Environmentally friendly final finish treatment line.

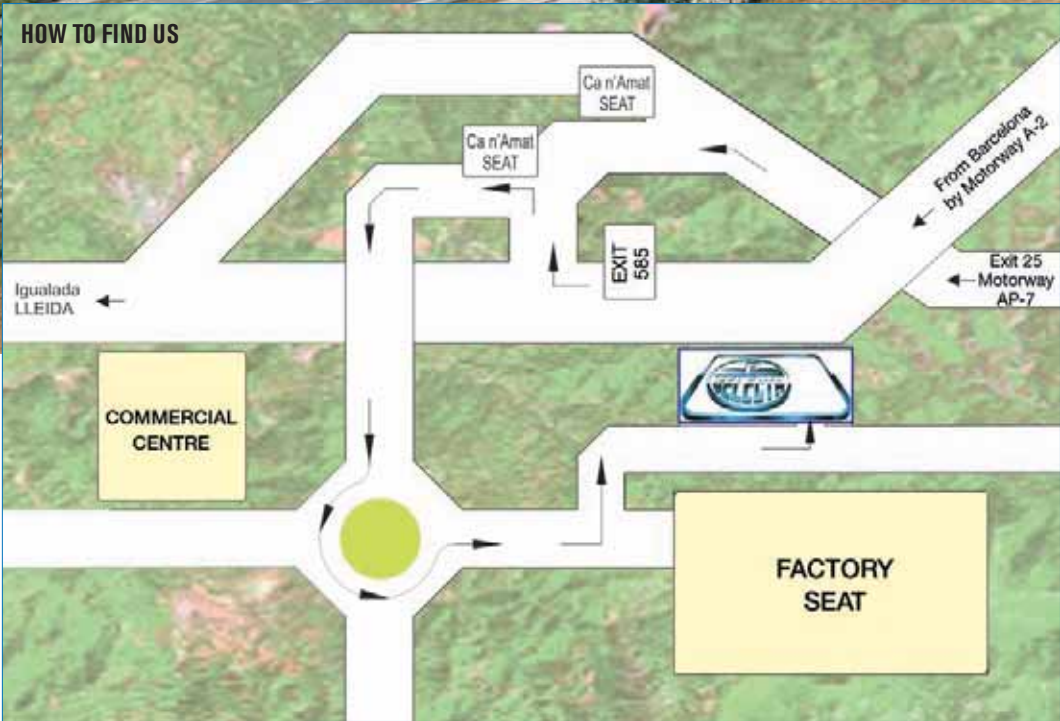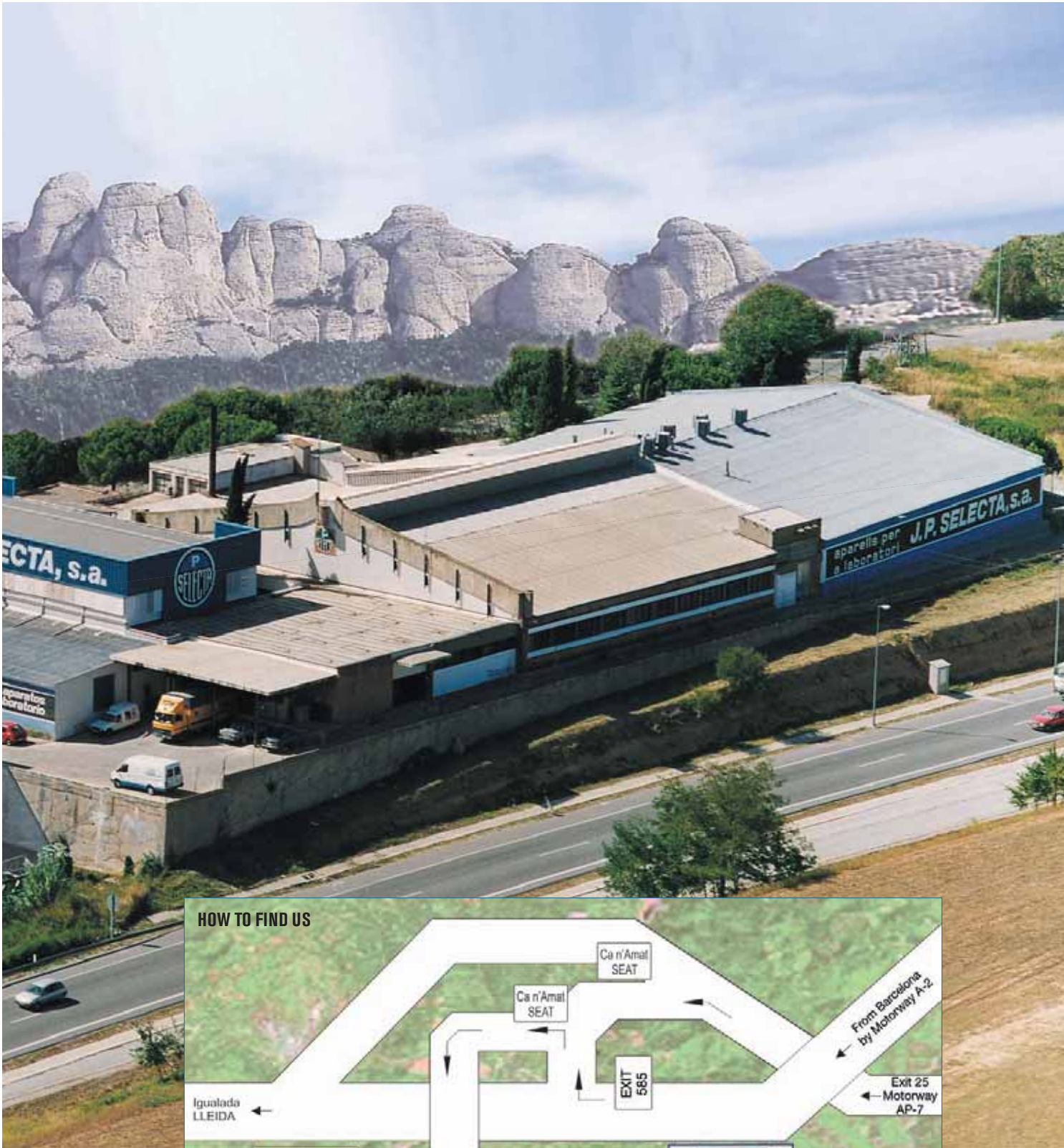**ENVIRONMENTALLY FRIENDLY**

![Selecta logo] **Selecta Group Factory**

Situated close to the scenic Montserrat mountain.

Located at Km. 585.1 of the A-2 highway, at the exit Abrera (Barcelona), covering an area of 21000 ㎡, and factory build 14,800㎡.
Situated 28 Km from the city of Barcelona, with excellent links by motorway AP-7, exit 25 (Martorell) or by the A-2 highway, Km 585.1
Barcelona-Madrid, industrial estate "Can Amat" next to the production centre of SEAT.

HOW TO FIND US

Ca n'Amat SEAT

Ca n'Amat SEAT

From Barcelona by Motorway A-2.

Igualada LLEIDA

EXIT 585

Exit 25 Motorway AP-7

COMMERCIAL CENTRE

FACTORY SEAT

SELECTA GROUP

A-2 highway, Km. 585,1 - 08630 ABRERA (Barcelona-SPAIN) - P. +34 93 770 08 77* (6 lines) - F. +34 93 770 23 62 - www.jpselecta.es - selecta@jpselecta.es

J.P. SELECTA S.A.

Scientific Laboratory Equipment
Manufacturer

COMECTA S.A.

Exclusive Representation

AQUISEL S.L.

manufacturer of Disposable
Clinical Test Kits

1948
63 ᵉᵈ
2011

Own Brands:

ISO 9002:2000

Analytical Division

International Patents

Tubes for Blood Analysis

Pipettes for Determination of
Erythrocyte Sedimentation Rate E.S.R.

Sealed Containers for Urine Samples

1940-2010

In 1948, during my youth, I got involved in the manufacture of small utensils and some simple laboratory apparatus, with the aid of some little elements available.

During these 62 years, I feel completely professional rewarded by the success achieved, with a special memory and gratitude to those who made it possible with their cooperation. Once again I am satisfied to present this general catalogue 2011-2013. As in previous occasions, my implication to the project has been absolute, with a special attention to the details, the writing, the design and the composition of it. I've applied myself in the scope and knowledge of every department and manufacture process, to get enough data and information to make an instrument that best fits the customer's demands.

J.P Selecta has always had special interest in setting out the industrial character of the company, whose main objective has always been the investigation and also the innovation and creation of new products, increasing this way our opportunities of market expansion.

The total and absolute dedication of our activities in so many countries, and the quality that our brand offers, has been worth worldwide. More than 100 countries guarantee it.

Selecta Group has organized its activity to serve our customers and to guarantee the quality demands set by the regulations.

I would like to take this opportunity, with the presentation of the new general catalogue 2011-2013, to set out some of the indicatives that define the present moment of J.P Selecta.

In our manufacture plants, we are immersed in a process of modernization and investment that require technological improvements, to increase their productivity and our foreign business renown.

We are considered to be located in the intermediate-high industry segment of technological complexity, and so we applied to our productive structure and to our products the quality and safety standards required by the international regulations, to offer the market an outstanding competitive level.

Systems and quality controls we adopt in compliance with the current regulations concerning UNE standards and also ISO 9001-2008 and ISO 13485 certified by a relevant agency, guarantee our products nature.

Our R&D department has finished some of its projects and innovations, which are represented along our catalogue with thorough information properly documented.

We hope as always that this catalogue would be a useful spreading and searching tool for laboratory user's information and management.

Sincerely,

Joaquín Puig Alemany
President of Selecta Group.

Your faithfully,

Jordi Puig Herrera
Managing Director.

J.P. Selecta World wide

MARKETING ACTIVITIES.

The completing of catalogues and brochures completed in differing languages and the participation in world wide exhibitions such as Achema, Analytica, Pittcon, AchemAsia, Medica, Analytica Shanghai, Moscow, Mumbai Arab lab and Expoquimia are a clear indication of our exposure to new and developing markets.

HOME AND INTERNATIONAL DISTRIBUTOR NETWORK.

The implementation of the Selecta group of companies in diverse markets has consolidated the penetration of our brand in more than 100 countries, confirming customer belief in our product quality.

"Every language is a world vision."
Keyserling Hermann. (1880-1946)

INFORMATION

1. The apparatus presented in this catalogue is designed specifically for the application intended.
   Contact us for confirmation of suitable use in any other distinct application.

2. In accordance with existing standards. All tests on our equipment are completed at an ambient temperature of 20 °C.

3. For correct, installation, use and maintenance of our equipment read all the instructions before use.

VOLTAGES AND FREQUENCY

4. Unless stated otherwise in the catalogue, our equipment is manufactured to be connected to the mains as:
   - Single phase 230-V ±10% 50 Hz.
   - Three phase 230/400V ± 10% 50 Hz.

5. If required other voltages and frequencies can be supplied. In some application the power can be modified.

6. Heating equipment without motors can operate on both 50 and 60 Hz.

7. In all cases where different voltages, frequencies and plugs type are requested. Written confirmation will be required before order acceptance, otherwise standard power and Schuko plug will be supplied.

CALIBRATION

8. If required certificates of calibration can be supplied that are traceable to known certified standards.

ACCESSORIES AND SPARES

To maintain the equipment to the original specification and design, it is important that genuine J.P. Selecta spares be used.
In the case that original spares are not used, J.P. Selecta are not responsible for any damage or anomaly caused.

J.P. SELECTA HAVE OPENED A WINDOW TO THE WORLD

Discover all our new developments by connecting to our Web site:

http://www.jpselecta.es

You can see and match to your requirements all of our equipment and products.

OUR GUARANTEE

We guarantee the supply of spare parts for the life time of the production of the model manufactured.

Image showing our technical services department still repairing equipment manufactured in the 1970's

RS-232 communication software

**SUITABLE FOR RECORDING DATA, REMOTE CONTROL AND ATOMISATION.**

Suitable for all equipment with
RS232

Comunication software for laboratory equipment

Comunication software for J.P Selecta equipment

J.P. SELECTA,s.a.

Autovía A-2. Km 585,1
08630 Abrera (Bacelona)
Spain
www.jpselecta.es
jpselecta@jpselecta.es

Many of the **J.P.SELECTA, s.a.** manufactured equipment comes with this software as standard. Installed on a PC with a direct communication link to the equipment for data transfer or control. The software function depends on the equipment interface but in general (ovens, baths, thermostats etc.) can be connected for:

- **Logging of data:**   The PC can constantly receive temperature data for ovens, baths, etc.
- **Capture of data:**   Accepts data for printing or incorporation into a report.
- **Remote control:**   Communication direct to the microprocessor control panels of, ovens, baths, etc. with automated control direct from the PC to the instrument..

J.P.SELECTA, s.a. can manufacture software to order for automated laboratory processes, e.g. temperature cycling and time etc.
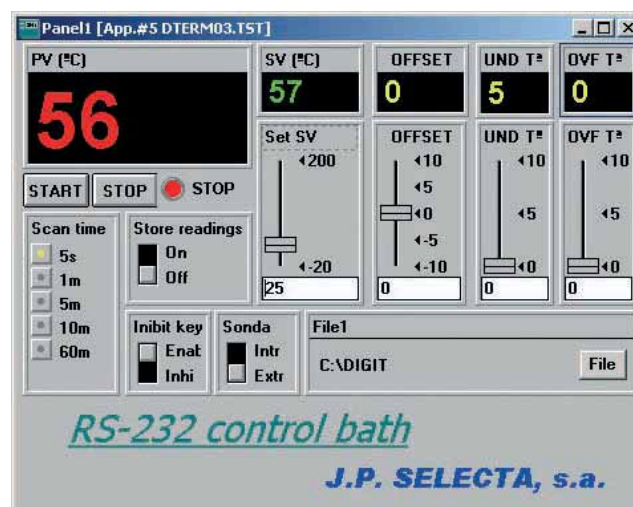
Quality Control Systems

J.P. Selecta complies with the obligatory controls and regulations related to the safety of electrical equipment, the measurement and control within the laboratory, and the completion of the standards and CE directives that affect the manufacturer of our equipment.

ELECTRICAL SAFETY 73-23 CE.
ELECTROMAGNETIC COMPATIBILITY 89-336 CE.
PRESSURE VESSEL 97-23 CE

Details of Standards and directives:

MEDICAL CENTRIFUGES J.P. SELECTA, S.A, is certified by TÜV Rheinland, according to the ISO 13485, for the design and manufacture of centrifuges used to obtain autologous extract of blood tissue, adipose and bone marrow.

|		
UNE-EN 61010-1	Part 1:	General requirements.
UNE-EN 61010-2-010	Part 2-010:	Required for the particular use of heated laboratory equipment and materials.
UNE-EN 61010-2-020	Part 2-020:	Particular requirement for laboratory centrifuges.
UNE-EN 61010-2-041	Part 2-041:	Requirement for Autoclaves that use steam vapour for the treatment of materials used within medicine and laboratory processes.
UNE-EN 61010-2-051	Part 2-051:	Particular requirement for shaking and mixing equipment.
UNE-EN 61326		Requires electromagnetic compatibility.

Certificate of registration AENOR for the design, production, commercialisation and post sales service of :ovens, centrifuges, stirrers, thermostatic immersion baths, ultrasonic baths, hotplates and blocks, digesters, Kjeldahl steam distillations, fat, fibre and alcohol extractors, refrigerators, freezers and environmental cabinets (see page 285).

Temperature sensor calibration laboratory.

Quality control is completed on 100% of instruments manufactured.
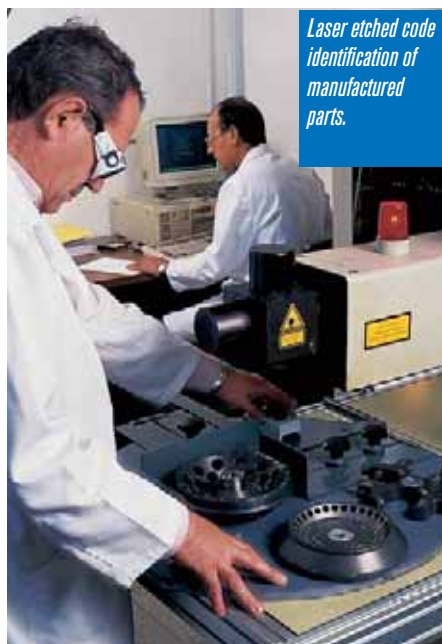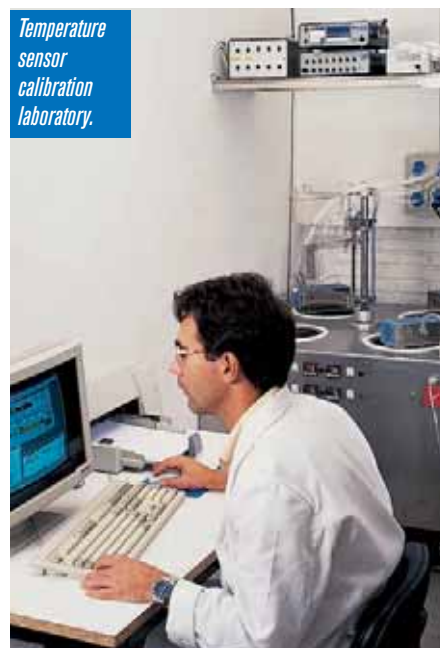
Laser etched code identification of manufactured parts.

Technical department.
Completion of plans, schematics and technical manuals, to comply with guidelines and procedures for assays etc.

IQNet

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and
AENOR
hereby certify that the organization

J.P. SELECTA, S.A.

CR N-II, KM 585,1
08630 - ABRERA(BARCELONA)
ESPAÑA

for the following field of activities

The design, production, commercialization and aftersales of:
oven, centrifuges, autoclaves, stirrers, inmersion thermostats, thermostatic baths, distillator, ultrasonic cleaners, hotplates, heating mantles, digestion blocs, kjeldahl distiling unit, fat extractor, fiber extractor, alcohol distilling unit, blood bank refrigerator cabinets, refrigerated cabinets, chest freezer.

has implemented and maintains a

Quality Management System

which fulfills the requirements of the following standard

ISO 9001:2008

Issued on: 1999-08-01   Renewed on: 2008-02-22   Modified on: 2010-03-01   Validity date: 2011-02-22

Registration Number: ES-0109/1996

René Wasmer
President of IQNet

AENOR

Asociación Española de
Normalización y Certificación

Ramón NAZ
General Manager of AENOR

IQNet Partners*:

AENOR Spain AFNOR Certification France AIB-Vinçotte International Belgium ANCE Mexico APCER Portugal CISQ Italy CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany DS Denmark ELOT Greece FCAV Brazil FONDONORMA Venezuela HKQAA Hong Kong China ICONTEC Colombia IMNC Mexico Inspecta Certification Finland IRAM Argentina JQA Japan KFQ Korea MSZT Hungary Nemko AS Norway NSAI Ireland PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST S Petersburg Russia TSE Turkey YUQS Serbia
IQNet is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc
* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

Calibration certificate

TRACEABLE STANDARDS TO ENAC.

On request, we can supply calibration certificates of the working conditions of the instruments before they leave the factory. These certificates can be used for OQ, IQ validations and for equipment that needs to comply to a ISO9000 quality system.

These certificates can be produced for Ovens, Incubators, Refrigerated products, Autoclaves, Baths ,Inmersion thermostats, furnaces, etc. instrument that require a temperature measurement by realising several temperature sensors and readings to obtain the probable temporal and spatial uncertainty.

Note: Consult for other types of equipment.

EXAMPLE OF CALIBRATION CERTIFICATE OF BACTERIOLOGICAL AND CULTURES OVEN:

Part No. **1001738** **Calibration certificate, 2 points.**

The calibration certificate has been completed based on two measuring points. This means to the user that the requested certificate should indicate two temperatures at which the effective calibration should be completed. For more than two measuring point please consult J.P. Selecta.

When requesting the certificate full details of the company and address can be included in the certificate information.

Note: When asking for a certificate, please indicate data (company name and address) for its validity.

Activity Areas

Process and quality control laboratories.

WAREHOUSE: Large computerized plants that allow stock knowledge at any time and immediate distribution of components and finished products.

LOGISTIC AREA: Teams with modern packing techniques that prepare the properly verified material in different warehouses, for its expedition to several different destinations.
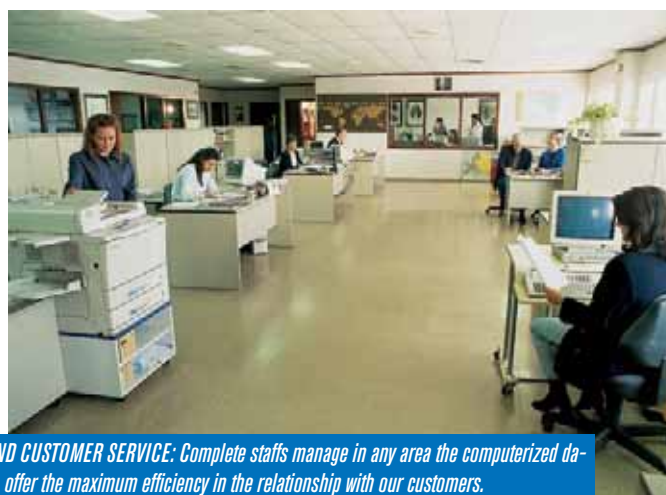
SALES DEPARTMENT AND CUSTOMER SERVICE: Complete staffs manage in any area the computerized database to offer the maximum efficiency in the relationship with our customers.

Pressurized and acclimatized room with sophisticated serial production automatisms.

News

MAGNETIC STIRRERS
Pages 30 and 31

ELECTRONIC CONTACT THERMOMETER
Pages 35 and 286

WATER BATH WITH OR WITHOUT STIRRING
Page 82

ORBITAL SHAKERS
Page 38

DESKTOP AUTOCLAVES
Pages 57 and 58

HIGH VOLUME ORBITAL SHAKERS
Pages 42 and 43

SHAKING MONITOR FOR BLOOD COLLECTION
Page 73

ROTATORY EVAPORATOR
Page 46

MEMBRANE VACUUM PUMPS
Page 49

ULTRASONIC HOMOGENEIZERS
Page 44

MICROCENTRIFUGE
Page 108

HEATING CLEANING BATHS
Page 89

METALLIC DRY BLOCK THERMO SHAKER
Page 104

TRINOCULAR FLUORESCENCE MICROSCOPE
Page 269

THERMOCYCLER FOR THERMAL CYCLES
Page 232

SPECTROPHOTOMETERS
Pages 234 and 235

HEATING MANTLES FOR FLASKS
Page 223

VISCOSIMETERS
Pages 280 to 282

REACTOR FOR PILOT PLANT
Page 291 and 292

GENERAL INDEX BY INSTRUMENT TYPE

COLOUR IDENTIFICATION

STIRRERS

Pages
25 to **45**

Magnetic, Orbital, Tilting, Shaker, Roller, Rocking, Orbital Incubator, Homogeneizers, Grinding Mills,...

PUMPS

Pages
46 to **53**

Rotary Evaporator, Vacuum, Peristaltic, Membrane, Centrifugal,...

AUTOCLAVES

Pages
54 to **67**

Table Top, Vertical, Class B, Bag Sealer,...

LOW TEMPERATURE

Pages
68 to **76**

Blood Bank, Refrigerated Cabinets, Freezers,...

BATHS

Pages
77 to **89**

Water, Oil, Reciprocal Shaking, Dry-Blocks, Ultrasonic Cleaners,...

IMMERSION THERMOSTATS

Pages
90 to **104**

Recirculation, Refrigerated, Cooling Coils,...

CENTRIFUGES

Pages
105 to **128**

Digital Control, Brushless, Microprocessor Control, Refrigerated, Blood Bags,...

OVENS - INCUBATORS - FURNACES

Drying, Bacteriological, Vacuum, CO₂, Low Temperature,...

INSTRUMENTAL

Clamps, Stands, Spatulas, Racks, Burners, Stirrer Bars, Porcelain,...

BIOLOGICAL ACCESSORIES

Biotechnology, Haemathology, Pipettes, Histology...

HEATING MANTLES AND HOTPLATES

For Flask, Tapes, Banks, Ceramic, Bath Sand,...

ANALYTICAL TECHNIQUES

Thermocyclers, Spectrophotometers, Colorimeters, pHmeters, Coductivitymeters,...

NUTRITIONAL AND WATER ANALYSIS

Digestors, Distillators, Extractors, Alcohol Distillation Unit, Flocculators, Water Distillers,...

BALANCES - OPTICAL - MELTING POINT
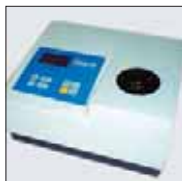
Microscopes, Refractometers, Melting Point, Polarimeter,...

MISCELLANEOUS

Safety Cabinets, Viscometers, Monitor and Control, Reactos, Analytical Consumables,...

