High volume orbital shaker incubators

FAN AIR CIRCULATED, WITH OR WITHOUT REFRIGERATION
DIGITAL ELECTRONIC CONTROL OF SPEED, TEMPERATURE AND TIME. FOR LONG OPERATING PERIODS.

SAFETY:
TRIPLE PROTECTION MOTOR DRIVE:
OVER TEMPERATURE, IRREGULAR MOVEMENTS, AUTOMATIC STOP WHEN THE DOOR IS OPENED, TEMPERATURE ALARM, THERMAL CUTOUT.

GENERAL FEATURES
Metallic external case epoxy-coated.
Current and set digital reading of temperature, time and speed parameters.
Acoustic alarm and illuminated indicator at the end of the cycle and also to indicate temperature and / or time programs errors.
Automatic switch off mechanism when the shaker door is opened.
Motor over load protection, with automatic switch off activation.
Induction drive motor, where the drive mechanism has an anti vibration system.
Refrigerated models have a hermetically sealed compressor unit with a ventilated condenser.
Internal case made of stainless steel AISI 316 with polished finish and glazed door for a handy visibility of the samples process.
Internal platform with multi-adapter positions for differing accessories, such as: conical flask adapters, microtitre plate holders and universal tray with adjustable tension springs for other non standard sized vessels.

HINGED DOOR MODELS “S100D” AND “S200D”
Tempered glass hinged door.
The orbital rotation can be adjusted without disassembly from 50mm.

MODELS FRAMEWORK TYPE “S1102” AND “S2102”
Made with two doors framework type and double glass windows which allow visibility of the material exposed in the inside.
Two removable upper trays for high volume Erlenmeyer flasks accommodation in the lower tray.
Adjustable outlet hole for the air in the inside of the chamber.
Amplitude of oscillation: 25mm.
With wheels for movements and adjustable support for a stabled fixing.
Accessories: See pag. 41

CONTROL PANEL
0. LCD Display.
1. Heater “ON” indicator.
2. Alarm indicator.
3. Refrigeration compressor ”ON” indicator (only refrigerated models)
4. Time function push button.
5. Modify and confirm push button.
7. Adjust temperature push button (only refrigerated models)
8. Speed push button.
9. Rotation push button.
10. Reduce value push button.
11. Increase value push button.
12. Temperature push button.

Note: In models framework type, the control panel position is horizontal.

Hinged door model with refrigeration

Framework type models with or without refrigeration
**MODELS**

<table>
<thead>
<tr>
<th></th>
<th>S100D</th>
<th>S200D</th>
<th>S1102</th>
<th>S2102</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
<td>5312130</td>
<td>5312131</td>
<td>5312132</td>
<td>5312133</td>
</tr>
<tr>
<td>Rotation amplitude</td>
<td>Continuous adjustment from 0 to 50 mm orbital</td>
<td>25 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controllable speed range</td>
<td>from 30 to 400 r.p.m.</td>
<td>from 30 to 400 r.p.m.</td>
<td>from 40 to 300 r.p.m.</td>
<td>from 40 to 300 r.p.m.</td>
</tr>
<tr>
<td>Controllable speed in steps of</td>
<td>1 r.p.m.</td>
<td>1 r.p.m.</td>
<td>1 r.p.m.</td>
<td>1 r.p.m.</td>
</tr>
<tr>
<td>Refrigeration</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Heating</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Controllable temperature range</td>
<td>from ambient +5 °C to 60 °C</td>
<td>from 5 °C up to 60 °C</td>
<td>from ambient +5 °C to 60 °C</td>
<td>from 6 °C up to 60 °C</td>
</tr>
<tr>
<td>Controllable temperature in steps of</td>
<td>0.1 °C</td>
<td>0.1 °C</td>
<td>0.1 °C</td>
<td>0.1 °C</td>
</tr>
<tr>
<td>Chamber temperature uniformity</td>
<td>±1 °C</td>
<td>±1 °C</td>
<td>±1 °C</td>
<td>±1 °C</td>
</tr>
<tr>
<td>Timer</td>
<td>from 0 to 500 hours</td>
<td>from 0 to 500 hours</td>
<td>from 0 to 500 hours</td>
<td>from 0 to 500 hours</td>
</tr>
<tr>
<td>Usable platform dimensions</td>
<td>370 x 400 mm</td>
<td>420 x 380 mm</td>
<td>734 x 458 mm</td>
<td>734 x 458 mm</td>
</tr>
<tr>
<td>Platform number</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Maximum conical flask capacity</td>
<td>6 x 1000 ml, or 9 x 500 ml, 12 x 250 ml, or 16 x 100 ml, 20 x 50 ml</td>
<td>9 x 1000 ml, or 9 x 500 ml, 16 x 250 ml, or 20 x 100 ml, 25 x 50 ml</td>
<td>*4 x 5000 ml, or *8 x 3000 ml, or *8 x 2000 ml, or 24 x 1000 ml, or 44 x 500 ml, or 56 x 250 ml, or 104 x 100 ml, or 104 x 50 ml</td>
<td>*4 x 5000 ml, or *8 x 3000 ml, or *8 x 2000 ml, or 24 x 1000 ml, or 44 x 500 ml, or 56 x 250 ml, or 104 x 100 ml, or 104 x 50 ml</td>
</tr>
<tr>
<td>Dimensions Height x Width x Depth</td>
<td>610 x 610 x 510 mm</td>
<td>700 x 740 x 560 mm</td>
<td>1440 x 950 x 700 mm</td>
<td>1440 x 950 x 700 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>72 Kg</td>
<td>100 Kg</td>
<td>200 Kg</td>
<td>235 Kg</td>
</tr>
<tr>
<td>Power</td>
<td>490 W</td>
<td>580 W</td>
<td>930 W</td>
<td>1200 W</td>
</tr>
</tbody>
</table>

**ACCESSORIES**

**Erlenmeyer and flask adapters.**

Made from hardened sprung stainless steel.

- Part No. 5312105 Adapter for 50 ml
- Part No. 5312106 Adapter for 100 ml
- Part No. 5312107 Adapter for 250 ml
- Part No. 5312108 Adapter for 500 ml
- Part No. 5312109 Adapter for 1000 ml
- Part No. 5312110 Adapter for 2000 ml
- Part No. 5312111 Adapter for 3000 ml
- Part No. 5312112 Adapter for 5000 ml

**Universal platform tray with elastic tension clips** that hold in position any type of vessel, flasks, beakers, racks, etc.

For model S100D
Dimensions 400 x 370 x 80 mm
Part No. 5312134

For model S200D
Dimensions 420 x 400 x 80 mm
Part No. 5312135

For models S1102 and S2102
Dimensions 780 x 480 x 80 mm
Part No. 5312136

**Note:** An upper tray divided into two removable pieces which allow high volume Erlenmeyer flasks accommodation, from 2000 to 5000 ml, in the lower tray or the Universal platform which is supplied as an accessory.
Stackable high volume orbital shaker incubators

**GENERAL FEATURES**

Metallic external case epoxy-coated and ABS frontal, specially designed to be able to stack up to 3 incubators.

- TFT Touch screen.
- 8 programable segments, current and set reading of temperature, time and speed parameters.
- Acoustic alarm and illuminated indicator at the end of the cycle and also to indicate temperature and/or time programs errors.
- Automatic switch off mechanism when the shaker door is opened.
- Motor over load protection, with automatic switch off activation.
- Induction drive motor, where the drive mechanism has an anti vibration system.
- Refrigerated models have a hermetically sealed compressor unit with a ventilated condenser.
- Internal case made of stainless steel AISI 316 with polished finish and glazed door for a handy visibility of the samples process.
- Interior platform with front extraction guides with multi-adapter positions for differing accessories, such as: conical flask adapters, microtitre plate holders and universal tray with adjustable tension springs for other non standard sized vessels.
- The orbital rotation can be adjusted without disassembly from 50mm.
- Amplitude of oscillation: 25-50mm.
- Comes complete with print and USB output for the process registration.

### MODELS

<table>
<thead>
<tr>
<th></th>
<th>ZHP-2012</th>
<th>ZGP-2012 Refrigerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
<td>5312137</td>
<td>5312138</td>
</tr>
<tr>
<td>Controllable speed range</td>
<td>from 30 to 300 r.p.m.</td>
<td>from 30 to 300 r.p.m.</td>
</tr>
<tr>
<td>Controllable speed in steps of</td>
<td>1 r.p.m.</td>
<td>1 r.p.m.</td>
</tr>
<tr>
<td>Controllable temperature range</td>
<td>from ambient +5 °C to 60 °C</td>
<td>from 4 °C to 60 °C</td>
</tr>
<tr>
<td>Controllable temperature in steps of</td>
<td>0.1 °C</td>
<td>0.1 °C</td>
</tr>
<tr>
<td>Chamber temperature uniformity</td>
<td>±1 °C</td>
<td>±1 °C</td>
</tr>
<tr>
<td>Timer</td>
<td>999 hours</td>
<td>999 hours</td>
</tr>
<tr>
<td>Usable platform dimensions</td>
<td>780 x 480 mm</td>
<td>780 x 480 mm</td>
</tr>
<tr>
<td>Platform number</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Maximum conical flask capacity (see accessories)</td>
<td>12 X 2000 ml or 15 x 1000 ml, 78 x 500 ml, or 40 x 250 ml</td>
<td>12 X 2000 ml or 15 x 1000 ml, 78 x 500 ml, or 40 x 250 ml</td>
</tr>
<tr>
<td>Dimensions Height x Width x Depth</td>
<td>640 x 1150 x 780 mm</td>
<td>640 x 1150 x 780 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>150 Kg</td>
<td>180 Kg</td>
</tr>
<tr>
<td>Power</td>
<td>760 W</td>
<td>1120 W</td>
</tr>
</tbody>
</table>

### ACCESSORIES

- Erlenmeyer and flask adapters. Made from hardened sprung stainless steel.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Adapter for</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5312105</td>
<td>50 ml</td>
<td></td>
</tr>
<tr>
<td>5312106</td>
<td>100 ml</td>
<td></td>
</tr>
<tr>
<td>5312107</td>
<td>250 ml</td>
<td></td>
</tr>
<tr>
<td>5312108</td>
<td>500 ml</td>
<td></td>
</tr>
<tr>
<td>5312109</td>
<td>1000 ml</td>
<td></td>
</tr>
<tr>
<td>5312110</td>
<td>2000 ml</td>
<td></td>
</tr>
</tbody>
</table>
Ultrasonic homogenizers “CY-500”
INTENSE CAVITY SHAKING.
FOR 10 TO 500ML VOLUMES.

OPERATION
The ultrasonic generator transforms the electric current from 220V 50Hz into ultrasonic energy of 20Hz, to feed the ultrasonic transducers. The transducer produces an elastic distortion by following the alternate voltage, which traduces in a longitudinal mechanical vibration that produces a cavitation effect in the titanium alloy probe submerged in the solution. This generates a multitude of micro bubbles which releases a considerable energy in the probe end that allow a sample intense shaking and vibration.

APPLICATIONS
Biology, chemistry, environment, general analysis laboratory.
It allows disintegration of cells and biological tissue, DNA protein extraction, ether hydrolysis RNA, reactions output acceleration and increase, earth and sediments treatment according to EPA SW methods which simplifies the Soxhet method in time, quality control, R&D, sample gas remove, dissolution and homogenization, emulsion, dispersion, liposomes formation, proteins microencapsulation, etc.

FEATURES
The equipment consists of a control and power unit and an ultrasonic transducer (homogenizer).
Control unit: Epoxy coated external metallic case and ABS front panel. It consists of a LCD display, cycle time programming push buttons, impulse intervals, maximum power and temperature with 10 programs configurable by the user. Probe and connector for the sample temperature control.
Ultrasonic transducer consists of a piezoelectric converter with a ¼ inches titanium alloy probe (5.6mmØ and 60mm height).
It is hold by means of a retort stand and an adjustable clamp, max. 44 cm height.

