 cm between the bottom of the oven and the supporting surface on which the feet stand.

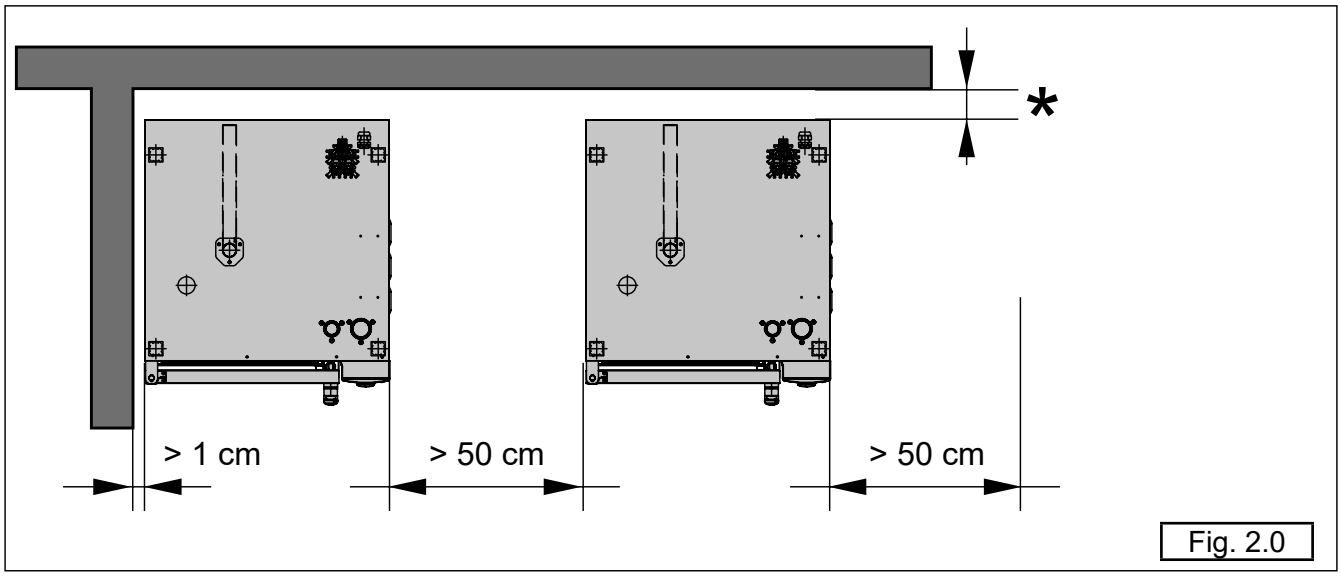


Fig. 2.0

* Keep a suitable distance at the back, in order the label of equipotential clamp is easy to see when the oven has been installed. The same clamp must be easy to access to install equipotential cable after the oven has been installed in compliance with our instructions.

Install the appliance in a position that allows access to the right side for installation, maintenance and technical assistance.

Maintain the minimum distances between the oven walls, (rear and right side) and either the brick walls or the other appliances, as illustrated in figure 2.0.

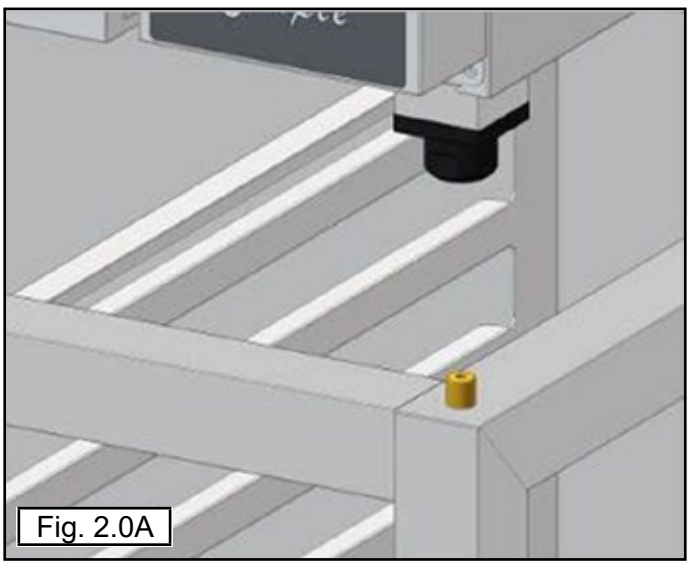


Fig. 2.0A

Take the protective film off the stainless steel parts by hand before starting the appliance.
Do not use abrasive substances and/or metal objects.

If the oven is placed on its supports, supplied by us on request, make sure the centre hole of the feet snap on to the support pin which will guarantee stability, (Fig. 2.0A).

2.1 CONNECTING TO THE FLUE (GAS POWERED OVENS)

The gas appliances are provided with a flue for eliminating the residuals of combustion.
This flue must be connected as illustrated in Figures 2.1A – 2.1B as established by the installation rules.

2.1A Natural fumes evacuation type B23: (Fig. 2.1A)

Connection is made to an effective natural draught flue by means of a wind proof fitting, not part of the oven's standard fittings, with discharge of the combustion fumes directly into the atmosphere.

2.1B Forced fumes evacuation type a3: (Fig. 2.1B)

The supply of gas to the appliance must be interlocked directly to the forced evacuation system and must shutdown whenever the latter's rate of flow drops below the values prescribed by the current installation standards.
It should only be possible to restore the supply of gas by hand.
If the appliance is installed under an extractor, the end part of the appliance's exhaust gas pipe should be at least 1.8 m from the surface on which it stands.
The exhaust pipe's outlet section should be positioned inside the base perimeter of the extractor.