ALPHABETIC INDEX

PART NUMBER INDEX

PART NUMBER INDEX

PART NUMBER INDEX

PART NUMBER INDEX

STIRRERS, SHAKERS AND HOMOGENEIZERS

I never did anything worth doing by accident, nor did any of my inventions come by accident; they came by work.
Thomas Edison

MAGNETICS								
Single Direction Stirring	Part No.	Controller	Volume max. litres	Heater	Controller Type	Range temperature °C	Range r.p.m.	Rapid Overview	Plate Ø cm
AGIMIN	7001731	Electronic	1	No	-	-	40 / 2000	ABS	10
AGIMICRO	7001638	Analogue	2	No	-	-	40 / 1700	ABS	12
AGIMIXT	7000381	Analogue/Digital	10	Yes	Electronic/Temperature	...350	60 / 1600	AL-PTFE	15
AGIMATIC-S	7000242	Analogue	10	No	-	-	60 / 1600	INOX	14.5
AGIMATIC-N	7000243	Analogue	10	Yes	Electronic/Energy	...350	60 / 1600	INOX	14.5
AGIMATIC-E	7002431	Analogue	10	Yes	Electronic/Temperature	...350	60 / 1600	INOX	14.5
AGIMAN	7000446	Analogue	2	Yes	Electronic/Energy	...350	60 / 1600	For Heating Mantle	
AGIMATIC-ED	7001511	Digital	10	Yes	Electronic/Temperature	...350	60 / 1600	INOX	14.5
AGIMATIC-ED-C	7001609	Digital	10	Yes	Electronic/Temperature	...350	60 / 1600	CERAMICS	14,5
Large Volume stirring									
AGIMATIC-HS	7001005	Digital	25	No	-	-	50 / 980	INOX	28 x 34
AGIMATIC-HL	7001006	Digital	60	No	-	-	50 / 980	INOX	44 x 38
Reversible stirring action									
AGIMATIC REV-E	7000836	Digital	10	Yes	Electronic/Temperature	...350	50 / 1500	INOX	14.5
AGIMATIC REV-ED-C	7001610	Digital	10	Yes	Electronic/Temperature	...350	50 / 1500	CERAMICS	14,5
AGIMATIC REV-W	7000922	Digital	2	No	-	-	100 / 1100	EPOXI RESIN	14.5
Multi- positions									
MULTIMATIC 5-S	7000951	Analogue	5 x 0.6	No	-	-	...1600	INOX	28 x 33
MULTIMATIC 9-S	7000952	Analogue	9 x 0.3	No	-	-	...1600	INOX	28 x 33
MULTIMATIC 5-N	7000953	Analogue	5 x 0.6	Yes	Electronic/Energy	...300	...1600	INOX	25 x 25
MULTIMATIC 9-N	7000954	Analogue	9 x 0.3	Yes	Electronic/Energy	...300	...1600	INOX	25 x 25

ROTARY & TILTING MIXERS					
Tube Mixers	Part No.	Vol. max. litres	Heaters	Range r.p.m.	Capacity
ORBIT	3000445	5 x 0.25	No	12	See Tube Selection
MOVIL ROD	7001723	-	No	10 / 80	35 mm Ø max.
MOVIL TUB	7000913	-	No	15	12 Tubes
MOVIL VIB	7001721	-	No	2000	See Tube Selection
MOVIL XH-B	7001722	-	No	2600	See Tube Selection

VIBRATING SHAKER					
Oscillating	Part No.	Max. Load	Heater	Capacity	Oscil. min.
VIBROMATIC	7000384	4 Kg	No	8 flasks of 50 mm Ø max. (optional + Erlenmeyer 250 ml)	100 / 950

ORBITAL TO - FRO SHAKERS					
To & Fro & orbital movement	Part No.	Heater	Heater Type	Range temperature °C	Range r.p.m.	Platforms cm
ROTATERM	3000435	Yes	Electronic/Digital	...250	20/230	41x31
ROTABIT	3000974	No	-	-	20/230	According to accessories

Shaker for Petri plates "AG-200", shaker for bottles "AG-200-A", and shaker for Erlenmeyer flasks "AG-200-B".

Thermo shaker "TRM-4" for Microtiter.

Incubated / refrigerated high volume orbital shakers "100D", "200D", "1102" and "2102".

Ultrasonic homogeneizers "CY-500".

MAGNETIC STIRRERS

A new generation of stirrer for the most exacting work

Magnetic Stirrer "Agimin" without heating
MICROPROCESSOR CONTROLLED, ELECTRONIC CONTROL, PORTABLE.

FEATURES
Maximum stir volume 1 litre.
Speed controllable from 40 to 2000 r.p.m. with storage of the ultimate speed setting.
Double power source: 4 x 1.5V AA batteries or with a mains adapter.
Moulded ABS plastic case.
Excellent resistance to chemical agents.

CONTROL PANEL
Luminous On/Off push button.
Luminous r.p.m. push button.
Increase/ decrease speed push button.
Low battery indicator lamp.

MODEL

Part No.	Height cm	Ø cm	Depth cm	Power W	Weight Kg
7001731	5	10	15	0.9	0.35

Comes complete with support bar and clamp for 3 electrodes (1 x 13 mm Ø and 2 x 16 mm Ø), 4 batteries 1.5V AA, mains adapters and 2 PTFE coated stir bars.

Magnetic stirrer "Agimicro" without heating

FEATURES
Maximum stir volume: 2 Litres.
Adjustable stir speed from 40 to 1400 r.p.m.
Durable moulded ABS plastic body.
Excellent chemical resistance.

MODEL

Part No.	Height cm	Ø Plate cm	Power W	Weight Kg
7001638	5	12	2	0.5

Comes complete with a 8 Ø x 32 mm P.T.F.E. coated stir bar.

CONTROL PANEL
Mains switch with luminous "on" indicator.
Analogue control of speed in r.p.m.

ACCESSORIES
Support bar and electrode clamp (1 of 13 and 2 of 16 mm Ø). Used with pH and conductivity meters.
Part No. **7001639**

Powerful magnetic stirrer "Agimatic-H" without heating
FOR LOW VISCOSITY VOLUMES FROM 1 TO 25 LITRES AND 60 LITRES. USING REDUCED VOLUMES THE UNIT CAN STIR MEDIUM TO HIGH VISCOSITY LIQUIDS.

Maximum stirring power

FEATURES
Electronic speed control from 50 to 980 r.p.m, will maintain a constant stir speed irrespective of the liquid viscosity.
Digital speed display.
AISI 304 stainless steel top plate with an epoxy coated metal case.

CONTROL PANEL
Main switch with a luminous "on" indicator.
Electronic speed control.
Digital speed display in r.p.m.

MODEL

	Part No.	Speed control r.p.m.	Maximum stir volume in litres	Height/Width/Depth (exterior) cm			Power W	Weight Kg
AGIMATIC-HS	7001005	50 to 980	up to 25	12	28	34	35	8
AGIMATIC-HL	7001006	50 to 980	up to 60	14	44	38	40	12

Model HS comes complete with a 16 Ø x 127 mm stir bar and model HL with a 19 Ø x 150 mm stir bar.

Analogue-digital magnetic stirrer "Agimixt"

FOR REGULABLE SPEED UP TO 1600 rpm
FOR REGULABLE TEMPERATURES UP TO 350 ºC.
MAXIMUM STIRRING VOLUME: 5-10 LITRES.
ALUMINIUM UPPER PLATE, PTFE COVERED, PLATE Ø 15 cm.

NEW

An economic and effective option

FEATURES

Metallic case with light alloy injection molding and expoxy covered.
Frontal control panel splash protected.
Side hole for a support rod.

CONTROL PANEL

Main switch with illuminated indicator.
Analogue speed indicator.
Electronic indicator with temperature indicator digital display.
Back connection for external PT100 probe for temperature control of the container liquid.

1. Mains switch with illuminated indicator.
2. SET temperature indicator.
3. External probe indicator.
4. Temperature indicator digital display.
5. Heater indicator.
6. Speed selector control.
7. Increase parameter value push button.
8. Decrease parameter value push button.
9. Auto-tunning push button.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMIXT	**7000381**	**up to 10**	**14,5 19 26**	**300**	**3,5**

Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

ACCESSORIES

PT100 temperature probe. Part No. **1001605**

Support rod with thread of 12 mm Ø x500 mm high, attachable to the case, stirrer dependent. Part No. **1000725**

Magnetic Stirrers "Agimatic" and "Agiman"

A new generation design of stirrers at the forefront of technology

COMMON FEATURES

Unique functional design, with epoxy covered alloy case. Choice of stainless steel or ceramic top plate (model dependent). An internal case acts as a spill guard and insulator, made from AISI304 stainless steel. Tilted control panel for easy viewing with splash protection. Location hole at the back for a retort support rod, supplied as an accessory. Electronic speed control from 60 to 1600 r.p.m. and from 50 to 1500 r.p.m. for models "Agimatic Rev" with constant speed irrespective of liquid viscosity. Easy to service and to replace modular electronics. All heated models have a connection at the back to connect an electronic contact thermometer "Sensoterm II", electronic controller "Electemp" or Pt100 temperature probe, model dependent. **Agimatic and Agiman exterior measures: Height 14,5, Width 19 y Depth 26 cm. Weight: 3,5 Kg.**
All hotplates have a safety over temperature cut out, set to the maximum working temperature.

TECHNICAL SCHEMATICS OF DIFFERENT COMPONENTS

ICONS OF THE DIFFERENT TEMPERATURE REGULATION SYSTEMS AND OPTIMUM STIR CONDITIONS.

Electronic contact thermometer "Sensoterm II"

Electronic temperature regulator "Electemp"

Temperature sensor Pt100

Anti spillage protector

Upper plate covered by ceramic, or by AISI 304 Stainless steel

Reinforced heater element

Anti splashing part

Rectified Álnico magnet of high thermal induction. Stirring power up to 15 litres of low viscosity liquid

Spring injected in epoxy coated dural alloy

Air inlet rack for refrigeration of the motor and the electronic components

Air outlet

Tacogem

Support base

Air in/out device for motor drive protection

Electronic circuit for speed and temperature control

Magnetic Stirrers "Agimatic" and "Agiman" analogue control

FOR SPEEDS FROM 60 TO 1600 rpm..
MAXIMUM STIR VOLUME: 10 LITRES.
PLATE MADE FROM AISI 304 STAINLESS STEEL WITH REMOVABLE SAFETY RING.
PLATE Ø 14.5 cm.

"Agimatic-S" without heating

CONTROL PANEL
1. Mains switch illuminated.
2. Electronic stir speed control.
Part No. **7000242**
Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

1   2

"Agimatic-N" with heating
ELECTRONIC DIGITAL CONTROL OF SPEED AND POWER TO THE HEATER.

CONTROL PANEL
1. Switch on button with indicator lamp for heating and for stirring speed.
2. Electronic stir speed control.
3. Electronic heater energy control from 0-100%, synchronised with an indicator lamp that functions when the plate is hot.
4. Illuminated indicator when the heater is "on".
Part No. **7000243**
Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.
Connection at the back to connect:

1   2   1   3   4

Electronic thermometer "Sensoterm II"   **Electronic temperature regulator "Electemp"**

"Agimatic-E" with heating
ELECTRONIC TEMPERATURE CONTROL OF SPEED AND POWER TO THE HEATER.
PRECISION ±2 °C.

CONTROL PANEL
1. Switch on button with indicator lamp for heating and for stirring speed.
2. Electronic stir speed control.
3. Electronic temperature control of the heater plate from 50 °C to 350 °C synchronised with an indicator lamp that functions when the plate is hot.
4. Illuminated heater indicator when the heater is on.
Precision ±2 °C.
Part No. **7002431**
Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.
Connection at the back to connect:

1   2   1   3   4

Electronic thermometer "Sensoterm II"   **Electronic temperature regulator "Electemp"**
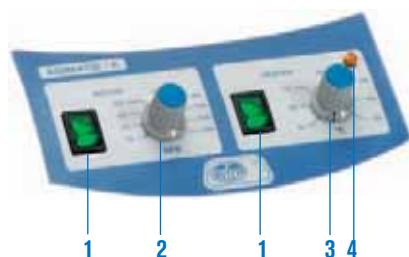
Magnetic stirrer "Agiman"
ELECTRONIC HOTPLATE DIGITAL CONTROL.
WITH A MECHANISM FOR ATTACHING HEATING MANTLES.

CONTROL PANEL
Switch on button with indicator lamp for heating and for stirring speed.
Electronic stir speed control.
Electronic heater energy control from 0-100%, synchronised with an indicator lamp that goes on when the mantle is hot.
Illuminated heater indicator when the mantle is "on".
Part No. **7000446**
Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.
Connection at the back to connect:

Electronic thermometer "Sensoterm II"   **Electronic temperature regulator "Electemp"**

ACCESSORIES
Attachable heating mantle for the "Agiman" magnetic stirrer.

Part No.	Capacity flask ml
3000447	250
3000448	500
3000449	1000
3000450	2000

Complements for Agimatic-S-N-E and Agiman.
See accessories on page 34 and 35.

Magnetic Stirrers "Agimatic-ED" and "Agimatic-ED-C" digital control

FOR SPEEDS FROM 60 TO 1600 RPM.
FOR ADJUSTABLE TEMPERATURES FROM 50 ºC TO 350 ºC. PRECISION ±2 ºC.
MAXIMUM STIR VOLUME: 10 LITRES.
PLATE Ø IS 14,5 cm.
WITH RENOVABLE SAFETY RING AGAINST SPILLAGE.

"Agimatic-ED" with heating

ELECTRONIC TEMPERATURE CONTROL OF SPEED AND POWER TO THE HEATER.

SILUMIN UPPER PLATE COVERED BY AISI 304 STAINLESS STEEL.

CONTROL PANEL
1. Digital display indicating stir speed or temperature.
2. Push button, parameter selector, Stir speed or Temperature.
3. Push button, increase parameter value.
4. Push button, decrease parameter value.
5. Indicator lamp, safety thermostat "on"
6. Push button Stop-Start
Precision ±2 °C.
Part No. 7001511
Supplied with a PTFE coated stir bar of Ø 8 x 40 mm. long.

Connection at the back to connect:

Electronic contact thermometer "Sensoterm II"   **Electronic temperature regulator "Electemp"**   **Temperature sensor Pt100**

"Agimatic-ED-C" with heating

ELECTRONIC TEMPERATURE CONTROL OF SPEED AND POWER TO THE HEATER.

SILUMIN UPPER PLATE WITH CERAMIC SURFACE.

NEW

Ceramic surface:
Excellent conductivity and heat distribution.
Unalterable surface.
Higher acceleration to reach temperature.
Extreme resistance against chemical agents and scratches.

CONTROL PANEL
1. Digital display indicating stir speed or temperature.
2. Push button, parameter selector, Stir speed or Temperature.
3. Push button, increase parameter value.
4. Push button, decrease parameter value.
5. Indicator lamp, safety thermostat "on"
6. Push button Stop-Start
Precision ±2 °C.
Part No. 7001609
Supplied with a PTFE coated stir bar of Ø 8 x 40. mm long.

Connection at the back to connect:

Electronic contact thermometer "Sensoterm II"   **Electronic temperature regulator "Electemp"**   **Temperature sensor Pt100**

Complements for Agimatic-ED and Agimatic ED-C. See accessories on pages 34 and 35.

Reversible magnetic Stirrers "Agimatic-Rev-E" and "Agimatic-Rev-ED-C"

Forefront technology for the most exacting analysis

FOR SPEEDS FROM 50 TO 1500 rpm.
FOR ADJUSTABLE TEMPERATURES FROM 50 °C TO 350 °C. PRECISION ±2 °C.
MAXIMUM STIR VOLUME: 10 LITRES. PLATE Ø IS 14,5 cm.
MAGNETIC REVERSIBLE ACTION STIRRERS, WITH ADJUSTABLE TIME STIRRING PERIODS AND PRECISE SPEED CONTROL, PROVIDES THE FOLLOWING ADVANTAGES FOR REPEAT PROCESSES:

> A.- FASTER MIXING, REDUCED STIRRING TIME.
> B.- CONTROLLABLE VORTEX EFFECT.
> C.- QUICKLY ELIMINATES AIR FROM WITHIN THE SAMPLE MIXTURE, DEGASSING.
> D.- MINIMUM SPLASHING, NO LOSS OF SAMPLE.

SELECT MOVEMENT FOR ONE DIRECTION OR REVERSE.
ELECTRONIC CONTROL OF THE FREQUENCY INVERTING PERIOD, FROM 10-30 SECONDS.

Reversible period left from 10" to 30"
Reversible period right from 10" to 30"
Intervals
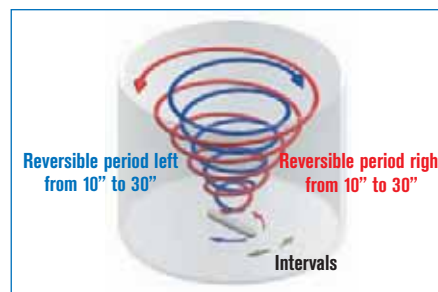
"Agimatic-Rev-E" with heating

ELECTRONIC DIGITAL CONTROL OF STIR SPEED AND HEATER TEMPERATURE.
WITH REMOVABLE SAFETY RING AGAINST SPILLAGE.

SILUMIN UPPER PLATE COVERED BY AISI 304 STAINLESS STEEL.

CONTROL PANEL
1. Digital display indicating stir speed or temperature.
2. Push button, parameter selector, Stir speed, Temperature or reverse stir speed time.
3. Push button, increase parameter value.
4. Push button, decrease parameter value.
5. Indictor lamp, safety thermostat "on"
6. Push button Start-Stop.
Part No. **7000836**
Supplied with PTFE coated stir bar of Ø 8 x 40 mm. Long

Connection at the back to connect:.
Electronic contact thermometer "Sensoterm II"   **Electronic temperature regulator "Electemp"**   **Temperature sensor Pt100**

"Agimatic-Rev-ED-C" with heating

ELECTRONIC DIGITAL CONTROL OF STIR SPEED AND HEATER TEMPERATURE.
WITH REMOVABLE SAFETY RING AGAINST SPILLAGE.

SILUMIN UPPER PLATE WITH CERAMIC SURFACE.

Ceramic surface:
Excelent conducitity and heat distribution.
Unalterable surface.
Higher acceleration to reach temperature.
Extreme resistance against chemical agents and scratches.

CONTROL PANEL
1. Digital display indicating stir speed or temperature.
2. Push button, parameter selector, Stir speed or Temperature.
3. Push button, increase parameter value.
4. Push button, decrease parameter value.
5. Indicator lamp, safety thermostat activated.
6. Push button Start-Stop.
Part No. **7001610**
Supplied with PTFE coated stir bar of Ø 8 x 40 mm. Long.

Connection at the back to connect:.
Electronic contact thermometer "Sensoterm II"   **Electronic temperature regulator "Electemp"**   **Temperature sensor Pt100**

Reversible magnetic stirrer, submersible
"Agimatic-Rev-W" without heating

WITH ELECTRONIC CONTROL AND DIGITAL DISPLAY.

Modular conception polyvalent, no motor

Reversible period left from 10" to 30"

Reversible period right from 10" to 30"

Intervals

Stirring system with no moving parts within the plate. The operation of the plate is due to creating electronically a controlled gyrating magnetic field that spins a magnetic stir bar within a vessel.

By means of a control knob and a digital display the user can adjust the speed of rotation accurately from 100 to 1100 r.p.m.

To accelerate and improve better the stirring process, a reversible stirring action can be employed. The direction of rotation can be oscillated from 10 to 30 seconds by means of an adjustable control knob on the front of the unit.

Up to 4 magnetic stir plates can be connected to the control unit and run simultaneously to produce reproducible stir speeds on each plate.

The modular base plate can be extended and function some distance away from the control unit.

The plates are made with epoxy resin, hermetically sealed and are completely water tight and can be placed within a water bath to temperatures up to 50 °C.

Each plate has a threaded hole for a support rod and a 1.5 meters extended cable.

FEATURES
Electronic speed control from 100-1100 r.p.m.
Select single or reverse stirring action.
Electronic frequency control for rotation direction from 10 to 30 seconds.
Digital speed display.
Control unit case made from AISI 304 stainless steel.
Four connectors situated at the back to connect up to 4 stir plates.

CONTROL PANEL
Rotation direction selector.
Electronic speed control.
Electronic reverse time period control.
Digital speed display.

Example: system of submerged stirrers table top and with retort stand.

MODEL

Part No.	Plate Ø cm	Maximum stir volume in litres	Speed control r.p.m.	Height/Width/Depth Control unit (exterior) cm			Power W	Weight Kg
7000922	14.5	2	100-1100	8	24	18	14	2.5

Comes complete with a magnetic stir plate, stir bar 8 Ø x 40 mm long and support rod that is fitted in the back of the unit that supports the plate at the height required.

ACCESSORIES: See accessories on (pages 34 and 35).

ACCESSORIES

Tanks and thermostats. See immersion thermostats (page 90 to 104).

Magnetic stir plate.
Part No. **7000923**

Multiple position magnetic stirrers "Multimatic"

COMMON FEATURES

External plate made from AISI 304 stainless steel with engraved stirrer positions.
Independent stirring speed control for each position.
Front panel protected against splashes.

Models 5-S and 5-N: Suitable for 5 flasks, 600 ml max. (max. Ø 90 mm).
9-S and 9-N: Suitable for 9 flasks, 300 ml max. (max. Ø 75 mm).
Epoxy coated external case.

APPLICATIONS

Specially recommended for bio-pharmaceutical diagnostic assays.

Stirrers "Multimatic" 5-S and 9-S without heating
FOR 5 AND 9 POSITIONS.

CONTROL PANEL
Illuminated mains switch.
Individual position stir speed control.

MODELS

	Part No.	Height / Width / Depth (exterior) cm			Width / Depth (plate) cm		Speed control r.p.m.	Maximum stir volume ml	Power W	Weight Kg
MULTIMATIC 5-S	7000951	11	28	35	28	33	Up to 1600	5 x 600	16	7
MULTIMATIC 9-S	7000952	11	28	35	28	33	Up to 1600	9 x 300	27	9

Comes complete with a 5 or 9 mm stir bar, model dependent covered in PTFE of 8 Ø x 32 mm long.

Hotplate stirrers "Multimatic" 5-N y 9-N with heating
FOR 5 AND 9 POSITIONS, OVER TEMPERATURE SAFETY THERMOSTAT FITTED.

CONTROL PANEL
Mains illuminated power switch.
Individual speed control for each position.
Electronic heater energy control from 0-100% synchronised with an indicator lamp when the heater is on.

MODELS

	Part No.	Height / Width/ Depth (exterior) cm			Width / Depth (plate) cm		Maximum temperature °C	Speed control r.p.m.	Maximum stir volume ml	Heater Power W	Total Power W	Weight Kg
MULTIMATIC 5-N	7000953	16	28	35	25	25	300	Up to 1600	5 x 600	680	700	12
MULTIMATIC 9-N	7000954	16	28	35	25	25	300	Up to 1600	9 x 300	680	700	14

Comes complete with a 5 or 9 mm stir bar, model dependent covered in PTFE of 8 Ø x 32 mm long.
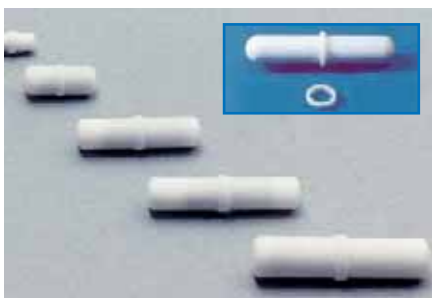
Stir-bars followers for magnetic stirrers.
Encased in PTFE with pivot ring, temperature resistant to +275 °C.
Part No.
1000009	6 Ø x 10 mm long.	without pivot ring.
1000012	4 Ø x 12 mm long.	without pivot ring.
1000019	7 Ø x 20 mm long.	with pivot ring.
1000032	8 Ø x 32 mm long.	with pivot ring.
1000039	8 Ø x 40 mm long.	with pivot ring.
1000045	10 Ø x 45 mm long.	with pivot ring.
1001061*	12 Ø x 75 mm long.	with pivot ring.
1001062*	16 Ø x 102 mm long.	with pivot ring.
1001063*	16 Ø x 127 mm long.	with pivot ring.
1001064*	19 Ø x 150 mm long.	with pivot ring.

* With pivot ring for large volumes.

Concentric stir-bar with beaker cover "CENTRIMAN".
Encased in P.T.F.E. with an adjustable axis bar made of AISI 304 stainless steel. Suitable for applications with volumes of 100 to 2000 ml.
Soft start stirring and adjustable height prevents the stir-bar jumping inside the vessel.
Conical fitting lid of polypropylene with excellent chemical and thermal properties that resists temperatures up to 160 °C. The lid has an auto-lubricating central axis hole with two lateral air displacement holes.
Part No.
1000900 Concentric stir-bar with conical fitting lid for beakers volumes of 100 ml. to 500 ml. Length 32 mm.
1000901 Concentric stir-bar with conical fitting lid for beakers volumes of 500 ml. to 1000 ml. Length 50 mm.
1000902 Concentric stir-bar with conical fitting lid for beakers volumes of 1000 ml. to 2000 ml. Length 55 mm.

Triangular stir-bar "TRIMAG".
Encased in heat resistant PTFE of temperatures up to 275 °C. useful for "dissolving solids" and stirring silts. Liquids flow upwards as well as sideways. Quiet with excellent stability. Suitable for flat bottomed vessels.
Part No.
1000536	9 side x 35 mm long.
1000537	14 side x 40 mm long.
1000538	12 side x 50 mm long.
1000539	14 side x 55 mm long.

Starhead stir bar.
Circular, encased in heat resistant PTFE for temperatures up to 275 °C. Useful for tubes, flasks and round bottom vessels.
Part No.
1000790	25 Ø x 15 mm height.
1000791	40 Ø x 17 mm height.

Box of 17 assorted stir bars.
Encased in temperature resistant PTFE for temperatures up to 275 °C.
Contents:
1 stir-bar with pivot ring 6x10 mm.
1 stir-bar with pivot ring 4 x12 mm.
1 stir-bar with pivot ring 7x20 mm.
2 stir-bars with pivot ring 8x32 mm.
2 stir-bars with pivot ring 8x40 mm.
2 stir-bars with pivot ring 10x45 mm.
1 triangular stir-bar of 9x35 mm.
1 triangular stir-bar of 14x40 mm.
1 triangular stir-bar of 12x50 mm.
1 triangular stir-bar of 14x55 mm.
1 stir-bar Rotor-Pat of 11x35 mm.
1 oval stir-bar of 16x30 mm.
1 oval stir-bar of 20x40 mm.
1 star head stir-bar of 20x15 mm.
1 star head stir-bar of 40x17 mm.
Part No. **1000487**

Stir Bar "ROTOR-PAT".
Encased in PTFE useable up to temperatures of 275 °C.
Excellent stability with strong vortexing turbulence, useful for round bottom or convex bottom flasks.
Part No.
1000001 11 Ø max. x 35 mm long.

Oval stir bar, coated with PTFE, resistant to high temperatures of up to +275 °C. Can be used for all types, including round bottom vessels.
Part No.
1000788	16 Ø x 30 mm long.
1000789	20 Ø x 40 mm long.