CONTROL PANEL
On/off switch.
Parameters indicator LCD display.
Ultrasonic power adjustable control (1-99%).
Push button from 0 to 9 for parameters selection: Time (1’ – 2hours).
Maximum impulses and temperature.
SET push button: select parameters.
CLEAR push button: cancel parameters.
ENTER push button: validate parameters.
START/STOP push button: cycle beginning and end.
PAUSE push button: pause function.
RECALL-SAVE push button: memory to save 10 programs.

ACCESSORY
Anti-noise cabin
Made in double isolated layer that protects from high noises emitted by the ultrasound effects.
It comes with a transparent door.
Part No. 5059601
Probe 1/8” for volumes of 0.5-400 ml.
Part No. 5059602
Probe 3/8” for volumes of 20-600 ml.
Part No. 5059603

MODEL
<table>
<thead>
<tr>
<th>Part No.</th>
<th>KHz</th>
<th>Frequency</th>
<th>Height/Width/Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>5059600</td>
<td>20</td>
<td>22</td>
<td>19</td>
<td>33</td>
<td>500</td>
</tr>
</tbody>
</table>

It is supplied with a support-rod adjustable in height.
**Multifunctional grinding mill “TR-20”**
FOR CRASHING AND SHEARING (INDUSTRIAL DESIGN)

**APPLICATIONS**
For a wide range of products grinding, solid, fragile, soft and semi-hard ones. For the use in pharmaceutical, chemistry and alimentary industry in general.

**FEATURES**
Made of stainless steel AISI 304.
Device for different kind of easily changeable sieves. From 0,12 mm Ø to 0,80 mm Ø.
It is supplied with a sieve of 0,18 mm Ø.
Only suitable for grinding samples with relative humidity below 20%.

**CONTROLS PANEL**
Start button.
Stop button.
Container positioner button.
Timer from 1 to 99.9h.

<table>
<thead>
<tr>
<th>Model</th>
<th>Part no.</th>
<th>Volume</th>
<th>Load capacity (50%)</th>
<th>RPM</th>
<th>Height / Width / Depth (external cm)</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR-20</td>
<td>58100000</td>
<td>5</td>
<td>2,5</td>
<td>18</td>
<td>58 / 72 / 37</td>
<td>550</td>
<td>47</td>
</tr>
<tr>
<td>TR-20</td>
<td>5810001</td>
<td>8</td>
<td>4</td>
<td>18</td>
<td>64 / 81 / 37</td>
<td>550</td>
<td>52</td>
</tr>
<tr>
<td>TR-20</td>
<td>5810002</td>
<td>50</td>
<td>20</td>
<td>15</td>
<td>130 / 150 / 50</td>
<td>750</td>
<td>250</td>
</tr>
</tbody>
</table>

**ACCESSORIES**

<table>
<thead>
<tr>
<th>Sieves</th>
<th>Part no.</th>
<th>Sieve Ø mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>5810007</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5810001</td>
<td>0,80</td>
<td></td>
</tr>
<tr>
<td>5810002</td>
<td>0,38</td>
<td></td>
</tr>
<tr>
<td>5810003</td>
<td>0,25</td>
<td></td>
</tr>
<tr>
<td>5810004</td>
<td>0,18</td>
<td></td>
</tr>
<tr>
<td>5810005</td>
<td>0,12</td>
<td></td>
</tr>
</tbody>
</table>

**SPARE PARTS**
Shear Part no. 5810006

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**V solid mixer homogenizer “VS-5”, “VS-8” and “VS-50”**
CAPACITY: FROM 5 TO 50 KG. (INDUSTRIAL DESIGN)

**APPLICATIONS**
For the use in pharmaceutical, chemistry and alimentary industry.
For powder, granulated and small concentrated batches that are sent to the production plant after being investigated in laboratory.

**FEATURES**
Made of stainless steel AISI 304.
It have two loading entrances in V and an unloading hole which is protected with isolated covers with silicon gaskets.
Engine group with shaking device at a constant speed of 18 rpm.

**CONTROL PANEL**
Start button.
Stop button.
Container positioner button.
Timer from 1 to 99.9h.

<table>
<thead>
<tr>
<th>Model</th>
<th>Part no.</th>
<th>Capacity Kg / h</th>
<th>Db</th>
<th>RPM</th>
<th>Voltage V</th>
<th>Measures (cm)</th>
<th>Power Kw</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR-20</td>
<td>58100000</td>
<td>10 a 30</td>
<td>85</td>
<td>4200</td>
<td>380-50 Hz phase</td>
<td>70 / 40 / 80</td>
<td>2,2</td>
<td>85</td>
</tr>
</tbody>
</table>

**SPARE PART**
Silicone gasket for VS-5, VS-8 and VS-50
Part No. 5810110 (Unit).
STERILIZATION AND BACTERIOLOGICAL OVENS - FURNACES

Poupinel sterilizers
Drying and sterilization ovens
Universal precision ovens
High temperature ovens
Vacuum ovens
Desiccators
Bacteriological incubators
Cooled low temperature incubator
Incubator chamber
CO₂ incubator
Precise cooled incubators
Electric muffle furnaces

page 136
pages 137 to 149
pages 142 and 143
page 146
pages 147 and 148
page 149
pages 150 to 153
pages 154 and 155
page 156
page 157
page 158 and 160
pages 161 to 163

“The key to quality is found in the personal commitment of each and every one within a company and by the management taking the lead.”
Eugenio d’Ors
Conforms to the international directives for safety and precision.

MODEL RANGE:

- Drying and sterilization.
- Universal: Programmed for cultures and sterilization.
- Vacuum drying.
- Bacteriological cultures.
- Low temperature- High Precision Peltier systems.
- CO2 Incubators.
- Precise refrigerators and cooled incubators.
- More than 70 models with capacities from 19 to 720 litres.
- Controllable temperatures from –10 to 250 °C and 400 °C.
- Analogue or digital control through a microprocessor for temperature and time.
- Wide range of accessories for varying applications.
## OVENS, INCUBATORS AND FURNACES

### Summary table of the different models

<table>
<thead>
<tr>
<th>MODEL RANGE</th>
<th>STERILIZERS POUPELET</th>
<th>MODELS</th>
<th>CONTROL</th>
<th>CAPACITY</th>
<th>SAFETY</th>
<th>RS-232</th>
<th>USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 ... 220 °C</td>
<td>DRYTIME II</td>
<td>ANALOGUE</td>
<td>2000912</td>
<td>-</td>
<td>YES</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>60 ... 250 °C</td>
<td>DRYTERM</td>
<td>ANALOGUE</td>
<td>-</td>
<td>2000787</td>
<td>YES</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>GLASS DRYING</td>
<td></td>
<td></td>
<td>125 litres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 ... 170 °C</td>
<td>DRYGLASS</td>
<td>ANALOGUE</td>
<td>2000381</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CONVECTION NATURAL</td>
<td></td>
<td></td>
<td>19 litres</td>
<td>36 litres</td>
<td>52 litres</td>
<td>80 litres</td>
<td>150 litres</td>
</tr>
<tr>
<td>40 ... 250 °C</td>
<td>CONTERM</td>
<td>Digital LED</td>
<td>200250</td>
<td>200251</td>
<td>200252</td>
<td>2000253</td>
<td>2000254</td>
</tr>
<tr>
<td>Ambient+5 ... 250 °C</td>
<td>DIGITHEAT-TFT</td>
<td>TFT Touch screen</td>
<td>2001251</td>
<td>2001252</td>
<td>2001253</td>
<td>2001254</td>
<td>2001255</td>
</tr>
<tr>
<td>FORCED AIR, FAN CONVECTION BENCH TOP</td>
<td></td>
<td></td>
<td>216 litres</td>
<td>288 litres</td>
<td>400 litres</td>
<td>720 litres</td>
<td>4200 litres</td>
</tr>
<tr>
<td>Ambient+5 ... 250 °C</td>
<td>DIGITRONIC-TFT</td>
<td>TFT Touch screen</td>
<td>2005163</td>
<td>2005165</td>
<td>2005167</td>
<td>2005169</td>
<td>YES</td>
</tr>
<tr>
<td>ambient+5 ... 250 °C</td>
<td>DIGITRONIC-TFT glass door</td>
<td>TFT Touch screen</td>
<td>2005164</td>
<td>2005166</td>
<td>2005168</td>
<td>2005170</td>
<td>YES</td>
</tr>
<tr>
<td>FORCED AIR, FAN CONVECTION FLOOR STANDING</td>
<td></td>
<td></td>
<td>80 litres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 ... 400 °C</td>
<td>HIGHTEMP 230/400V III PHASES</td>
<td>DIGITAL</td>
<td>2001406</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VACUUM OVEN</td>
<td></td>
<td></td>
<td>3 litres</td>
<td>47 litres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 ... 200 °C</td>
<td>VACIOTEM T</td>
<td>DIGITAL</td>
<td>4001489</td>
<td>YES</td>
<td>YES</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>35 ... 200 °C</td>
<td>VACIOTEM TV</td>
<td>DIGITAL</td>
<td>4001490</td>
<td>YES</td>
<td>YES</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Ambient+5 ... 170 °C</td>
<td>VACUO-TEMP</td>
<td>DIGITAL</td>
<td>4000474</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DESICATOR</td>
<td></td>
<td></td>
<td>55 litres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1001403</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>INOCULATION CHAMBER</td>
<td></td>
<td></td>
<td>110 litres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient+5 ... 57 °C</td>
<td>BOXCULT</td>
<td>DIGITAL</td>
<td>3000957</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>INCUBATORS BENCH TOP</td>
<td></td>
<td></td>
<td>19 litres</td>
<td>36 litres</td>
<td>52 litres</td>
<td>80 litres</td>
<td>150 litres</td>
</tr>
<tr>
<td>Ambient+5 ... 80 °C</td>
<td>INCUBAT</td>
<td>Digital LED</td>
<td>2000260</td>
<td>2000261</td>
<td>2000262</td>
<td>2000263</td>
<td>2000264</td>
</tr>
<tr>
<td>Ambient+5 ... 80 °C</td>
<td>INCUDIGIT-TFT</td>
<td>TFT Touch screen</td>
<td>2001261</td>
<td>2001262</td>
<td>2001263</td>
<td>2001264</td>
<td>2001265</td>
</tr>
<tr>
<td>INCUBATORS LARGE AND FLOOR STANDING</td>
<td></td>
<td></td>
<td>288 litres</td>
<td>400 litres</td>
<td>720 litres</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient+5 ... 80 °C</td>
<td>INCUBIG-TFT</td>
<td>TFT Touch screen</td>
<td>2000238</td>
<td>2000239</td>
<td>2000240</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>LOW TEMPERATURE CABINETS</td>
<td></td>
<td></td>
<td>36 litres</td>
<td>80 litres</td>
<td>150 litres</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 ... 60 °C</td>
<td>PREBATEM-TFT</td>
<td>TFT Touch screen</td>
<td>2000963</td>
<td>2000964</td>
<td>2000965</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>CO2 INCUBATOR</td>
<td></td>
<td></td>
<td>150 litres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient+5 ... 50 °C</td>
<td>INCUBATOR CO2</td>
<td>DIGITAL</td>
<td>4002628</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>-</td>
</tr>
<tr>
<td>WITH REFRIGERATION</td>
<td></td>
<td></td>
<td>160 litres</td>
<td>600 litres</td>
<td>670 litres</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+5 ... 85 °C</td>
<td>HOTCOLD S</td>
<td>DIGITAL</td>
<td>2101518</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>-10 ... 60 °C</td>
<td>HOTCOLD UC</td>
<td>TFT Touch screen</td>
<td>2101515</td>
<td>YES</td>
<td>-</td>
<td>YES</td>
<td>-</td>
</tr>
<tr>
<td>6 ... 20 °C (with humidity)</td>
<td>HOTCOLD F</td>
<td>TFT Touch screen</td>
<td>2101517</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6 ... 20 °C (with humidity)</td>
<td>HOTCOLD J</td>
<td>TFT Touch screen</td>
<td>2101518</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MUFFLE FURNACE</td>
<td></td>
<td></td>
<td>3 litres</td>
<td>3.6 litres</td>
<td>8 litres</td>
<td>9 litres</td>
<td></td>
</tr>
<tr>
<td>Up to ... 1150 °C</td>
<td>SELECT-HORN-TFT</td>
<td>TFT Touch screen</td>
<td>2000376</td>
<td>2000377</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Up to ... 1100 °C</td>
<td>R</td>
<td>TFT Touch screen</td>
<td>2000368</td>
<td>2000369</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

µ: with microprocessor.
Poupinel dry heat sterilizer “Drytime II”
ADJUSTABLE TEMPERATURES FROM 50 °C UP TO 200 °C.
STABILITY: ±6 °C.