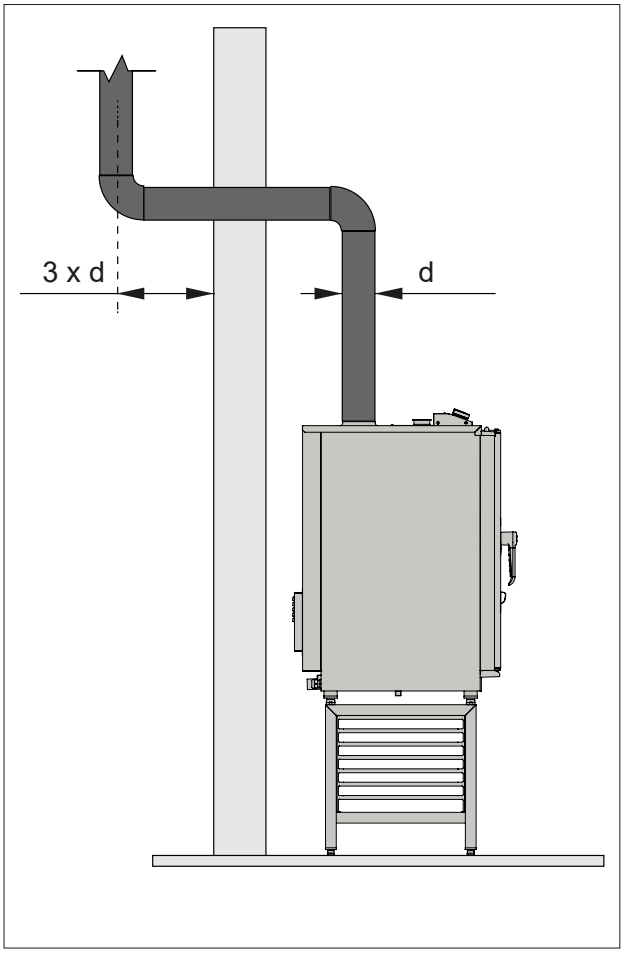


Fig. 2.1A

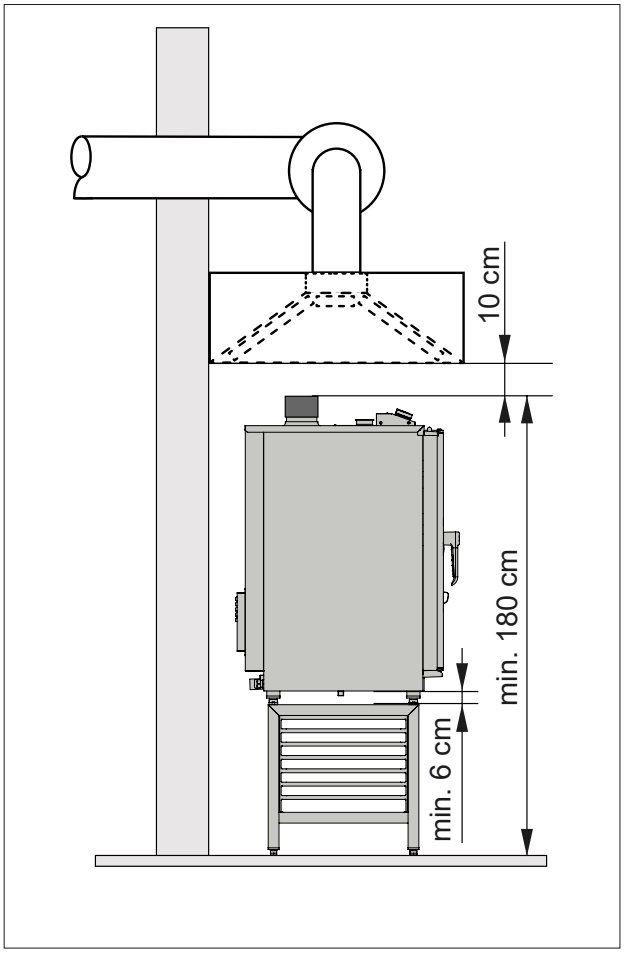


Fig. 2.1B

2.2 ELECTRICAL CONNECTION

When the appliance is delivered it is set to work at the voltage given on the rating plate affixed on the right side of the appliance.

The terminal board used for connecting can be accessed from the right of the appliance, removing the side panel.

The effectiveness of the equipotential system of which the appliance is part of, must conform to current standards.

Connect using the screw you find near the power cable's relief cable strain, marked with the word **EQUIPOTENTIAL**.

The Manufacturer declines all and every responsibility if this important accident prevention norm is not complied with.

If the feeding cable is damaged, it must be replaced by the technical service or in any case by similar qualified personnel, in order to avoid any risk.

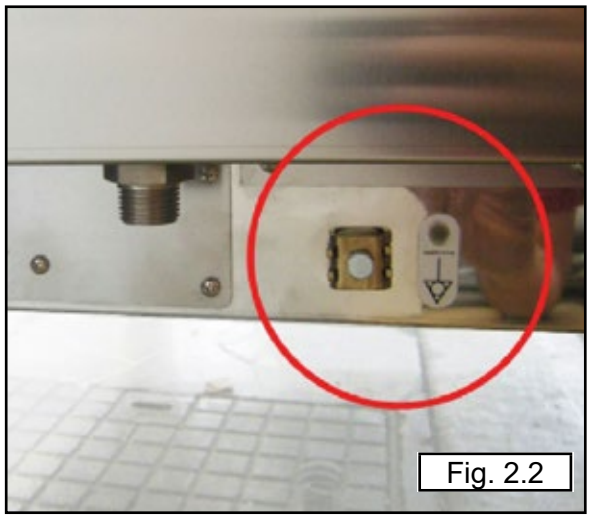


Fig. 2.2

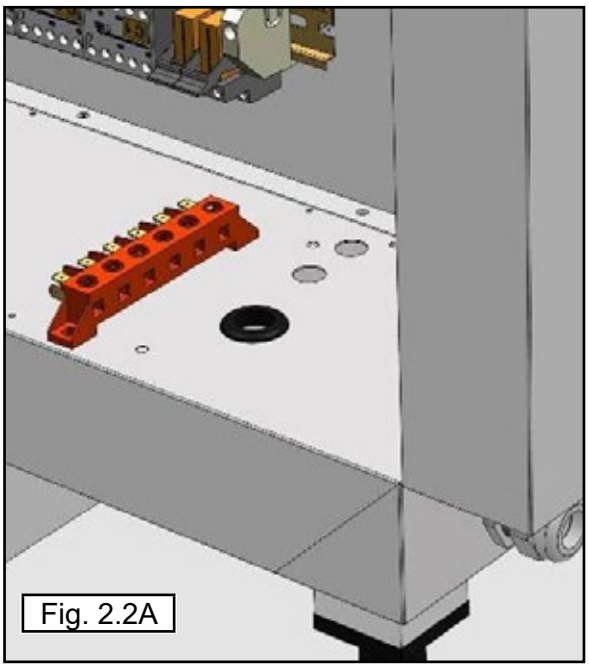


Fig. 2.2A

Before connecting the cable, remove the steel protection fixed to the ovens base with its specific screws, (see Fig. 2.2A) insert the cable in the clamp-connector and then in the terminal board zone, passing through the hole with the gasket near the terminal board.

Once the electric connection has been carried out, reassemble the steel protection previously removed.

The specifications of the flexible cable for the electrical connection should be no lower than those of the type with rubber insulation H07 RN-F, with the cross section of the wires as given in the technical data.

Install upstream a device that can ensure disconnection from the main, with an opening distance of the contacts, able to guarantee complete disconnection of the category overvoltage III, in compliance with installation rules.

It is essential to connect the appliance to an effective earthing system; (Fig. 2.2) for this purpose the relative terminal with the symbol to which the earth wire is to be connected is on the terminal board.

2.2A-CHECKING MOTOR ROTATION DIRECTION

(only for three-phase motors).
Check that the fans' rotation direction is the same as that of the arrow on the stainless steel air-conveying panel, located inside the oven. If they are rotating in the opposite direction, reverse two phases on the supply terminal board.

2.3 HYDRAULIC CONNECTION – WATER INLET

The ovens have a water inlet coupling at the back. Always install an on-off valve between the appliance and the water mains, making sure it is easy to operate.
We also suggest installing a cartridge filter on the water inlet pipe.

Always use a set of new water joints, eventual old joints must not be used again.

Plumbing connection must be always effected with cold water and rigid pipes.
Never use hoses to connect the oven to the water main.

In the Convection + Humidification models (Fig. 2.3A), the solenoid valve (A) supplies the system, that generates steam during the combined cycle.

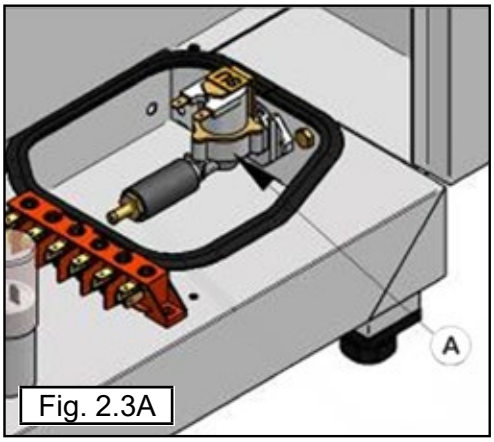


Fig. 2.3A

In the Combi Direct models (Fig. 2.3B), the solenoid valve (A) supply the system that generates steam during the steam cycle; the solenoid valve (A1) supply the system that generates steam during the combined cycle and the solenoid valve (B) supply the steam condensation system that comes out of the drainpipe.