Floating magnetic stir-bar "IMANFLOTER".
Encased completely in PTFE Dismountable structure, autoclavable. Designed specifically for low constant speed stirring. Recommended for tissue culture applications. The floating conception of the Imamfloter minimises the grinding effect of cell damage as there is no friction on the bottom of the flask.
Medium speed levels prevent the IMANFLOTER from jumping within the vessel.

Part No.	Total length	Stir bar length
1000897	50 mm	39 mm
1000898	60 mm	45 mm

Stir-bar retriever.
Flexible, encased in PTFE.
Part No.
1000020 Length: 280 mm.

Support rod with thread of 12 mm Ø x 500 mm high, stirrer dependent, attaches to the main body of the stirrer.
Part No. **1000725**

70 mm

Clamp with bosshead , "AUTOMATIC" Chrome coated alloy with screw closure.
For Ø from 0 to 25mm.
Part No. **7000251**

NEW

Electronic contact thermometer with digital readout "Sensoterm II".
Complete with AISI 304 stainless steel sheathed Pt1000 temperature sensor.

FEATURES:
Conceived and designed as external sensor probe, where the controller is away from the measuring temperature zone of heat and vapour. The advantages over a contact thermometer means additional safety, no broken glassware or mercury spills.

SPECIFICATION
Temperature range from: -50 °C to +300 °C.
Temperature sensor : 3.5 Ø x 250 mm immersion.
Stability: 1 °C ±1 digit
Resolution: 1 °C.
Temperature display: LCD 8 mm.
Working environment: 0 to 60 °C and relative humidity up to 80 %.
Dimensions: 130 high x 71 wide x 24 mm deep (without probe)

Identification ICON

Part No. **1001009**

Adapters for round flasks of 250, 500 and 1000 ml.
Made of Aluminium alloy. Suitable for the stirrers with a Ø greater than 14.5 cm.
Maximum adapter temperature 250 °C.
Part No.
1001712 250 ml flasks.
1001718 500 ml flasks.
1001719 1000 ml flasks.

Temperature controller Electemp.

FEATURES:
P.I.D. digital temperature controller. User configurable microprocessor of function parameters.
Temperature range: -150 °C to 1300 °C
Sensor options: Pt100 or Thermo resistor K type probe

SPECIFICATION:
Stability: ±0.1 °C.
Resolution: ±0.1 °C Pt 100 /±1 °C K Type probe.
Operation: ON-OFF/P.I.D.
AUTOTUNING. Adapts automatically to the working medium (Solid, liquid or gas.)
Dimensions: 10.5 high x 13.5 wide x 21cm deep.
Maximum power (at 230 V): 3100 W.
Weight: 1.250 Kg

Identification ICON

Part No. **3000887**

ACCESSORIES:
Probe Pt100 Part No. **1000893**
Probe K Type. Part No. **1000895**

Aluminium PTFE coated bath.
Suitable for stirrers and hotplate stirrers. "Agimatic N, E, ND, ED and Rev-E".
Suitable as water or oil baths for temperatures up to 200 °C with magnetic stirring from 150 to 1500 r.p.m.
For rotary evaporators etc.
Part No.
1001230 capacity 2 litres. 11 cm high x 18 cm Ø.
1001231 capacity 4 litres.13 cm high x 24 cm Ø.

ACCESSORIES:
Suitable only for tank Part No. 1001230.
Set of 4 reduction ring lid, stainless steel AISI304, with location hole for a thermometer.
Part No. **3000917**

Temperature sensor Pt100. Controls the sample temperature in the digital hotplate stirrers:
Part Nos: 7001511, 7001609, 7000836 and 7001610.
Immersion Probe:
4mm Ø x 130 mm long.
Cable connector 150 cm long.

Identification ICON

Part No. **1001610**

Rotator "Orbit"

FEATURES
Rotation Speed: 12 r.p.m.
Adjustable rotation angle axis from vertical to horizontal. An elastic shaft drive and clip supports permit the flasks and tubes to be loaded and unloaded while the motor is running. Epoxy coated outer casing.
Recommended for extractions of cell cultures, blood tubes and other haematological applications.

MODEL

Part No.	Speed r.p.m.	Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000445	Fixed 12	19	23	20	15	6

ACCESSORIES

Erlenmeyer flask adapters, clips made from stainless steel.

Part No.	Capacity
3000850	8 x 50 ml Erlenmeyer flasks.
3006100	6 x 100ml Erlenmeyer flasks.
3005250	5 x 250ml Erlenmeyer flasks.

Tube adapters, made from Aluminium, with nickel/chrome clips for different tube Ø.

Part No.	Capacity	Part No.	Capacity
3000356	35 tubes from 6 to 9 mm Ø.	3002215	22 tubes from 17 to 20 mm Ø.
3003011	30 tubes from 10 to 13 mm Ø.	3001820	18 tubes from 21 to 24 mm Ø.
3002512	25 tubes from 14 to 16 mm Ø.	3001723	17 tubes from 23 to 28 mm Ø.

Tilting Mixer Shaker "Movil-Tub"

NEW DESIGN

FEATURES
Fixed speed tilting shaker mixer with removable silicon, anti slide tray. Recommended especially for haematology, chemistry and microbiology applications.

MODEL

Part No.	Tube capacity	Tube Ø / length mm		Speed r.p.m.	Height / Width / Depth (exterior) cm			Tilt angle	Power W	Weight Kg
7000913	12	20	160	15	12	34	20	25°	6	2,5

Roller and tilt mixer "Movil-Rod"
WITH VARIABLE SPEED CONTROL FROM 10 TO 80 r.p.m.

FEATURES
Roll and tilt mixer with 7 rollers, double action, gently rolls the tubes while rocking, produces a sinusoidal movement, providing excellent sample homogenisation. Recommended for suspensions of biological and haematological fluids.

MODEL

Part No.	For tube Ø up to mm	Speed r.p.m.	Length (rollers) cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001723	35	10 - 80	24	9.8	34.9	26.5	12	3.6

Vortex tube mixer
VORTEX MIXER HEAD OR SURFACE.

FEATURES
Mixing amplitude: 6.2 mm. Base with three suction feet.
Model "Movil-Vib" with selector mixing by contact or fixed continuous movement.
Model "XH-B" with start stop switch for multiple tubes.

MODEL

MODEL	Part No.	Frequency r.p.m.	Ø platform (usable) cm	Height / Ø (exterior) cm		Power W	Weight Kg
Movil-Vib	7001721	2000	6	15	10	30	2.8
XH-B	7001722	2600	10	13	13	20	2.3

Mod. "Movil-Vib"
Part No. 7001721.

Mod. "XH-B"
Part No. 7001722.

Rocking Mixer "Vibromatic"

DIGITAL ELECTRONIC CONTROL OF SPEED AND TIME.

Optimum shaking frequency: 950 oscillations per minute

APPLICATIONS
Dissolution, extractions and homogenisation.

FEATURES
Electronic control from 100 to 950 oscillations per minute. (1900 vibrations)and timer from 1 to 999 minutes or continuous operation.
Oscillation amplitude: 8 mm.
Easily detachable arms equipped with 8 clamps that allow all types of tubes and flask with diameters of between 5 to 50 mm can be held in position.
Maximum load: 4 kg.

CONTROL PANEL
1. Digital display indicator of osc./min. and time.
2. Parameter display selector.
3. Parameter selector, speed or time.
4. Push button increase value.
5. Push button decrease value.
6. Push button start-stop.

MODEL

Part No.	Oscillations p.m.	Maximum capacity Kg	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7000384	**100 - 950**	**4**	**23**	**77**	**27**	**34**	**11**

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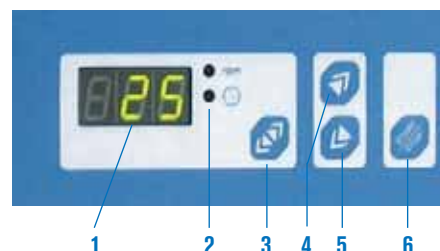
ACCESSORIES

Platform support for Erlenmeyer flasks, made from AISI 304 stainless steel with clip adapter position holes for 50 ml to 1000 ml flasks. Platform dimensions: 38 cm long x 19 cm wide.
Weight: 2 Kg.
Platform capacity:
- 18 Erlenmeyer flasks of   50 ml.
- 12 Erlenmeyer flasks of   100 ml.
- 8 Erlenmeyer flasks of   250 ml.
- 6 Erlenmeyer flasks of   500 ml.
- 3 Erlenmeyer flasks of 1000 ml.
Part No. **3001221**

Adapters for Erlenmeyer flasks.
Made from tempered stainless steel.
Part No.
1001003	Adapter for	50 ml.
1000978	Adapter for	100 ml.
1000979	Adapter for	250 ml.
1000980	Adapter for	500 ml.
1000981	Adapter for	1000 ml.

2 in 1. Platform support for Erlenmeyer flasks.

*Model Vibromatic
with adapter platform.*

Orbital shaker "AG-200", "AG-200-A", "AG-200-B"
ELECTRONIC DIGITAL CONTROL OF SPEED AND RUN-TIME

NEW

COMMON FEATURES
External ABS case with adapter platform for the different models.
Innovative single button to select start, shaking speed, time and stop.
Digital display of time and shaking speed.
Maintenance free induction drive motor which produces a uniform movement according to the rotation speed program.
Acoustic notification at the end of the cycle.

CONTROL PANEL
Main switch.
Single button selector for shaking speed and time.
Display indicating the shaking speed.
Display indicating the programmed time.
Measures: Alto 10 x Ancho 28 x fondo 26

TECHNICAL INFORMATION
Rotation frequency: 50-250 r.p.m.
Timer from 1 min to 99h 59 min
Rotation amplitude: 20mm
Power: 50 W.
Load capacity: till 2,5Kg
Measures cm: Height 10 x Width 28 x Depth 26

Shaker for Petri plates "AG-200"
With non-slip rubber platform of 24cm width and 20cm depth.
Capacity for 4 Petri plates.
Useful for slides and little flasks shaking.
Weight (Kg): 7.
Part no: **5312010**

Shaker for bottles "AG-200-A"
With non-slip rubber platform of 26cm width and 22cm depth, with 3 adjustable rubber retaining bars suitable for any kind of glasses: Erlenmeyer, flasks, bottles, etc.
Weight (Kg): 8
Part no: **5312011**

Shaker for Erlenmeyer flasks "AG-200-B"

Tempered aluminium base of 27cm width and 22cm depth, with multi-adapter location holes to support different capacities flasks from 50ml to 2000ml.
Weight (Kg): 8.
Part no: **5312012**

Erlenmeyer flasks adapters
Made of stainless steel with upper spring.
Part no. **5312105** Adapter for 50 ml.
Platform capacity: 8 units
Part no. **5312106** Adapter for 100 ml.
Platform capacity: 8 units
Part no. **5312107** Adapter for 250 ml.
Platform capacity: 6 units
Part no. **5312108** Adapter for 500 ml.
Platform capacity: 4 units
Part no. **5312109** Adapter for 1000 ml.
Platform capacity: 2 units
Part no. **5312110** Adapter for 2000 ml.
Platform capacity: 1 unit.

Orbital and linear motion shaker "Rotaterm"

WITH HEATED PLATFORM TOP PLATE.
ELECTRONIC DIGITAL SPEED AND TEMPERATURE DISPLAY.
INCLUDES A SAFETY OVER TEMPERATURE DEVICE.
TEMPERATURE STABILITY ±1 °C.

2 in 1 System suitable for orbital or linear motion

FEATURES

Adjustable temperature range from ambient +5 °C. to 250 °C.
Electronic 3 digit temperature display, monitored by a Pt 100 temperature probe.
Resolution: 1 digit.
Electronic digital speed control from 20 to 230 oscillations per minute and timer from 1 to 999 minutes or continuous operation.
Adjustable oscillation amplitude: 15 and 20 mm.
Choice of: orbital or linear motion.
Epoxy covered external casing.
Aluminium top plate platform with evenly distributed heater elements.
The upper platform is made of AISI 304 stainless steel with adjustable tensile spring clips that allow all kinds of glassware, flasks, Erlenmeyer flasks, racks, etc. to be held in position.
Digital calibration temperature circuit.

CONTROL PANEL

Temperature control.
1. Digital temperature display.
2. Push button increase temperature.
3. Push button reduce temperature.
4. Push button start-stop heater.
5. Over temperature alarm.

Temperature and speed control.
6. Digital display of oscillation per minute and time (in minutes).
7. Displayed parameter.
8. Push button select displayed parameter, speed or time function.
9. Push button increase parameter value.
10. Push button decrease parameter value.
11. Push button start-stop shaker.

Part No 3000435 with platform and tensile spring clips.
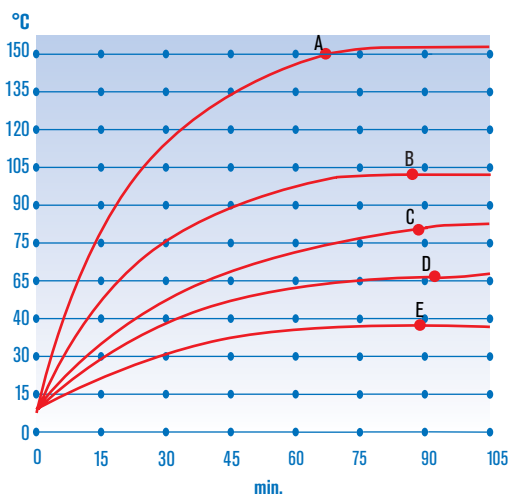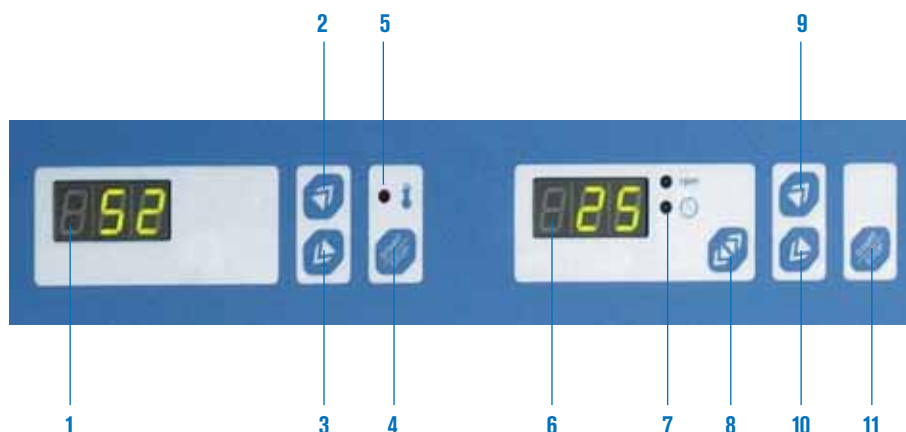
MODEL

Part No.	Platform	Width / Depth (platform) cm		Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000435	**Spring clip**	41	31	30	46	38	2300	32

Diagram of Temperature Vs Time.
For 500ml Erlenmeyer flasks.
A. Plate to 250 °C: Silicon 150 °C.
B. Plate to 200 °C: H_2O 97 °C.
C. Plate to 150 °C: H_2O 82 °C.
D. Plate to 100 °C: H_2O 61 °C.
E. Plate to 50 °C: H_2O 37 °C.

Orbital and horizontal shaker "Rotabit"
ELECTRONIC DIGITAL CONTROL OF SPEED AND RUN TIME.

2 in 1 system, versatile orbital and horizontal shaker

FEATURES
Speed control from 20 to 230 oscillations per minute with timer from 1 to 999 minutes or continuous operation.
Shaking amplitude of: 15 and 20 mm.
Choice of orbital movement or a horizontal "To and Fro" motion.
Easy to interchange platforms, see accessories for platform selection.
Epoxy covered outer casing.

CONTROL PANEL
1. Digital display showing oscillations and time.
2. Displayed parameter.
3. Push button, select parameter function, speed or time.
4. Push button increase parameter value.
5. Push button reduce parameter value.
6. Push button Start- Stop.

1 2 3 4 5 6

ACCESSORIES
Universal platforms with non-slip surface with four adjustable silicon covered retaining bars suitable for all types of glassware, Erlenmeyer flasks, etc. to be held in position.

Part No.	Height / Width/ Depth (exterior) cm			Weight Kg
3000975	9	42	35	5
3000976	9	55	35	6

Base for Erlenmeyer flask clips.
Made from AISI 304 stainless steel with multi-adapter location holes to support Erlenmeyer flask clips.
Capacities 50, 100, 250, 500 and 1000 ml.

Part No.	For platform number Part No.	Width / Depth (platform) cm		Capacity, No. of positions					Weight Kg
				50 ml	100 ml	250 ml	500 ml	1000 ml	
3000977	3000975	40	34	36	25	16	9	5	1.5
3001010	3000976	54	34	48	30	20	12	8	2
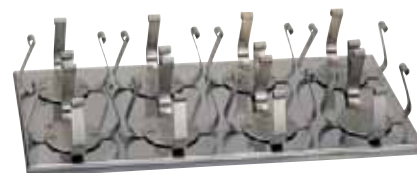
Erlenmeyer flasks spring clips.
Made with tempered stainless steel.

Part No.		Part No.	
1001003	Adapter for 50 ml.	**1000979**	Adapter for 250 ml.
1000978	Adapter for 100 ml.	**1000980**	Adapter for 500 ml.
		1000981	Adapter for 1000 ml.

MODEL

Part No.	Control oscillations p.m.	Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000974	20 - 230	20	42	43	80	13.5

This shaker can be coupled to the "Boxcult" incubation chamber with platform Part No. 3000975 (see page 41).

NOTE: This shaker has multiple options and accessories, a flow chart for easy selection of the accessories can be found at the end of this section.

Platform Part No. 3000975

Platform Part No. 3000976

Orbital To & Fro shaker "Rotabit" complete with accessory. "Boxcult" incubation chamber.

Incubation chamber "Boxcult"
The "Boxcult" can be fitted onto the "Rotabit", Part No. 3000974, with the universal platform, (SMALL) Part No. 3000975.
Forced air fan circulation.
Adjustable temperature, ambient +5 °C to 57 °C.
Homogeneity ±2.5%
Stability ±0.5%
Built of transparent Perspex, access is throught a wide hinged front door which provides easy access for loading and unloading. Samples can be viewed without opening the incubator maintaining a constant homogeneous temperature.

Part No.	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000957	**50**	**47**	**47**	**61**	**51**	**51**	**220**	**11**

See incubator section for more details (page 137).

Set of 5 reduction rings adapters for separating flasks of 50 to 100 ml.
Part No. **6000620**

Separating funnel device.
Two positions, for mixing Horizontal to Vertical for easy decanting.
Capacity: 5 separating funnels of 250 to 500 ml or 2 funnels of 1000 ml.
Part No. **6000619**
This accessory can only be fitted to the platform Part No. 3000976.
The "Rotabit" Part No. 3000974 and platform need to be ordered separately.

Double platform part no 3001011, with shaker Part No. 3000974

Double platform.
Two levels.
Fits onto the "Rotabit" Part No. 3000974.
Complete with anti slide mats and four support bars that support the upper level.
Each platform has four silicon clamping bars.

Part No.	Width / Depth (platform) cm		Total combined height cm
3001011	**55**	**35**	**40**
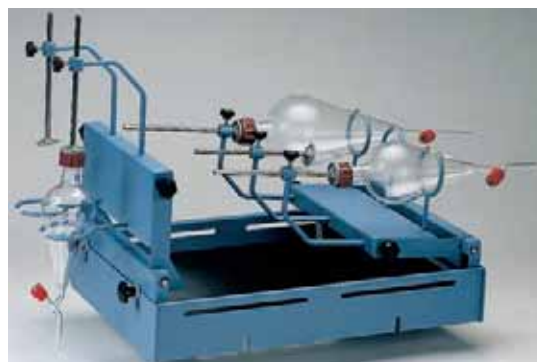
Separating funnel decanting accessory Part No. 6000619 Fits onto platform Part No. 3000976.

 Flow diagram of the selection of accessories for the "Rotabit" To & Fro Orbital Shaker
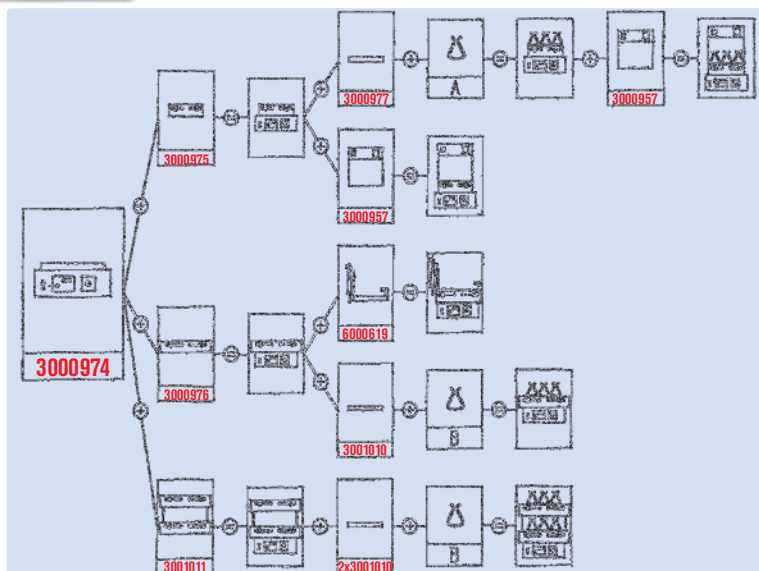
SUITABLE FOR ERLENMEYER			
Capacity	**Part No.**	**A**	**B**
50 ml	**1001003**	36	48
100 ml	**1000978**	25	30
250 ml	**1000979**	16	20
500 ml	**1000980**	9	12
1000 ml	**1000981**	5	8

High volume orbital shaker incubator

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.

Hinged door models with or without refrigeration

Framework type models with or without refrigeration

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 "100D" AND "200D"

Tempered glass hinged door.
The orbital rotation can be adjusted without disassembly from 50mm.

Orbital rotation adjustment

MODELS FRAMEWORK TYPE "1102" AND "2102"

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.
With wheels for movements and adjustable support for a stabled fixing.
Accesories: See pag. 43

CONTROL PANEL
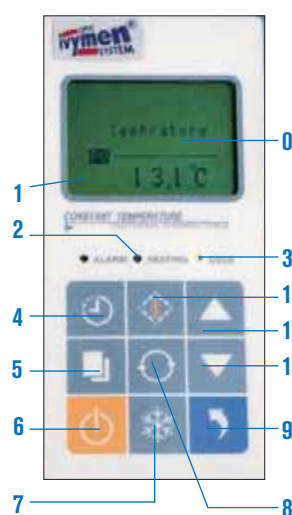
0. LCD Display.
1. Heater "ON" indicator.
2. Alarm indicator.
3. Refrigeration compressor "ON" indicator.(only refrigerated models)
4. Time function push button.
5. Modify and confirm push button.
6. Start / Stop Push button.
7. Adjust temperature push button. (only refrigerated models)
8. Speed push 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.

Stirrers & Shakers

100D and 2000 series.

1102 and 2102 series.

MODELS	100D	200D	1102	2102
Part No.	5312090	5312091	5312094	5312095
Rotation amplitude	Continuous adjustment from 0 to 50 mm orbital		26 mm	
Controllable speed range	from 30 to 600 r.p.m.	from 30 to 400 r.p.m.	from 30 to 300 r.p.m.	from 30 to 300 r.p.m.
Controllable speed in steps of	1 r.p.m.	1 r.p.m.	1 r.p.m.	1 r.p.m.
Refrigeration	No	Yes	No	Yes
Heating	Yes	Yes	Yes	Yes
Controllable temperature range	from ambient +5 °C to 60 °C	from 5 °C up to 60 °C	from ambient +5 °C to 60 °C	from 6 °C up to 60 °C
Controllable temperature in steps of	0.1 °C	0.1 °C	0.1 °C	0.1 °C
Chamber temperature uniformity	±1 °C	±1 °C	±1 °C	±1 °C
Timer	from 0 to 500 hours	from 0 to 500 hours	from 0 to 500 hours	from 0 to 500 hours
Usable platform dimensions	340 x 370 mm	370 x 400 mm	734 x 458 mm	734 x 458 mm
Platform number	1	1	2	2
Maximum conical flask capacity (see accessories)	6 x 1000 ml, or 9 x 500 ml 12 x 250 ml, or 16 x 100 ml, 20 x 50ml	9 x 1000 ml, or 9 x 500 ml, or 16 x 250 ml, or 20 x 100 ml, or 25 x 50 ml	*4 x 5000 ml, or *8 x 3000 ml, or *8 x 2000ml, 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	
Dimensions Height x Width x Depth	510 x 600 x 580 mm	555 x 685 x 730 mm	1440 x 950 x 700 mm	1440 x 950 x 700 mm
Weight	72 Kg	100 Kg	265 Kg	272 Kg
Power	540 W	700 W	930 W	1200 W

*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.

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

Adapter for microtiter holder
From 85 x 130 mm., allows up to 3 plates in models 100D and 200D, and up to 6 plates in models 1102 and 2102.
Part No. 5312113

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

For model 100D
Dimensions 310 x 280 x 75 mm
Part No. 5312117

For model 200D
Dimensions 370 x 300 x 75 mm
Part No. 5312118

For models 1102 and 2102
Dimensions 734 x 458 x 75 mm
Part No. 5312120

Stirrers & Shakers 43

Ultrasonic homogenizers "CY-500"

INTENSE CAVITY SHAKING.
FOR 10 TO 500ML VOLUMES.

ivymen OPTIC SYSTEM ®

NEW

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 emited by the ultrasound effects.
It comes with a transparent door.
Part No. **5059601**

MODEL

Part No.	KHz Frequency	Height/Width/Depth (exterior) cm			Power W	Weight Kg
5059600	**20**	**22**	**19**	**33**	**500**	**6,7**

It is supplied with a support-rod adjustable in height.

V solid mixer homogeneizer "VS-5" and "VS-8"

ivymen OPTIC SYSTEM ®

NEW

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.

