



Do not use in environments containing explosive substances and / or flammable.

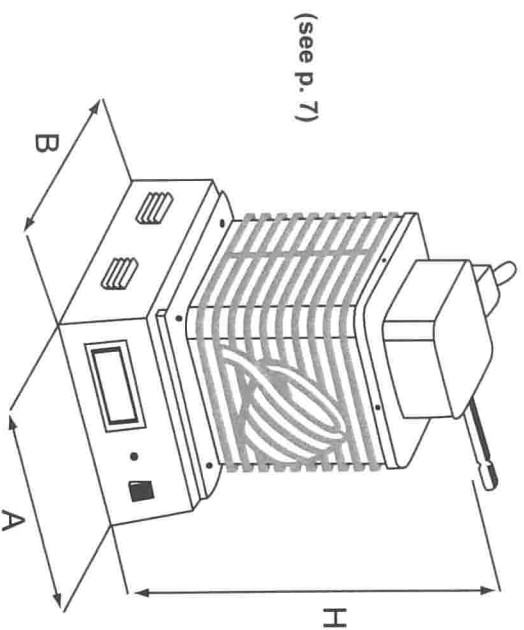
An equipotential bonding system must be connected to the electrical equipment.

The furnace must be connected to an electrical system with a protective conductor (PE), and meet the safety requirements established by the current standards.

CHAP. 5 TECHNICAL DATA AND DIMENSIONS

The furnace basically consists of an upper metal box where the melting occurs and a lower box where the instruments and electrical system are located.

The furnace is designed to reach a maximum temperature of 1100°C. The melting temperature is checked by a pyrometer. The furnace has a refractory chamber insulated with ceramic fibre and enclosed inside a metal structure.



Power of the heating elements/weight

model	power	220 V./110V.	Weight Kg.
GF1100ND05	650W.	✓	3,7
GF1100ND	1000W.	✓	6,7
GF1100N2D	1300W	✓	7,2
GF1100N3D	1700W	✓	7,2
GF1100N4D	2200W	✓	8

Dimensions

model	A (cm.)	B (Cm.)	H (Cm.)
GF1100ND05	18	17	29,5
GF1100ND	21,5.	23	35
GF1100N2D	21,5	23	38,5
GF1100N3D	21,5	23	38,5
GF1100N4D	31	27	40

Packaging

model	A (cm.)	B (Cm.)	H (Cm.)	list
GF1100ND05	26,5	28	42	4,9
GF1100ND	38	28	42	8,2
GF1100N2D	38	28	42	9,1
GF1100N3D	38	28	42	9,1
GF1100N4D	38	28	42	13

The weight and dimensions of the package include the stirrers, crucible, power cord, instruction manual and cardboard packaging.

Mains power supply: 220/230V 50/60Hz 110V 50Hz

240 V 60 Hz
110 V 50 Hz (not available in N4D)

based on the model in use

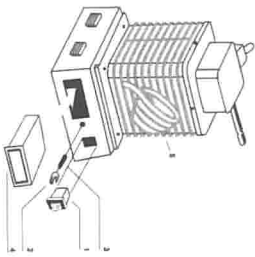
Mains fuse: 10 A rapid.

Network connection: P/N/PE cable - Section 3x1 mm - l=2m.



CHAP. 6 INSTALLATION AND POSITIONING

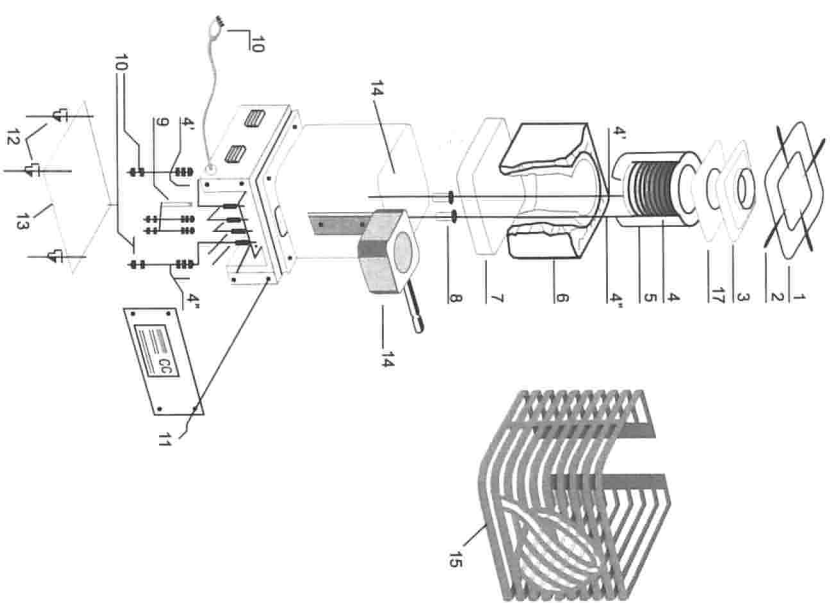
The total mass of the furnaces never weighs more than 10 kg. Therefore, it can be easily moved by hand.
Position the furnace vertically on a flat, stable and fireproof surface, if possible, in an area equipped with a fume hood or with good ventilation.