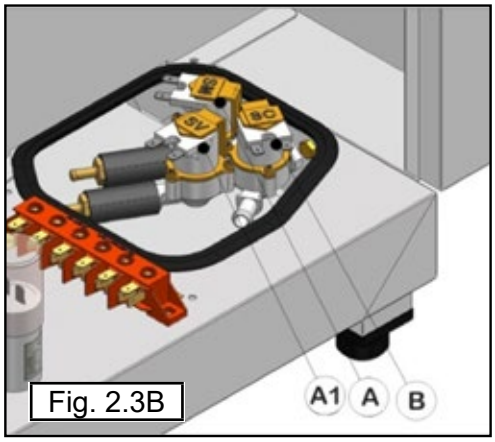


Fig. 2.3B

Note: in the floor models the hydraulic circuit is split as shown in Figures 2.3C (mod. 20 x1/1) and 2.3D (mod. 20x2/1)

In the models with boiler (Fig. 2.3E) the solenoid valve (A) supply the boiler fill, the solenoid valve (A1) supply the system that generates steam during the combined cycle and the solenoid valve (B) supply the steam condensation system that comes out of the drainpipe.

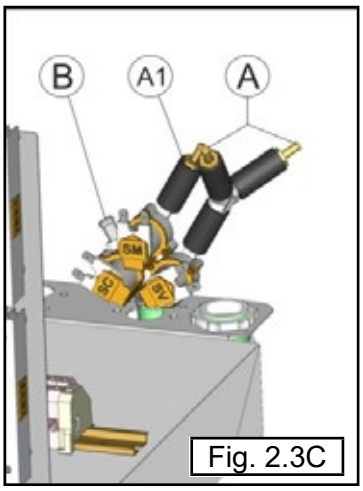


Fig. 2.3C

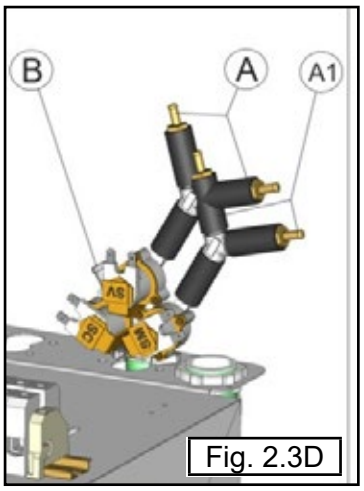


Fig. 2.3D

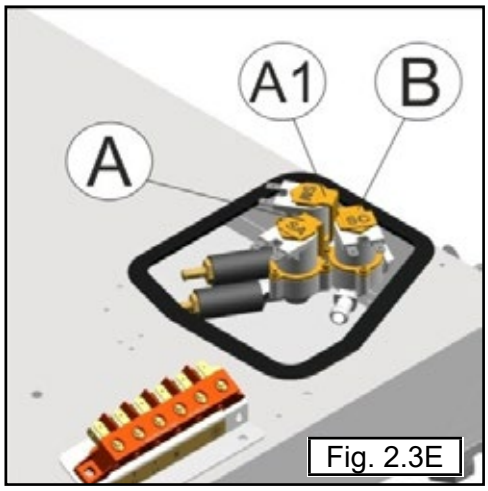


Fig. 2.3E

The water must be suitable to human use with the following characteristics:

Temperature: included between 15 – 20°C

Total hardness: included between 4 and 8 °f (French degrees), it is advisable to install a softener upstream from the appliance that will maintain the hardness level at the mentioned values.

The oven's running with water that has a higher hardness level will not be long before scale forms on the walls of the oven and in this case the technical assistance required to repair such damage is not covered by the guarantee.

Pressure: included between 150 and 250 KPa (1,5 – 2,5 bar).

Attention: higher water pressure values result in increased water consumption and can compromise the correct functioning of some components.

Maximum chloride concentration (Cl-): less than 150 mg/litre.

Chlorine concentration (Cl2): less than 0.2 mg/litre.

pH: more than 7.

Water conductivity: included between 50 and 2000 µS/cm.

Attention: Water treatment systems that bring to different values to the ones above mentioned automatically invalidate the guarantee.

The use of dosing systems designed to prevent the build-up of lime-scale in pipes (i.e. polyphosphate dosing systems) is also prohibited since it may impair the performance of the appliance.

2.3A TECNICAL DATA TABLE FOR THE WATER SYSTEM

Convection + Humidification						
	107 7 x 1/1 GN	**111** 11 x 1/1 GN	**207** 7 x 2/1 GN	**211** 11 x 2/1 GN	**120** 20 x 1/1 GN	**220** 20 x 2/1 GN
Condensation flow rate regulator Optional - Fig. 3.0G	Ø 0.7 mm	Ø 0.7 mm	Ø 0.7 mm	Ø 0.7 mm	Ø 0.7 mm	Ø 0.7 mm
Combined cycle water flow rate regulator Fig. 2.3A	Ø 0.4 mm	Ø 0.4 mm	Ø 0.4 mm	Ø 0.5 mm	Ø 0.55 mm	2 x Ø 0.5 mm

Combi direct						
	107 7 x 1/1 GN	**111** 11 x 1/1 GN	**207** 7 x 2/1 GN	**211** 11 x 2/1 GN	**120** 20 x 1/1 GN	**220** 20 x 2/1 GN
Condensation flow rate regulator Fig. 3.0G	Ø 0.7 mm	Ø 0.7 mm	Ø 0.7 mm	Ø 0.7 mm	Ø 0.7 mm	Ø 0.7 mm
Steam water flow rate regulator Fig. 2.3B	Ø 0.55 mm	Ø 0.6 mm	Ø 0.6 mm	Ø 0.8 mm	2 x Ø 0.55 mm	2 x Ø 0.7 mm
Combined cycle water flow rate regulator Fig. 2.3B	Ø 0.4 mm	Ø 0.4 mm	Ø 0.4 mm	Ø 0.5 mm	Ø 0.55 mm	2 x Ø 0.5 mm

Combi Boiler						
	107 7 x 1/1 GN	**111** 11 x 1/1 GN				
Condensation flow rate regulator Fig. 3.0G	Ø 0.7 mm	Ø 0.7 mm				
Combined cycle water flow rate regulator Fig. 2.3A	Ø 0.4 mm	Ø 0.4 mm				

2.4 PLUMBING – WATER DRAINAGE

Drainage for the water is at the back of the oven and must be connected directly to the end of the stainless steel drainpipe. The drain must have no trap and be made in rigid pipes that can withstand a temperature of 110°C.

Under no circumstances must pipe diameter be reduced. The actual pipe should be at atmospheric pressure with the appropriate funnel type air intake.

If the drainpipe is clogged for any reason steam can escape from the door and bad smells can be created inside in the oven.

Important: The drain system must be installed so that any vapours coming from the open drain do not enter the aeration vents under the appliance. (Fig. 2.4).