MODELS

Model	Part no.	Volume Liters	Load capacity (50%) Liters	RPM	Height / Width / Depth (external cm)			Power W	Weight Kg
VS-5	5810100	5	2,5	18	58	72	37	550	47
VS-8	5810101	8	4	18	64	81	37	550	52

SPARE PART
Silicone gasket for VS-5 y VS-8.
Part No. **5810110** (Unit).

Multifunctional grinding mill "TR-20"
FOR CRASHING AND SHEARING

ivymen OPTIC SYSTEM ®

NEW

APLICATIONS

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.

Model	Part No.	Capacity Kg / h	Db	RPM	Measures (cm) Height./ Width. / Depth.			Power Kw	Weight Kg
TR-20	5810000	10 a 30	85	4200	70	40	80	2,2	85

ACCESSORIES
Sieves

Part no.	Sieve Ø mm.
5810001	0,80 mm
5810002	0,38 mm
5810003	0,25 mm
5810004	0,18 mm
5810005	0,12 mm

SPARE PARTS Shear Part no. **5810006**

Device for an easy sieve insertion.

ROTATORY EVAPORATOR "RS 3000-V"

FOR 1000, 2000 AND 3000 ML. FLASKS.
MULTIFUNCTIONAL: VACUUM PUMP AND BATH BUILT-IN

Quality and safety. Rotary speed and bath temperature regulation

FEATURES

Compact rotatory evaporator composed of stainless steel AISI 304 case and with an extra-soft manual elevator system and bath made of dur-al alloy chemically treated.
Rotatory speed: from 20 to 120 rpm.
Bath temperature: up to 100 ºC.
External probe temperature: up to 100 ºC.
Vacuum breaker with air inlet filter.

CONTROL PANEL

NEW

1. Starting main switch ON/OFF.
2. Digital reading indicator of external probe temperature.
3. Bath temperature digital regulator.
4. Rotator pump switch.
5. Heater bath switch.
6. Water recirculation pump switch.
7. Regulator knob of rotating speed.
   Vacuometer built-in the case.

MODEL

	Part no	Speed Regulation t.p.m.	Height / Width / Depth (extérieur) cm			Power W	Weight Kg
RS 3000-V	6003000	0 a 120	64	74	42	1050	38

It is completely supplied with a tap for solution, a PT100 probe, a coolant, two 3000 ml. flasks, one 2000 ml flask, two 1000 ml. flasks and its accessories.

GLASS AND ITS ACCESSORIES DIAGRAM
SPARE PARTS
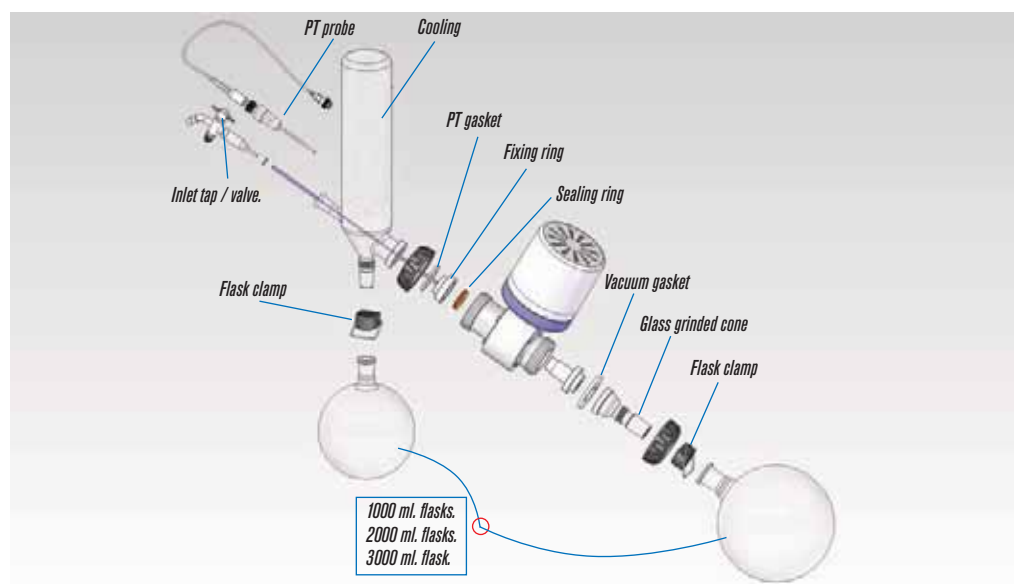
ROTATORY EVAPORATOR

PERISTALTIC DOSING PUMP

MEMBRANE VACUUM AND PRESSURE PUMP
"VACUM-PRES"

MEMBRANE VACUUM PUMPS

ROTARY VEIN VACUUM PUMPS

WATER RECIRCULATION VACUUM PUMP

LIQUID TRANSFER PUMP, ELECTRIC

LIQUID TRANSFER PUMP, MANUAL

CENTRIFUGAL PUMPS

"La habilidad es lo que permite hacer ciertas cosas. La actitud determina si se hacen bien."
Jon Holtz

Peristaltic pump "Percom N-M"

**ELECTRONIC SPEED CONTROL WITH DIGITAL DISPLAY,
WITH MULTI HEAD ADAPTER FOR TUBES FROM 4 TO 12 mm Ø (ext.). MAXIMUM WALL THICKNESS 1,6 mm.
ADJUSTABLE FLOW RATES FROM 1080 TO 73800 ml/hr.**

FEATURES
Small footprint bench top model
Quiet with minimal vibrations.
Speed control 20 to 200 r.p.m.

CONTROL PANEL
Push button Stop/Start/switch.
Digital speed display.
Push button increase speed control.
Push button decrease speed control.

BACK
External control connection using a foot switch for
Start / Stop, supplied as an accessory.

MODEL

Part No.	Height / Width / Depth (exterior) cm			Pump rate of H_2O ml/hr	Power W	Weight Kg
3001300	16	12	18	1080 to 73800	12	2.6

Graph of pump rate/r.p.m. dependent on the internal tube Ø.
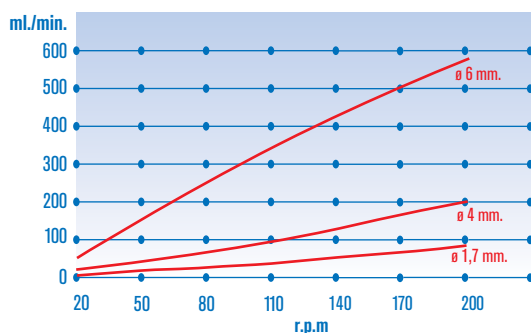
Graph showing with liquids: Distilled water. These characteristics vary according to the density of the liquid.

Peristaltic dosing pump "Peristaltic PR-2003"

**ELECTRONIC SPEED CONTROL AND DIGITAL DISPLAY.
MULTI TUBE ADAPTER FROM 4 TO 12 mm Ø (ext.). MAXIMUM WALL THICKNESS 1,6mm.
ADJUSTABLE DOSING RATE PROGRAMMABLE FROM 10 ML TO 10 LITRES.
MAXIMUM PUMP RATE 1500 ml / minute.**

FEATURES
Small foot print, bench top.
Silent and free from vibrations.
Pump tube held by a simple clamp
Glass dosing tip "PECIPUMP" provides precise dispensing.
Dispense rate: The pump can dispense set volumes over a set time period.
Flow rate: The pump dispenses at a constant rate over a set time or continuous operation.

CONTROL PANEL
Numeric keypad to enter values.
LCD display of 16 x 2 characters.
Calibration memory.
Change pump direction, control from the panel.
Rotation direction indicator
Foot switch connection for Start/Stop.

TECHNICAL SPECIFICATIONS
Speed (r.p.m.): .... 60 - 400
Resolution (ml): .... 1 or 0.1
Dispensing range (ml): .... 10 - 9999
Pump rate .... See table
Nº of programs: 99
Nº of repeat doses: 9999
Repetition interval: .... 1 - 9
Maximum tube wall (mm): 1,6
Maximum external tube diameter (mm): 12
Note: The precision depends on the tube Ø and the speed.

BACK
Main On/Off switch.
Foot switch connection Start - Stop, for operation from a distance, supplied as an accessory.

MODEL

Part No.	Height/Width/Depth (exterior) cm			Pump rate of H_2O ml/hour	Power W	Weight Kg
4129050	25	19	23	90,000	65	4

Graph of pump rate/r.p.m. dependent on the internal tube Ø.
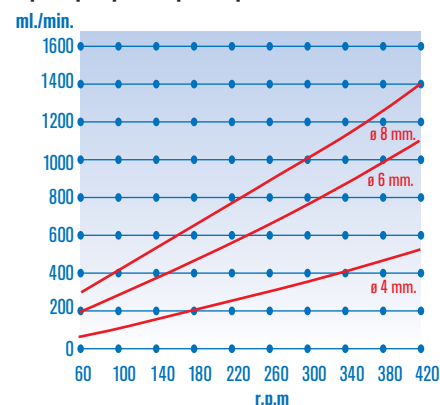
Graph showing with liquids: Distilled water. These characteristics vary according to the density of the liquid.

Dose rate (ml/minute)		
Interior Ø mm	60 r.p.m.	420 r.p.m.
4	80	480
6	140	1100
8	180	1400

ACCESSORIES FOR PERISTALTIC PUMPS "PERCOM N-M" AND "PR2003"

Standard silicon tubing. (see page: 51)

START STOP foot pedal controller. Part No. 1001044

Membrane vacuum pumps "MV 50 and MV 100"

FOR AIR, GASES AND STEAM.

Free of lubrication • Free of maintenance • Quiet

APPLICATIONS
Vacuum filtration.
Vacuum distillation.
Rotating evaporators.
Gas extraction and transport.
Vacuum drying.

COMUN FEATURES
Constructed in aluminium.
Membrane of polifluoropreno, resistant to the corrosion and long-life.
Refrigeration system that allows a continuous operation of 24 hours.

NEW

NEW

MODEL "MV 50"

MODEL "MV 100"

CONTROL PANEL
Vacuum and pressure gauges.
Adjustable pressure and vacuum.
Tensile handle for easy transport.
Button On-Off.

CONTROL PANEL
Vacuum indicator.
Vacuum regulator.
Button On-Off.

MODELS	Part No.	Vaccum Rate m³/h	Vaccum Limit mbar	Pressure bar	Heigh / Width / Depth (exterior) cm			Power W	Weight Kg
MV 50	5910100	1,8	200	2	23,5	16	21	160	8
MV 100	5910101	3,6	200	2,75	23,5	16	30	160	9

They are supplied with a 1 meter of silicone tube Ø 8 x 12mm.

Vacuum pump

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.

FEATURES
Asbestos veins and internal joints.
Aspiration connection 16 mm Ø in model 5900620
and 16 mm Ø in model 5900621.
Analogue vacuum gauge.
High oil volume and forced lubrication.
Oil reservoir charge capacity:
25 cc in model 5900620 and 55 cc in model 5900621.
Exhaust filter and ballast.
Shock absorber mounted.
Low noise level (62db)
Maximum working temperature 60 °C.
Portable with lifting handle.

Part No. 5900620

Part No. 5900621

MODELS

Part No.	Pump rate m³/hr	Vacuum limit mbar	Height / Width / Depth (exterior) cm			r.p.m.	Power W	Weight Kg
5900620	3.6	0.1	21	26.5	12	1400	120	7.6
5900621	1.8	0.06	25	32	13	1400	180	11

ACCESSORY
High pressure **rubber tubes** of 18 x 26 mm Ø. Part No **5900624**
High pressure **rubber tubes** of 8 x 15 mm Ø. For Vacuum oven connection "VACIOTEM". Part No **5900625**
Pump oil for vacuum pumps, 1 litre bottle. Part No. **5515030**

SPARE Vacuum gauge (Fits both models). Part No. **5515031**

Membrane vacuum pump
SUITABLE FOR AIR, GAS AND VAPOURS.

FEATURES

Transfer, evacuation and compression, free from contamination.
The models N-86 and N-022 of 2.5 and 4 bar of relative pressure, can be used also as a compressor.
Can be operated dry.
No lubrication required.
Maintenance free.
Silent.
The double head models are made with linear two phase membranes.
All Models (except model N-022), are made with a patented system of diaphragms manufactured with optimum tension, that results in a smaller more durable pump.
Approximate loss 6 x 10-3 mbar x L/s
Complete with thermal breaker and fuse.
Medium to high resistance to chemicals, (model dependant).
We advise that you check the compatibility of the pump performance with the materials that will be in contact with the pump parts (see table).

N-86
Part No. 5910106

N-816
Part No. 5910108

N-022
Part No. 5910107

N-820 Part No. 5910009
or N-840 Part No. 5910110

MODELS / SPECIFICATIONS	N-86	N-022	N-816	N-820	N-840
Part No.	5910106	5910107	5910108	5910009	5910110
Vacuum pump rate (to 1 Atm, of pressure)	5.5 l/min	13 l/min	16 l/min	20 l/min	34 l/min
	0.33 m³/h	0.78 m³/h	0.96 m³/h	1.2 m³/h	2.04 m³/h
Vacuum limit (mbar) absolute	160 mbar	100 mbar	20 mbar	8 mbar	8 mbar
Pressure (bar) relative	2.5 bar	4 bar	0.5 bar	1 bar	1 bar
Tube connection, Ø interior	4 mm	6 mm	6 mm	10 mm	10 mm
Number of heads and phases	1	1	2	2	2
Head material	PPS	Aluminium	PPS	PTFE	PTFE
Membrane material (diaphragms)	PTFE	PTFE	PTFE	PTFE	PTFE
Valve material	FFPM	Stainless steel	FFPM	FFPM	FFPM
Motor protection level	IP-20	IP-20	IP-20	IP-44	IP-44
Gas operating temperature and permissible ambient			5 to 40 °C		
Current (A) / Power (W)	0.63 / 65	0.7 / 100	0.6 / 100	0.7 / 120	1.5 / 245
Dimensions height x width x depth (cm)	14 x 9 x 17	19 x 15 x 20	14 x 9 x 36	21 x 15 x 31	23 x 17 x 34
Weight (Kg)	1.9	4	3.95	9.3	12.6

APPLICATIONS AND CHEMICAL RESISTANCE	N-86	N-022	N-816	N-820	N-840
Chemical resistance (depends on medium being pumped.)	medium–high	medium–high	medium–high	medium–high	medium–high
For gasses and vapours very aggressive or corrosive	-	-	-	✓	✓
For gasses and vapours slightly aggressive or corrosive	✓	✓	✓	✓	✓
For liquid transfer and evacuation	✓	✓	✓	✓	
For liquid transfer, evacuation and as a compressor	✓	✓	-	-	-
Ideal for vacuum filtration	✓	✓	✓	✓	✓
Ideal for vacuum filtration, evaporation, drying and gel drying	-	-	-	✓	✓

SPARE PARTS	N-86	N-022	N-816	N-820	N-840
Spares Kit: 1 membrane +2 valves + 2 gaskets	5910120	-	-	-	-
Spares Kit: 1 membrane +2 valves + 1 gasket	-	5910121	-	-	-
Spares Kit: 2 membrane +4 valves + 4 gaskets	-	-	5910122	5910123	5910124

COMECTA Silicon tube for peristaltic and membrane pumps

MODELS

	Part No.	interior Ø mm	exterior Ø mm
Standard tube*	8991202*	4	7
	8991201*	6	9
	8991200*	8	11

	Part No.	interior Ø mm	exterior Ø mm
Calibrated tubing*	5253300*	0.8	4
	5253400*	1.7	4.9
	0686203	3	7
	5253600*	3.1	6.3
	5253500	4.8	9.8
	0686210	5	9
	5253900	6.3	11.3
	0686216	8	12

(*) Tubing supplied in 1 meter lengths.
(*) Part Numbers with asterisk* are adaptables to peristaltic pumps "Percom N-M" and "PR-2003". See page 48

COMECTA Sink weights and glass connections
FOR CENTRIFUGAL AND PERISTALTIC PUMPS.

FEATURES
Made of glass.
Adapters for centrifugal and peristaltic pumps.
For better aspiration and dispensing.

A. Sink weight "ASPIPUMP"
Surface olive that fixes to the tube. The sink weight maintains the tube at the bottom of the vessel being used for the aspirant liquid.
Part No. Tube size

5991204   4 mm Ø interior.
5991206   6 mm Ø interior.
5991208   8 mm Ø interior.

B. Spout "PECIPUMP"
Surface olive is pushed onto the inside of the dispensing end of the tube, liquids can then be dispensed easily and accurately.
Part No. Tube size

5991203   4 mm Ø interior.
5991205   6 mm Ø interior.
5991207   8 mm Ø interior.
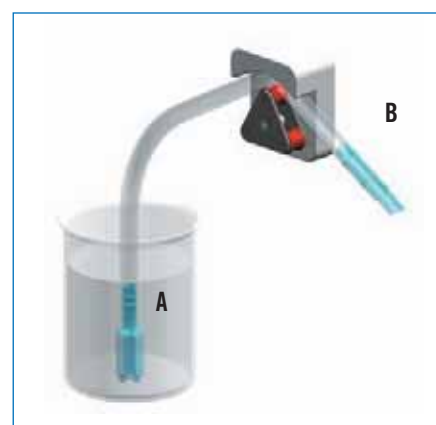
A. *Sink weight "ASPIPUMP" an efficient way to aspirate to the last drop.*
B. *Spout "PECIPUMP" an exact way to dispense.*

Membrane vacuum pump "Vacum-Sel"

FEATURES
Small footprint, bench top.
Quiet and vibration free.
Maximum working temperature: 40 °C.

CONTROL PANEL
Mains power switch.
Vacuum gauge, scale 0 to -1 bar.
Vacuum in.
Air out.

MODEL

Part No.	Pump Rate litres/min.	Vacuum limit	Height / Width / Depth (exterior) cm	Power W	Weight Kg
3001001	1.08	–0.6 bar ' 440 mm Hg	19 14 19	35	3

Membrane vacuum and pressure pump "Vacum-Pres"

FEATURES
Small footprint, bench top.
Quiet and vibration free.
Maximum working temperature: 40 °C.

CONTROL PANEL
Mains power switch.
Vacuum gauge, scale 0 to -1 bar.
Pressure gauge, scale 0 to 2.5 bar.
Control for pressure/vacuum.
Vacuum in.
Pressure out.

MODEL

Part No.	VACUUM		PRESSURE		Height / Width / Depth (exterior) cm	Power W	Weight Kg
	Pump Rate /min.	Vacuum limit	Pressure Rate /min.	Max. Pressure			
3001002	1.08	–0.6 bar=440 mm Hg	1.3	1.2 bar	19 14 19	35	3.2

Water recirculation vacuum pump

DESCRIPTION

Made from a centrifugal pump that pulses water at a high velocity through suction aspirators, creating a pump rate of 10 litres/min from each pump connection. The vacuum achieved, 5 to 40mbar is dependent on the water temperature in the reservoir. Aspirated gasses from both inputs mix in the 10 litre reservoir. Although the interior of the pump is made from stainless steel and polypropylene it is a requirement to change the water in the pump to limit any attack of any chemicals or vapours absorbed in the water. For better protection of equipment it is recommended to connect a "Scrubber" to wash and neutralise any corrosive gasses. The pump includes an exit valve that allows the water to be circulated externally. This can be used to empty and change the water in the reservoir to form an external re-circulation of water.

FEATURES

Reduced water consumption.
2 independent connections, aspiration pump vacuum rate 10 litres/min.
Vacuum limit: 5 and 40 mbar (dependent on water temperature).
Capacity: 10 litres.
Low noise level (<65dBA).
Valve connections for entrance and exit of vacuum and external water recirculation.

CONTROL PANEL

2 vacuum connections.
2 analogue vacuum gauges.
Illuminated mains switch.

ACCESSORY

Extraction system and neutralisation of vapours.
Made up of a "Scrubber" unit that blocks the passage of condensed acid vapours and neutralises the gas vapour in NaOH, and a recirculating water pump that provides an adequate pump rate to aspirate vapours.
It is supplied with 3 Kg. acid vapours neutralizer solution.
"Scrubber" unit

Part No.	Height / Width / Depth (exterior) cm			Weight Kg
4001611	32	31	16	2

Spare part:
3 Kg. acid vapours neutralizer solution. **Part No**. 4001610

MODEL

Part No.	Height / Width / Depth (exterior) cm			Vacuum limit mbar	Pump rate litre/minute	Power W	Weight Kg
4001612	44	39	28	betwen 5 and 40	10	280	10

Digestion block.　　"Scrubber"　　Re-circulating vacuum pump.
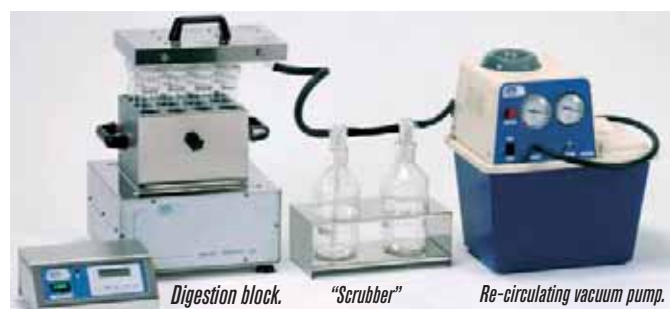
Complete unit image for a Kjeldahl distillation block.

SEI-

Centrifugal pumps "MP"

Motor
Magnetic drive
Isolation case
Impassive magnet
Propeller
Turbine head

MP Series

FEATURES

Centrifugal pump for re-circulating and transferring of liquids.
A selection of models with pump rates of 8 to 60 litres/min.
The motor power to the turbine is transmitted via a magnetic coupling.
All parts in contact with liquids are chemically resistant materials.
Manual priming.

SERIES MP

Dimensions per model in mm.

MODEL	Depth	Height	Width	Ø
MP-15R	129	82	74	60
MP-20R	210	108	116	92
MP-40RX	277	130	122	102
MP-100R	322	175	150	110

TECHNICAL DATA	MP-15R	MP-20R	MP-40Rx	MP-100R
Part No.	**5900610**	**5900611**	**5900612**	**5900613**
Pump rate (max) P (pressure) =0 (litres/min)	**8**	**17**	**47**	**60**
Precision (min) Q (pump rate)=0 (bar)	**0.21**	**0.37**	**0.40**	**0.50**
Tube connection (aspiration)	**14 mm Ø**	**18 mm Ø**	**26 mm Ø**	**26 mm Ø**
Tube connection (output)	**14 mm Ø**	**18 mm Ø**	**26 mm Ø**	**26 mm Ø**
Normal working temperature (°C)	**0 - 80**	**0 - 80**	**0 - 80**	**0 – 80**
Function cycle	**continuous**	**continuous**	**continuous**	**continuous**
Power consumption (W)	**10**	**20**	**65**	**250**
Pump material: Body	**Polypropylene with a mixture of fibre glass**			
Turbine material:	**Polypropylene with a mixture of fibre glass**			
Pump spindle/axle material:	**ceramic aluminium oxide**			
Seals and junctions material:	**EPDM**	**EPDM**	**EPDM**	**EPDM**
Voltage:	**220-240V 50-60Hz**			

Liquid transfer pump, manual "RP-90P"

MADE FROM CHEMICALLY AND CORROSION RESISTANT POLYPROPYLENE. ROTARY MOVEMENT.

FEATURES

Manual rotary suction movement that extracts liquid or sucks up liquid from a drum, composes of a pump handle, dip tube 1.2 M long by 1 inch Ø, with adjustable clamp that fastens to the barrel and an outlet tube of 3/4". Easy to use, light weight and very robust.

MODEL

Part No.	Pump rate litres/min.	Weight Kg
5252040	**20**	**1.6**

Liquid transfer pump, electric "FA-100"

SUITABLE FOR NON CORROSIVE AND NON FLAMMABLE LIQUIDS.

FEATURES

All metal with electric air displacement motor drive, with steel suction tube 1 m long and 38 mm Ø. Maximum height 13 m.

MODEL

Part No.	Pump rate litres/min.	R.p.m.	Power W	Weight Kg
5929041	**86**	**10000**	**120**	**6.6**

SPARES

1. Drum faucet: 2" in diameter.
Made of brass.
Part No. **5252038**

2. Drum Plug key for opening drum, standard model.
Made of brass.
Part No. **5252039**

3. Air bleed drum cap 2" in diameter.
Made of brass.
Part No. **5252037**
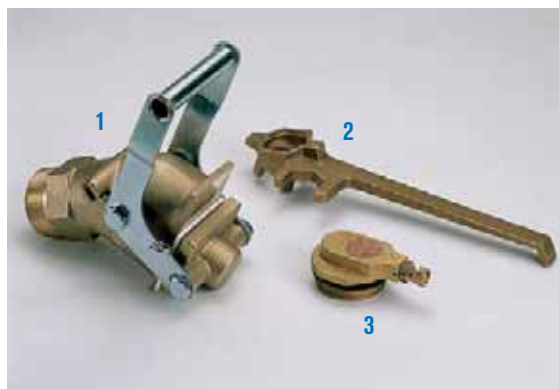
ELECTRICAL AUTOCLAVES FOR STERILIZATION

Wide range of electrically heated bench top and top loading autoclaves. Pressure range from 0.62 to 2 bar, Capacity: 1.5, 8, 12, 18, 20, 23, 25, 50, 80 and 150 litres.

Complies with the pressure and autoclave directives

- *50 Years of sterilization experience.*

- *Quality and innovation.*

- *A new dimension in design and technology*

PRINCIPAL OF STEAM STERILIZATION:

STERILIZATION IS THE PROCESS OF THE DESTRUCTION AND ELIMINATION OF ALL FORMS OF MICROBIAL LIFE, INCLUDING BACTERIA AND ITS SUB-FORMS.