APPLICATIONS
For quick surgical sterilization of diverse instruments surgical odontological, etc.

FEATURES
Heating by shielded elements in the base which provide a rapid temperature rise.
Flap door.
Inner chamber in AISI 304 stainless steel.
Removable tank with extraction clamps.
Epoxy-coated outer casing.

SAFETY
Over temperature cut out incorporated. EN.61010 Standard.

CONTROL PANEL
Mains switch.
Mains indicator lamp.
Hydraulic thermostat for temperature control.
Timer 0 to 120 min. with automatic off.

MODEL
<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity</th>
<th>Height / Width / Depth</th>
<th>Power</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>litres</td>
<td>(interior) cm</td>
<td>W</td>
<td>Kg</td>
</tr>
<tr>
<td>2000912</td>
<td>1,5</td>
<td>6,5 25 12</td>
<td>300</td>
<td>4</td>
</tr>
</tbody>
</table>

Poupinel dry heat sterilizer “Dryterm”
ADJUSTABLE TEMPERATURES FROM 60 °C UP TO 250 °C.
STABILITY: ±10 °C.

APPLICATIONS
For surgical sterilization of diverse instruments surgical odontological, etc.

FEATURES
Heating by shielded elements in the base that provides a rapid rise in temperature.
Flap door.
Inner chamber made of AISI 304 stainless steel, complete with a heater cover, three shelf runners and two perforated shelves 10 mm high.
Epoxy-coated outer casing.

SAFETY
Over temperature cut out incorporated. EN.61010 Standard.

CONTROL PANEL
Hydraulic thermostat temperature control.
Locking device for thermostat knob.
Timer 0 to 120 min. with automatic switch off.
Heater “ON” indicator.
Analogue temperature reading thermometer.

MODEL
<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity</th>
<th>Height / Width / Depth</th>
<th>Power</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>litres</td>
<td>(interior) cm</td>
<td>W</td>
<td>Kg</td>
</tr>
<tr>
<td>2000787</td>
<td>19</td>
<td>25 32 23</td>
<td>770</td>
<td>19</td>
</tr>
</tbody>
</table>
Glass drying oven “Dryglass”
FAN ASSISTED AIR CIRCULATION.
ADJUSTABLE TEMPERATURE FROM 40 °C TO 170 °C.

SAFETY:
EN.61012 STANDARD OVER TEMPERATURE SAFETY CUT OUT FITTED.
DIN 12880. STANDARD (CLASS 2 AND 3.1) ADJUSTABLE SAFETY THERMOSTAT FITTED.

FEATURES
Hydraulic thermostat for temperature control.
Air circulation by turbo fan.
Inner chamber made of AISI 304 stainless steel with shelf runners.
Removable tempered glass sliding doors.
Ventilation port for steam.
Epoxy coated external case.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

CONTROL PANEL
Dual heating power selector switch.
Mains indicator lamp.
Hydraulic thermostat for temperature control.
Locking system of thermostat knob.
Heater “ON” operation indicator lamp.
Analogue thermometer.
Adjustable over temperature safety thermostat, that cuts off the power if the control thermostat fails, manual reset with “on” indicator lamp.

MODEL

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity litres</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Shelf Positions</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000381</td>
<td>126</td>
<td>45 70 40</td>
<td>66 94 54</td>
<td>8</td>
<td>3000</td>
<td>65</td>
</tr>
</tbody>
</table>

ACCESSORIES
Accessories must be factory installed.

<table>
<thead>
<tr>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000002</td>
</tr>
<tr>
<td>Timer switch 0-120 minutes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000009</td>
</tr>
<tr>
<td>24 hour programmer with continuous on/off cycling up to every 15 minutes.</td>
</tr>
</tbody>
</table>

SPARES
Part No.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000081</td>
<td>Shelf guides x 2.</td>
</tr>
<tr>
<td>2000091</td>
<td>Shelf. Each shelf requires 2 guides.</td>
</tr>
</tbody>
</table>
Ovens and Incubators Premier Range

Models:
- Natural Air Convection, Drying and Sterilization.
- Fan Assisted Circulation, Universal Applications.
- Natural Air Convection, Bacteriology and Incubation.

Control: Digital Microprocessor Control of Temperature and Time, Model Dependent.

Complies with the Standards: DIN 50011 - DIN 58945. Required for Heating, Stability and Homogeneity.

Leading edge technology

Common Features

Construction.
1. External case treated with a corrosive resistant epoxy coating.
2. Internal part: Easy to clean AISI 304 stainless steel double chamber, self adjusting door seal and adjustable shelves and guides.
3. Control panel: Independent insulated control panel to facilitate all types of instruments, controls and regulators.
4. Adjustable air inlet.

Technical Properties.
5. Excellent thermal qualities of the insulation has the optimum performance according to heater capacity and power consumption, with minimal external temperature loss.
6. Independent heating chamber for the heating elements to obtain an even heat distribution and rapid temperature equilibrium and stabilization.

Fan assisted convection models have a turbo fan. All incubators for bacteriology and cell culture have a second inner door of tempered glass.

Technology from J. P. Selecta:
7. Adjustable guide and shelf positions.
8. Double seal around the chamber to provide a gentle but effective seal.
9. Floating spring door that adjusts the pressure and absorbs the thermal expansion.
10. Adjustable door pressure system closure. Internal tempered glass door.

Safety:

Standard DIN 12880. (Class 2 and 3.1) Safety Thermostat Controller Fitted.

Detailed longitudinal cross section.

Note:
For all models, the values for stability and homogeneity shown are based on temperature conditions with the ventilation closed. The optimum homogenization of temperature within the chamber is based on a reasonable load that does not surpass more than 70% of the volume of the chamber. The graphic results shown for temperature for each model are based on the above criteria.
CONTROL PANELS

Models with digital LED.
1. Main switch.
2. Regulator with digital double temperature display and programmable timer.

Models with 4.3 inches TFT touch screen.
1. Main switch.
2. TFT touch screen:
   - Visual audible alarm.
   - Clock calendar.
   - Single or cyclic On / Off programming.
   - Up to 10 work programs.
   - Up to 6 segments per program.
   - Stability time in each segment (from 1 min to 99h).
   - Alarms and events storage.
   - Probe error detection.
   - Self Diagnostics.
   - Ramps between segments.
   - Network failure detection and saving.
   - Over temperature and low temperature alarms and memorization (date, start time, end time and temperature).
   - Safety thermostat (TS) by software.
   - Mechanic safety thermostat (TS).
   - Temperature control auto-tuning.
   - Configurable parameters: Date / time, temperature correction, data collection interval, language (English, Spanish and French), °C / °F selection, over temperature and low temperature limit.
3. RS-232 output.
4. USB output.
5. Security thermostat.

MODEL SUMMARY TABLE

<table>
<thead>
<tr>
<th>Models</th>
<th>CONTERM</th>
<th>DIGITHEAT</th>
<th>DIGITRONIC</th>
<th>DRYBIG</th>
<th>INCUBAT</th>
<th>INCUDIGIT</th>
<th>INCUBIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE</td>
<td>Drying Oven</td>
<td>Drying Oven</td>
<td>Universal</td>
<td>Universal</td>
<td>Bacteriological</td>
<td>Bacteriological</td>
<td>Bacteriological</td>
</tr>
<tr>
<td>CONTROL</td>
<td>Digital LED</td>
<td>TFT Touch screen</td>
<td>TFT Touch screen</td>
<td>Digital LCD</td>
<td>Digital LED</td>
<td>TFT Touch screen</td>
<td>TFT Touch screen</td>
</tr>
<tr>
<td>DISPLAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIR</td>
<td>Convection</td>
<td>Convection</td>
<td>Fan assisted</td>
<td>Fan assisted</td>
<td>Convection</td>
<td>Convection</td>
<td>Convection</td>
</tr>
<tr>
<td>CIRCULATION</td>
<td>natural</td>
<td>natural</td>
<td>Fan assisted</td>
<td>Fan assisted</td>
<td>Convection</td>
<td>Convection</td>
<td>Convection</td>
</tr>
</tbody>
</table>

2000009 24 hour programmer with continuous on/off cycling up to every 15 minutes. Suitable for CONTERM and INCUBAT.
DRYING AND STERILIZATION OVENS

Drying and sterilization ovens “Conterm”

NATURAL CONVECTION.
TEMPERATURE THERMOSTAT CONTROL WITH DIGITAL THERMOMETER.
FOR ADJUSTABLE TEMPERATURES FROM 40 °C UP TO 250 °C.
STABILITY: ±0.5 °C UP TO 150 °C. HOMOGENEITY: ±1.5 °C UP TO 150 °C.

SAFETY:
STANDARD EN.61010. INCORPORATED FIXED OVER TEMPERATURE DEVICE .
STANDARD DIN 12880. (CLASS 2 AND 3.1) SAFETY THERMOSTAT CONTROLLER FITTED.

FEATURES, CONTROL PANEL, SAFETY, STANDARD AND ACCESSORIES (see pages 138 and 139).

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity (litres)</th>
<th>Height/Width/Depth (interior) cm</th>
<th>Height/Width/Depth (exterior) cm</th>
<th>Shelf Positions</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000250</td>
<td>19</td>
<td>30/25/25</td>
<td>50/60/44</td>
<td>5</td>
<td>580</td>
<td>27</td>
</tr>
<tr>
<td>2000251</td>
<td>36</td>
<td>40/30/30</td>
<td>60/65/49</td>
<td>7</td>
<td>870</td>
<td>35</td>
</tr>
<tr>
<td>2000252</td>
<td>52</td>
<td>33/47/33</td>
<td>53/82/52</td>
<td>5</td>
<td>980</td>
<td>44</td>
</tr>
<tr>
<td>2000253</td>
<td>80</td>
<td>50/40/40</td>
<td>70/74/59</td>
<td>8</td>
<td>1150</td>
<td>54</td>
</tr>
<tr>
<td>2000254</td>
<td>150</td>
<td>50/60/50</td>
<td>70/95/68</td>
<td>8</td>
<td>1900</td>
<td>76</td>
</tr>
</tbody>
</table>

ACCESSORIES
Accessory must be installed in the factory.

2000009 24 hour programmer with continuous on/off cycling up to every 15 minutes.

SPARES
Shelves and guides.