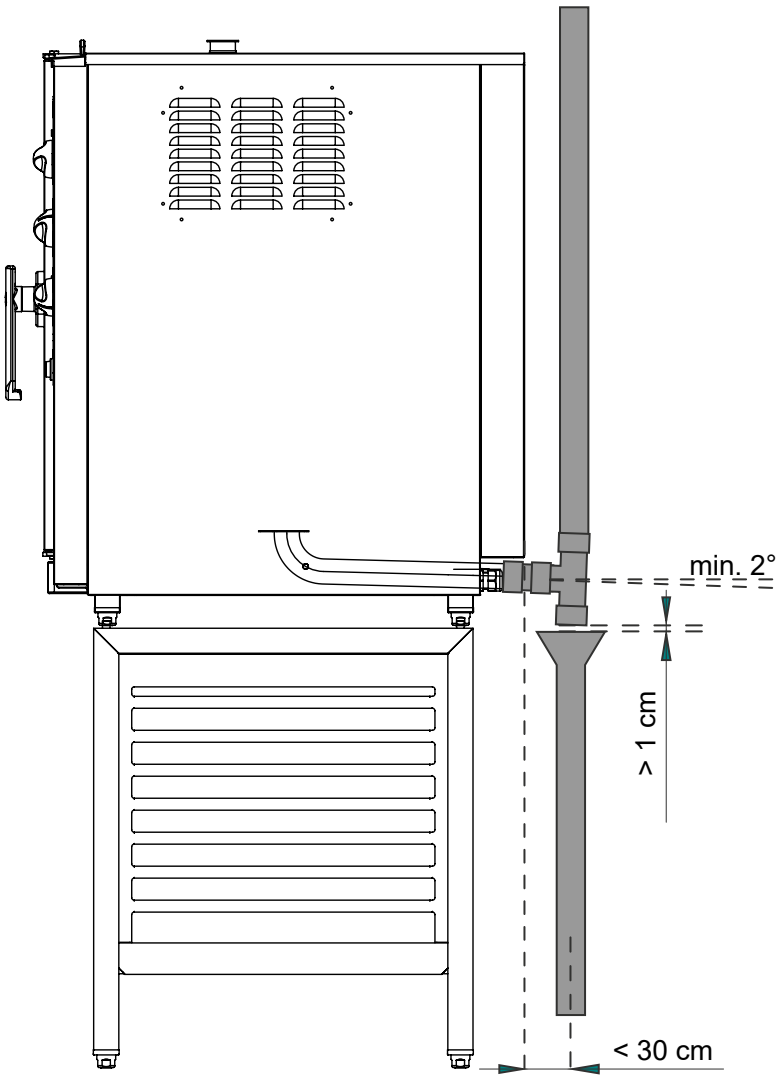
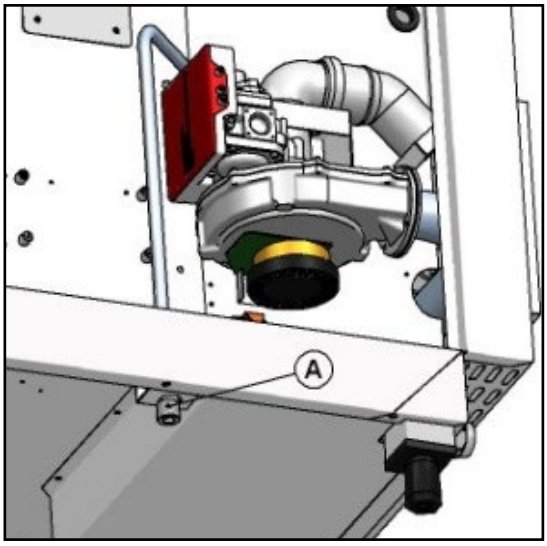


Fig. 2.4

2.6 CONNECTING TO THE GAS MAINS (GAS HEATED OVENS)



Connect the oven to connection (A) using metal pipes rigid type, either in galvanised steel or copper, situated where they can be seen.

Never use hoses to connect the oven to the gas main.

The appliance must be connected to an on-off mains valve that is easy to operate.

Use a 3-piece metal joint for connection between the pipe and oven to facilitate removal.

Guarantee the seal of the joint threads using materials declared, by their manufacturers, as being specifically suitable also for LPG.

The appliance must be supplied with a suitable type of gas (see the ”technical data” table).
It is set for use with the type of gas indicated on the “rating” plate.

2.7 CHECKING FOR GAS LEAKS

Once the oven has been installed check there is no gas leaking into the room. This can done by brushing joints and fittings with soapy water.
Bubbles prove there is a gas leak.

Note: never use bare flames to check for gas leaks.

2.8 TRANSFORMATION FOR DIFFERENT GAS TYPES

The appliances are usually supplied to function with the type of gas of installation KAT I3..., I2..., as stated in our technical features label.
Exceptionally when the type of gas is not known, the oven will be supply to function in KAT II2..., suitable for a transformation to a different kind of gas.

IN THIS CASE IF SUCH TRANSFORMATION IS NECESSARY, IT MUST BE DONE ONLY BY QUALIFIED PERSONNEL, TRAINED BY THE MANUFACTURED WITH THE HELP OF THE TOOLS BELOW DESCRIBED.

The cooking chamber is equipped with a heating system with burner and pre-mixed gas.
This burner is so called because it mixes air and gas at a ratio of 1:1. It can burn without producing harmful emissions, even when there is no more air, usually called secondary air, normally present at the bottom of the flame.

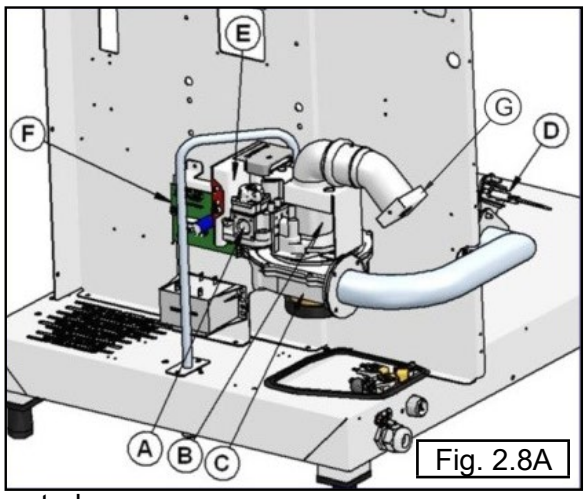


Fig. 2.8A

The system comprises:
1. a gas solenoid valve (A);
2. a Venturi unit for air extraction (B);
3. an electric fan (C);
4. a unit with 2 electrodes (D), one for ignition and the other for flame control;
5. an electronic control box (E) for burner ignition and flame control;
6. an electronic control box (F) for adjusting the electric fan speed;
7. a “premix” type gas burner, positioned directly on the electric fan.

The appliance has been tested and equipped to operate with the gas shown on the data plate on the right-hand side of the appliance.

If connections must be made using another type of gas, it will be necessary to transform using a 3 and 8 mm screwdriver, a frequency meter, a gas flow gauge and a combustion gas analyzer, strictly following the following warnings:

2.8A Gas connection pressure control

Connection pressure is measured using a “U”-shaped gauge, on the pressure input (C) of the gas valve.
Connection pressures are shown in the “Gas connection technical data” table 1.8

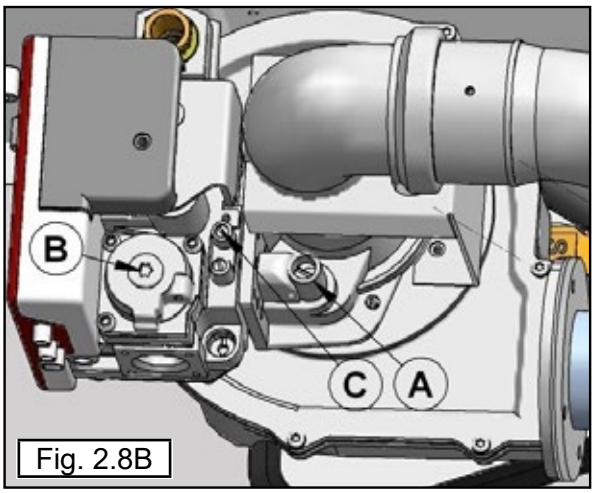


Fig. 2.8B

ATTENTION: for the ovens model 207G and 606G it’s necessary to replace the fixed air regulator (G) (Fig.2.8A) of the Venturi suction with the suitable one:

for LPG gas G30= Øi 18
for natural gas= Øi 22

2.8B Checking the gas flow to the burner

1- Use the gas flow gauge to measure oven absorption.

2- Adjust the gas adjustment screw (A) as follows:
Turn it clockwise as far as it will go, and then loosen it for the no. of revolutions indicated on the table1.8.
Attention Turning the screw (A) anticlockwise or clockwise means increasing or decreasing the gas flow.
Check burner ignition following the user instructions.
If the burner does not ignite, the gas solenoid valve will be disabled by the electronic system, a red light on the RESET buttons will indicate a block.
Press this button again to repeat the operation.

Sometimes, especially if the gas connection systems are newly-manufactured, the previous operation will have to be repeated a few times in order to guarantee normal gas flow.
Check that ignition does not cause blasts or signs of resonance.

3-Adjust the speed of the electric fan (C), in the following ways (Fig. 2.8C):
A. Switch off the oven and connect the frequency meter to terminals (Y 1-3) on the connector (X5) of the control panel (F) and start the oven again.