THE LABORATORY AUTOCLAVE CONSISTS OF A VESSEL IN WHICH STEAM FLOWS AT A HIGH PRESSURE WITH A STERILIZATION PURPOSE. SATURATED STEAM WILL IMMEDIATELY CONDENSE AND THUS RELEASING ITS HIGH EVAPORATION HEAT, WHICH IS IN FACT THE DESTRUCTIVE AGENT. IN ORDER THAT STERILIZATION WOULD BE EFFECTIVE, STEAM MUST BE SATURATED AND, CONSEQUENTLY, ALL THE AIR INSIDE THE VESSEL MUST BE PURGED BEFORE INITIALIZING THE PROCESS.

IN THE FOLLOWING PAGES J.P. SELECTA OFFERS AN EXTENSIVE RANGE OF AUTOCLAVES WITH A CHOICE OF ATMOSPHERIC PURGING OR VACUUM PURGING SYSTEMS. A CHOICE OF MICROPROCESSOR CONTROLLED SYSTEMS ARE OFFERED INCLUDING DRYING CYCLES AT THE END OF THE STERILIZATION CYCLE.

ELECTRICAL AUTOCLAVES FOR STERILIZATION

"The process of scientific discovery is, in effect, a continual flight from wonder."
Albert Einstein

Electrical Autoclaves for sterilization

THREE DIFFERENT CONTROL SYSTEMS:

REGULATION SYSTEM 1

CONTROL BY PRESSURE WITH ATMOSPHERIC PURGE:
MICRO 8   MED 12   MED 20

REGULATION SYSTEM 2

MICROPROCESSOR CONTROL OF TEMPERATURE AND STERILIZATION CYCLE, ATMOSPHERIC AIR PURGE:

AUTESTER P 1,5 (mod. vertical)
PRESOCLAVE II 50 (mod. vertical)
PRESOCLAVE II 80 (mod. vertical)

REGULATION SYSTEM 3

MICROPROCESSOR CONTROL OF TEMPERATURE AND STERILIZATION CYCLE, PULSED VACUUM AIR PURGE:

AUTESTER ST DRY PV-B 12 (mod. horizontal)   **AUTESTER ST DRY PV-II 25 (mod. horizontal)**
AUTESTER ST DRY PV-B 18 (mod. horizontal)
AUTESTER ST DRY PV-B 23 (mod. horizontal)

RS-232 interface output of parameters to a computer, printer or USB adapter.

The printer or the USB adapter can be built-in the autoclaves together with the control panel:

AUTESTER ST DRY PV-II   50 (mod. vertical)
AUTESTER ST DRY PV-II   80 (mod. vertical)
AUTESTER ST DRY PV-II 150 (mod. vertical)

SUMMARY TABLE OF MODEL RANGE

QUICK OVERVIEW

MODELS	Part No.	System DRY	Capacity litres	Temperature °C	Pressure bar		Power W	Control	Purge control	Type
MICRO 8	4001745	NO	8	121 and 134	1	and 2	1000	Pressure thermostat	Manual	Vertical bench top
MED 12	4001756	NO	12	121 and 134	1	and 2	1800	Pressure thermostat	Atmospheric	Vertical bench top
MED 20	4001757	NO	20	121 and 134	1	to 2	2500	Pressure thermostat	Atmospheric	Vertical
PRESOCLAVE II 50	4001725	NO	50	115 to 134	0.62	to 2	3600	Electronic controller	Atmospheric	Vertical
PRESOCLAVE II 80	4002136	NO	80	115 to 134	0.62	to 2	3600	Electronic controller	Atmospheric	Vertical
AUTESTER P 1,5	4001726	NO	1.5	105-121 and 134	0.21-1 and 2		1100	Microprocessor	Atmospheric	Vertical
AUTESTER ST DRY PV-B 12	4001727	YES	12	121 and 134	1	and 2	1800	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-B 18	4001728	YES	18	121 and 134	1	and 2	1800	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-B 23	4001731	YES	23	121 y 134	1	and 2	2300	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-II 25	4002415	YES	25	105 to 134	0.21	to 2	2510	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-II 50	4002515	YES	50	105 to 134	0.21	to 2	3600	Microprocessor	Purged vacuum	Vertical
AUTESTER ST DRY PV-II 80	4002425	YES	80	105 to 134	0.21	to 2	3600	Microprocessor	Purged vacuum	Vertical
AUTESTER ST DRY PV-II 150	4002426	YES	150	105 to 134	0.21	to 2	7500	Microprocessor	Purged vacuum	Vertical

Autoclaves for sterilization "MICRO 8", "MED 12" and "MED 20"

PRESSURE REGULATOR THERMOSTAT OF 1 AND 2 bar. TEMPERATURES 121 °C AND 134 °C.
VERTICAL DESKTOP MODELS. "MICRO 8" CAPACITY: 8 LITRES. "MED 12" CAPACITY: 12 LITRES.
VERTICAL STAND MODEL "MED 20" CAPACITY: 20 LITRES.

An economic alternative. Semiautomatics.

SAFETY:
SAFETY VALVE: PREVENTS THE PRESSURE WITHIN THE AUTOCLAVE OVERPASSING THE MAXIMUM SET LIMIT.
SAFETY PRESSURE: DISCONNECTS POWER TO THE HEATER IN CASE OF OVERPASSING THE PRESSURE SET LIMIT.
SAFETY THERMOSTAT: DISCONNECTS THE HEATING IN CASE OF OVERTEMPERATURE OR LACK OF WATER IN THE TANK.
THERMALLY INSULATED LID MADE OF MOLDED THERMOPLASTIC.

COMMON FEATURES

AISI 304 stainless steel external case and top.
Stainless steel chamber and lid, with easy opening.
INCOLOY special stainless steel heater element, which provides long life, low corrosion and high temperatures resistance.
Manual air purge when starting **("MICRO 8" model).**
Automatic atmospheric purge **("MED 12" and "MED 20" models).**
Safety device to prevent lid opening.
Starting main switch.

REAR PART
Mains source.
Two fuse carriers.
Safety thermostat.

SIDE PART
Drain outlet.
Steam and drainage selective valve.

CONTROL PANEL
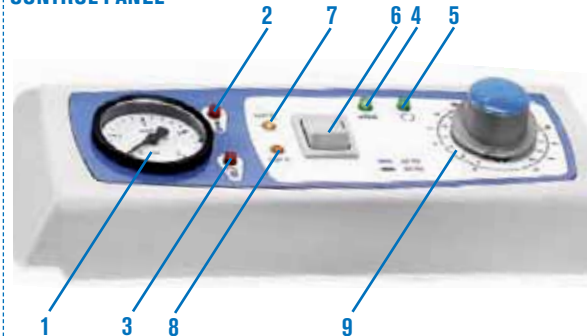
1. Pressure gauge.
2. Over temperature alarm light indicator.
3. Door open light indicator.
4. Sterilization phase light indicator.
5. Sterilization end of cycle light indicator.
6. Pressure selector 121ºC or 134ºC.
7. Light indicator at 121ºC.
8. Light indicator at 134ºC.
9. Timing from 0 to 60'.

Autoclave for sterilization "MICRO 8"

DESKTOP MODEL

NEW

MODEL

Part No.	Capacity litres	Ø (usable) cm	Height	Height/Width/Depth (exterior) cm			Power W	Weight Kg
4001745	8	24	15	40	38	38	1000	13

It comes complete with a stainless steel wire basket of Ø 22x14cm high. Part no. 1004771.

Autoclave for sterilization "MED 12"
DESKTOP MODEL

Features: see page 57

NEW

MODEL

Part No.	Capacity litres	Ø (usable) cm	Height (usable) cm	Height/Width/Depth (exterior) cm			Power W	Weight Kg
4001756	**12**	**24**	**26**	**46**	**38**	**38**	**1800**	**18**

It comes complete with a stainless steel wire basket of Ø 22x24cm high. Part no. 1004772.

Autoclave for sterilization "MED 20"
VERTICAL STAND MODEL.
CONFORMS TO APPARATUS PRESSURE REGULATION DIRECTIVES.

Features: see page 57

NEW

MODEL

Part No.	Capacity litres	Ø (usable) cm	Height (usable) cm	Height/Width/Depth (exterior) cm			Power W	Weight Kg
4001757	**20**	**24**	**41**	**70**	**38**	**38**	**2500**	**41**

It comes complete with two stainless steel wire baskets of Ø 22x24cm and Ø 22x14cm high.
Part no. 1004772 and 1004771.

Autoclaves for sterilization "Presoclave II" 50 and 80

MICROPROCESSOR TEMPERATURE AND CYCLE CONTROL AND ATMOSPHERIC PURGE.
ELECTRONIC CONTROL OF TIME AND TEMPERATURE RANGE FROM 115 °C TO 134 °C. (0.62 TO 2 bar).
CONFORMS TO APPARATUS PRESSURE REGULATION DIRECTIVES.
VERTICAL MODEL: 50 AND 80 LITRES.

SAFETY:

SAFETY OVER PRESSURE VALVE:	PREVENTS OVER PRESSURE ABOVE THE MAXIMUM SET LIMIT.
SAFETY PRESSURE SWITCH:	DISCONNECTS POWER TO THE HEATER IF THE UNIT EXCEEDS THE MAXIMUM PRESSURE LIMIT.
SAFETY THERMOSTAT AND WATER LEVEL:	DISCONNECT POWER TO THE HEATER IF INSUFFICIENT WATER OR OVER TEMPERATURE.
SAFETY LID:	PREVENTS THE LID BEING OPENED IF THE CHAMBER IS UNDER PRESSURE.
SAFETY INSULATION:	THERMALLY INSULATED LID .

An economic alternative, semi-automatic

FEATURES

External case made from stainless steel.
INCOLOY stainless steel heater elements, hard waring, resistant to corrosion and high temperatures.
Sterilization chamber and door made from stainless steel.
Automatic purge to atmosphere
Lid,6 point closure.

CONTROL PANEL

1. Pressure gauge.
2. Illuminated alarm indicator.
3. Illuminated indicator end of cycle.
4. Illuminated indicator door open
5. Temperature display.
6. Time display
7. Temperature set pushbutton (range from 115 °C to 134 °C).
8. Pushbutton increase value.
9. Push button START
10. Push Button STOP
11. Push button Reduce value.
12. Push button select time, (range from 3' to 99').
13. Push button open lid.

MODELS	Part No.	Capacity litres	Ø Height (usables cm)		Height / Width / Depth (exterior cm)			Power W	Weight Kg
PRESOCLAVE II 50	4001725	50	30	70	117	48	62	3000	75
PRESOCLAVE II 80	4002136	80	40	60	107	58	72	3600	100

Does not include baskets and drums, order separately.

ACCESSORIES: AISI 304 Stainless steel **wire baskets** and **drums.**
For **Presoclave II 50**, Part. no: 4001725.
Capacity, 3 baskets Ø 25 and 20 cm. height. Part No. 1000495
For **Presoclave II 80**, Part. no: 4002136.
Capacity, 2 baskets Ø 36 and 28 cm. height. Part No. 1000496
Sterilization **drum** made from AISI 304 stainless steel.
For **Presoclave II 50**, Part. no: 4001725.
Capacity, 3 drum Ø 25 and 18 cm. height. Part No. 1002418
For **Presoclave II 80**, Part. no: 4002136.
Capacity, 2 drum Ø 35 and 27 cm. height. Part No. 1002419
Detergent Bio-Sel.
Water distillation unit especially for autoclaves (see page 61).

BACK VIEW:
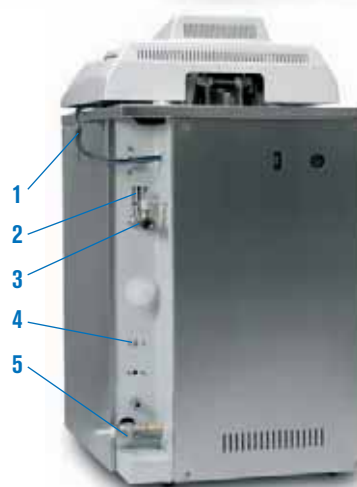
1. Mains power.
2. Safety valve.
3. Steam empty valve.
4. Safety thermostat
5. Drain selector valve.

OPTIONS: That needs to be factory installed:
Pt100 second sensor only temperature reader (see page 62).

Autoclaves for sterilization "Autester ST DRY PV II"

MICROPROCESSOR PROCESS CONTROL.
AUTOMATIC VACUUM DRY AND PURGE "PREVACUUM"
PROGRAMMABLE TEMPERATURE FROM 105 °C TO 134 °C (0.21 TO 2 bar).
CONFORMS TO APPARATUS PRESSURE REGULATION DIRECTIVES.
VERTICAL FLOOR STANDING MODEL: 50, 80 AND 150 LITRES.

CONFORMITY

EN 61010-1	SAFETY FOR EQUIPMENT FOR LABORATORY USE
EN 61010-2-040	SAFETY FOR STERILIZER EQUIPMENT FOR LABORATORY USE
EN 61326	ELECTROMAGNETIC COMPATIBILITY FOR EQUIPMENT FOR LABORATORY USE.

FEATURES

Stainless steel exterior and top.
Stainless steel lid.
Lid, six closure point system.
Pulsed vacuum system and atmosphere purge.
Incorporated steam generator, connected to the main chamber.
Water reservoir for clean water for the steam generator boiler.
External water connection if required.
6 function modes.
RS 232 for PC parameters printing (back side).
Printer output. (optional).
USB adapter for parameters memorization (optional).
Connection for a second temperature sensor.
Memory for 9 customer set programs.

SAFETY

Safety: The lid cannot be opened if the chamber is under pressure.
Safety valve: Prevents over pressure over the maximum limit.
Safety pressure switch: switches the heater power off to if over pressure.
Safety Lid: insulated lid protection.

DIAGRAM SHOWING THE FUNCTION CYCLE AUTESTER ST DRY PV II

PULSED VACUUM PURGE from 19 to 23 minutes — STERILISATION from 4 to 30 minutes — VACUUM DRY from 10 to 20 minutes

CONTROL PANEL

1. LCD parameter indicator.
2. MONO single button control multi-function processor.
3. LED "in" operation.
4. Push button Start / Stop.
5. USB adapter or printer (optional).
6. Open Lid knob.
7. USB function light indicator
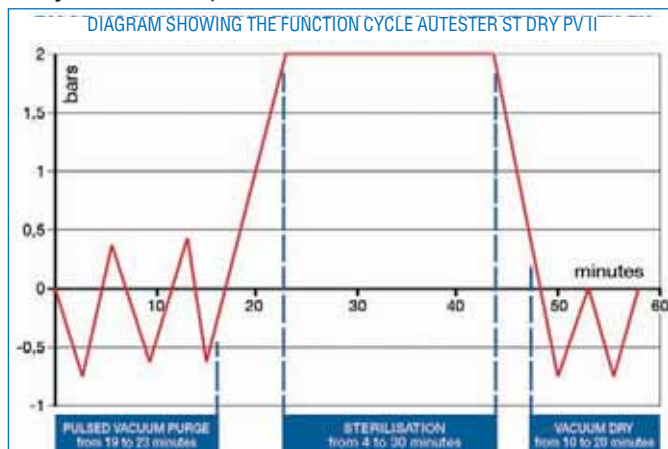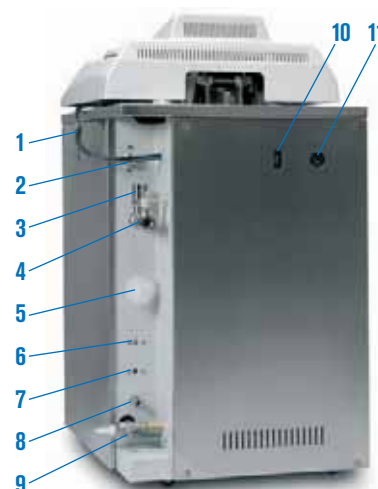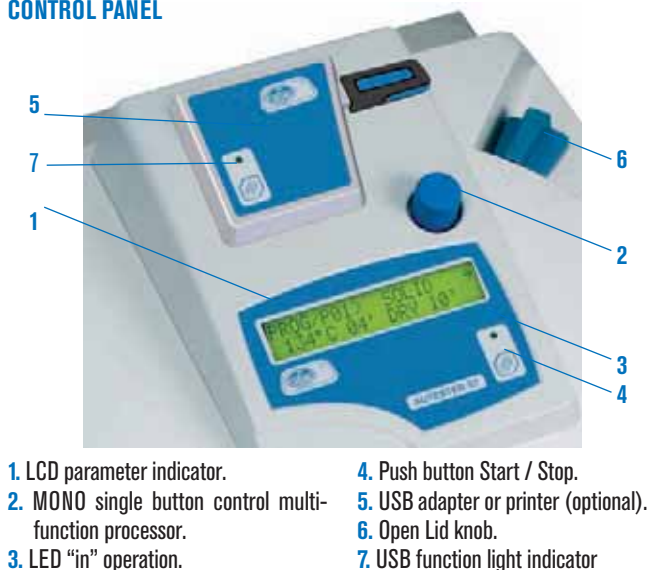
BACK VIEW

1. Mains input.
2. External water supply.
3. Safety valve.
4. Vacuum vapour valve.
5. Air in filter valve.
6. Safety thermostat.
7. Safety thermostat.
8. Empty tank valve.
9. Drain tank valve.
10. RS232 connector.
11. 2nd Temperature sensor connection.

CONFORMITY

The microprocessor controls the air extraction, sterilization and dry process from preset values set by the operator. Controlled parameters are:

- Sterilization temperature from 105 °C to 134 °C
- Sterilization time from 3' to 59'.
- Drying time from 20' to 60'
- Programs-0 to 9 user configurable
- Six pre-set functions:
  - Solids 1
  - Solids 2 fractions
  - Solids 3 fractions
  - Dry
  - Liquids
  - Liquids 2 temperature probes

- Verification tests
  - Vacuum
  - Bowie Dick
- Configuration
  - Units
  - Languages (Spanish, English, and French).
  - Printer or USB adapter.
  - Timer: date/hour
  - Water connection external: on/off.
- Password
- Calibration
  - Temperature probe 1
  - Temperature probe 2
  - Water fill

Error messages of functions and program execution are displayed and an acoustic alarm sounds. The vapour generator automatically cuts out.

MESSAGES:

1. E 2PROM	10. TEMPERATURE LOW FAULT
2. RTC FAULT	11. INPUT ERROR
3. SENSOR PRECISION	12. STERILIZATION
4. HEATER PROBE	13. LEVEL 1
5. CHAMBER PROBE	14. LEVEL 2
6. OVER PRESSURE	15. DOOR
7. VACUUM	16. PRINTER NO PAPER
8. PRESSURE	17 PAPER JAM
9. BOILER TEMPERATURE	18. ELECTRICAL FAULT

MODELS	Part No.	Dry	Capacity litres	Ø / Height (usables) cm		Height / Width / Depth (exterior) cm			Temp. °C	Water Reservoir H₂O capacity.	Basket size	Power W	Weight Kg
AUTESTER ST DRY PV II 50	4002515	Yes	50	30	63	117	48	62	105 to 134	10	3	3000	108
AUTESTER ST DRY PV II 80	4002425	Yes	80	40	60	107	58	72	105 to 134	10	2	3600	136
AUTESTER ST DRY PV II 150*	4002426	Yes	150	50	70	118	80	95	105 to 134	20	3	7500*	250

Comes without baskets and drums.

* The part number 4002426 due to its power rating is only manufactured for three phase 230V or 400V. Specify preference when ordering.

COMPLEMENTS: Factory fitted options.

ACCESSORIES: AISI 304 Stainless steel **wire baskets** and **drums.**
For **Autester ST DRY PV-II 50,** Part No: 4002515.
Capacity, 3 baskets Ø 25,5 and 20 cm. height. Part No: 1000495
For **Autester ST DRY PV-II 80,** Part No: 4002425.
Capacity, 2 baskets Ø 36 and 28 cm. height. Part No: 1000496
For **Autester ST DRY PV-II 150,** Part No: 4002426.
Capacity, 3 baskets Ø 44,5 and 22 cm. height. Part No: 1000780
Sterilization **drum** made from AISI 304 stainless steel.
For **Autester ST DRY PV-II 50,** Part No: 4002515.
Capacity, 3 drum Ø 25 and 18 cm. height. Part No. 1002418
For **Autester ST DRY PV-II 80,** Part No: 4002425.
Capacity, 2 drum Ø 35 and 27 cm. height. Part No. 1002419
Detergent Bio-Sel.
Water distillation unit especially for autoclaves.
(see page 62).

1. Thermal printer continuous paper roll with print out of temperature, pressure, time and mode. Part No. 4002417

2. USB adapter model. Pen-Drive included (Memory board) for data storage. Part No. 4120132

Pt100 Sensor (See page 62).

PARAMETERS AND PROGRAMS PRE INSTALLED IN THE AUTOCLAVE MICROPROCESSOR
(Note: All these parameters are adjustable by the user)

Nº Programme	Description	Temperature Sterilization	Time Sterilization	Time Dry	Purge
0	Free	-	-	-	-
1	Unwrapped instruments	134 °C	4 min	15 min	2 (1)
2	Wrapped instruments	134 °C	12 min	30 min	3 (2)
3	CJD	134 °C	20 min	20 min	3 (2)
4	Delicate unwrapped	121 °C	15 min	15 min	2 (1)
5	Delicate wrapped	121 °C	30 min	30 min	3 (2)
6	Disinfecting	105 °C	25 min	15 min	1 (3)
7	Liquids	121 °C	30 min	-	1 (3)
8	Solids	121 °C	15 min	30 min	1 (3)
9	Solids	134 °C	4 min	30 min	1 (3)

(1) Double Vacuum purge.
(2) Triple Vacuum purge.
(3) Atmospheric purge (No vacuum).

Pt 100 Sensor. 2nd Probe for reading sample temperature.
To guarantee in all circumstances that the system has completed the cycle to the set time and temperature parameters, the Autester ST DRY PV II autoclave can be installed with a temperature probe that can be placed within the culture flask, residual packets etc.
When the probe is connected to the controller of the autoclave, it is automatically recognised by the microprocessor, whereby the real time temperature values detected by the probe, are displayed and printed.
For autoclaves PRESOCLAVE II this Pt100 sensor only reads the temperature with an external thermometer.
Part No. 4001219

ACCESSORIES FOR VERTICAL AUTOCLAVES

AISI 304 stainless steel wire baskets.

Part No.	Ø cm	Height	Suitable for autoclaves Part No.	Number of baskets
1004771	22	14	4001745	1
1004772	22	24	4001775	1
1004771	22	14	4001757*	1
1004772	22	24	4001757*	+ 1
1000495	25,5	20	4001725 – 4002515	3
1000496	36	28	4002136 – 4002425	2
1000780	44,5	22	4002426	3

Note:* For autoclave Part No. 4001757 supplied with 1 basket Part No. 1004771 + 1 basket Part No. 1004772
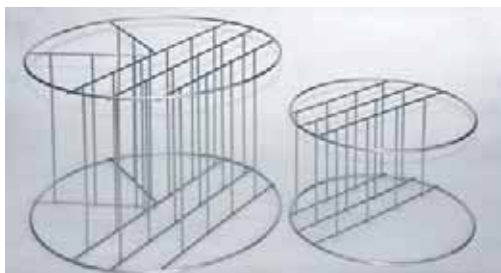
AISI 316 stainless steel wire dividers for autoclave baskets.
Part No.
1001217 4 divider compartments for basket part no. 1000495.
1001218 6 divider compartments for basket part no. 1000496.
1001222 7 divider compartments for basket part no. 1000780.

Sterilization Drums.

Part No.	Ø cm	Height	Suitable for autoclaves Part No.	Capacity Drums
1002418	25	18	4001725 – 4002515	3
1002419	35	27	4002136 – 4002425	2
1002420	28	18	**Not suitable for our autoclaves.**	

Water distiller, specially for autoclaves "DEST-4".
Distillation capacity: 1.5 litres/hour. Internal capacity 4 litres.
Case made from thermo resistant plastic.
Internal stainless steel.
Cooling by forced air though a condenser. Without glass heater elements.
Easy to use. Safety cut out system if over temperature due to insufficient water.
Comes complete with a 4 litre three way dispenser plastic bottle with filter.
Note: for daily use it is recommended to change the filter every 3 months.

No external additional water required

Part No.	Capacity Distillation litre/Hour	Conductivity µs/cm	Ø	Height cm	Power W	Weight Kg
4001729	1.5	5	29	39	750	3.5

Spare: Dispenser spout with filter. Part No. 4001730

Detergent "BIO-SEL"
We recommend the use of BIO-Sel detergent for cleaning, it is also biodegradable and free from Phosphates.
Part No.
1000025 Capacity 1 litre.
1000026 Capacity 4 litres.
1000852 Box of 12 x 1 litre flasks.
1000853 Box of 4 x 4 litre flasks.

Autoclave for liquids and solids sterilization "Autester ST DRY PV II" 25

CAPACITY: 25 LITRES.
CONFORMS TO THE REGULATION - 97/23/CEE EQUIPMENT UNDER PRESSURE.

Complete selection of programs. Displays in Spanish - English - French.

FEATURES
Sterilization chamber and lid made from AISI 316 stainless steel.
External case epoxy coated.
Digital control of all autoclave operations.
Large back lit LCD 2 x 24 character display.
Air filter, purifies air before entering in the sterilization chamber.
Separate clean water reservoir and waste water.
RS-232 Interface output of parameters to a computer, for printer or USB adapter.

SAFETY
Safety valve.
Prevents the door being opened if under pressure or high temperature is produced.
Temperature safety thermostat.
Door closed correctly detector
Thermally protected lid.

CONTROL PANEL

1 - LCD parameter display.
2 - Mono control button of multi functions that selects:
3 - LED in operation.
4 - Push button Start - Stop.

Error messages of functions or execution of a program are displayed and an acoustic alarm sounds.The vapour generator automatically cuts out.