<table>
<thead>
<tr>
<th>Oven Part No.</th>
<th>2000250</th>
<th>2000251</th>
<th>2000252</th>
<th>2000253</th>
<th>2000254</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guides set (2 units)</td>
<td>2000011</td>
<td>2000012</td>
<td>2000012</td>
<td>2000013</td>
<td>2000015</td>
</tr>
<tr>
<td>Shelves</td>
<td>2000021</td>
<td>2000022</td>
<td>2000024</td>
<td>2000023</td>
<td>2000025</td>
</tr>
</tbody>
</table>

Each shelf requires two guides (one set).
Drying and sterilization ovens “Digitheat-TFT”

Natural Convection.
Microprocessor control with TFT touch screen.
Adjustable temperature from ambient +5 °C up to 250 °C.
Stability: ±0.3 °C, up to 150 °C. Homogeneity: ±1 °C, up to 150 °C.
Set error: ±2 % of the working temperature. Resolution: 1 °C.

Safety:
Standard EN 61010. Incorporated fixed over temperature device.
Standard DIN 12880. (Clase 2 and 3.1) Controllable safety thermostat fitted.

Reaches working temperature with minimum delay

Features, control panel, safety, standard and accessories (see pages 138 and 139).

Standard Equipment
2 shelves and 4 shelf guides.

Models

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity litres</th>
<th>Height/Width/Depth (interior) cm</th>
<th>Height/Width/Depth (exterior) cm</th>
<th>Shelf Positions</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001251</td>
<td>19</td>
<td>30/25/25</td>
<td>50/60/44</td>
<td>5</td>
<td>600</td>
<td>24</td>
</tr>
<tr>
<td>2001252</td>
<td>36</td>
<td>40/30/30</td>
<td>60/65/49</td>
<td>7</td>
<td>900</td>
<td>35</td>
</tr>
<tr>
<td>2001253</td>
<td>52</td>
<td>33/47/33</td>
<td>53/82/52</td>
<td>5</td>
<td>1000</td>
<td>44</td>
</tr>
<tr>
<td>2001254</td>
<td>80</td>
<td>50/40/40</td>
<td>70/74/59</td>
<td>8</td>
<td>1200</td>
<td>59</td>
</tr>
<tr>
<td>2001255</td>
<td>150</td>
<td>50/60/50</td>
<td>70/95/68</td>
<td>8</td>
<td>2100</td>
<td>73</td>
</tr>
</tbody>
</table>

Performance graph of temperature and time.
A. Set at 250 °C: 60’.
B. Set at 180 °C: 54’.
C. Set at 100 °C: 48’.

Spares
Shelves and guides.

<table>
<thead>
<tr>
<th>Oven Part No.</th>
<th>2001251</th>
<th>2001252</th>
<th>2001253</th>
<th>2001254</th>
<th>2001255</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guides set (2 units)</td>
<td>2000011</td>
<td>2000012</td>
<td>2000013</td>
<td>2000014</td>
<td>2000015</td>
</tr>
<tr>
<td>Shelves</td>
<td>2000021</td>
<td>2000022</td>
<td>2000023</td>
<td>2000024</td>
<td>2000025</td>
</tr>
</tbody>
</table>

Each shelf requires two guides (one set).
Universal precision ovens “Digitronic-TFT”

Fan assisted circulation.
Bacteriological assays, drying processes and sterilization.
Microprocessor control with TFT touch screen.
Adjustable temperatures from ambient +5 °C up to 250 °C.
Stability: ±0.3 °C, up to 100 °C. Homogeneity: ±1 °C, up to 100 °C. Glass door ±2 up to 100 °C.
Set error: ±2% of the working temperature. Resolution: 1 °C.
Up to 6 programmable temperature steps

SAFETY:
EN.61012 STANDARD OVER TEMPERATURE SAFETY CUT OUT FITTED.
ADJUSTABLE OVER TEMPERATURE SAFETY THERMOSTAT DIN 12880. (CLASS 2 AND 3.1) FITTED.

Multipurpose oven. Fast response and recuperation of temperature.

FEATURES
1. TFT touch screen.
2. Inner chamber made of AISI 304 stainless steel.
3. Pre-mixing chamber made of AISI 304 stainless steel.
4. Homogeneously distributed shielded heating elements with complete air circulation throughout.
5. Low external temperature due to excellent thermal insulation.
6. Flexible silicon door gasket around the entrance of the chamber.
7. Excellent door seal due to the floating inner door that adjusts and absorbs the thermal expansion.
8. Turbo fan made of AISI 304 stainless steel that makes to circulate the air at the working temperature.
9. Diagram showing the air flow from the pre-mixing chamber around the heating elements prior to entry to the oven’s chamber.
10. Independent insulated control box.
11. Epoxy coated outer case.
12. Ventilator with adjustable outlet (access at the back of the unit).
13. Adjustable height positions for guides and shelves.
15. Toughened double safety glass door for viewing the contents of the oven without having to open the door. (Model dependent).

Temperature steps graphic.

Model Digitronic with solid metal door. Part No. 2005163 and 2005167.
(With toughened glass window door. Part No. 2005164 and 2005168).
Model Digitronic type Poupinel, door with toughened double glass window
Part No. 2005166 and 2005170.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity (litres)</th>
<th>Door Type</th>
<th>Heating rate to 100 °C (minutes)</th>
<th>Recovery time (minutes)</th>
<th>Complete air exchange per hour</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Shelf Positions</th>
<th>Power (W)</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005163</td>
<td>33</td>
<td>metal</td>
<td>15</td>
<td>7</td>
<td>16</td>
<td>40 / 28 / 30</td>
<td>60 / 65 / 55</td>
<td>7</td>
<td>1200</td>
<td>38</td>
</tr>
<tr>
<td>2005164</td>
<td>33</td>
<td>glass</td>
<td>15</td>
<td>7</td>
<td>16</td>
<td>40 / 28 / 30</td>
<td>60 / 65 / 55</td>
<td>7</td>
<td>1200</td>
<td>40</td>
</tr>
<tr>
<td>2005165</td>
<td>47</td>
<td>metal</td>
<td>16</td>
<td>7</td>
<td>16</td>
<td>40 / 28 / 30</td>
<td>60 / 65 / 55</td>
<td>5</td>
<td>1200</td>
<td>46</td>
</tr>
<tr>
<td>2005166</td>
<td>47</td>
<td>glass</td>
<td>16</td>
<td>7</td>
<td>16</td>
<td>40 / 28 / 30</td>
<td>60 / 65 / 55</td>
<td>5</td>
<td>1200</td>
<td>50</td>
</tr>
<tr>
<td>2005167</td>
<td>76</td>
<td>metal</td>
<td>17</td>
<td>9</td>
<td>14</td>
<td>50 / 38 / 40</td>
<td>70 / 75 / 65</td>
<td>8</td>
<td>1600</td>
<td>58</td>
</tr>
<tr>
<td>2005168</td>
<td>76</td>
<td>glass</td>
<td>17</td>
<td>9</td>
<td>14</td>
<td>50 / 38 / 40</td>
<td>70 / 75 / 65</td>
<td>8</td>
<td>1600</td>
<td>64</td>
</tr>
<tr>
<td>2005169</td>
<td>145</td>
<td>metal</td>
<td>17</td>
<td>10</td>
<td>12</td>
<td>50 / 58 / 50</td>
<td>70 / 95 / 72</td>
<td>9</td>
<td>2000</td>
<td>74</td>
</tr>
<tr>
<td>2005170</td>
<td>145</td>
<td>glass</td>
<td>17</td>
<td>10</td>
<td>12</td>
<td>50 / 58 / 50</td>
<td>70 / 95 / 72</td>
<td>9</td>
<td>2000</td>
<td>79</td>
</tr>
</tbody>
</table>

* Recovery time: the door was opened for 1 minute. After that, this is the time to recover the set temperature to 100 °C.

Note: The stability and homogeneity curves for time and temperature shown on the graph apply to models that have a metal door.

Performance graph of temperature and time.
A. Set at 250 °C: 60'.
B. Set at 100 °C: 18'.
C. Set at 37 °C: 12'.

SPARES
Shelves and guides.

<table>
<thead>
<tr>
<th>Oven Part No.</th>
<th>Guides (2) (Set)</th>
<th>Shelves</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005163</td>
<td>2000012</td>
<td>2000072</td>
</tr>
<tr>
<td>2005164</td>
<td>2000033</td>
<td>2000073</td>
</tr>
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<td>2005165</td>
<td>2000013</td>
<td>2000074</td>
</tr>
<tr>
<td>2005167</td>
<td>2000015</td>
<td>2000075</td>
</tr>
</tbody>
</table>

Each shelf requires two guides i.e. one set.

ACCESSORIES

Preparation of furnaces for drying moisture saturated samples. (Arids, muds, sands...)
When adding turbine, the number of renewals of the air inside the furnace per hour multiplies by 10.
Must be factory installed
Part No. 2000095
Drying and sterilization ovens “Dry-Big”
FAN ASSISTED CIRCULATION.
DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME
ADJUSTABLE TEMPERATURES FROM 40 °C UP TO 250 °C
STABILITY: ±0.4 °C, UP TO 100 °C. HOMOGENEITY: ±2 °C, UP TO 100 °C
SET ERROR: ±2.5% OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C

SAFETY:
STANDARD EN.61010. FIXED OVER TEMPERATURE DEVICE FITTED.
STANDARD DIN 12880. (CLASS 2 AND 3.1)ADJUSTABLE SAFETY THERMOSTAT FITTED.

Fast working and recovery temperature

FEATURES
1. Microprocessor controlled with digital display of temperature and time, pre-programmable time start and run time once the set temperature has been achieved through the Pt100 temperature sensor.
2. Inner chamber made of AISI 304 stainless steel.
3. Premixing chamber made of AISI 304 stainless steel.
4. Shielded heating elements with complete air circulation, homogeneously distributed throughout.
5. Low external temperature due to excellent thermal insulation.
6. Ventilation fan to force the air to circulate in the oven.
7. Diagram showing the airflow from the premixing chamber round the heating elements to the oven chamber.
8. Independent insulated control box.
10. Ventilator with adjustable outlet of 120 Ø mm.
13. Flexible silicon door gasket around the entrance of the chamber.

CONTROL PANEL
1. Illuminated mains switch.
2. Temperature mode indicator.
3. Time mode indicator.
4. Display for temperature and time.
5. Operating, Status mode.
6. Delay time state indicator.
7. Push button temperature selector.
8. Push button time selector.
9. Push button “increase” value or parameter.
10. Push button “decrease” value or parameter.
11. Push button Stop/Start.
12. Set temperature.
13. Set run time: time period from 1 minute to 9 hours 59 minutes, or up to 99.9 hours, once the set temperature value has been reached.
14. Set wait time before starting the run, time period from: 1 to 24 hours.
15. RS-232 Interface output to a computer or for printer.
16. Adjustable safety thermostat that overrides the microprocessor in case of failure, with manual reset and indicator lamp.

Oven’s diagram seen from the front side.
STANDARD EQUIPMENT
2 Shelves.