The speed of the electric fan is obtained from the following formula:
Speed rpm = Frequency (Hz) x 30

B. Check the max. (trimmer K) e min. (trimmer J) power

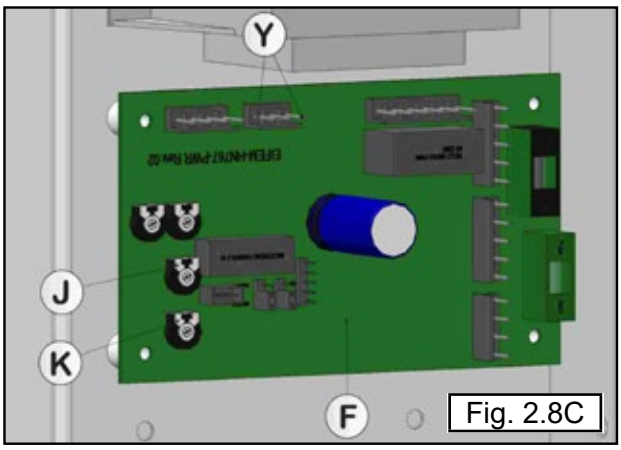


Fig. 2.8C

Start up the cooking chamber heating system, the burner will ignite with a low number of electric fan revolutions, (set by the manufacturer). After ignition, the electric fan (C) will reach max. speed.
This speed must be the same as the value stated in the technical table 1.8.
The regulation of the trimmers K and J is made and sealed in our factory, you don't need further regulations (except for gas type G25 and G25.1 in some models).

4-When the oven is started, select the temperature of the coking chamber at a max.
Temperature of 270 °C,check the gas flow when the temperature is about 200°C and check that it corresponds to the one given in the table 1.8.
Then, using the smoke analyser, check that it complies with regulations for combustion gases reaching the discharge chimney.
Due to its dangerousness, It is essential that the carbon monoxide CO value is at zero.

After adjusting as described above, it will be necessary to check burner ignition again under its two operating conditions:
Cold ignition is the norm at the start of operations;
Warm ignition is the condition present after at least 10 minutes of operating.
It is not necessary to check signs of resonance in the burner in either case. If there is resonance, repeat the setting operations as described in paragraph 2.8B, point 2.
If the position of screw (A) is changed on the gas flow adjuster with the oven on at maximum, it will be necessary to check point 4 again relating to cold operation.

N.B. The gas valve screw (B) (Fig.2.8B) does not require adjustment as it has already been set by the manufacturer to an air/gas ratio of 1/1
When transformation has ended, it will be necessary to seal the gas flow adjustment screw (A).

3.0 CONTROL AND SAFETY DEVICES

The ovens are equipped with a set of control and safety devices for the electric and hydraulic circuits.

3.0A 2A fuse: it is in the auxiliary circuit to protect against short circuiting of the electrical system and is inside its own support on the contactor's fixing bracket.

3.0C1 0,5A (500 mA) fuse: security for electric fan 24V (only for gas version) placed in its own support on the premix circuit board.

3.0C2 2A fuse: security for premix circuit board power supply 220V placed in its own support on the circuit board.

3.0D Motor overload protection: a thermal probe disengages the motor when, for various reasons, there is an overload. When the overload protection triggers it stops the motor and also disconnects the heating elements or the gas valve.
The probe is reset automatically when motor temperature drops.

3.0E Oven safety thermostat: disconnects the heating element or the gas valve when anomalies related to overheating occur. Reset will have to be done manually when causes for thermostat operation have been determined.

3.0F Door micro switch: it stops the oven working when the door is opened.

3.0G Thermostat system for condensation of discharge steam: (optional in convection + humidification models): it comprises a solenoid valve controlled by a thermostat whose sensor is housed in contact with the discharge.

The solenoid valve, via the injector (G), lets cold water into the drainpipe to condense the steam when a temperature of 90°C is reached (Fig. 3.0G).

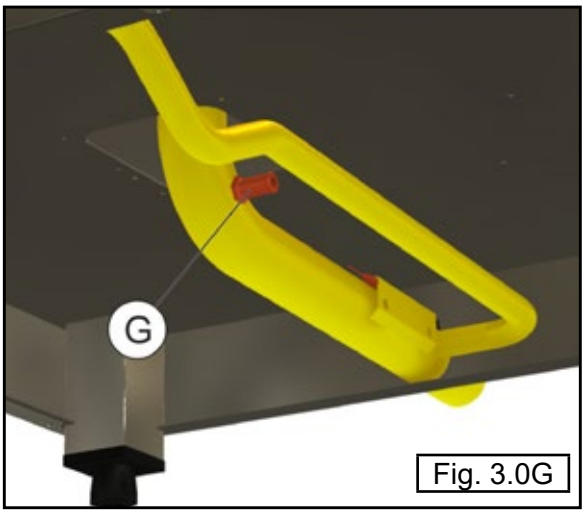


Fig. 3.0G

Removing the side panel of the oven and acting on the F3 adjuster of the Pic.3.0G1, it's possible to modify the condensation system in the following way:

If you turn the thermostat pin F3 counterclockwise until you hear a click, the function is disabled.

If you turn the pin counterclockwise without reaching the limit stop, steam condensation system activates when the temperature in the drain pipe is around 30° C.

If you turn the pin counterclockwise till limit stop, condensation system activates when the temperature inside the drain is around 90°C.

In our factory the ovens are supplied with F3 thermostat regulated at 90°C.

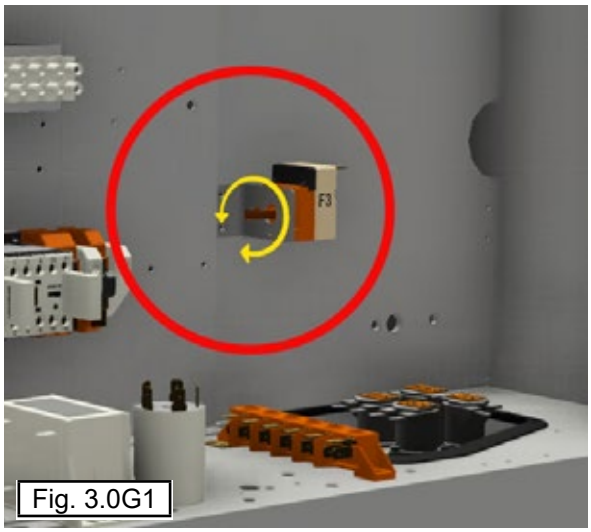


Fig. 3.0G1

3.0H Oven relief valve: its job is to adjust humidity inside the cooking chamber.
The valve is manually activated acting on the knob (A) (Fig.3.0H) on top of the door.

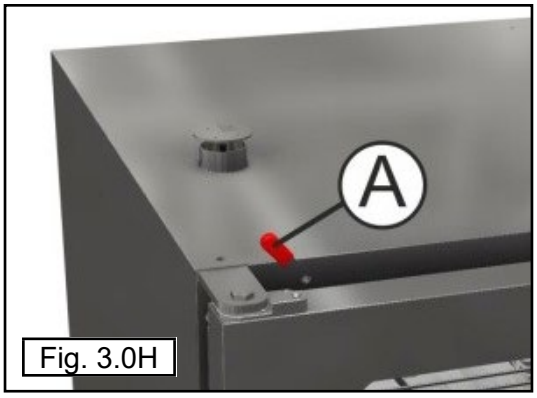


Fig. 3.0H

3.0L Gas safety valve: the valve is fitted with an electronic control device that interrupts the flow of gas within 10 seconds if the burners fail to light. Lighting of the burners can be repeated after the electronic device has been manually reset with the push button (Z) located on the control panel. (Fig. 3.0L).