MESSAGES:

1. E 2PROM	10. TEMPERATURE LOW FAULT
2. RTC FAULT	11. INPUT ERROR
3. SENSOR PRECISION	12. STERILIZATION
4. HEATER PROBE	13. LEVEL 1
5. CHAMBER PROBE	14. LEVEL 2
6. OVER PRESSURE	15. DOOR
7. VACUUM	16. PRINTER NO PAPER
8. PRESSURE	17 PAPER JAM
9. BOILER TEMPERATURE	18. ELECTRICAL FAULT

PARAMETERS AND PROGRAMS PRE INSTALLED IN THE AUTOCLAVE MICROPROCESSOR
(Note: All these parameters are adjustable by the user)

Nº Programme	Description	Temperature Sterilization	Time Sterilization	Time Dry	Purge
0	Free	-	-	-	-
1	Unwrapped instruments	134 °C	4 min	15 min	2 (1)
2	Wrapped instruments	134 °C	12 min	30 min	3 (2)
3	CJD	134 °C	20 min	20 min	3 (2)
4	Delicate unwrapped	121 °C	15 min	15 min	2 (1)
5	Delicate wrapped	121 °C	30 min	30 min	3 (2)
6	Disinfecting	105 °C	25 min	15 min	1 (3)
7	Liquids	121 °C	30 min	-	1 (3)
8	Solids	121 °C	15 min	30 min	1 (3)
9	Solids	134 °C	4 min	30 min	1 (3)

(1) Double Vacuum purge.
(2) Triple Vacuum purge.
(3) Atmospheric purge (No vacuum).

CONFORMITY
The microprocessor controls the air extraction, sterilization and dry process from preset values set by the operator. Controlled parameters are:

- Sterilization temperature from 105 °C to 134 °C
- Sterilization time from 3' to 59'.
- Drying time from 20' to 60'
- Programs-0 to 9 user configurable
- Six pre-set functions:
  - Solids 1
  - Solids 2 fractions
  - Solids 3 fractions
  - Dry
  - Liquids
  - Liquids 2 temperature probes
- Verification tests
  - Vacuum
  - Bowie Dick
- Configuration
  - Units
  - Languages (Spanish, English, and French).
  - Printer or USB adapter.
  - Timer: date/hour
- Password
- Calibration
  - Temperature probe 1
  - Temperature probe 2
  - Water fill

MODEL	Part No.	Capacity litres	Ø/Depth (usables) cm		Height/Width/Depth (exterior) cm			Power W	Weight Kg
AUTESTER ST DRY PV II 25	4002415	25	30	35	48	46	55	2510	52

Comes complete with three trays, extractor forceps, and additional support for instruments and sterile wrapping bags.

ACCESSORIES
USB adapter model.
Pen-Drive included (Memory board) for data storage. Part No: **4120131**
Ink Printer (no thermal).
Paper size 2 1/4" (56 mm) wide.
Includes communications and power cable.
Model

Part No.	Height/Width/Depth cm			Power	Weight Kg
4120113	4	16	10	DC 5V 3A	1

Water distiller especially for Autoclaves. (See page 62).
Bag sealers (See page 67).

Autoclave for sterilization "Autester ST DRY PV" Class B

AUTOMATIC VACUUM DRY AND PURGE.
PROGRAMS TO 121 °C AND 134 °C (1 AND 2 bar).
MODEL HORIZONTAL. CAPACITY: 12, 18, AND 23 LITRES.

APPLICATIONS

"Class B" autoclaves are used within the field of general medicine, dentistry, veterinary, tattoo parlours and sterilization applications in general, to sterilize any material that could have been in contact with body fluids including blood.

The general capabilities of the instrument are regulated by EN 13060 that guarantees the differing sterilization applications.

The normal processes include: Solids with and without wrapping, porous material with and without wrapping and utensils that have cavities and holes (e.g. dentistry materials.)

To guarantee sterilization of these materials the "AUTESTER ST DRY PV" Class B, autoclaves, have an efficient staged vacuum, that performs a complete extraction of air that allows penetration of the steam vapour.

The same vacuum system is used to obtain the dry phase, which is required for perfect storage of sterilized materials.

The "AUTOCLAVES ST DRY PV" Class B includes verification and validation programs.

CONFORMITY:	
EN 13060	SMALL GENERAL PURPOSE STEAM STERILIZERS.
EN 61010-1	EQUIPMENT SAFE FOR LABORATORY USE.
EN 61010-2-040	SAFETY FOR STERILIZER EQUIPMENT FOR LABORATORY USE
EN 61326	ELECTROMAGNETIC COMPATIBILITY FOR EQUIPMENT USED IN THE LABORATORY.

SAFETY:	
SAFETY VALVE:	PREVENTS THE PRESSURE EXCEEDING THE MAXIMUM SET LIMIT.
SAFETY THERMOSTAT:	DISCONNECTS THE HEATER AGAINST OVER TEMPERATURE OR LOW WATER IN THE RESERVOIR.
	THERMALLY INSULATED LID.

12 litres

18 litres

23 litres

DIAGRAM SHOWING THE FUNCTION CYCLE AUTESTER ST DRY PV

PULSED VACUUM PURGE from 19 to 23 minutes · STERILISATION from 4 to 30 minutes · VACUUM DRY from 10 to 20 minutes
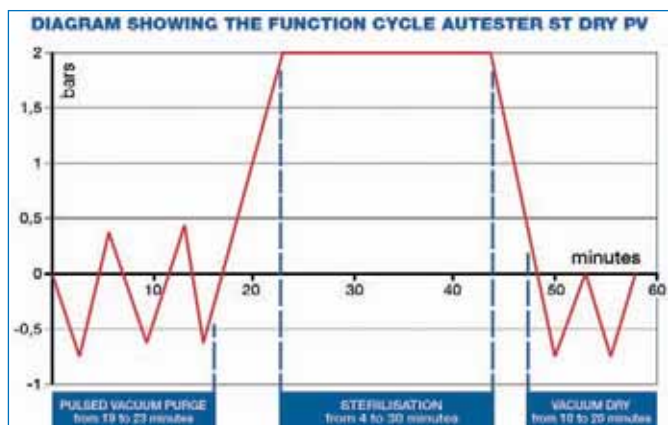
Staged fractional vacuum: Extracts air from the load that permits absolute steam vapour penetration.

Sterilization stage: Sterilization within the time and temperature selected.

Dry cycle: Extracts the humidity from the load leaving it suitable for storage.

Autoclave for sterilization Autester "ST DRY PV" 12 Class B

CAPACITY: "ST DRY PV": 12 LITRES.

According to directive: 97/23/CEE equipment under presure, 3.3 and 93/42/CEE For medical devices.

FEATURES
Stainless steel internal chamber.
Staged vacuum purge.
Dry by vacuum
Incorporated steam generator.
Water reservoir to supply the chamber
High vapour penetration of porous material
Used in digestive studies, ophthalmology, operating theatres etc .
Printer interface.
USB adapter for parameters memorization (optional).

SAFETY
Safety valve. Prevents over pressure over the maximum working limit.
Safety thermostat. Disconnects power to the heater if over temperature or low water in the reservoir.
Thermally protected lid.

CONTROL PANEL
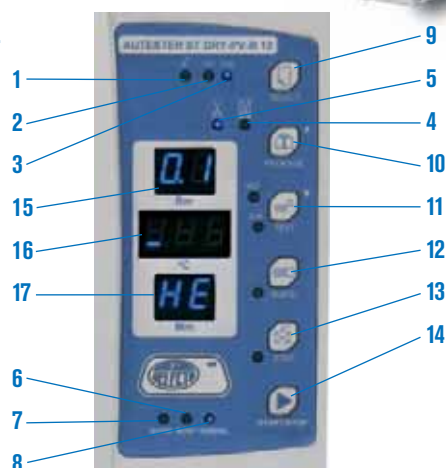
TEMPERATURE CONTROL AND AUTOMATIC MICROPROCESSOR CYCLE.

1. Textile materials
2. 121 °C.
3. 134 °C.
4. Wrapped solids.
5. Solids (Not wrapped).
6. Low level water indicator.
7. Autoclave ready for operation.
8. Sterilization cycle in process
9. Program selection.
10. Select wrapped or non wrapped.
11. Test.
12. Fast sterilization.
13. "maintain hot" the chamber.
14. Preheat.
15. Pressure indicator (bar).
16. Temperature indicator (°C).
17. Time Indicator (min.).

CYCLES	134 °C Wrapped	134 °C Not Wrapped	121 °C Wrapped	121 °C Not Wrapped	Textiles	Test Bowie Dick	Test Vacuum
Sterilization Temperature	134 °C	134 °C	121 °C	121 °C	134 °C	134 °C	-
Sterilization pressure	2.1 bar	2.1 bar	1.1 bar	1.1 bar	2.1 bar	-	2.1 bar
Vacuum purge time	8 min.	4 min.	8 min.	4 min.	8 min.	-	-
Sterilization time	12 min.	4 min.	30 min.	20 min.	12 min.	3.5 min.	10 min.
Dry time	10 min.	10 min.	10 min.	10 min.	15 min.	1 min.	-

MODEL	Part No.	Capacity litres	Ø / depth cm		External Dimensions cm			Power W	Weight kg
					Height	Width	Depth		
AUTESTER ST DRY PV B 12	4001727	12	20	35	39.2	48.7	60	1800	42.2

Comes complete with:
spare joint, door adjustment key, support with three trays, extractor forceps, empty water filter and waste water out.

ACCESSORIES

USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No: 4120130
Ink Printer (no thermal).
Paper size 2 1/4" (56 mm) wide.
Includes communications and power cable.
Power: DC 5V 3A
Part No: 4120123
Water distiller especially for Autoclaves. (See page 62).
Bag sealers (See page 67).

Autoclave for sterilization "Autester ST DRY PV" 18 Class B "ST DRY PV" 23 Class B

CAPACITY: "ST DRY PV" 18: 18 LITRES. "ST DRY PV" 23: 23 LITRES..

According to directive: 97/23/CEE equipment under presure, 3.3 and 93/42/CEE For medical devices.

FEATURES
Stainless steel internal chamber.
Staged vacuum purge.
Dry by vacuum
Incorporated steam generator.
Water reservoir to supply the chamber
High vapour penetration of porous material
Used in digestive studies, ophthalmology, operating theatres etc .
Printer interface.
USB adapter for parameters memorization (optional).

SAFETY
Mechanism door lock, prevents the door being opened accidentally.
Safety valve. Prevents over pressure over the maximum working limit.
Safety thermostat. Disconnect power to the heaters if over temperature or low water in the reservoir are produced.
Thermally insulated lid.

CONTROL PANEL

2
6
1
3
4
5
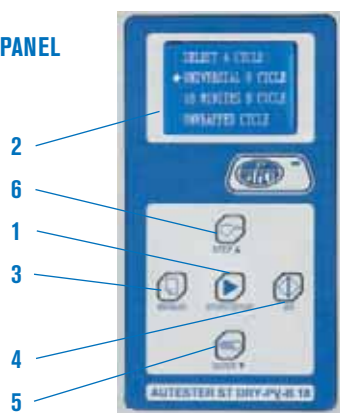
TEMPERATURE CONTROL AND AUTOMATIC MICROPROCESSOR CYCLE.

1. Start - Stop.
2. LCD screen.
3. Cancel - Menu.
4. Validation.
5. Rapid cycle. Down cursor.
6. Validation time. Up cursor.

CYCLES	134 °C Wrapped	134 °C Not Wrapped	134 °C Not Wrapped Fast	121 °C Wrapped	Test Bowie Dick	Test Vacuum
Sterilization Temperature	**134 °C**	**134 °C**	**134 °C**	**121 °C**	**134 °C**	**-**
Sterilization pressure	**2.1 bar**	**2.1 bar**	**2.1 bar**	**1.1 bar**	**-**	**2.1 bar**
Vacuum purge time	**10 min.**	**10 min.**	**4 min.**	**10 min.**	**-**	**-**
Sterilization time	**18 min.**	**4 min.**	**4 min.**	**16 min.**	**3.5 min.**	**10 min.**
Dry time	**10 min.**	**10 min.**	**10 min.**	**10 min.**	**1 min.**	**-**

MODEL	Part No.	Capacity litres	Ø x depth cm		External Dimensions cm			Power W	Weight kg
					Height	Width	Depth		
AUTESTER ST DRY PV 18	**4001728**	**18**	**25**	**35**	**49.5**	**46**	**60**	**1800**	**46.6**
AUTESTER ST DRY PV 23	**4001731**	**23**	**25**	**45**	**49.5**	**55**	**76**	**2300**	**48**

Comes complete with:
spare joint, door adjustment key, support with three trays, extractor forceps, empty water filter and waste water out.

ACCESSORIES

USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No: **4120130**
Ink Printer (no thermal).
Paper size 2 1/4" (56 mm) wide.
Includes communications and power cable.
Power: DC 5V 3A
Part No: **4120123**
Water distiller especially for Autoclaves. (See page 62).
Bag sealers (See page 67).

Bag sealer "S-400"

SUITABLE FOR POLYPROPYLENE-POLYESTER STERILISING BAGS WITH A PAPER BASE.

FEATURES
Metal epoxy covered case.
Pressure sealer. Manual cut.
Stainless steel AISI 304 reel support at the back.

CONTROL PANEL
Illuminated mains switch.
Lamp on when the thermostat has reached the pre-set working temperature.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4100041	9	270	12	35	21	200	5.3

Bag sealer "Seal-1000"

FOR POLYPROPYLENE AND POLYESTER BAGS WITH A STERILE PAPER BASE.

FEATURES
Metal construction with stainless steel tray.
Pressure sealer unit with lateral leaver with two bilateral cutting edges.
Constant sealing temperature (from 180 °C and 200 °C).

External support for rolls of up to 240mm wide, with adjustable separator sides to accommodate different roll sizes.

CONTROL PANEL
Illuminated start switch.
Indicator, optimum seal temperature.

Part No.	Seal width mm	Maximum seal length mm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4101712	10	260	30	36	43	400	6.5

Automatic bag sealer "Seal-Com"

IN ACCORDANCE WITH DIN 58953 SECTION 7 STANDARD. FOR SEALING STERILE PAPER, POLYPROPYLENE-POLYESTER BAGS. CONTINUOUS SEALING, AUTOMATIC ADVANCE.

Continuous Thermosealer

FEATURES
Epoxy covered metallic exterior.
Heating time: 4 minutes.
Seal width: 9 mm.
Sealing speed: 5 m/min.
Removable support tray made of AISI 304 stainless steel.

CONTROL PANEL
Luminous heater "ON" switch.
Luminous motor "ON" switch.
Start light for the operation of sealing bags.

MODEL

Part No.	Height / Width / Depth (sealer) cm			Width / Depth (tray) cm		Power W	Weight Kg
4100043	19	37	21	50	17	240	8.2

SEALING MACHINE ACCESSORIES

Rolls of paper for sterilization "Polisteril"
Paper base polypropylene and polyester bags showing differing ink prints of sterilized items.

Part No.	Bag width cm	Bag length m
4100075	7,5	100
4100100	10	100
4100200	20	100

Sterile paper "Policort" trimmer
Completely made of metal with back and reel support, for a capacity of 2 x 200mm or 4 x 100 mm wide reels.
Circular cutting knife edge.
Measurements: 13 high x 51 wide x 32 cm deep.
Weight: 2.8 Kg.
Part No. **4100045**

Date stamping machine for sterile bags.

Part No. **4100046**

> **STERILIZED**
> 30 OCTOBER 2011
> **VALID FOR 3 MONTHS.**

OPTIONS: **Ultrasonic cleaning** baths for dentistry, "Ultrasons-Digit" (see page 88). **Dry sterilizer** "DRYTIME" poupinel oven (see page 132).

LOW TEMPERATURE
Model selection table

QUICK OVERVIEW

Equipment type	Model	Forced Air	Regulation	CAPACITY			
Refrigerated Cabinets				180 litres	260 litres	500 litres	500 litres Glass
+2 ... +40 °C	Medilow	Yes	Digital	2101270	2101271	2101272	2101273
Blood bank cabinets				319 litres	442 litres	600 litres	1300 litres
4 °C fixed	Blood Bank	Yes	Digital	2101497	2101498	2101499	2101500
Storage refrigerators				252 litres	352 litres	319 litres	
+2 ... +12 °C	Pharmalow	Yes	Analogue	2101274	2101275	-	
+2 ... +12 °C	Pharmalow	Yes	Digital	-	-	2101501	
Storage freezers				513 litres			
-9 ... -26 °C	Templow-M	No	Analogue	2101279			
				304 litres			
-18 ... -28 °C	Templow-S	No	Digital	2101278			
				600 litres			
-15 ... -35 °C	Templow-L	Yes	Analogue	2101280			
Storage refrigerators				600 litres	600 litres Glass		
-2 ... +15 °C	Stocklow	Yes	Analogue	2101276	-		
+2 ... +15 °C	Stocklow	Yes	Analogue	-	2101277		
Chest Freezers				203 litres	351 litres		
-10 ... -30 °C	Combatemp	No	Digital	2101040	2101041		
-10 ... -40 °C	Combatemp	No	Digital	2101181	2101182		
Flake ice maker				40 litres	85 litres		
	"IMS 45"	Compressor	-	5020100	-		
	"IMS 85"	Compressor	-	-	5020101		

OTHER LOW TEMPERATURE DEVICES

Thermocycler for thermal cycles
PCR-K96

(See page 232)

Shaking Bath
Unitronic

(See page 85)

Cryo circulators
Frigiterm

(See page 97)

Bath immersion coolers
Digit-cool

(See page 99)

Refrigerated cabinet
Refricub

(See page 213)

Cold Plate
Plac-center

(See page 212)

Cooling Coils for baths
Frigedor

(See page 101)

Microtube, table top cooler boxes for microtubes of 0.5 to 2 ml / 15 ml.

(See page 185)

Precision Peltier cooled incubator / cabinets
Prebatem

(See page 150 and 151)

Refrigerated environmental cabinets
Hotcold

(See page 154)

"Luck is not chance, it is toil. Fortune is expensive, smile is earned."
Emily Dickingson

Flake ice maker "IMS" 40 and "IMS" 85

"IMS" 40 MODEL: PRODUCTION 40 kg-24 HOURS.
"IMS" 85 MODEL: PRODUCTION 85 kg-24 HOURS.

MODELS	Part No.	24h.(kg) Production	Tank Capacity (Kg)	Height / Width / Depth cm			Power W	Weight Kg
IMS-40	5020100	40	8	72	38	54	280	40
IMS-85	5020101	85	13	88	55	61	420	57

Features: See page. 186

Refrigerated cabinets "Medilow" S, M, L & LG

WITH FORCED AIR FAN CIRCULATION.
WITH DIGITAL ELECTRONIC TEMPERATURE CONTROL.
TEMPERATURE RANGE CONTROLLABLE FROM +2 °C TO 40 °C. WITH A STABILITY OF ±1.5 °C. RESOLUTION 1 °C.
CAPACITY: 180, 260 AND 500 LITRES.

SAFETY: CONFORMS TO EN61010.1. OVER TEMPERATURE SAFETY THERMOSTAT INSTALLED.

Models Medilow M and L.

Model Medilow LG, double glass door.

Model Medilow S. Capacity: DBO 2 blocks

APPLICATIONS
Determination of BOD at 20°C, Measurement of enzyme activity at 25°C. Storage and Preservation of samples, Incubation, Cosmetics, Botany, Food Products, etc.

TEMPERATURE CONTROL
Electronic temperature control with digital display.
Pt 100 temperature probe.
Probe failure alarm.

FEATURES
Epoxy covered external case.
Easy to clean, strong, molded ABS Interior.
Vibration and CFC free hermetically sealed compressor.
Turbine fan air circulation, enclosed within the unit.
External hole for connecting inside probes, etc.
Internal power connection to a maximum of 500 W.
Adjustable level front supports.
Door can be hung to open left or right.
Door lock.

CONTROL PANEL
Temperature control.
Live-time temperature display.
Pre-selected temperature display.
Increase value, push button.
Decrease value, push button.
Program parameter selection, push button.
Configure push button.

MODELS	Part No.	Capacity litres	Door glass	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Number of shelves	Internal power points	Power W	Weight Kg
MEDILOW-S	2101270	180	–	73	51	44	85	60	60	3	2	250	40
MEDILOW-M	2101271	260	–	104	51	44	122	60	60	4	2	330	53
MEDILOW-L	2101272	500	–	134	65	54	152	75	71	5	6	330	90
MEDILOW-LG*	2101273*	500	YES	134	65	54	152	75	71	5	6	330	108

Comes complete with steel shelves, PVC laminated.   *Anti mist double glazed insulated door.

Refrigerated medical cabinet "Pharmalow" S, L and M

WITH FAN ASSISTED CIRCULATION.
TEMPERATURES RANGE FROM +0 °C UP TO +15 °C.

APPLICATIONS

Products that require a constant below atmosphere temperature, preservation of pharmaceutical products, medications, micro-tubes, etc.

COMMON FEATURES

External case and metallic door.
White coated and interior made of anti-toxic white sheet.
Double glazed door and interior light for model M.
Hermetically sealed compressor.
Homogeneous, turbine fan assisted air circulation.

Automatic de-frost with water evaporation system.
Adjustable level, front base supports.
Door can be mounted to open left or right.
Door lock.

CONTROL PANEL

Temperature thermostat regulator.
Digital thermometer display for models S and L
Electronic digital temperature control model M.

Refrigerator "Pharmalow" S and L

MODELS	Part No.	Capacity litres	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Number of shelves	Power W	Weight Kg
Pharmalow S	2101274	252	105	51	44	121	60	60	4	170	47
Pharmalow L	2101275	352	142	51	44	159	60	60	5	180	62

Comes complete with steel shelves, PVC laminated.

ACCESSORIES Need to be factory fitted.

Frame support, partitioned metallic drawers.
Modular system with perforated base, sliding drawers, each drawer is divided into three fixed compartments, each compartment with four removable methacrylate partitions.
Frame support for Pharmalow S (Part No. 2101274), with 4 drawers and 48 partitions in total, (maximum capacity: 6 drawers).
Part No. **1001306**
Frame support for Pharmalow L (Part No. 2101275), with 5 drawers and 60 partitions in total, (maximum capacity: 10 drawers).
Part No. **1001307**

OPTIONAL
Drawer with 3 compartments and 12 partitions.
Part No. **1001308**

Model Pharmalow S and L with frame support and drawers.

Details of frame support, drawers, dividers and partitions.

Model Pharmalow S with 4 shelves.

Storage refrigerator with double glazed anti mist door "Pharmalow" M

WITH DIGITAL ELECTRONIC TEMPERATURE CONTROL

MODEL

Part No.	Capacity litres	Height / Width / Depht (interior) cm			Alto / Ancho / Fondo (exterior) cm			Power W	Power HP	Number of shelves	Weight Kg
2101501	319	139	48	45	198	60	64	360	1/4	6	98

Comes complete with steel shelves, PVC laminated.

ACCESSORY "Pharmalow" S - L and M. Must be factory fitted.

Circular graphic register independently powered.
Temperature range: -10 °C up to 40 °C. Precision ±2% at 12 °C.
Chart speed selection of 24 hours or 7 days. Disc Ø 125mm
Graphic register dimensions:
18 cm high x 22 cm wide x 35 cm deep.
Powered by an LR-6 1.5V battery. Battery life 1 year.
Part No. **2101621**

NEW DESIGN

Model Pharmalow M with 6 shelves.

Blood bank refrigerated cabinets "Blood Bank" A, B, C and D

FORCED AIR CIRCULATION.
FIXED TEMPERATURE +4 °C. STABILITY ±1.5 °C. RESOLUTION 1 °C.
SEVEN DAYS GRAPHIC TEMPERATURE REGISTER.
CAPACITIES FROM 90 TO 480 BLOOD BAGS.

NEW DESIGN

SAFETY:
ALARMS SYSTEMS VISUAL AND ACOUSTIC: LOW TEMPERATURE (+2°C), OVER TEMPERATURE (+6°C),
DOOR OPEN, MAINS FAILURE AND BATTERY FAILURE. INDEPENDENT BATTERY BACKUP GRAPHIC TEMPERATURE REGISTER. 7 DAY RECORDER,
AUTONOMY 6 MONTHS. ACOUSTIC ALARM ON ALL FAIL CONDITIONS. REMOTE ACOUSTIC ALARM.

Models A and B with optional drawer rack.   *Model C*   *Model D*

APPLICATIONS
Storage cabinets specifically designed and manufactured for blood bag storage.

COMMON FEATURES
Stainless steel. AISI 304. external cabinet and interior lining.
Double glazed antimist, Reversible lockable door, easy to change, self
close door if left ajar. Hermetically sealed compressor mounted on shock
absorbers with evaporator and forced air condenser.
Fan air circulation maintaining homogeneous temperature distribution.
Refrigerant R134a.
Temperature sensors are located and calibrated to read simulated blood bag con-
ditions.
Independently powered circular graphic register.
Microprocessor controlled temperature control via a display that can configure the
following parameters:
- **Open code.**
- **Activate external alarm.**
- **Adjust SET.**
- **Adjust alarm.**
- **Calibration.**

CONTROL PANEL
1. Digital display.
2. Battery life indicator.
3. Door open indicator.
4. Mains failure.
5. Push button increase value.
6. Push button decrease value.
7. Validate / RESET alarm.
8. Seven days graphic register.

MODELS	Part No.	Capacity litres	Capacity bags	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Power HP	Number of shelves	Weight Kg
Blood Bank A	2101497	319	110	139	48	45	198	60	64	360	1/4	5	98
Blood Bank B	2101498	442	150	126	58	55	198	70	71	360	1/4	5	111
Blood Bank C	2101499	600	200	136	58	69	207	70	82	350	3/8	5	115
Blood Bank D	2101500	1300	480	136	128	69	208	140	82	1100	3/8	10	190

Comes complete with steel shelves, PVC laminated.

Models A and B with optional rack system.

Metallic drawers, to be ordered separately.
Modular rack system of drawers, divided into compartments and subdivided by plastic dividers for different bag classification, bags are placed upright longitudinal.

Blood Bank A,
System of 5 drawers of 18 bags per drawer. Capacity 90 bags.
Part No **1001501**

Blood Bank B,
System of 5 drawers of 30 bags per drawer. Capacity 150 bags.
Part No. **1001502**

Blood Bank C,
System of 5 drawers for 40 bags per drawer. Capacity 200 bags.
Part No. **1001503**

Blood Bank D,
System of 12 drawers (6 in each compartment) for 40 bags per drawer.
Capacity 480 bags.
Part No. **1001504**

Detailed image of the drawers with dividers.