MODELS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Voltage</th>
<th>Capacity litres</th>
<th>Heating rate to reach 100°C, minutes</th>
<th>Recovery time* minutes</th>
<th>Air exchanges per hour</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Number of shelf positions</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002961</td>
<td>230 / 400</td>
<td>three phase</td>
<td>216</td>
<td>16</td>
<td>10</td>
<td>12</td>
<td>60 60 60</td>
<td>87 112 84</td>
<td>6</td>
<td>4000</td>
</tr>
<tr>
<td>2002962</td>
<td>230 single phase</td>
<td></td>
<td>288</td>
<td>18</td>
<td>10</td>
<td>11</td>
<td>80 60 60</td>
<td>107 112 84</td>
<td>8</td>
<td>5000</td>
</tr>
</tbody>
</table>

DOUBLE DOOR CABINET

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Voltage</th>
<th>Capacity litres</th>
<th>Heating rate to reach 100°C, minutes</th>
<th>Recovery time* minutes</th>
<th>Air exchanges per hour</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Number of shelf positions</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003721</td>
<td>230 / 400</td>
<td>three phase</td>
<td>400</td>
<td>18</td>
<td>13</td>
<td>6</td>
<td>100 80 50</td>
<td>128 132 74</td>
<td>10</td>
<td>5250</td>
</tr>
<tr>
<td>2003741</td>
<td>230 / 400</td>
<td>three phase</td>
<td>720</td>
<td>19</td>
<td>13</td>
<td>6</td>
<td>120 100 60</td>
<td>150 152 80</td>
<td>12</td>
<td>6000</td>
</tr>
<tr>
<td>2003743</td>
<td>380 / 400</td>
<td>three phase</td>
<td>4200</td>
<td>30</td>
<td>13</td>
<td>6</td>
<td>180 175 135</td>
<td>216 231 178</td>
<td>10</td>
<td>11000</td>
</tr>
</tbody>
</table>

Energy saving, three phase units are recommended. *Recovery time, the door was opened for 60 seconds, time taken to recover to the set temperature of 100 °C. 
Upon request, large capacity equipment can be manufactured.

Performance graph of temperature and time.
A. Set at 250 °C: 1 h 6’.
B. Set at 180 °C: 42’.
C. Set at 100 °C: 24’.

ACCESSORIES
4.3 inches TFT touch screen. Must be installed in the factory.
Information and features. See page 139.
Part No. 2000010

SPARES
Shelves.

<table>
<thead>
<tr>
<th>Oven Part No.</th>
<th>2002961/62</th>
<th>2002971/72</th>
<th>2003721</th>
<th>2003741</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelves</td>
<td>2000062</td>
<td>2000062</td>
<td>2000063</td>
<td>2000064</td>
</tr>
</tbody>
</table>
**High temperature oven “Hightemp”**

**FEATURE**
- Digital electronic temperature control. Independent control box chamber thermally insulated.
- Shielded heating elements.
- Fan circulation motor with thermal cut out, motor operates independently from the heating elements, the motor can be activated during the cooling cycle.
- Inner chamber in AISI 310 heat resistant stainless steel with a high tolerance against corrosion and high temperatures.
- Fixed position shelf guides.
- Ventilation device with adjustable outlet.
- Epoxy-coated outer casing.

**STANDARD EQUIPMENT**
- 2 shelves made of AISI 310 stainless steel.

**CONTROL PANEL**
- Main switch.
- Mains indicator lamp.
- Heater switch.
- Heater operation indicator lamp.
- Digital electronic temperature control.

Electronic safety thermostat with a K type probe that cuts off power to the heating elements in case of a controller fault. (standard to DIN 12.880 class 2).

**MODEL**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Voltage</th>
<th>Capacity litres</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>N° of shelf positions</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001406</td>
<td>three phase</td>
<td>80</td>
<td>50 40 40 80 120 61</td>
<td>4</td>
<td>4000</td>
<td>158</td>
<td></td>
</tr>
</tbody>
</table>

**ACCESSORIES**

Accessories that must be installed in factory.

- Part No. 2000002 Timer switch 0-120 minutes.
- Part No. 2000009 24 hour programmer with continuous on/off cycling up to every 15 minutes.

**SAFETY:**
- STANDARD DIN 12880. ADJUSTABLE OVER TEMPERATURE THERMOSTAT FITTED.

**FEATURE**

- Fan convection.
- Digital control and display of temperature and time.
- Adjustable temperatures from 60 °C up to 400 °C.
- Stability: ±1.5 °C, up to 300 °C. Homogeneity: ±3 °C, up to 300 °C.
- Set error: ±2 % of the working temperature.
Vacuum drying oven “Vaciotem-TV”
DIGITAL TEMPERATURE CONTROL, ELECTRONIC VACUUM PRESSURE DISPLAY AND TIMER.
CONTROLLABLE TEMPERATURE FROM 35 °C TO 200 °C
STABILITY ±1 °C, UP TO 100 °C. HOMOGENEITY ±3 °C, UP TO 100 °C. SET ERROR ±2 °C. RESOLUTION 1 °C.

SAFETY:
OVER TEMPERATURE CUT OUT FITTED IN ACCORDANCE WITH THE EN.61010 STANDARD.
DIN 12880. STANDARD ADJUSTABLE SAFETY THERMOSTAT FITTED.

FEATURE
Digital electronic control of: temperature, vacuum pressure and pre-selected programmable timer.
Temperature sensor Pt100
Automatic air inlet at the end of the operation cycle.
Heating element placed evenly around the chamber.
Chamber made of AISI 304 stainless steel.
Trays made of anodised aluminium.
Door with hardened glass window, which sits on to a silicon gasket that absorbs any contractions and expansions that may occur.
Vacuum port with bleed valve.
Air valve at the front.
Vacuum pump connection at the back.
Epoxy covered outer case.
RS-232 Interface output for parameters to a computer or printer.

CONTROL PANEL
1. RS232 interface.
2. Air inlet.
3. Air inlet valve.
5. Vacuum pressure indicator lamp.
6. Air inlet valve indicator lamp, end of cycle.
7. Running indicator lamp.
8. Under vacuum indicator lamp.
9. Digital vacuum display in mbar.
10. Push button to select vacuum.
11. Push button to select electronic valve at the end of the cycle.
12. Push button to increase valve.
13. Push button to decrease valve.
14. Push button to STOP/START.
15. Indicator of mode temperature.
16. Indicator of mode time.
17. Indicator of operating.
18. Indicator of mode waiting time.
19. Digital display of temperature or time.
20. Push button to select temperature.
21. Push button to select time.
22. Push button to increase value.
23. Push button to decrease value.
24. Push button to STOP/START.
25. Mains switch.
26. Safety thermostat in operation.
27. Air inlet.
28. Pump power connection.
29. Vacuum connection.
30. Adjustable safety thermostat

MODEL
<table>
<thead>
<tr>
<th>Part No.</th>
<th>Vacuum Max.</th>
<th>Capacity litres</th>
<th>Ø / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Shelves</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>4001490</td>
<td>10⁻⁶ mm Hg</td>
<td>47</td>
<td>34 52</td>
<td>54 76 70</td>
<td>2</td>
<td>2000</td>
<td>73</td>
</tr>
</tbody>
</table>

Note: To obtain the optimum homogeneity at the set temperature, the load should not surpass more than 70 % of the volume of the chamber.

SPARE PARTS
Shelves. (2)
Part No. 2000030

Ovens, Incubators and Furnaces 147
Vacuum oven “Vaciotem-T”

DIGITAL TEMPERATURE AND TIMER CONTROL.
CONTROLLABLE TEMPERATURE FROM 35 °C TO 200 °C.
STABILITY ±1 °C, UP TO 100 °C. HOMOGENEITY ±2 °C, UP TO 100 °C. SET ERROR ±1 °C. RESOLUTION 1 °C.

SAFETY:
OVER TEMPERATURE CUT OUT FITTED IN ACORDANCE WITH THE EN.61010 STANDARD.
DIN 12880. STANDARD ADJUSTABLE SAFETY THERMOSTAT FITTED.

FEATURE
Digital electronic control of temperature and pre-selected programmable timer.
Running time range: from 1 minute to 9hrs 59 min. or 99.9 hrs.
Pre-program start time, (wait time range): 1 hr to 24 hrs
Temperature sensor Pt100
Heating element placed evenly around the chamber.
Chamber made from AISI 304 stainless steel.
Trays made from anodised aluminium.
Door with hardened glass window, which sits on to a silicon gasket that absorbs any contractions and expansions that may occur.
Vacuum port with bleed valve
Air valve at the front
Vacuum pump connection at the back.
Epoxy covered outer case.
RS-232 Interface output of parameters for a computer or printer.

CONTROL PANEL
1. RS 232 connector.
2. Air inlet.
3. Air inlet valve.
4. Vacuum gauge.
15. Temperature mode indicator.
16. Time mode indicator.
17. Operation indicator.
18. Waiting time indicator.
19. Time and temperature digital display.
20. Push button to select temperature.
21. Push button to select time.
22. Push button to increase value.
23. Push button to reduce value.
24. Push button to STOP/START.
25. Mains switch.
26. Safety thermostat indicator lamp.
27. Vacuum pump control switch.

BACK
28. Vacuum pump power connection.
29. Vacuum connection.
30. Air inlet.
31. Adjustable safety thermostat.

MODEL
<table>
<thead>
<tr>
<th>Part No.</th>
<th>Vacuum Max.</th>
<th>Capacity</th>
<th>Ø / Depth</th>
<th>Height / Width / Depth</th>
<th>Shelves</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>4001489</td>
<td>10^2 mm Hg</td>
<td>47</td>
<td>34 52</td>
<td>54 76 70</td>
<td>2</td>
<td>2000</td>
<td>73</td>
</tr>
</tbody>
</table>

Note: To obtain the optimum homogeneity at the set temperature, the load should not surpass more than 70 % of the volume of the chamber.

SPARE PARTS
Shelves. (2)
Part No. 2000030
Vacuum pump “VACUM-10 Pa”

Rotary vein pump with anti return valve prevents oil flow back, suitable for general laboratory applications. Over temperature motor protection cut-out and main on/off switch. Recommended for the “VACIOTEM T and TV” and the desiccator “VACUO-TEM”.

**FEATURE**
- Heat resistant veins and internal joints
- Aspiration inlet flange: 16 mm Ø.
- High oil volume and forced lubrication.
- Exhaust filter and ballast.
- Shock absorber mounted.
- Free from vibrations
- Low noise level (62db).
- Maximum working temperature 40 °C.
- Portable, with lifting handle included.

**MODEL**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Pump rate m³/h</th>
<th>Vacuum limit mbar</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>r.p.m.</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>5900621</td>
<td>3.6</td>
<td>0.06</td>
<td>27 35 14</td>
<td>1400</td>
<td>180</td>
<td>11</td>
</tr>
</tbody>
</table>

Heated vacuum desiccator “Vacuo-Temp”

With temperature thermostatic limiter. Time and temperature digital electronic control. Adjustable temperature from ambient +5 °C to 170 °C. Stability: ±2 °C. Resolution: 1 °C. Time from 1’ to 999’, or continuous.

**FEATURES**
- AISI 304 stainless steel outer casing.
- Polished aluminium alloy flat surface plate with an effective vacuum seal.
- Tempered glass bell jar with silicon gasket seal.
- Shielded heating element.
- Pt 100 temperature probe.
- Vacuum pump connection at the back of the unit.

**CONTROL PANEL**
- Main switch.
- Analogue vacuum gauge.
- Digital time & temperature display.
- Overheating alarm.
- Visualized parameter indicator.
- Push button for the visualized parameter.
- Push button to increase the parameter.
- Push button to decrease the parameter.
- Button On-Off.

**MODEL**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Vacuum Max litres</th>
<th>Usable volume litres</th>
<th>Ø heating plate cm</th>
<th>Heigth / Width /Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>4000474</td>
<td>10⁻⁴ mm Hg</td>
<td>3</td>
<td>23.5</td>
<td>17 28 34</td>
<td>540</td>
<td>9</td>
</tr>
</tbody>
</table>

Supplied complete with bell jar and silicon seal.

Desiccator for materials with hydrometer control.

**APPLICATIONS**
- Cabinet with protection against humidity and dust for anhydrous, biological and chemical preservation of samples.