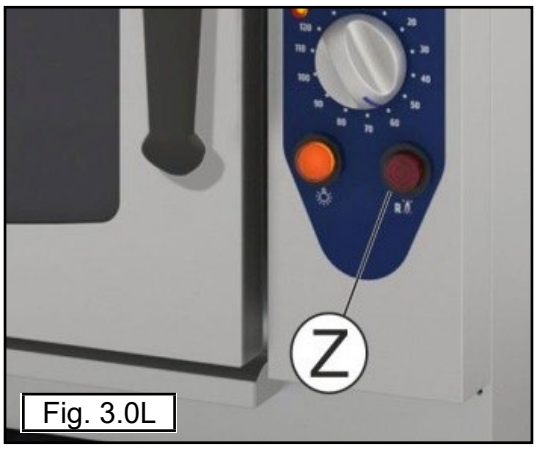


Fig. 3.0L

3.1 REPLACING SPARE PARTS

The replacement of damaged parts must be done only by qualified personnel.

To request the manufacturer parts to be replaced must be provided the oven model and serial number.

These data can be found on the rating plate attached to the oven.

Before starting to replace spare parts make sure, for safety reasons, that the electricity main switch is off and that the water and eventually gas on-off valve are closed.

3.2 CHECKING THE FUNCTIONS

After completing the installation of the oven is necessary to perform a leak test to the water network and eventually gas network.

The installer must check with suitable measurement instruments that the air noise emissions have a level of sound pressure type weighed A, less than 70 dB (A).

The label ISO 3864-1 here on the side must be stuck on a visible surface, 1,6 mt height from the ground.

On floor models, the label is already stuck in the suitable position.

On table models, the label is supplied along with the documentation and must be stuck after installation on a visible part of the appliance at 1.60 mt from the ground.

The installer must verify proper operation of the oven, providing the necessary instructions to the customer and give this instruction manual that the user must follow carefully.

7 - 11 -20 X 1/1 - 2/1 GN ANALOGIC

USE AND MAINTENANCE

INSTRUCTIONS FOR A SAFE USE OF THE OVEN

- Ensure the oven is on a stable position and safety devices installed upstream are efficient.
- Always use adequate protection gloves to introduce or pull out the trays.
- Always pay maximum attention to the floor, that due to cooking steam could be slippery.
- In order to avoid burns, never use trays or containers with liquids or fluids over a level that can be easily controlled at sight.
- Don’t put trays or other kitchen tools on the oven.
- Periodically have a check with technical service and replace eventual damaged parts, that could alter the proper functioning of the oven or be a danger.
- Often clean the oven following the instructions stated in this manual.

MAX. FOOD LOADING

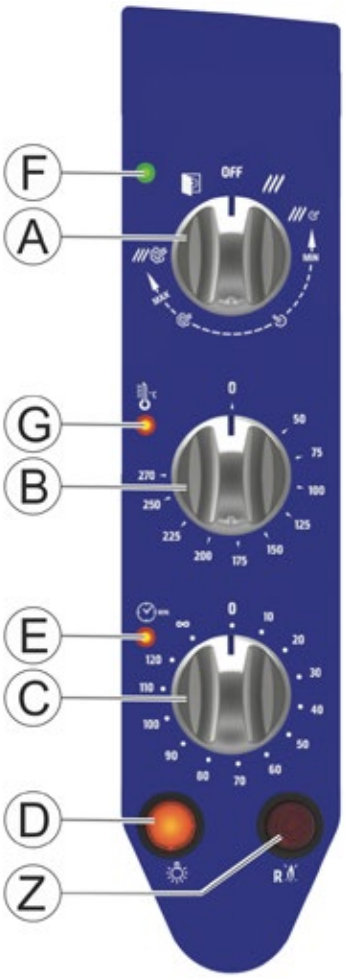
Oven model	Number of trays	Max. food loading
107	7 x 1/1 GN	20 kg
111	11 x 1/1 GN	30 kg
207	7 x 2/1 GN (14 x 1/1 GN)	40 kg
211	11 x 2/1 GN (22 x 1/1 GN)	60 kg
120	20 x 1/1 GN	60 kg
220	20 x 2/1 GN (40 x 1/1 GN)	120 kg

For a correct comprehension of the terminology used in the following paragraphs, we underline that **cooking phase is the period of time in which the oven carries out one of the following cooking modes:**

	**Convection hot forced air** (temperature range between 50 - 270°C)
	**Combination hot forced air and steam** (temperature range between 50 - 270°C)
	**Steam** (temperature range between 50 - 100°C)

4.1 PROGRAMMING AND OPERATION MOD. CONVECTION + HUMIDIFICATION

	**Convection forced hot air cycle** (temperature range between 50-270°C) Turn the cycle selector knob (A) to the symbol shown on the left and select the cooking temperature using thermostat knob (B).
	**Combination cycle, hot air and steam** (temperature range between 50-270°C) Turn the cycle selector knob (A) in the adjustment zone among the symbols shown on the left (with humidity from a minimum to a maximum) and select the cooking temperature using thermostat knob (B). The selector knob (A) allows a progressive regulation for humitidy adjustment.
	**Cooling down cycle** Open the door and turn the cycle selector knob (A) to the symbol shown on the left. This cycle allows the motor fan to work with open door, and to cool down quickly the cooking chamber.

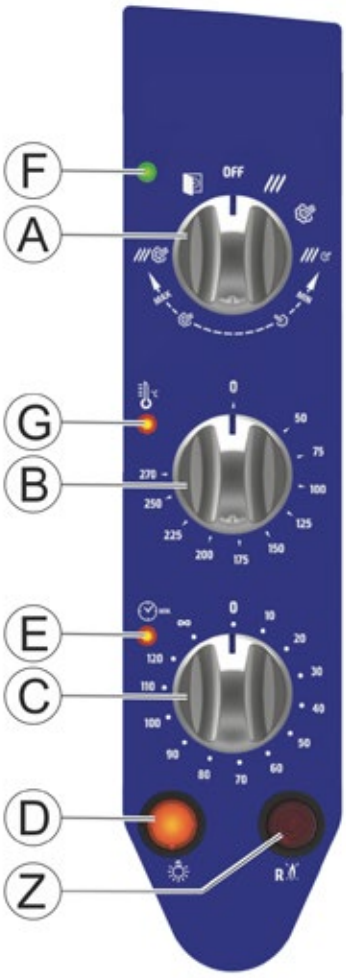


4.1A COMPONENTS DESCRIPTION PANNEL CONVECTION + HUMIDIFICATION

A	Cycle selector knob
B	Cooking chamber thermostat
C	Timer
D	Chamber lighting ON/OFF button
E	Pilot light timer ON
F	Pilot light oven power supply ON
G	Pilot light cooking chamber heating ON
Z	Gas burner ignition re-set button

4.2 PROGRAMMING AND OPERATION MOD. COMBI DIRECT

	**Convection forced hot air cycle** (temperature range between 50-270°C) Turn the cycle selector knob (A) to the symbol shown on the left and select the cooking temperature using thermostat knob (B).
	**Steam cycle** (temperature range between 50-100°C) Turn the cycle selector knob (A) to the symbol shown on the left and select the cooking temperature using the thermostat knob (B). **Important**: the max. allowed temperature will be 100°C, even if the thermostat knob will be positioned on higher values.
	**Combination cycle, hot air and steam** (temperature range between 50-270°C) Turn the cycle selector knob (A) to one of the seven adjustment positions among the symbols shown on the left (with steam flow from a minimum to a maximum) and select the cooking temperature using thermostat knob (B). The selector knob (A) allows a progressive regulation for humitidy adjustment.
	**Cooling down cycle** Open the door and turn the cycle selector knob (A) to the symbol shown on the left. This cycle allows the motor fan to work with open door, and to cool down quickly the cooking chamber.