1. ON/OFF switch. I - O
2. Fuse holder
3. Fuse
4. Digital pyrometer
5. Heat protection grid

CHAP. 7 LIST OF PARTS AND REPLACEMENT OF RESISTANCE SUPPORT CYLINDER (MUFFLE)

1. Steel top
2. Fastening screw for steel top
3. Ceramic insulating plate
4. Resistance supporting muffle
4" and 4" Muffle power supply resistances
5. Ceramic tube
6. Insulating fibre
7. Bottom panel of furnace
8. Insulating ceramic sheaths
9. Thermocouple
10. Power supply socket
11. Rear door
12. Fastening screws for bottom panels
13. Bottom panel
14. Cover
15. Heat protection grid
16. Fastening screws for heat protection grid
17. Ceramic fibre panel with hole



Replacement of resistance support muffle

Remove the cover (fig. 14).

Remove the six screws from the heat protection grid and pull gently outward to extract the heat protection grid from the furnace.

Turn the furnace over and place it securely on a flat surface. Unscrew the four screws (fig. 12) of the bottom panel (fig. 13) and rear door (fig. 11).

Unscrew the fastening screws of the ceramic terminal (follow the GREEN wire to find it) and remove the thermocouple. Pull in a vertical direction.

Disconnect the white wires of the resistance positioned on the outermost ceramic terminal and straighten them so that they can then be pulled out easily. Remove the insulating sheath.



Place the melting furnace back in a vertical position.

Unscrew the 4 screws (fig. 2) of the steel top (fig. 1) and remove.

Pull out the ceramic plate (fig. 3), extract the insulating fibre and the resistance support cylinder (fig. 6 and fig. 4) and set them aside.

At this point, hold the bottom part of the furnace and extract the resistance support cylinder (fig. 4). Then remove the ceramic cylinder (fig. 5), taking care to not lift or remove the insulating fibre (fig. 6).

Take hold of the new resistance support muffle and thread the wires through the holes of the bottom panel (fig. 7). Make sure there is nothing obstructing the wires, and press until the entire resistance support muffle is well secured on the bottom.

NB: When pushing, accompany the wires from the bottom of the furnace.

Take hold of the ceramic fibre panel with the hole (fig. 17) and reposition it on the new resistance support cylinder.

Take hold of the plate (fig. 3) and place it on top of the resistance support cylinder (fig. 5). Replace the steel top (fig. 1) and tighten the screws (fig. 2).

Turn the furnace over, put the protective sheaths back on the new cables, and then reconnect the wires to the outermost terminal. Reassemble the thermocouple or screw the terminal to the structural frame.

Close the bottom door (fig. 13) and rear door (fig. 11).

First replace the cover (fig. 14) and then the heat protection grid (fig. 15).

CHAP. 8 INSTRUCTIONS FOR USE, ADJUSTMENT AND SET-UP OF FURNACE



After connecting the power cord to the socket of the furnace, insert the plug into the electrical outlet and press the ON/OFF switch.

For the digital thermostat (see CHAP. 9), insert the graphite crucible full of metal to be melted into its holder. Close the cover.

Once the metal has melted, the pyrometer on the front of the furnace will maintain the set temperature, which is marked in green on the lower part of the digital pyrometer itself.

At this point, open the cover and remove the crucible using the tongs supplied.

Always check that the crucible is **intact**. If worn, **replace immediately**.

Pour the molten metal into the moulds, avoiding long trips.



Once completed, store the crucible in a safe, fireproof and heat-resistant area, clearly identifying that it is very hot and dangerous.
(See also CHAP. 10).

CHAP. 9 DIGITAL PYROMETER

The digital pyrometer allows setting the desired temperature (max. 1120°) of the melting furnace. Turn on the furnace (position the switch on I), and the pyrometer will turn on automatically. The ambient temperature is shown in red on the top part.

To set the desired temperature in the bottom green part, press the P key once. The message SP1 appears, use the UP (+) and DOWN (-) arrows to set the desired temperature and confirm with the P key. Once the current temperature is displayed in red, the furnace starts and begins to heat up.

The digital pyrometer will start to increase the temperature autonomously and once the desired temperature is reached, it will automatically maintain that temperature.

The furnace memorises the last temperature selected, even after it has been turned off.

NOTE: The FNC key is not used, the SET key is used only for the function described above.

CHAP. 10 CARE AND MAINTENANCE

It is advisable to replace the heating element (muffle) after maximum 150 hours of use. When using the flux (borax), make sure it does not touch the heating element because it may affect duration.

To ensure good maintenance of the melting furnace and its parts, it is recommended to let it cool down after use with the cover open. Remove the crucible from its holder and place it on a fireproof surface until it has cooled down completely.

It is recommended to keep a register for reporting the maintenance operations, working hours and repairs.