**FEATURE**
- Made of robust transparent 12mm thick methacrylate.
- The door has a silicon seal and magnetic catch.
- Volume: 55 Litres.
- Dimensions 50 cm high x 38 cm wide x 29 cm deep.
- Supplied complete with three perforated shelves and a stainless steel AISI 304 tray to hold desiccating material.
- Part No. 1001403
BACTERIOLOGICAL INCUBATORS

Bacteriological incubators “Incubat”

NATURAL CONVECTION.
TEMPERATURE THERMOSTAT CONTROL WITH DIGITAL THERMOMETER.
ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C UP TO 80 °C.
STABILITY: ±0.1 °C, UP TO 37 °C. HOMOGENEITY: ±0.5 °C, UP TO 37 °C
INTERNAL GLASS DOOR.

FEATURES, CONTROL PANEL, STANDARD AND ACCESSORIES (see pages 138 and 139).

SAFETY:
OVER TEMPERATURE CUT OUT INCORPORATED ACCORDING TO THE EN.61010 STANDARD.
ADJUSTABLE SAFETY THERMOSTAT DIN 12880. FITTED.

Performance graph of temperature and time.
A. Set at 80 °C: 1 h 54’.
B. Set at 56 °C: 1 h 46’.
C. Set at 37 °C: 1 h 18’.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity (litres)</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Shelves positions</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000260</td>
<td>19</td>
<td>30/25/25</td>
<td>51/57/49</td>
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<td>165</td>
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<td>2000261</td>
<td>36</td>
<td>40/30/30</td>
<td>60/62/54</td>
<td>7</td>
<td>245</td>
<td>36</td>
</tr>
<tr>
<td>2000262</td>
<td>52</td>
<td>33/47/33</td>
<td>53/79/57</td>
<td>5</td>
<td>275</td>
<td>46</td>
</tr>
<tr>
<td>2000263</td>
<td>80</td>
<td>50/40/40</td>
<td>70/72/74</td>
<td>8</td>
<td>325</td>
<td>54</td>
</tr>
<tr>
<td>2000264</td>
<td>150</td>
<td>50/60/60</td>
<td>70/92/74</td>
<td>8</td>
<td>545</td>
<td>78</td>
</tr>
</tbody>
</table>

SPARES

Shelves and guides.

<table>
<thead>
<tr>
<th>Oven Part No.</th>
<th>200030</th>
<th>2000281</th>
<th>2000282</th>
<th>2000283</th>
<th>2000284</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set guides (2 units)</td>
<td>2000011</td>
<td>2000012</td>
<td>2000012</td>
<td>2000013</td>
<td>2000015</td>
</tr>
<tr>
<td>Shelves</td>
<td>2000021</td>
<td>2000022</td>
<td>2000024</td>
<td>2000023</td>
<td>2000025</td>
</tr>
</tbody>
</table>

Each shelf requires two guides (one set).

ACCESSORIES

Accessories must be factory installed.

Part No. 2000009 24 hour programmer with continuous on/off cycling up to every 15 minutes.
Digital bacteriological incubators “Incudigit-TFT”

NATURAL CONVECTION.
DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C UP TO 80 °C.
STABILITY: ±0.1 °C, UP TO 37 °C. HOMOGENEITY: ±0.5 °C, UP TO 37 °C.
SET ERROR: ±2% OF THE WORKING TEMPERATURE, RESOLUTION 0.1 °C
INTERNAL TEMPERED GLASS DOOR.
DOUBLE CHAMBER, MINIMUM RISK OF SAMPLE CONTAMINATION.
INSIDE WITHOUT OPENINGS AND WITH ROUNDED CORNERS. EASY TO CLEAN.

FEATURES, CONTROL PANEL AND STANDARDS (see pages 138 and 139).

SAFETY:
OVER TEMPERATURE CUT OUT INCORPORATED ACCORDING TO THE EN.61010 STANDARD.
ADJUSTABLE SAFETY THERMOSTAT DIN 12880. FITTED.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity litres</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Shelves positions</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001261</td>
<td>19</td>
<td>30 25 25 51 57 49</td>
<td>20 20 20 40 40 40</td>
<td>5</td>
<td>170</td>
<td>26</td>
</tr>
<tr>
<td>2001262</td>
<td>36</td>
<td>40 30 30 60 62 54</td>
<td>20 20 20 40 40 40</td>
<td>5</td>
<td>225</td>
<td>36</td>
</tr>
<tr>
<td>2001263</td>
<td>52</td>
<td>47 33 33 73 79 57</td>
<td>20 20 20 40 40 40</td>
<td>5</td>
<td>275</td>
<td>46</td>
</tr>
<tr>
<td>2001264</td>
<td>80</td>
<td>50 40 40 70 72 64</td>
<td>20 20 20 40 40 40</td>
<td>8</td>
<td>300</td>
<td>54</td>
</tr>
<tr>
<td>2001265</td>
<td>150</td>
<td>60 50 50 70 92 74</td>
<td>20 20 20 40 40 40</td>
<td>8</td>
<td>525</td>
<td>75</td>
</tr>
</tbody>
</table>

SPARES
Shelves and guides.

<table>
<thead>
<tr>
<th>Oven Part No.</th>
<th>Guides (2) (Set)</th>
<th>Shelves</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001261</td>
<td>20000011 2000012</td>
<td>2000021</td>
</tr>
<tr>
<td>2001262</td>
<td>20000012 2000012</td>
<td>2000022</td>
</tr>
<tr>
<td>2001263</td>
<td>20000013 2000013</td>
<td>2000023</td>
</tr>
<tr>
<td>2001264</td>
<td>20000015 2000015</td>
<td>2000025</td>
</tr>
<tr>
<td>2001265</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Performance graph of temperature and time.
A. Set at 80 °C; 1 h 12'.
B. Set at 56 °C; 54'.
C. Set at 37 °C; 48'.

Horizontal model. Part No. 2001263

Ovens, Incubators and Furnaces
Incubators for bacteriology and cell culture “Incubig-TFT”

NATURAL CONVECTION.

MICROPROCESSOR CONTROL AND DIGITAL DISPLAY OF TEMPERATURE AND TIME.

ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C TO 80 °C.

STABILITY: ±0.2 °C, UP TO 37 °C. HOMOGENEITY: ±0.7 °C, UP TO 37 °C.

SET ERROR: ±2% OF THE WORKING TEMPERATURE, RESOLUTION 0.1 °C

INTERNAL TEMPERED GLASS DOOR.

SAFETY:

STANDARD EN 61010 OVER TEMPERATURE CUT OUT FITTED.

STANDARD DIN 12880. ADJUSTABLE SAFETY THERMOSTAT FITTED.

Capacities up to 720 litres

FEATURE

- Microprocessor control and 4.3 inches TFT touch screen display.
- Large surface area heating elements.
- Inner chamber made of AISI 304 stainless steel.
- Double door, interior door of tempered glass that allows the user to see the contents of the chamber without opening the door.
- Adjustable air vent.
- Epoxy covered external case.

STANDARD EQUIPMENT

For Part No. 2000238, 2 shelves and 4 shelf guides.
For Part No. 2000239 and 2000240, 2 shelves.

Performance graph of temperature and time.

A. Set at 80 °C: 1 h 45'.
B. Set at 56 °C: 1 h 10'.
C. Set at 37 °C: 54'.

Note: To obtain the optimum homogeneity at the set temperature, the load should not surpass more than 70 % of the volume of the chamber.

Models Part No. 2000239 and 2000240.
**MODELS**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Type</th>
<th>Capacity litres</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Nº of shelf guides</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000238</td>
<td>1 door</td>
<td>288</td>
<td>80 60 60 97 91 76</td>
<td>8</td>
<td>570</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>2000239</td>
<td>2 door</td>
<td>400</td>
<td>100 80 50 130 114 75</td>
<td>10</td>
<td>1100</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>2000240</td>
<td>2 door</td>
<td>720</td>
<td>120 100 60 152 134 85</td>
<td>12</td>
<td>1600</td>
<td>225</td>
<td></td>
</tr>
</tbody>
</table>

**SPARES**

Shelves and guides.

<table>
<thead>
<tr>
<th>Oven Part No.</th>
<th>2000238</th>
<th>2000239</th>
<th>2000240</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelves</td>
<td>2002372</td>
<td>2000063</td>
<td>2000064</td>
</tr>
<tr>
<td>Guides (2) (Set)</td>
<td>2002371</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Each shelf requires two guides i.e. one set.

---

**CONTROL PANEL**

4.3 inches TFT touch screen models:
1. Main switch.
2. TFT touch screen:
   Visual audible alarm.
   Clock calendar.
3. On / Off programs.
4. Up to 10 work programs.
5. Up to 6 segments per program.
6. Stability time in each segment (from 1 min to 99h).
7. Alarms and events storage.
8. Probe error detection.
10. Ramps between segments.

Over temperature and low temperature alarms and memorization (date, start time, end time and temperature).

Safety thermostat (TS) by software.
Mechanic safety thermostat (TS).
USB and RS-232 output.
Temperature control auto-tuning.
Configurable parameters: Date / time, temperature correction, data collection interval, language (English, Spanish and French), °C / °F selection, over temperature and low temperature limit.
3. RS-232 output.
4. USB output.
5. Security thermostat.

---

**APPLICATIONS**

Specially designed for bacteria and fungi cultures in Petri capsules at the same temperature of human body.

**FEATURES**

Culture surface 320 x 220 mm (Inner height: 20mm)
Culture visual monitoring.
Transparent cover.
Easy access to samples.
Approximate capacity: (single level) (mm)
15 Petri capsules of Ø55.
10 Petri capsules of Ø60.
7 Petri capsules of Ø60.
6 Petri capsules of Ø80.
3 Petri capsules of 120x120.
2 Petri capsules of Ø140.

**MODEL**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Margin TºC</th>
<th>Height / Width / Depth (Exterior) cm</th>
<th>Height / Width / Depth (Interior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>4002629</td>
<td>Amb +5 to 60</td>
<td>9 45 24 2 32 22</td>
<td>200</td>
<td>3.5</td>
<td></td>
</tr>
</tbody>
</table>

---

**Ovens, Incubators and Furnaces**
Cooled low temperature incubator “Prebatem-TFT”

FORCED AIR FAN CIRCULATION.
MICROPROCESSOR CONTROLLED WITH DIGITAL DISPLAY
ADJUSTABLE TEMPERATURES FROM 5 °C UP TO 60 °C. RESOLUTION 0.1 °C
SEMICONDUCTOR HEATING AND COOLING SYSTEM.
QUIET-STABLE - FREE FROM VIBRATIONS - VERY ACCURATE - LOW POWER CONSUMPTION.
INNER TEMPERED GLASS DOOR.
UP TO 10 PROGRAMMABLE TEMPERATURE PROFILES

SAFETY: CONFORMS TO THE DIN 50011 STANDARD FOR TEMPERATURE STABILITY AND HOMOGENEITY.
CONFORMS TO THE DIN 12880.STANDARD ADJUSTABLE SAFETY THERMOSTAT FITTED.

APPLICATIONS
Biotechnology, Bacteriology, Plasma fractionation,
Biology, Enzymatic test, Research, Serum studies, met-
trology, Botany, Phytopharmacy, Cosmetics, Water
analysis and Agricultural research, feeding, new techni-
ques for protein crystallization.