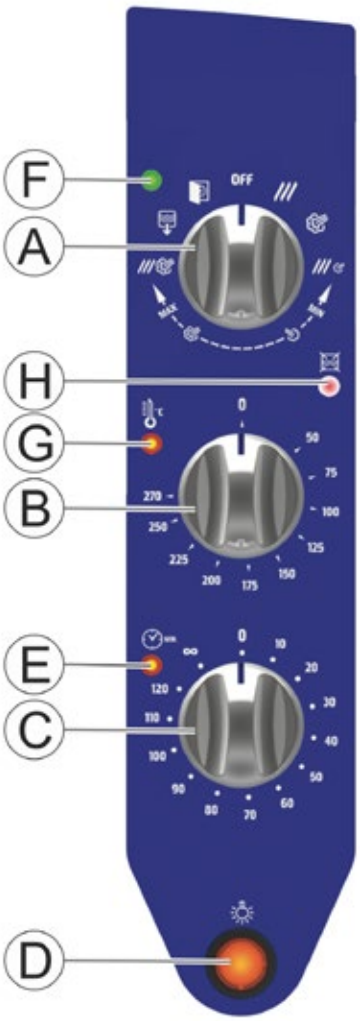


4.2A COMPONENTS DESCRIPTION PANNEL COMBI DIRECT

A	Cycle selector knob
B	Cooking chamber thermostat
C	Timer
D	Chamber lighting ON/OFF button
E	Pilot light timer ON
F	Pilot light oven power supply ON
G	Pilot light cooking chamber heating ON
Z	Gas burner ignition re-set button

4.3 PROGRAMMING AND OPERATION MOD. COMBI BOILER

	**Convection forced hot air cycle** (temperature range between 50-270°C) Turn the cycle selector knob (A) to the symbol shown on the left and select the cooking temperature using thermostat knob (B).
	**Steam cycle** (temperature range between 50-100°C) Turn the cycle selector knob (A) to the symbol shown on the left and select the cooking temperature using the thermostat knob (B). **Important**: the max. allowed temperature will be 100°C, even if the thermostat knob will be positioned on higher values.
	**Combination cycle, hot air and steam** (temperature range between 50-270°C) Turn the cycle selector knob (A) to one of the seven adjustment positions among the symbols shown on the left (with steam flow from a minimum to a maximum) and select the cooking temperature using thermostat knob (B). The selector knob (A) allows a progressive regulation for humitidy adjustment.
	**Cooling down cycle** Open the door and turn the cycle selector knob (A) to the symbol shown on the left. This cycle allows the motor fan to work with open door, and to cool down quickly the cooking chamber.
	**Boiler discharge cycle** Turn the cycle selector knob (A) to the symbol shown on the left. This cycle allows the complete discharge of the boiler



4.3A COMPONENTS DESCRIPTION PANNEL COMBI DIRECT

A	Cycle selector knob
B	Cooking chamber thermostat
C	Timer
D	Chamber lighting ON/OFF button
E	Pilot light timer ON
F	Pilot light oven power supply ON
G	Pilot light cooking chamber heating ON
H	Boiler water level pilot light

4.4 STARTING THE OVEN

Ensure that water supply are turned on and that the electricity supply is switched on.

Select the cooking time with the timer (C) that goes up to a maximum of 120 minutes; for longer cooking times, select the (∞) nonstop position.
When the timer is on and the door is closed the cooking cycle starts together with the electric fan, heating and steam generation, if selected.

When the set time is finished a buzzer signals that cooking is finished and all the functions stop.
When selecting the cooking time always remember the time needed to pre-heat the oven.
It 'a good practice to observe this caution before introducing the food to be cooked in the oven.

4.5 AUXILIARY COMMANDS AND CONTROLS

4.5A Internal cooking chamber lighting

All "ANALOG" models are equipped with internal light bulb.
Its activation is controlled by the button (D).

4.5B Cooking chamber preheating

It is always advisable to pre-heat the oven before cooking food.
The time needed to heat the oven should be set taking into account that in the hot air convection cycle it takes about 10 minutes to reach 220°C.
Having selected the desired time and temperature, switch the oven on without food inside.
At the end of the set time the ring signals that cooking can start.
In the steam cycle it is always advisable to preheat the oven, turning the steam adjuster knob round to MAX, for 10 minutes without opening the door.

4.5C Release valve (Fig. 4.5)

All models are equipped with this system, which regulate the humidity inside the cooking chamber.

The steam relief valve is opened and closed by rotating knob (A).

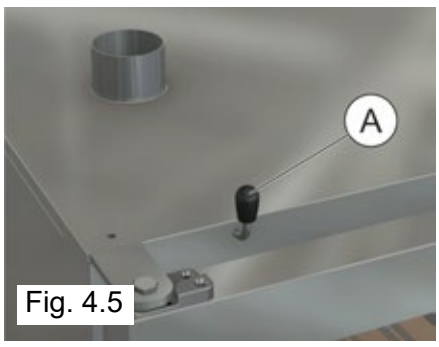


Fig. 4.5

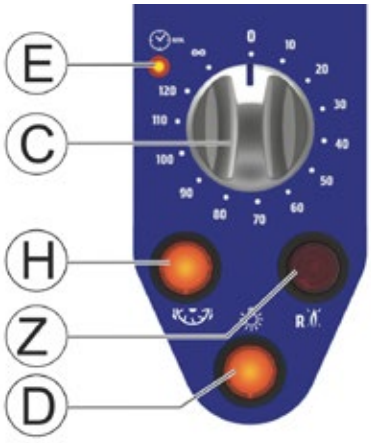
4.5D Autoreverse (OPTIONAL)

Autoreverse function is an optional.

When it is installed, its activation is controlled by the H switch, placed on the lower part of the control panel.

By pressing H switch, Autoreverse function, that reverses the fan rotation every 4 minutes to improve cooking uniformity, is activated.

Activation is confirmed by switch pilot light, which is on.



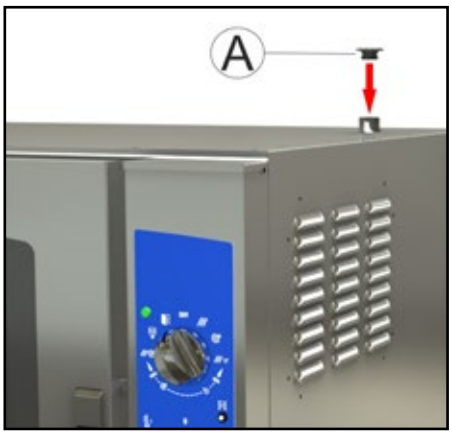
4.5D Safety devices (Mod. Combi Boiler)

The indicator light (H) to the symbol in the left panel indicates control the water level in the boiler. The lamp off indicates that the water level is normal.

The lamp turned on intermittently, red, indicates that the water level in the boiler is not within normal levels. The lighting of the lamp causes the shutdown of the boiler heating water. In this case it is advisable to request a review by qualified personnel.

4.5E Manual loading of the boiler for the descailing

The boiler is equipped with an entry situated on the top panel of the oven to effect the manual descailing.
To achieve the descailing proceed as follows:
Make the complete discharge of the boiler as described on paragraph. 1.1.



At the end of this operation, turn the switch selector to OFF position.
When the oven is cold, remove the cap (A).
In 1 liter of water dissolve 100 grams of descailing powder DISPOINOX® and pour the obtained solution into the boiler through the entry (A).

Set the selector switch to steam cycle, close the door and set a temperature of about 50 ° C. This will complete the boiler filling and heat the solution inside it.
After 30 minutes turn the oven off and let the descaling solution to decant for about 2 hours. After this, make the complete discharge of the boiler again.
Once again, turn the selector switch to steam position for 15 minutes at a temperature of 50°C.
Do the complete discharge of the boiler again.

For a proper preservation of the boiler you should do this operation every 50 hours of work in steam mode.

4.6 TURNING THE OVEN OFF

The oven is turned off by turning the cycle selector knob round to position 0.

9.0 MAINTENANCE

It is compulsory to turn the main switch off and close the water on-off valve, both installed upstream from the oven before servicing it.

The oven should be cleaned at the end of each working day, using specific products only.