Shaking monitor for blood collection "HEDO2"

FOR BAGS BLOOD COLLECTION PROCESSES. SWINGING PLATFORM.

NEW

FEATURES
HEDO2 is a digital blood collection monitor, created to control and monitoring blood collection processes. It has been designed to perform simple, precise and accurate operations.
It is composed of:
Easily removable tray.
Wired or wireless interface networking.
Automatic clamp closing at the end of the donation.
Automatic tare calculation.
Real time monitoring of the donation showed on the digital display.
Stand alone mode (operating with rechargeable battery). 8 hours life.
Tube sensor presence.

MODEL

Part No.	Max weight Capacity g	Precision g	Resolution g	Height / Width / Depth (external) cm			Power W	Weight Kg
5010000	**999**	**± 3**	**1**	**19**	**32**	**32**	**60**	**5**

It is supplied with a transport suitcase.

Upright freezers "Templow" S, M and L

APPLICATIONS
Preservation and storage of products that require to be preserved at low temperatures.

Upright freezer "Templow" S

DIGITAL TEMPERATURE CONTROL,
TEMPERATURE RANGE FROM -18 °C TO -28 °C.
8 DRAWERS WITH INDIVIDUAL FREEZER COMPARTMENTS.

FEATURES
Epoxy covered metallic external case.
Strong, molded, chemically resistant ABS interior.
Manual defrost with water evaporation system.
Door can be hung to open left or right.

CONTROL PANEL
Mains power ON/ OFF switch.
Temperature thermostat regulator.
Temperature indicator lamp.
Audible and visual alarms.
Push button alarm reset/stop.
Push button with quick freeze indicator.

Upright freezer "Templow" M

TEMPERATURE RANGE FROM -9 °C TO -26 °C.
7 INDIVIDUAL FREEZER COMPARTMENTS WITH 14 BASKETS.

FEATURES
Epoxy covered external case.
Strong, chemically resistant, ABS molded case.
Specially coated "Rilsan", wire mesh baskets.
Manual defrost, with water evaporation system.
The door can be hung to open left or right.
Lockable door.

CONTROL PANEL
Temperature thermostat regulator.
Digital temperature display.

Upright freezer "Templow" L

WITH FAN ASSISTED AIR CIRCULATION.
TEMPERATURE RANGE FROM -10 °C UP TO -36 °C.
COMES WITH 4 SHELVES.

FEATURES
External and internal case made completely of
AISI 310 stainless steel, with water sump and drain.
Chemically resistant.
Acclimatized hermetically sealed CFC free compressor.
Automatic defrost with electrical water evaporation
system.
Regulable shelves.
Adjustable front level supports.
The door can be hung to open, left or right.
Door lock.

CONTROL PANEL
Mains power ON/ OFF switch.
Electronic temperature regulator.
Digital temperature display.

MODELS	Part No.	Capacity litres	Range °C	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Weight Kg	
TEMPLOW S	2101278	304	-18 to -28	150	44	42	184	60	63	110	74	Comes with 8 drawers
TEMPLOW M	2101279	513	-9 to -26	150	61	57	186	75	76	345	111	*Comes with 14 baskets
TEMPLOW L	2101280	600	-10 to -36	155	51	65	215	70	83	600	160	*Comes with 4 shelves

Comes with steel PVC laminated shelves and baskets.

NEW DESIGN

Storage refrigerators "Stocklow" L and G

WITH FAN ASSISTED CIRCULATION.
MODEL L, WITH METAL DOOR. TEMPERATURE CONTROLLABLE FROM +1 °C TO +15 °C.
MODEL G, WITH DOUBLE GLAZED ANTI MIST DOOR. TEMPERATURE CONTROLLABLE FROM -2°C TO +16 °C.

APPLICATIONS
Preservation and storage of products that require below ambient temperatures.

FEATURES
Chemically resistant.
Tropical hermetic compressor.
Automatic defrost with electrical water evaporation system.
Support rack and shelves.
Adjustable front level supports.
The door can be hung to open left or right.
Door lock.

There are two versions:
Stocklow L which is completely made of metal, both interior and exterior, Aisi 310 stainless steel door.
Stocklow G inside made of Aisi 310 stainless steel and epoxy white external case with glazed door that enables internal view. Wheel base support for easy removal.

CONTROL PANEL
Mains power, ON/OFF switch.
Electronic temperature regulator.
Digital temperature display.
Interior light only (Double glazed door model).

Model Stocklow L, with metallic door.   *Model Stocklow G, with metallic door.*

MODELS	Part No.	Capacity litres	Door	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Number of shelves	Power W	Weight Kg
STOCKLOW L	2101276	600	Metallic	155	51	65	215	70	83	4	250	151
STOCKLOW G	2101277	600	Glass	155	51	65	215	70	83	4	250	151

Comes complete with steel shelves, PVC laminated.

Chest Freezers "Combatemp"

CONTROLLABLE TEMPERATURE RANGE FROM -10 °C TO -28 °C.
CONTROLLABLE TEMPERATURE RANGE FROM -10 °C TO -40 °C.

APPLICATIONS
Suitable for preservation and freezing of sample.

FEATURES
Epoxy covered external case. Interior of aluminium, with guide supports for baskets or trays.
The interior of the door is made of easy to clean, strong, chemically resistant, moulded ABS.
Drop down lockable door with compensating support hinges. Hermetically sealed compressor, silent and vibration free.

Automatic interior light when the door is opened.
Digital electronic temperature control.
N.T.C. Sensor.

CONTROL PANEL
Temperature control.
Digital live and preset temperature display.
Push-button temperature selector.

MODELS	Part No.	Capacity litres	Freezing capacity in 24hrs Kg	Temperature up to °C	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Weight Kg
COMBATEMP S-30	2101040	203	28	-28	55	71	50	86	83	73	160	65
COMBATEMP L-30	2101041	352	38	-28	70	100	52	91	113	76	200	75
COMBATEMP S-40	2101181	203	30	-40	55	71	50	86	83	73	230	70
COMBATEMP L-40	2101182	352	40	-40	70	100	52	91	113	76	400	80

Note: The codes 2101040 and 2101181 are supplied with 3 baskets. The codes 2101041 and 2101182 are supplied with 2 baskets.

BATHS WATER / OIL

Range	Model	Control	Safety thermostat	CAPACITY / PART No.					Stability	RS-232
				1.5 litres						
+30 ... 110 °C	Aquaterm	Thermostat	No	3000916					±2 °C	No
				1 litre						
+30 ... 110 °C	Baher	Thermostat	No	7000540					±3 °C	No
				4 litres						
+40 ... 80 °C	Termofin	Thermostat	No	3000459 (Paraffin)					±1 °C	No
				2.5 litres						
+5 ... 110 °C	Univeba	Thermostat	Yes	3000400					±1 °C	No
				2.5 litres						
+5 ... 200 °C	Univeba	Thermostat	Yes	3000401					±2 °C	No
				11 litres						
+5 ... 110 °C	Termobat	Thermostat	Yes	3000587					±2 °C	No
				11 litres						
+5 ... 200 °C	Termobat	Thermostat	Yes	3000588					±3 °C	No
				2 litres	**5 litres**	**12 litres**	**20 litres**	**45 litres**		
+5 ... 110 °C	Precisterm	Thermostat	Yes	6000137	6000138	6000140	6000141	6000142	±1 °C	No
+5 ... 200 °C	Precisterm	Thermostat	Yes	6000385	6000386	6000387	6000388	6000389	±2 °C	No
+5 ... 99.9 °C	Precisdig	Digital µ	Yes	-	6001195	6001196	6001197	6001198	±0.1 °C	No
+5 ... 200 °C	Precisdig	Digital µ	Yes	-	6001236	6001237	6001238	6001239	±0.5 °C	No
+5 ... 80 °C	Agibat-20	Digital	Yes	-	-	-	6032012	-	±0.5 °C	No
				2x2 litres	**4x2 litres**	**6x2 litres**				
+5 ... 200 °C	Precisbat	Thermostat	No	6001462	6001472	6001482	-	-	±2 °C	No
Baths with stirring or shaking				**27 litres**						
+5 ... 99.9 °C	Unitronic Reciprocating	Digital µ	Yes	6032011 (Shaker bath)	-	-	-	±0.05 °C	Yes
0 ... 99.9 °C	Unitronic Reciprocating C	Digital µ	Yes	6001173 (Shaker bath)	-	-	-	±0.05 °C	Yes
Baths for viscometers										
+5 ... 100 °C	VB-1423	Digital	Yes	-	-	-	3001423	-	±0.05 °C	No

µ: with microprocessor.

Sand baths

	Model	Control	Height / Widht / Depth (usable) cm			Height / Widht / Depth (usable) cm		
... +400 °C	Combi-Sand	Electronic	5	18	38	5	30	30
Part No.			6000708			6000709		

Ultrasonic cleaning baths with heating and with digital electronic regulation.

Part No.	Capacity litres	Height / Widht / Depth (usable) cm			Power heater W
3000865	5	15	24	14	75
3000866	6	15	30	15	75
3000867	10	15	30	24	225
3000868	22	15	50	30	375

Ultrasonic cleaning baths without heating

Part No.	Capacity litres	Height / Widht / Depth (usables) cm		
3000512	1	6	14	14
3000683	2,6	9	23	13
3001208	4	10	30	14
3000513	6	15	30	14
3000837	6,5	14	24	Ø
3000617	9	15	50	14
3000514	9	15	30	23
3000515	20	15	50	30

BATH TEMPERATURE LIQUIDS GUIDE.

Silicon oil
Ethylene glycol 50%
Water
Silicon oil 50 cps

°C -40 -20 0 20 40 60 80 100 120 140 160 180 200
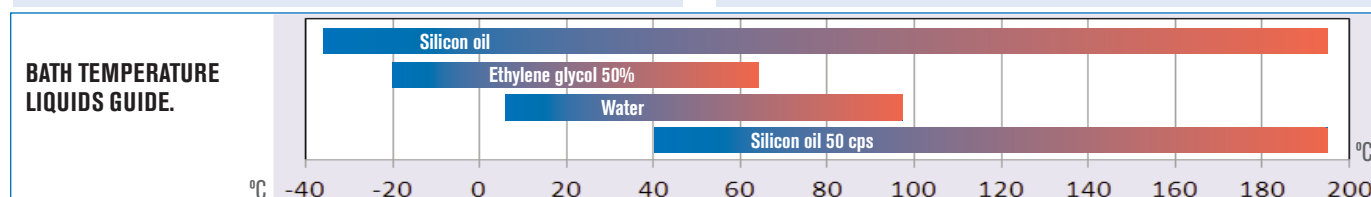
BATHS: WATER AND OIL, DRY BLOCKS AND ULTRASONIC

"The entrepreneur always searches for change, responds to it, and exploits it as an opportunity."
Peter Drucker

Water bath "Aquaterm"

ADJUSTABLE TEMPERATURE FROM 30 °C TO 110 °C. STABILITY ±2 °C.

Economic option

FEATURES
AISI 304 stainless steel tank with epoxy coated base.
Heater element embedded in high temperature, corrosive resistant INCOLOY.

CONTROL PANEL
Temperature regulator thermostat switch, synchronised with an indicator lamp.

MODEL

Part No.	Capacity litres	Ø (usable)	Height cm	Ø (exterior)	Height cm	Power W	Weight Kg
3000916	1.5	20	11.5	22	20.5	640	1.3

ACCESSORIES IN AISI 304. STAINLESS STEEL
Perforated shelf.
Part No. 6000998

Flat Lid with 5 concentric ring set.
Part No. 3000917

Boiling bath "Baher"

ADJUSTABLE TEMPERATURE FROM 30 °C TO 110 °C. STABILITY ±3 °C.

FEATURES
Rapid boiling (6-7 minutes).
AISI 304 stainless steel tank and epoxy coated base.
Heater element embedded in INCOLOY stainless steel.

CONTROL PANEL
Temperature regulator thermostat switch, synchronised with an indicator lamp.

MODEL

Part No.	Capacity litres	Ø (usable)	Height cm	Ø (exterior)	Height cm	Power W	Weight Kg
7000540	1	14	11	15	19	640	1

ACCESSORIES MADE OF STAINLESS STEEL
Lid with bakelite handle.
Part No. 7000572

Rack 24 haemolysis tubes up to 13 mm diameter.
Part No. 7004002

Rack for 24 tubes up to 18 mm diameter.
Part No. 7000541

Perforated shelf.
Part No. 6001194

Water and oil baths "Univeba"

WATER BATH: ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C TO 110 °C STABILITY ±2 °C.
OIL BATH: ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C TO 200 °C STABILITY ±3 °C.

SAFETY:
CONFORMS TO THE DIN STANDARD 12877.2 BY INCORPORATING A MANUALLY RESET OVER TEMPERATURE SAFETY CUT-OUT.

APPLICATIONS
To be used with a rotary evaporator or as a stand alone Bains Marie bath.

FEATURES
Tank interior and exterior case made of AISI 304 stainless steel. The heater element is embedded in a protective INCOLOY stainless steel shield.

CONTROL PANEL
Illuminated main power switch indicator lamp. Hydraulic temperature thermostat regulator synchronised with an indicator lamp. Safety thermostat cut out indicator lamp.

MODELS

Part No.	Maximum Temperature °C	Capacity litres	Ø (usable)	Height cm	Height (exterior) cm	Widht (exterior) cm	Depth (exterior) cm	Power W	Weight Kg
3000400	110	2.5	18	13	19	22	27	390	4
3000401	200	2.5	18	13	19	22	27	640	4

ACCESSORIES MADE OF STAINLESS STEEL
1- **Heating element cover shelf.**
   Part No. 6000033
2- **Reduction ring** cover lid of 110, 80, 60 and 37 mm Ø. With a thermometer location hole in the lid. Part No. 7004001

3- **Tube rack** for 24 haemolysis tubes up to 13 mm Ø.
   Part No. 7004002
4- **Tube support** rack for 24 tubes up to 18 mm Ø.
   Part No. 7000541

5- **Thermometer.**
   Part No.
   1000120 up to 120 °C.
   1000200 up to 200 °C

Water and oil baths "Termobat"

ADJUSTABLE TEMPERATURE FROM AMBIENT+5 °C TO 110 °C. STABILITY ±2 °C TO 200 °C. STABILITY ±3 °C.

SAFETY:
CONFORMS TO THE DIN STANDARD 12877.2 BY INCORPORATING A MANUALLY RESET OVER TEMPERATURE SAFETY CUT-OUT.

APPLICATIONS
To be used with a rotary evaporator for flasks up to 10 litres or as a stand alone bains marie.

FEATURES
Tank interior made of AISI 304 stainless steel,with an epoxy coated base.
The heater element is embedded in a protective INCO-LOY stainless steel shield.

CONTROL PANEL
Main power switch, with luminous indicator lamp.
A hydraulic temperature thermostat regulator is synchronised with an indicator lamp.

Large capacity

ACCESSORIES MADE OF AISI 304 STAINLESS STEEL
Reduction ring cover lid of 210, 180, 145, 115 and 80 mm Ø. With a location hole for a thermometer. Part No. **7000589**

Heater element cover shelf.
Part No. **6000055**

Thermometer.
Part No.
1000120 up to 120 °C.
1000200 up to 200 °C.

MODELS

Part No.	Maximum Temperature °C	Capacity litres	Ø (usable)	Height cm	Ø (exterior)	Height cm	Power W	Weight Kg
3000587	110	11	29	17	29	25	2100	5.5
3000588	200	11	29	17	29	25	2100	5.5

Sand baths "Combiplac-Sand"

ADJUSTABLE PLATE TEMPERATURE UP TO 400 °C.

FEATURES
Electronic energy heater controller. The steel hotplate surface has an evenly distributed heater element providing homogeneous heat distribution.
The non warping AISI 310 stainless steel sand bath can be easily removed for cleaning.
The Hotplate can be used independently without the sand bath. The hotplate casing is made of AISI 304 stainless steel.

CONTROL PANEL
Mains power switch with luminous "On" indicator lamp.
Electronic heater power control between 0 to 100 %.
Heater operation indicator lamp.
The back of the unit is fitted for an electronic thermometer "Sensotherm" or digital electronic controller "Electemp" described under regulators and controllers (see page 286).

MODELS

Part No.	Height / Widht/ Depth (usable) cm			Height / Widht / Depth (exterior) cm			Power W	Weight Kg
6000708	5	18	38	18	22	41	2300	13
6000709	5	30	30	21	32	35	2800	15

Circulation pump "Ciragit"

FEATURES
Metal construction, with all components in contact with liquid made of AISI 304 stainless steel.
The unit can be adjusted to fit most tanks or baths, can be submerged and held in position by an adjustable height support clamp.
Pump circulation with adjustable flow rates allowing external circulation of liquids.
ON/ OFF illuminated power switch with light when on.
Interchangeable flow output connector:
- position A: Internal tank circulation.
- position B: External circulation.

SPECIFICATIONS
OUTPUT water:
20 °C , 12 l/ min.- 150 mbar
OUTPUT silicon oil:
50 °C 4 l/min.- 130 mbar
Dimensions:
9.5 x 12.5 x 23 cm
Power: 30 W
Weight: 2.5 Kg.
Part No. **3000402**

A

B

Water and oil baths "Precisterm"

ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT +5 °C UP TO 110 °C, STABILITY ±1 °C.
ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT +5 °C UP TO 200 °C, STABILITY ±2 °C.

Extensive range of sizes and accessories

Stainless steel interior and external case

45 l

20 l

2 l

5 l

12 l

FEATURES
Capacity; from 2 litres up to 45 litres.
Double skinned tank of AISI 310 stainless steel with an exterior case of AISI 304 stainless steel.
Heating elements embedded in INCOLOY heat and corrosion resistant stainless steel.

CONTROL PANEL
Illuminated mains power switch.
Hydraulic thermostat temperature control, synchronised with the "ON" indicator lamp.
Safety thermostat cut out indicator lamp.

SAFETY:
DIN 12877.2 STANDARD.
THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPERATURE.
A MANUAL RESET ADJUSTABLE TEMPERATURE SAFETY THERMOSTAT IS PLACED AT THE BACK OF THE UNIT.

MODELS

Part No.	Maximum Temperature °C	Capacity litres	Height / Widht / Fondo (usable) cm			Height / Widht / Depth (exterior) cm			Power W	Weight Kg
6000137	110	2	15	15	13	20	20	27	390	3.5
6000385	200	2	15	15	13	20	20	27	640	3.5
6000138	110	5	15	30	14	20	37	27	600	6
6000386	200	5	15	30	14	20	37	27	1110	6
6000140	110	12	15	30	30	20	40	42	1100	8
6000387	200	12	15	30	30	20	40	42	1400	8
6000141	110	20	15	48	30	20	58	42	1500	10
6000388	200	20	15	48	30	20	58	42	2100	10
6000142*	110	45	15	62	50	22	69	62	2400	18
6000389*	200	45	15	62	50	22	69	62	3800	18

All water baths are supplied with heating elements protection shelf.
* With built in drain tap.

Water baths "Precisdig" with or without anti-evaporation folding lid

DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT+5 °C TO 99.9 °C, STABILITY ±0.1 °C, HOMOGENEITY ±1 °C.
ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT+5 °C TO 200 °C, STABILITY±0.5 °C, HOMOGENEITY ±2.5 °C.

SAFETY: DIN 12877.2 STANDARD. THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPERATURE. A MANUAL RESET ADJUSTABLE TEMPERATURE SAFETY THERMOSTAT IS PLACED AT THE BACK OF THE UNIT.

Programmable temperature and time. Interior and exterior made from Stainless steel

FEATURES

Double skinned tank of AISI 310 stainless steel with an external case of AISI 304 stainless steel.
Heating elements embedded in INCOLOY heat and corrosion resistant stainless steel.
Comes complete with drain tap.
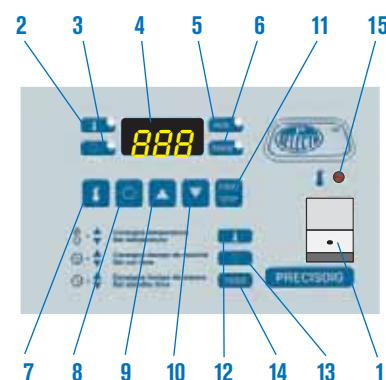
CONTROL PANEL

1. Illuminated mains switch.
2. Temperature mode indicator.
3. Time mode indicator.
4. Temperature and time indicator.
5. Start time indicator.
6. Waiting / delay time indicator.
7. Temperature set button.
8. Time set button.
9. Increase, push button.
10. Decrease, push button.
11. Stop and start time.
12. Read Temperature.
13. Set start up time: from 1 min. to 9 hours 59 min, or up to 99.9 hours once the set temperature has been reached.
14. Set waiting / delay time: from 1 to 24 hours.
15. Safety thermostat indicator lamp.

MAKROLON® FOLDING LID PROPERTIES

Due to its transparency, you can visualize the bath's inside. It improves temperature stability, and restricts evaporation and pollution

ACCESSORIES.

See page 83..

MODELS

Part No.	Temperature maximum °C	Capacity litres	Height / Widht / Depth (usable) cm			Height / Widht / Depth (exterior) cm			Power W	Weight Kg
6001195	99,9	5	15	30	14	20	37	27	600	6
6001236	200	5	15	30	14	20	37	27	1100	6
6001196	99,9	12	15	30	30	20	40	42	1100	8
6001237	200	12	15	30	30	20	40	42	1400	8
6001197	99,9	20	15	48	30	20	58	42	1500	10
6001238	200	20	15	48	30	20	58	42	2100	10
6001198	99,9	45	15	62	50	20	69	62	2400	18
6001239	200	45	15	62	50	20	69	62	3800	18

All baths with heating shelf and drainage. Faucet included.

MODELS WITH MAKROLON® FOLDING LID

Part No.	Temperature maximum °C	Capacity litres	Height / Widht / Depth (usable) cm			Height / Widht / Depth (exterior+lid) cm			Power W	Weight Kg
6001186	99,9	12	15	30	30	40	40	42	1100	8
6001187	99,9	20	15	48	30	40	58	42	1500	10
6001188	99,9	45	15	62	50	40	69	62	2400	18

All baths with heating shelf and drainage. Faucet included.

Water bath with inner stirring "Agibat-20"
with digital control and display of temperature and time

**ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT +5ºC UP TO 80ºC. STABILITY ±0.1ºC.
SET TEMPERATURE ACCURACY ±1 ºC, WORKING TEMPERATURE PRECISION 0.1 ºC.**

NEW

P.Selecta original model. More space. More accuracy. Economical.

Stirring detail by internal circulation pump.

FEATURES
Double skinned tank, inner case made of AISI 310 stainless steel.
External case of AISI 304 steel.
Submerged heating elements in INCOLOY special alloy.
It comes complete with drain tap.

STIRRING SYSTEM
These baths have an aspiration and outflow internal circulation pump which allow a constant flow stirring.
Flow: 8 litres per minute.

CONTROL PANEL
See page 81.
Three positions switch: only heater, heater + stirring and start/stop.

MODEL WITH MAKROLON® FOLDING LID
Due to its transparency, you can visualize the bath's inside.
It improves temperature stability, and restricts evaporation and pollution.

MODELS

Part No.	Lid Makrolon®	Maximum Temp °C	Litres Capacity	Height/Width/Depth (usable) cm			Height/Width/Depth (exterior) cm			Power W	Weight Kg
6032012	**Yes**	**80**	**20**	**15**	**48**	**30**	**20**	**58**	**42**	**2010**	**11**
6032013	**No**	**80**	**20**	**15**	**48**	**30**	**40**	**58**	**42**	**2010**	**12**

All baths with heating shelf and drainage. Faucet included.

ACCESSORIES.
See page 83.

SAFETY:
DIN 12877.2 STANDARD. THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPERATURE. A MANUAL RESET ADJUSTABLE TEMPERATURE SAFETY THERMOSTAT IS PLACED AT THE BACK OF THE UNIT.

ACCESSORIES FOR "PRECISTERM", "PRECIDSDIG" AND "AGIBAT-20"

Suitable for all "PRECISTERM", "PECISDIG" and "AGIBAT-20" models.

Removable constant liquid level.
Part No. 6001400
Note: Not compatible with gale and
Makrolon® lid.

**Fixed, constant liquid
level.**
Part No. 6000123

Únicamente para baños modelo "PRECISTERM"

**Thermometer support with
locking screw** (up to 40 mm).
Part No. 6000896

Thermometer.
Part No.
1000120 up to 120 °C.
1000200 up to 200 °C.
1000872 up to 120 °C, extra long,
suitable for Gable lid.
1000873 up to 200 °C, extra long,
suitable for Gable lid.

1. **Gable lid** with thermometer location position hole.
2. **Flat lid with concentric reduction rings**
   of 105, 80, 60 and 37 mm Ø. With thermometer
   location position hole.
   **Note: The perforated lid avoids the lock of the
   Makrolon® folding lid.**
3. **Support frame** for tube racks.
4. **Tube Racks** various tube diameters available.

Capacity litres	Model code AGIBAT-20	Model code PRECISTERM	Model code PRECISDIG	1 Gable lid	2 Lid with concentric reduction rings	3 Support frame
2		6000137 - 6000385		–	6003231 1 place	–
5		6000138 - 6000386 - 6001195*- 6001236*		6000710	6003232 2 places	1001199
12		6000140 - 6000387 - 6001196*- 6001237*		6000711	6003234 4 places	1001200
20	6032012*6032013*	6000141 - 6000388 - 6001197*- 6001238*		6000712*	6003236 6 places	1001201
45		6000142*- 6000389*- 6001198*- 6001239*		6000714	6001603 12 places	1001205

* Comes complete with drain tap. ***** Only for bath without Makrolon® lid "AGIBAT-20".