PERFORMANCE

<table>
<thead>
<tr>
<th>Specification</th>
<th>at 10 °C</th>
<th>at 37 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>±0.1 °C</td>
<td>±0.1 °C</td>
</tr>
<tr>
<td>Homogeneity</td>
<td>±0.3 °C</td>
<td>±0.2 °C</td>
</tr>
<tr>
<td>Set error</td>
<td>±0.4 °C</td>
<td>±0.2 °C</td>
</tr>
</tbody>
</table>

FEATURE
1. 4.3 inches TFT touch screen.
2. Inner chamber and elements made of AISI 304 stain-
less steel.
3. Premixing temperature chamber.
4. Semiconductor- static radiator for heating and cool-
ing.
5. Excellent thermal insulation within the chamber.
6. Turbo fan to make the air circulate.
7. Diagram showing the homogeneous air flow from the
premixing chamber of the semiconductor cooling / he-
ating system.
8. Independent insulated control box .
10. Shelves of AISI 304 stainless steel.
11. Epoxy coated outer case.

CONTROL PANEL
1. Main switch.
2. TFT touch screen:
   Visual audible alarm.
   Clock calendar.
   Cycle start planning
   Single or cyclic On / Off programming.
   Up to 10 work programs.
   Up to 6 segments per program.
   Stability time in each segment (from 1 min to 99h) .
   Alarms and events storage.
   Probe error detection.
   Self Diagnostics.
   Adjustable ramp between segments.
   Network failure detection and saving.
   Over temperature and low temperature alarms and me-
    moralization (date, start time, end time and temperature).
   Safety thermostat (TS) by software.
   Mechanic safety thermostat (TS ).
   USB and RS-232 output.
   Configurable parameters: Date / time, temperature
correction , data collection interval, language
(English, Spanish and French) , °C / °F selection ,
over temperature and low temperature limit.
3. USB output.
5. Ethernet output para for LAN connection.

Leading edge technology, Peltier effect. No compressor.
**CONTROL PANEL**
Main switch.
Mains indicator lamp.
4.3" Color TFT touch screen.
Adjustable safety thermostat.

**STANDARD EQUIPMENT**
2 shelves and 4 shelf guides.

**MODELS**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity litres</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Shelf guides</th>
<th>Power consumption W/hr. at 5 °C</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000963</td>
<td>36</td>
<td>40 30 30</td>
<td>60 65 49</td>
<td>7</td>
<td>70</td>
<td>50</td>
<td>310</td>
</tr>
<tr>
<td>2000964</td>
<td>80</td>
<td>50 40 40</td>
<td>70 75 59</td>
<td>8</td>
<td>75</td>
<td>55</td>
<td>310</td>
</tr>
<tr>
<td>2000965</td>
<td>150</td>
<td>50 60 50</td>
<td>70 95 68</td>
<td>8</td>
<td>90</td>
<td>60</td>
<td>310</td>
</tr>
</tbody>
</table>

Performance graph of temperature and time.
A. Set at 50 °C: 40'.
B. Set at 0 °C: 48'.

**Note:** To obtain the optimum homogeneity at the set temperature, the load should not surpass more than 70 % of the volume of the chamber.

**SPARES**
Shelves and guides.

- Oven Part No.: 2000963, 2000964, 2000965
- Guides (2) (Set): 2000012, 2000013, 2000015
- Shelves: 2000022, 2000023, 2000025

Each shelf requires two guides i.e. one set.
Incubation chamber “Boxcult”

FEATURE
Made of transparent methacrylate that allows the user to see inside the incubator during operation. To facilitate the access to the working area the unit has a wide front door, and a removable base made of AISI 304 stainless steel. The fan convection circulation system ensures an even and rapid recovery of temperature. A 30 mm Ø port at the rear can be used to connect power to apparatus inside the chamber. Supplied as accessories, the removable base allows the Boxcult to be mounted on the “Rotabit” reciprocal / orbital shaker. (described in the stirrer section.) The metallic top of the chamber includes the heating elements, air circulation fan and temperature control.

CONTROL PANEL
Main switch.
Digital electronic temperature control.

MODEL
<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity (litres)</th>
<th>Height / Width / Depth (interior) (cm)</th>
<th>Height / Width / Depth (exterior) (cm)</th>
<th>Power (W)</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000957</td>
<td>110</td>
<td>50 47 47</td>
<td>61 51 51</td>
<td>220</td>
<td>18</td>
</tr>
</tbody>
</table>

Supplied without bottom base, or stainless steel rack and shelves.

ACCESSORIES

Removable bottom base made of AISI 304 stainless steel. Part No. 3001172

Stainless steel rack with 4 shelves positions, each one separated by 9 cm. Comes complete with 2 removable shelves. Useful dim. 43 cm long and 41 cm wide. Part No. 1000973

For an easy handling, all control devices are outside the chamber enclosure

Ovens, Incubators and Furnaces
CO₂ Incubators for anaerobic cell and tissue cultures “Incubator CO₂”

**MICROPROCESSOR CONTROL WITH DIGITAL DISPLAY OF TEMPERATURE AND CO₂.**

**ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C TO 50 °C**

**STABILITY: ±0.2 °C, UP TO 37 °C. HOMOGENEITY: ±0.5 °C, UP TO 37°C. RESOLUTION: 0.1 °C.**

**ALARM RANGE: FROM AMBIENT+5 °C TO 50 °C. RESOLUTION: 0.1 °C.**

**CO₂ RANGE: FROM 0 TO 20%. STABILITY: ±0.3%. RESOLUTION: 0.1%.**

**SAFETY:**

STANDARD DIN 12880. DOUBLE INDEPENDENT OVER TEMPERATURE SAFETY THERMOSTAT.

CO₂ DEVIATION FROM SET VALUE. OPEN DOOR INDICATOR, ELECTRICAL FAULT INDICATOR. LOW CO₂ PRESSURE.

**FEATURE**

External case of steel coated with epoxy with insulated chamber.

The chamber is made of stainless steel with removable shelf supports and easy clean system.

Two doors; one interior of tempered glass with silicon gasket and a heated external steel door with magnetic seal to prevent condensation on the glass door.

Smooth door action, to prevent jolts or vibrations disturbing the contents of the incubator.

The CO₂ input is by a metal tube of 6 mm Ø x 4 mm at the back of the unit.

RS-232 Interface output for a computer or printer.

**CONTROL SYSTEM**

Digital electronic control of temperature and CO₂, by a single multilevel control button and LCD screen, that controls all functions within the chamber.

**HUMIDITY CONTROL**

The humidity level within the chamber is at a constant 98% RH level, that is produced directly by water evaporation previously introduced at the bottom of the chamber.

**CONTROL PANEL**

1. Visual alarm indicator.
2. LCD display of all parameters.
4. Printer (Optional)
5. Main On switch.

**MODEL**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity litres</th>
<th>Height/Width/Depth (interior) cm</th>
<th>Height/Width/Depth (exterior) cm</th>
<th>Shelf guide positions</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>4002628</td>
<td>150</td>
<td>65 50 46</td>
<td>95 65 73</td>
<td>9</td>
<td>1100*</td>
<td>110</td>
</tr>
</tbody>
</table>

Comes with two shelves.

* 2025 W In sterilization mode.

**ACCESSORIES**

**Printer:** temperature, CO₂, time and status.

(Needs to be factory fitted.)

Part No. 4001676

**Fyrite CO₂ analyser.**

Monitor for checking the CO₂ % concentration.

The unit has a graduated scale of 0 to 20 %.

Reagent valid for 300 analysis. Should not be used with explosive gasses.

Part No. 4000632

**Reagent flask 64 ml. Part No. 4000635**

**ADDITIONAL**

Shelves stainless steel. Part No. 1001675
PRECISE COOLED INCUBATORS HOTCOLD

HOTCOLD S  CONTROLLABLE TEMPERATURES FROM  -5 °C TO 65 °C
HOTCOLD UC  CONTROLLABLE TEMPERATURES FROM  -10 °C TO 65 °C
HOTCOLD F-J  CONTROLLABLE TEMPERATURES FROM  6 °C TO 20 °C (WITH HUMIDITY)

SAFETY:
DIN STANDARD 12880.2
SAFETY THERMOSTAT FITTED THAT DISCONNECTS POWER TO THE HEATER IF THE CONTROLLER FAILS. MANUAL RESET.

APPLICATIONS
Enzymatic tests, serum and plasma fractions, BOD tests, cosmetics, botany, pharmacy, industry, agriculture, bacteriology, biotechnology and research.

Refrigerated cabinet “Hotcold S”
FORCED AIR CIRCULATION.
DIGITAL ELECTRONIC CONTROL OF TEMPERATURE AND TIME, ADJUSTABLE FROM +5 °C TO 65 °C.
STABILITY ±0.1 °C, UP TO 20 °C. HOMOGENEITY ±0.5 °C, UP TO 20 °C. SET ERROR ±2 °C.
RESOLUTION 0.1 °C.

FEATURES
4 wheels with brake.

CONTROL SYSTEM

CONTROL PANEL
1. Display for temperature / time.
2. Temperature indicator.
3. Time indicator.
4. Alarm indicator.
5. Heater functioning indicator.
6. Push button for set temperature.
7. Push button for set time.
8. Mains switch.
9. Push button to increase value.
10. Push button to decrease value.
11. Push button to confirm value.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODEL

<table>
<thead>
<tr>
<th>HOTCOLD</th>
<th>Part No.</th>
<th>Range °C</th>
<th>Capacity litres</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Number of shelves</th>
<th>Motor HP</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 2101618</td>
<td>+5 to +65</td>
<td>160</td>
<td>65 50 43</td>
<td>128 63 63</td>
<td>10</td>
<td>3/8</td>
<td>400</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>
Precise refrigerated cabinet “Hotcold UC”

FORCED AIR CIRCULATION.
DIGITAL ELECTRONIC CONTROL OF TEMPERATURE AND TIME.
HOTCOLD UC ADJUSTABLE TEMPERATURE FROM -10 °C TO 65 °C.

SAFETY:
DIN STANDARD 12880.2 SAFETY THERMOSTAT FITTED THAT DISCONNECTS POWER TO THE HEATER IF THE CONTROLLER FAILS. MANUAL RESET.

FEATURES
Exterior case, door and interior made from AISI 304 stainless steel.
Steel shelves, PVC laminated.
Door with lock and easy to replace gasket, with automatic return mechanism and manual lockout.
Hermetically sealed compressor with anti vibration mounts with fan forced evaporation unit with ventilated condenser.
Homogeneous internal temperature by forced circulating air.
Supports for shelves adjustable in height
Integrated interior light.
Adjustable front footrest.
Refrigerant R404a.
Side hole for entry and exit connections.
Two safety power sockets.
Two external ports protected by magnetothermic for external connections.
Download records in USB memory.
Automatic defrosting function.
Indoor air circulation for a correct homogenization of the temperature.
Graphic visualization of the program.
Supplied with wheels.

CONTROL PANEL
Model with 4.3 inches TFT touch screen.
Main switch.
TFT touch screen:
Visual alarm.
Clock calendar.
Single or cyclic On / Off programming.
Up to 10 work programs.
Up to 6 segments per program.
Stability time in each segment (from 1 min to 99h).
Alarms and events storage.
Probe error detection.
Self Diagnostics.
Network failure detection and saving.
Over temperature and low temperature alarms and memorization (date, start time, end time and temperature).
Safety thermostat (TS) by software.
Mechanic safety thermostat (TS).
Temperature control auto-tuning.
Configurable parameters: Date / time, temperature correction , data collection interval, language (English, Spanish and French) , °C / °F selection , over temperature and low temperature limit.

MODELS

<table>
<thead>
<tr>
<th>HOTCOLD</th>
<th>Part No.</th>
<th>Range °C</th>
<th>Capacity litres</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Door</th>
<th>Included shelves</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC</td>
<td>2101515</td>
<td>-10 +65</td>
<td>670</td>
<td>154 / 61 / 63</td>
<td>213 / 73 / 84</td>
<td>Metallic</td>
<td>3</td>
<td>520</td>
<td>120</td>
</tr>
</tbody>
</table>

They are supplied with 3 steel trays, plasticized in PVC.