All stainless steel parts should be:

1. cleaned with clear, soapy water;
2. rinsed with water;
3. dried thoroughly.

It is absolutely forbidden to use scrapers, metal soap pads and other common steel tools as they could besides scratching the surface, deposit iron particles that, oxidizing would cause rust to form.

DO NOT WASH THE APPLIANCE WITH JETS OF WATER
DO NOT USE PRODUCTS TO WASH THE STAINLESS STEEL PARTS, WHICH CONTAIN CHLOR (BLEACH, CHLORINE ACID) EVEN IF WATERED DOWN

Food and residuals and grease must be removed from the coking chamber each time it is used for cooking. The juices and fat that drip from the food and fall to the bottom, are conveyed to the drain in the centre.

To clean the oven, use a degreasing product suitable for stainless steel, a spray-on product for instance, that covers all areas, especially the back of the suction conveyor.

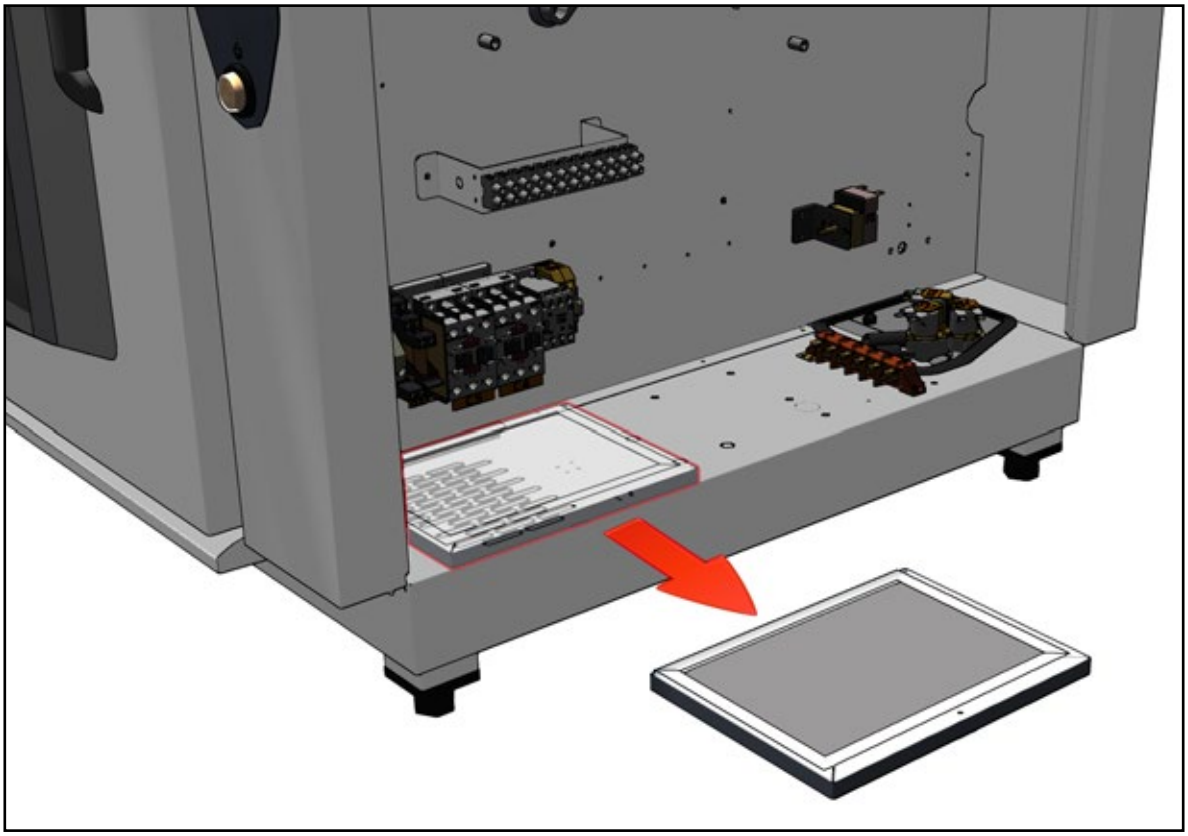
Then proceed as follows:

1. Heat the oven to a temperature of 50°C;
2. Apply the degreasing product in the recommended quantity;
3. Close the door;
4. Select the steam cycle and turn the oven on for 20-30 minutes
5. After this time open the oven door, protecting your eyes and skin from the fumes, and then wash with water or put the removable parts in the dishwasher.

The fan must be kept clean to avoid grease and fat from depositing on the blades causing motor revolutions to decrease leading to a reduction in the flow of air and dangerous mechanical stress to the motor itself.

When the appliance is not used for long periods of time :

1. Turn the main switch off
2. Close the water on-off valve (both installed upstream from the oven);
3. Leave the door open so air can circulate and prevent bad odors;
4. With a cloth spread a thin protective layer of Vaseline oil on all stainless steel surfaces;



The table top models are provided with dust filter positioned in the lower part of the right side.

Dismounting the right side panel you can extract the filter to wash it.

To allow proper air circulation in the components compartment is important to check frequently the status of the filter and if necessary wash it.

The floor models are provided with dust filters positioned in the lower part of the right side.

Unscrewing the 4 screws you can extract the filters to wash them.

To allow proper air circulation in the components compartment is important to check frequently the status of the filters and if necessary wash them.

9.1 WHAT TO DO IN CASE OF A BREAKDOWN AND/OR EXTENDED PERIOD OF NON USE

If the oven does not work properly, breaks down or if the safety thermostat triggers, switch the oven off, disconnect the electricity and water supply and notify the technical assistance service.

All work of installation, maintenance and repairs should be carried out exclusively by qualified and authorized personnel.

10.0 COOKING TIPS

For best results we recommend the use of GASTRONORM trays , making sure to always leave a space of at least 3 cm between foods of a baking tray and the tray above it, in order to allow the perfect air circulation. it is advisable to avoid the food to be cooked overflows from the pan , or in case this is not possible, avoid placing the pan on the top floor to that affected by the situation described .
Can be performed simultaneously cooking of different foods at the same temperature , avoiding the overlapping of flavors, the products stronger flavor will always placed in the top of the cooking chamber.
For the choice of the optimal cooking temperature must be taken into account the following rule: select a lower temperature by about 20 % compared to the one set in traditional ovens without ventilation.
The forced ventilation system, of which this oven is equipped, ensure cooking in less time.
Failure to comply with the foregoing may affect the outcome of perfect cooking .

10.0A Convection cooking: the convection system, hot air and temperature between 50 and 270 °C, is indicated for all types of cooking where want to get the food dry and crisp. To support this result it is advisable to open the release valve to help the output of steam from the cooking chamber.

10.0B Steam cooking: with this system, at variable temperature between 50-100 °C, can be performed cooking very similar to the boiling in water.
Free steam pressure ensures even and delicate cooking, and the loss of vitamins and minerals is almost nothing. Cooking times are lower than those in water.

We always recommend using the perforated G.N. tray so that, when cooking is finished , there is no water on the bottom of the tray. If you need to use the cooking liquid you can put an ordinary G.N. tray underneath.

10.0C Steam-convection cooking: This method, commonly called " combined", combining variably the two previous cooking methods.
Is indicated for all types of cooking where want to get food soft and juicy.

10.1 REMEDIES TO COOKING HITCHES

If cooking is uneven:

Check that there is at least 3 cm between the food cooking and the tray above it: if there is less space it will not allow correct ventilation of the food to be cooked. Make sure that the foods to cook are not against each other which would prevent correct ventilation between them.

Cooking temperature might be too high, try with a lower temperature. If the food cannot stand direct contact with the hot air it must be put in suitably deep G.N. containers.

If the food is dry:

Reduce cooking time.

The temperature must be adequately lowered. Remember that the lower the temperature is the less weight will be lost.

The combined cycle for a humidity rich cooking environment was not selected.
The food was not greased with oil or juices before it was put in to cook.