NOTE: the HOTCOLD has internal power sockets that allows the use of a non-heating mixer shaker or stirrer or equipment for BOD assays to be powered internally. Alternatively power cables can be fed through external ports at each side of the unit. See chapter Mixers stirrers and shakers.

Ovens, Incubators and Furnaces 159
Refrigerated ovens with fixed humidity Hotcold Humidity F & J

WITH FORCED AIR CIRCULATION
DIGITAL TEMPERATURE ELECTRONIC REGULATION
FOR ADJUSTABLE TEMPERATURES FROM 6°C TO 20°C.

SAFETY:
DIN 12880 STANDARDS. ADJUSTABLE SAFETY THERMOSTAT INCORPORATED WHICH DISCONNECTS HEATING IN CASE OF THE HEATER’S REGULATOR FAILURE, WITH MANUAL RESET.

APPLICATIONS
Refrigerated oven for conservation and products storage which require temperatures below ambient and a controlled fixed humidity.

FEATURES
Colour TFT touch screen.
Exterior case, door and interior enclosure covered in stainless steel AISI 304.
Door with lock and easy to replace gasket, with automatic return mechanism and manual lockout. Resistant to chemical agents.
Tropicalized hermetic compressor group.
Automatic defrosting with water evaporation due to tempered electric defrost.
Supports for shelves adjustable in height.
Front foot supports adjustable in level.
Integrated interior light.
Enter port for external probes introduction.
Supplied with wheels.

HOTCOLD F
TEMPERATURE RANGES- HUMIDITY PRECISION
6 °C: ..................... 33% HUMIDITY ±3 %.
8 °C: ..................... 31% HUMIDITY ±3 %.
12 °C: ..................... 30% HUMIDITY ±3 %.
16 °C: ..................... 29% HUMIDITY ±3 %.
20 °C: ..................... 26% HUMIDITY ±3 %.

HOTCOLD J
TEMPERATURE RANGES - HUMIDITY ACCURACY
6 °C: ..................... 60% HUMIDITY ±3 %.
8 °C: ..................... 57% HUMIDITY ±3 %.
12 °C: ..................... 53% HUMIDITY ±3 %.
16 °C: ..................... 50% HUMIDITY ±3 %.
20 °C: ..................... 47% HUMIDITY ±3 %.

CONTROL PANEL
Model with 4.3 inches TFT touch screen.
Main switch.
Visual alarm.
Probe error detection.
Self Diagnostics.
Over humility alarm.
Safety thermostat (TS) by software and mechanical.

MODEL

<table>
<thead>
<tr>
<th>HOTCOLD</th>
<th>Part No.</th>
<th>Range °C</th>
<th>Humidity Range</th>
<th>Capacity litres</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Trays number</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>2101517</td>
<td>6 +20</td>
<td>26% a 33%</td>
<td>600</td>
<td>138 62 68</td>
<td>210 73 84</td>
<td>3</td>
<td>1350</td>
<td>125</td>
</tr>
<tr>
<td>J</td>
<td>2101518</td>
<td>6 +20</td>
<td>47% a 60%</td>
<td>600</td>
<td>138 62 68</td>
<td>210 73 84</td>
<td>3</td>
<td>1350</td>
<td>125</td>
</tr>
</tbody>
</table>

Supplied with 3 steel trays, PVC laminated.

ACCESSORIES
Data logger with digital screen “View 2”
Working temperature from -25°C to +85°C.
Humidity 0-100% RH
IP65 protection.
Capacity up to 30000 logs.
Two programmable alarms.
Log intervals of 1 second up to 10 days.
Data download option on standby or operating.
Display mode in °C or °F.
Part No. 2101508

OPTIONAL COMPLEMENTS
ETHERNET thermometer module
Temperature Record, with control of programmable warnings and graphic representation. It must be installed at the factory.
ETHERNET connection is needed at the place of use.
Part No. 2101627
Data logger with digital display
PT100 type probe with two meters of cable. Measuring range of -100 °C at +200 °C. With GSM module for data transmission.
Part No. 2101520
Muffle Furnaces

Electric Muffle Furnaces “Select-Horn-TFT”

TEMPERATURE CONTROLLABLE UP TO 1150 °C.
SET ACCURACY: ±1 °C OF THE SET VALUE. RESOLUTION: 1 DIGIT.
DIGITAL ELECTRONIC CONTROLLER FOR TEMPERATURE AND TIME WITH TFT COLOUR TOUCH SCREEN.
UP TO 10 PROGRAMABLE TEMPERATURE PROFILES.

APPLICATIONS
Incineration processes, drying, degradation, re-heating, thermal treatments etc.

FEATURES
Interior chamber constructed from high quality lightweight refractory bricks, with a high alumina content with no asbestos or iron oxide.
Evenly distributed exceptional long life heating elements, annealed frequently at a high fusion point.
Excellent thermal insulation made from Ceramic fibre of low density and thermal conductivity.
Low consumption with maximum performance.
Rapid temperature recovery after the door has been opened.
Flap door with easy to change components.
Support tray made from special steel used as a base to support assay material.
USB output.

CONTROL PANEL
General
Main switch.
TFT touch screen 4.3”.
Clock calendar.
Two working modes, normal or programming.
SPA – FRE – ENG menu.
Self-test on starting.
Temperature control auto-tuning.
°C/°F selection.

Normal mode
Set point temperature selection
Up ramp.
Stability time from 1 min to 99h or continuous.

Programming mode
10 profiles capacity.
6 segments per profile.
Stability time in each segment from 1 min to 99h (or continuous in the last segment)
Up ramps between segments.
Daily - weekly On / Off programming.

MODELS

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity (litres)</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000376</td>
<td>3.6</td>
<td>10 / 15 / 24</td>
<td>52 / 54 / 56</td>
<td>2500</td>
<td>54</td>
</tr>
<tr>
<td>2000377</td>
<td>9</td>
<td>15 / 20 / 30</td>
<td>58 / 59 / 65</td>
<td>3000</td>
<td>70</td>
</tr>
</tbody>
</table>

Supplied complete with support tray, made from annealed steel.

SAFETY:
PROBE BREAK DISCONNECTS THE POWER TO THE FURNACE AUTOMATICALLY.
MICROSWITCH THAT DISCONNECTS THE POWER OF THE HEATER ELEMENTS WHEN THE DOOR IS OPEN.
FLIP DOOR THAT CAN ALSO BE USED AS A SUPPORT TRAY AND USER PROTECTED FROM THE HOT INTERNAL SURFACE.

Alarm systems
Netw ork failure detection alarm.
Probe error detection alarm.
Over temperature and low temperature alarms.
Visual audible warning alarms.
Up to 100 alarms storage (date, start time, end time and alarm type).

Datalogging
Datalogging memory up to 15000 data.
Logging interval from 5 seconds to 30 min.
Data download via USB.

SPARES
Support tray made from special steel used as a base to support assay material.
Code 0203681 for furnace Part No. 2000376
Code 0203692 for furnace Part No. 2000377

Image of the flap door system in operation.
**Electric muffle furnaces “R-3 L” and “R-8 L” 1100 °C**

**FOR TEMPERATURES ADJUSTABLE FROM AMBIENT +5°C UP TO 1100 °C.**
**MICROPROCESSOR CONTROL WITH TFT TOUCH SCREEN.**
**PRECISION ±2 °C OF THE SET VALUE.**
**RESOLUTION: 1 DIGIT.**

**FEATURES**
Metal external case with vent at the back of the unit.
Interior and door made of ceramic fibre, resistant and durable (No asbestos). Heater situated at the side and bottom of the chamber.
USB output.

**CONTROL PANEL**
**General**
Main switch.
TFT touch screen 4.3”.
Clock calendar.
Two working modes, normal or programming.
SPA – FRE – ENG menu.
Self-test on starting.
Temperature control auto-tuning.
°C/°F selection.
Type K probe.

**Normal mode**
Set point temperature selection
Up ramp.
Stability time from 1 min to 99h or continuous.

**Programming mode**
10 profiles capacity.
6 segments per profile.
Stability time in each segment from 1 min to 99h (or continuous in the last segment)
Up ramps between segments.

**Alarms**
Network failure detection alarm.
Probe error detection alarm.
Over temperature and low temperature alarms.
Visual audible warning alarms.
Up to 100 alarms storage (date, start time, end time and alarm type).

**Data logging**
Data logging memory up to 15000 data.
Logging interval from 5 seconds to 30 min.
Data download via USB.

**ACCESSORIES**
Adaptable only for "Select-Horn-TFT" furnaces Part No. 2000376 and 2000377
All accessories need to be fitted in the factory prior to delivery.

**EXTERIOR EXHAUST TUBE.**
Located at the furnace back with a ventilator motor to extract gases and vapours.
Gases and Vapours can be extracted outside through the connecting tube.
Power consumption: 30 W.
Part No. 2001477

**Gloves Thermal “Kevlar 800”**
Conforms to EN 388, EN407 and EN420 standards.
For use with temperatures up to 800 °C. Made from seamless terry knit, with double face fibres, high level of protection against heat and flame.
Length 36 cm, universal fit.
Part No. 5000042

**Crucible tongs.**
With thermally protected plastic coated handles. With bow, curved tips.
Part No. 1001590 Total length 220 mm.
Part No. 1001591 Total length 330 mm.

**Crucibles made of zirconium Zr.**
Crucibles made of pure nickel Ni.
Crucibles made of glazed porcelain.
Crucibles made of stainless steel.
Crucibles made of quartz.
(See page 181).

**Crucible tongs.**
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Part No. 1001590 Total length 220 mm.
Part No. 1001591 Total length 330 mm.

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FOR TEMPERATURES ADJUSTABLE UP TO 1100 °C. ELECTRONIC DIGITAL TEMPERATURE CONTROL. PRECISION ±2 °C OF THE SET VALUE. RESOLUTION: 1 DIGIT.

FEATURES
Metal external case. Interior and door made from ceramic fibre, resistant and durable (No asbestos). Heater situated at the side and bottom of the chamber.

CONTROL PANEL
Illuminated mains On/Off switch. Temperature control with digital display of both the set and actual temperature. Programmable in steps of 1 °C. Fitted with a type K probe.

ACCESSORIES
Must be factory installed. Exterior extractor tube. Located at the furnace back with a ventilator motor to extract gases and vapours. Gases and Vapours can be extracted outside through the connecting tube. Power: 20 W. Código 2200858

Below is the table for the different models:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Part No.</th>
<th>Capacity</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Power W</th>
<th>Voltage V</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-3 L</td>
<td>2200850</td>
<td>3</td>
<td>11,5 12,5 20</td>
<td>43 34 47</td>
<td>1700</td>
<td>230</td>
<td>18</td>
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<tr>
<td>N-8 L</td>
<td>2200851</td>
<td>8,2</td>
<td>14 20 30</td>
<td>50 44 53</td>
<td>1800</td>
<td>220</td>
<td>33</td>
</tr>
<tr>
<td>N-13 L</td>
<td>2200852</td>
<td>13</td>
<td>18 22,5 36</td>
<td>55 50 70</td>
<td>1800</td>
<td>230</td>
<td>38</td>
</tr>
<tr>
<td>N-22 L</td>
<td>2200854</td>
<td>22</td>
<td>15,5 27,5 50</td>
<td>61 60 88</td>
<td>3000</td>
<td>230</td>
<td>58</td>
</tr>
<tr>
<td>N-39 L</td>
<td>2200856</td>
<td>39</td>
<td>24 31,5 49,5</td>
<td>74 65 90</td>
<td>6000</td>
<td>400 / 3 N</td>
<td>75</td>
</tr>
</tbody>
</table>

Supplied complete with a refractory ceramic tray as a base and support for material to be assayed.