Capacity litres	for PRECISDIG baths with Makrolon® lid	2 Lid with concentric reduction rings	3 Support frame
12	6001186	6003234 4 places	1001200
20	6001187	6003236 6 places	1001001
45	6001188	6003236 12 places	1001205

4 Tube racks (requires support frame)									
Part No.	Tube Ø mm	Number of tubes per rack	Rack Dimensions Height / Widht / Depth (usable) cm			Number of racks by bath capacity litres			
						5	12	20	45
1001202	13	36	8	8.2	23.6	1	3	5	10
1001203	16	24	8	8.2	23.6	1	3	5	10
1001204	20	24	8	8.2	23.6	1	3	5	10

**Stabilising rings "cir-
cum"** prevents flasks from
floating when placed in a
water bath. Suitable for all
types of flasks,erlenmeyers,
etc. See page. 171.

Histology paraffin section mounting bath "Termofin"

ADJUSTABLE TEMPERATURE FROM 40 °C TO 80 °C.
STABILITY ±1 °C.

APPLICATIONS
Suitable for the fusion and preservation of paraffin wax in a liquid state that enables the user to see the floated sections.

FEATURES
Aluminium inner tank and lid with a P.T.F.E. matt black coating. Thermometer location hole in the lid to read temperature.

CONTROL PANEL
Mains power ON/OFF switch. Hydraulic temperature thermostat regulator synchronised with an indicator lamp.

MODEL

Part No.	Capacity litres	Ø (usable)	Height cm	Ø (exterior)	Height cm	Power W	Weight Kg
3000459	4	25	10	34	14	430	2.3

Comes complete with lid and thermometer.

ACCESSORY
Thermometer support (can only be used without the lid).
Part No. **6004591**
NOTE: Wax dispenser (see page 212).

Bank of oil and water baths "Precisbat"

ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C UP TO 200 °C, STABILITY ± 2 °C.
INDEPENDENT TEMPERATURE CONTROL FOR EACH POSITION.

FEATURES
Inner vessel made of AISI 310 stainless steel with the external case made of AISI 304 stainless steel.
The heater element is embedded in stainless steel INCOLOY alloy, that is corrosion and heat resistant.
Each position has a lid with concentric reduction rings of; 105, 80, 60 and 40 mm in Ø.
An adjustable support frame is mounted at the back of the unit to facilitate the mounting and support of flasks, condensers and other apparatus, etc.
Capacity: 2 litres per position.

CONTROL PANEL
Independent control for each position.
Mains ON/OFF with luminous "ON" indicator lamp for each position.
Hydraulic thermostat temperature control synchronised with the "ON" indicator lamp.

MODELS

Part No.	Temperature maximum °C	Number of places	Height / Widht / Depth (usable each position) cm			Height / Widht / Depth (exterior) cm			Power W	Weight Kg
6001462	200	2	12	14	12	19	35	29	1300	5.5
6001472	200	4	12	14	12	19	67	29	2560	10
6001482	200	6	12	14	12	19	100	29	3800	15

ACCESSORIES

Perforated shelf (One per tank) made of AISI 304 stainless steel. Part No. **6000011**

Clamp for supporting flasks and condensers. Part No. **7000403**

Thermometer up to 200 °C. Part No. **1000200**

Bosshead for supporting clamps. Part No. **1000069**

Precise reciprocal shaking baths controled by microprocessor "Unitronic Reciprocating Shaking Bath" and with refrigeration "Unitronic Reciprocating Shaking Bath C"
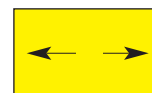
UNITRONIC RECIPROCATING SHAKING BATH LINEAR: TEMPERATURE RANGE FROM AMBIENT +5 °C TO 99.9 °C.
UNITRONIC RECIPROCATING SHAKING BATH C LINEAR: TEMPERATURE RANGE FROM 0 °C TO 99.9 °C.
STABILITY ±0.05 °C HOMOGENEITY ±0.1 °C, SET TEMP. ERROR ±1 °C, RESOLUTION 0.1 °C.

SAFETY:
CONFORMS TO THE DIN STANDARD 12879.0. SAFETY THERMOSTAT
OVER TEMPERATURE CUT OUT WITH MANUAL RESET.

Reciprocal linear agitation, controllable from 10 to 100 oscillations per minute

Controllable time from 1 minute to 99 hours 59 minutes

MICROPROCESSOR CONTROL WITH DIGITAL DISPLAY AND PUSH BUTTON TEMPERATURE, SPEED AND TIME SELECTION. RS-232 INTERFACE FOR PRINTER OR COMPUTER OUTPUT.

APPLICATIONS
Cell culture and biological samples, yeasts and general applications that require stable and reproducible temperatures.

COMMON FEATURES
Linear motion sliding tray from 10 to 100 oscillations per minute, with a variable stroke length of 32 or 46 mm.
Digital display and selection of temperature, oscillations and time.
Temperature sensor: thermo-resistant Pt100.
Rack frame support made of AISI 304 stainless steel incorporated in the tank that can accommodate a selection of flasks and racks.
Internal tank made of AISI 310 stainless steel with an external case of AISI 304 stainless steel.

Built in drain tap.
Ventilated hermetically sealed compressor for refrigeration in the "Unitronic - C".

CONTROL PANEL
1. Mains power switch.
2. LCD screen that shows:
    - Temperature, oscillations per minute and time.
    - Alarms: set temperature and probe failure.
    - Configuration: °C or °F, temperature calibration and set working temperature limits.
3. Push button Start/ Stop.
4. Push button to decrease value.
5. Push button to increase value.
6. Push button for parameter selection: temperature, strokes per min. and time.
7. Push button for configuration.
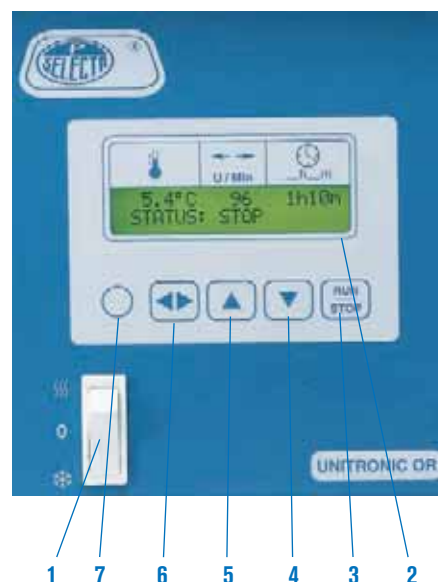
"Unitronic Reciprocating Shaking Bath"

"Unitronic Reciprocating Shaking Bath C"
Refrigerated Bath

MODELS	Part No.	Capacity litres	Height / Width / Depth (bath) cm			Height / Width / Depth (support carriage) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
UNITRONIC RECIPROCATING	6032011	27	18	48	29	17	35	24	30	74	40.5	1500	25
UNITRONIC RECIPROCATING-C	6001173	27	18	48	29	17	35	24	30	74	63.5	1750	43

ACCESSORIES FOR UNITRONIC RECIPROCATING SERIES

Support Platform for Erlenmeyer flasks.
Made of AISI 304 stainless steel with location holes for various configurations of Erlenmeyer flask clip supports.
Sizes: 50, 100, 250, 500 and 1000 ml.

Part No.	Width / Depth (platform) cm		No. of flasks and capacity per platform					Weight Kg
			50 ml	100 ml	250 ml	500 ml	1000 ml	
3001004	23.5	34.5	20	12	6	6	3	1

Adapter clips for Erlenmeyer flasks.
Made of tempered stainless steel.
Part No.
1001003   Adapter for   50 ml.
1000978   Adapter for   100 ml
1000979   Adapter for   250 ml.
1000980   Adapter for   500 ml.
1000981   Adapter for 1000 ml.

Racks: made of AISI 304 stainless steel.
Capacity: 2 racks.

Part No.	Tube Ø mm	No tubes per rack	Height / Width / Depth (rack) cm		
1001233	13	70	8.5	11	34
1001234	16	48	8.5	11	34
1001235	20	48	8.5	11	34

Gable Lid: made of AISI 304 stainless steel.
Part No. **6000713**

Precision Viscometer Bath "VB-1423"

**DIGITAL TEMPERATURE CONTROL FROM AMBIENT +5 °C TO 100 °C.
STABILITY ±0.05 °C. HOMOGENEITY ±0.05 °C. SET ERROR VALUE ±0.09 °C.
RESOLUTION 0.1 °C.**

SAFETY:
SAFETY THERMOSTAT CONFORMS TO THE DIN 12879.2. MANUAL RESET.

Precise constant temperature Kinematic Viscometer Bath

Manufactured for the calibration of viscometers, conforms to UNE 400313, ISO3105, ASTM 445 & 2515 specifications

FEATURES
Temperature sensor; Pt100 thermo-resistor, stainless steel AISI 304 lid with three viscometer locations ports, three independent lids and an additional location port for the control thermometer. The main body of the bath is made of a 20 litre borosilicate glass tank. A white plate is located at the back to help optimize and read the viscometers.

CONTROL PANEL
1. Main power switch with luminous ON.
2. Temperature regulator:
   3. Real time temperature display.
   4. Push button increase value.
   5. Push button decrease value.
   6. Push button configure operation.
7. Safety thermostat safety lamp.

MODEL

Part No.	Temperature control range °C	Capacity litres	Height / Ø (tank) cm		Height / Ø (total) cm		Power W	Weight Kg
3001423	amb.+5 up to 100	20	32	30	47	30	1000	8

ACCESSORIES

Universal viscometer support. made from PTFE with stainless steel AISI 304 support. Suitable for the following viscometers :
   - Cannon-Fenske for transparent liquids.
   - Cannon-Fenske for opaque liquids.
   - Ubbelohde.
   - Ostwald.
   - BS U Tube.
   - Cannon-Manning semi-micro.
- Ubbelohde type BS/IP/SL, BS/IP/SL(S) & type BS/IP/MSL.
- DIN Ubbelohde.
Part No. **1001453**

Calibration Chronometers (see page 288).

Thermometers for viscometer baths.
Part No.
1001454 Thermometer ASTM 120C at 38.6 to   41.4 °C divisions of 0.05 °C.
1001455 Thermometer ASTM 121C at 98.6 to 101.4 °C divisions of 0.05 °C.
1001456 Thermometer ASTM 91C at 20.0 to   50.0 °C divisions of 0.1 °C.
1001457 Thermometer ASTM 92C at 40.0 to   70.0 °C divisions of 0.1 °C.
1001458 Thermometer ASTM 93C at 60.0 to   90.0 °C divisions of 0.1 °C.
1001459 Thermometer ASTM 94C at 80.0 to 110.0 °C divisions of 0.1 °C.

Ultrasonic Cleaning Baths "Ultrasons",
"Ultrasons UB-1488", "Ultrasons-H", "Ultrasons-HD"and "Ultrasons-P"

FUNDAMENTAL THEORY

The principal of ultrasonic cleaning consists of the use of high frequency sound waves (40 kHz), produced by a generator through a transducer, which propagates them mechanically inside the tank, this produces a cavitation effect which leads to the formation of millions of low pressure microscopical bubbles which carry out molecular cleaning, eliminating impurities, polluting agents and dirt from the parts or material which must be cleaned.

Complex parts can be cleaned without disassembly since the cavitation penetrates wherever the cleaning solution is in contact with the surface.

The generator of these baths is completely transistorised and incorporated, working through the "Sweeping frequency" system, which ensures uniform cavitation at all points of the resonance tank.

COMMON FEATURES

Double bodied tank, made entirely of stainless steel.
Emptying drain, anti-parasite filter, adjustable timer and heating, model dependent.

APPLICATIONS

Laboratories in general: acceleration of chemical reactions, degassing of liquids, cell disruption, cleaning of sieves, pipettes, micro-pipettes, cuvettes, trays, viscometers, decomposition of radioactive substances, etc.
Dentistry: Cleaning of prosthesis, instruments, etc.
Optics: Cleaning of frames, lenses, and contact lenses, etc.

SUMMARY TABLE

Medicine: Cleaning of instruments in general, forceps, probes, scalpels etc.
Jewellery and Watch making: Cleaning of all kind of watches and jewels.
Industry: Cleaning of all electronic components, printed circuit boards, semiconductors, petrol injector sieves and filters, etc.

Ultrasonic bath, Automatic Lift and Dry "Ultrasons-UB-1488"

Selecta original model. Quick dry, without having to control the instrument

FEATURES

Bath with automatic basket elevator that operates at the end of the time cleaning cycle.
Hot air drying by two-turbine air fans that switch on at the start of the elevation and finalise the complete operation. Waste drain at the front of the instrument. Removable support basket.

CONTROL PANEL

1. Cleaning time control: 0-15 minutes.
2. Push button drying time: 0-15 minutes.
3. Push button increase value.
4. Push button reduce value.
5. Push button stop / start.
6. Digital timer display.

MODEL

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Generator power W	Power total W	Weight Kg
3001488	6	15	30	14	30	40	34	150	2150	12

Comes complete with basket.

Ultrasonic cleaning baths "Ultrasons" without heating

8 *Part No.3001208 Cap. 4L*

4 *Part No. 3000617 Cap. 9L*

3 *Part No. 3000513 Cap. 6L*

7 *Part No. 3000515 Cap. 20L*

1 *Part No. 3000512, Cap. 1L*

2 *Part No. 3000683 Cap. 2,6 L*

5 *Part No. 3000837 Cap. 6,5L*
(suitable for sieves and filters etc.)

6 *Part No. 3000514 Cap. 9L*

CONTROL PANEL

Timer switch for 0 -15 minutes or continuous operation. Indicator lamp when the unit is in operation.

MODELS

Part No.		Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Generator power W	Timer 0-15'	Waste drain	Weight Kg
3000512	1	1	6	14	14	20	20	18	50	Yes	No	2,5
3000683	2	2,6	9	23	13	22	29	19	100	Yes	No	4
3001208	8	4	10	30	14	24	33	18	100	Yes	Yes	7
3000513	3	6	15	30	14	30	36	20	150	Yes	Yes	9,5
3000837	5	6,5	14	24	Ø	30	27,5	Ø	150	Yes	No	8
3000617	4	9	15	50	14	30	56	20	200	Yes	Yes	10,7
3000514	6	9	15	30	23	30	36	30	200	Yes	Yes	13
3000515	7	20	15	50	30	30	56	36	400	Yes	Yes	22

COMPLEMENT

Detergent "BIO-SEL"
Bio-degradable, phosphate free. Excellent cleaning power just by mixing only 20ml per litre of water. BIO-SEL, in a 2% solution has a 9.7 pH level. Low toxicity. This detergent disperses, emulsifies, segregates, dissolves, suspends and breaks down dirtiness.

1000025 Capacity 1 litre.
1000026 Capacity 4 litres.
1000852 Box of 12 x 1 litre bottles.
1000853 Box of 4 x 4 litres bottles.

Baskets

Lids are not compatible with baskets.

Lid with concentric reduction ring

ACCESSORIES
Baskets and Lids.
Made of AISI 310 stainless steel.

Cleaner model Part No.	Part No	BASKETS Height / Width / Depth (cm)			LID WITH CONCENTRIC REDUCTION RING Part No.	Number of positions	LID WITH HANDLE Part No.
3000512	6005123	5	11	11	6005122	1	6005121
3000683	6006833	7	20	12	6006832	1	6006831
3001208	6001209	7	26	13	–	–	6005131
3000513	6005133	12	26	13	6005132	2	6005131
3000837	6008373	13	23	Ø	–	-	6008371
3000617	6005144	12	46	12	6005134	3	6005124
3000514	6005143	13	29	23	6005142	2	6005141
3000515	6005153	13	49	29	6005152	6	6005151

Ultrasonic Bath "Ultrasons-Digit"

5 CYCLES ELECTRONIC DIGITAL TIME CONTROL
CAPACITY 1.4 LITRES

FEATURES
Internal tank made from stainless steel, with minimum and maximum level indicator.
External case, basket and lid made from PVC.
Maximum cleaning power , frequency 42 KHz

CONTROL PANEL
Pushbutton start/ stop
Timer 5 programs selection in seconds:
90'' - 180'' - 280'' - 380'' and 480''.
Wide application range from jewellery, watches, optical components. Dentistry and general laboratory use.

MODEL

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
5900650	1.4	6	13	16	15	17	22	70	1.75

Comes complete with basket and see through transparent PVC lid.

Model "Elegant".

Heating cleaning bath "Ultrasons-HD"
DIGITAL ELECTRONIC REGULATION OF TEMPERATURE AND TIME FOR TEMPERATURES FROM AMBIENT +5°C TILL 80°C

Optimum cleaning efficiency

FEATURES
Double body container, completely made of stainless steel and with waste drain device.

CONTROL PANEL
Illuminated main switch.
Start-stop push button.
Increase/decrease time push button in minutes (from 0' to 60').
Increase/decrease temperature push button in ºC.

MODEL

Part No.	Capacity litres	Height/Width/Depth (usable) cm			Height/Width/Depth (exterior) cm			Power Generator W	Power Heater W	Weight Kg
3000865	5	15	24	14	27	31	18	120	75	3,8
3000866	6	15	30	15	27	35	18	180	75	5,8
3000867	10	15	30	24	35	38	28	240	225	8,2
3000868	22	15	50	30	27	58	35	600	375	15

It comes complete with a universal basket, small basket for small items, lid with handle and drain device.

Caption (under image): It comes complete with a universal basket, small basket for small items, lid with handle and drain device.

Heated Ultrasonic baths "Ultrasons-H"
AJUSTABLE TEMPERATURE FROM AMBIENT +5 °C HASTA 75 °C.

APPLICATIONS
For long pieces cleaning (especially for pipettes) .

FEATURES
Evenly distributed heating element, adhered to the tank for maximum heat transfer.

CONTROL PANEL
Adjustable thermostat heater.
Heater "on" indicator lamp.
Timer switch from 0-15 minutes or continuous operation.
In operation on indicator lamp.

MODEL

Part No.	Capacity litres	Height/Width/Depth (usable) cm			Height/Width/Depth (exterior) cm			Power Generator W	Power Heater W	Weight Kg
3000839	9	15	50	14	30	56	20	200	800	11

ACCESSORIES
Basket, Height 12/Width 46/Depth12 cm. Part No **6005144**
3 Lid with concentric reduction ring. Part No **6005134**
Lid with handle. Part No **6005124**
See page: 88

Note: For cleaning long objects whose length may exceed that of the tank, such as tubes, pipettes, etc, it has been proved that they are submitted to the same cavitation effect by introducing them in a test tube filled with liquid and placed vertically in the cleaner.

Ultrasonic pipette cleaner "Ultrasons-P"

FEATURES
Designed for automatically cleaning and rinsing pipettes, mounted inside a basket, pipettes are ultrasonically cleaned and rinsed.
Minimum rinsing time by using a water siphon action through the inside of the pipettes.
Metallic areas in contact with liquid are made of AISI 316 stainless steel.
The outer casing is made of AISI 304 stainless steel.
Cylindrical vessel in transparent acrylic, with lid to avoid splashing.
Connector(1") water inlet and siphon-drain tube.
Basket with handle in polypropylene for the easy handling and carrying of the pipettes.

CONTROL PANEL
Timer from 0-15 minutes or continuous operation.
Indicator lamp showing when the bath is in operation.

MODEL

Part No.	Capacity litres	Ø / Height (usable) cm		Height / Widht/ Depth (exterior) cm			Power W	Weight Kg
3000910	10	15	64	84	34	40	250	15

Summary table of the different models

EQUIPMENT FOR STABLE AND PRECISE TEMPERATURE CONTROL.

QUICK OVERVIEW

RS232

Range	Model	Part No.	Control	Volume max. litres	Stability °C		Set error °C	RS-232
+5 ... 100 °C	Termotronic II	3000389	Analogue	20	±0.2		–	No
+5 ... 100 °C	Tectron Bio	3473100	Analogue	20	±0.05		–	No
+5 ... 200 °C	Tectron 200	3473200	Analogue	20	to 100 °C ±0.05		–	No
					to 200 °C ±0.1		–	No
+5 ... 100 °C	Digiterm 100	3000542	Digital µ	20	to 100 °C ±0.05		±1	Yes
+5 ... 200 °C	Digiterm 200	3000613	Digital µ	20	to 100 °C ±0.05		±1	Yes
					to 200 °C ±0.1		±2	Yes
0 ... 100 °C	Digit-Cool	3001373	Digital µ	20	to 100 °C ±0.05		±1	Yes
					to 0 °C ±0.05			
					to -10 °C ±0.1			
+5 ... 100 °C	Tectron-Bio 20	3001287	Analogue	20	±0.05		–	No
+5 ... 100 °C	Tectron-Bio 27	3001288	Analogue	27	±0.05		–	No
+5 ... 200 °C	Tectron-200 20	3001289	Analogue	20	±0.1		–	No
+5 ... 200 °C	Tectron-200 27	3001290	Analogue	27	±0.1		–	No
+5 ... 100 °C	Digiterm-100 20	3001291	Digital µ	20	±0.05		±1	Yes
+5 ... 100 °C	Digiterm-100 27	3001292	Digital µ	27	±0.05		±1	Yes
+5 ... 200 °C	Digiterm-200 20	3001293	Digital µ	20	±0.1		±2	Yes
+5 ... 200 °C	Digiterm-200 27	3001294	Digital µ	27	±0.1		±2	Yes
+5 ... 200 °C	Ultraterm-200	6000383	Digital µ	8	to 100 °C ±0.05		±1	Yes
					to 200 °C ±0.1		±2	Yes
-10 ... 100 °C	Frigiterm-10	6000382	Digital µ	8	to 100 °C ±0.05		±1	Yes
					to 0 °C ±0.05			
					to -10 °C ±0.1			
-30 ... 100 °C	Frigiterm-30	6001091	Digital µ	8	to 100 °C ±0.05		±1	Yes
					to 0 °C ±0.05			
					to -10 °C ±0.2			
0 ... ambient	Intercooler	6001421	Digital	350 l/h	–		±1	No

Refrigerated coils

Range	Model	Part No.	Control	Volume max. litres	Stability °C		Set error °C	RS-232
-20 ... 20 °C	Frigedor	3000778	No controller	20	–		–	No
-20 ... 20 °C	Frigedor-Reg	3001214	Digital	20	±1.5		±1.5	No

THERMOSTATS DRY-BLOCKS

Range	Model	Control	Blocks-1	Blocks-3	Blocks-4	Stability	
30 ... 200 °C	Tembloc	Digital µ	7462200	-	-	±0,75 °C	With multiple adapters.
30 ... 200 °C	Multiplaces	Digital µ	-	7471200	-	±0,75 °C	With multiple adapters.
FIXED 37 °C	Clinic-bloc	-	7001569	-	-	±0,5 °C	Capacity 20 tubes of 75 x 13mm. VAC.
FIXED 37 °C	Bio-bath	-	7001561	-	-	±0,5 °C	Capacity 15 cuvettes of 10 x 10mm.
+5 ... 60 °C	TRM-4	Digital µ	-	-	5109200	±0,5 °C	For 4 microtiter plates.
+5 ... 100 °C	TR100-6	Digital µ	5109100	-	-	±0,5 °C	WITH SHAKING. With multiple adapters.

µ: with microprocessor.
+5: ambient +5 °C.

BATH TEMPERATURE LIQUIDS GUIDE.

Silicon oil
Ethylene glycol 50%
Water
Silicon oil 50 cps

°C -40   -20   0   20   40   60   80   100   120   140   160   180   200   °C

"It is characteristic of science that the full explanations are often seized in their essence by the percipient scientist long in advance of any possible proof."
John Desmond

Thermostat immersion "Termotronic II"

TEMPERATURE CONTROLLABLE FROM AMBIENT +5 °C TO 100 °C.

SAFETY:
STANDARD DIN 12879.2
SAFETY OVER TEMPERATURE THERMOSTAT WITH SIGNAL LAMP ALARM

FEATURES
Electronic temperature control.
Pt100 temperature sensor.
Maximum volume to maintain maximum temperate: 20 litres. Heater elements made of INCOLoY stainless steel.
Fitted with a stirring circulating pump.
All parts in contact with liquids made of stainless steel AISI 304
Fixing nut on the side.
Minimum required tank depth: 14 cm

MODEL
CONTROL PANEL
Illuminated mains switch.
Temperature control selector.
Heater "on" indicator lamp.

Part No.	Temp. Range °C	Stability °C	Height / Width / Depth (exterior) cm	Pump Pressure / Flowrate H₂0	Power W	Weight Kg
3000389	Amb.+5 to 100	±0.2	32* 11 16	150 mbar 5 l/min.	1000	2.5

* Height measured with the thermometer included.
It is supplied with a thermometer.

ACCESSORIES

Methacrylate tank "Clinic-Term"

Part No.	Capacity litres	Temp. max. °C	Height / Width / Depth (usable) cm	Capacity Rack	Weight Kg
1000544	8	60	14 16 39	4	2

Racks for the "Clinic-Term" made of AISI 304 stainless steel.
Racks for 50 micro-tubes of 11mm Ø. Part No. 1000546
Racks for 50 haemolysis tubes and coagulation tests with a diameter of 13 mm. Part No. 1000545
Racks for 14 tubes with a diameter of 18mm. Part No. 1000547
Racks for 8 cuvettes for spectrophotometers, 10 mm square, standard for monotest flask of different sizes. Part No. 1000548
Note: The methacrylate tank should not be used over 60 °C.

Methacrylate transparent tank.
Designed to be used with the immersion thermostat "Termotronic II".

Part No.	Capacity litres	Temp. max. °C	Height / Width / Depth (usable) cm	Capacity Rack	Weight Kg
1000397	7	60	10 20 38	4	2

Rack for 24 haemolysis tubes up to 13 mm Ø, made from AISI304 S.S. Part No. 1002532
Rack for 14 test tubes up to 16 mm Ø, made from AISI 304 S.S. Part No. 1002531

Metal baths. Manufactured with a double external AISI 304 stainless steel skin and an AISI 310 stainless steel pressed bath interior.

Part No.	Capacity litres	Height / Width / Depth (usable) cm	Height / Width / Depth (exterior) cm	Weight Kg
6000390	9	15 29 22	20 34 28	3.5
6000391	12	15 30 31	20 37 35	4.3
6000392*	20	15 48 30	20 55 35	6.6
6000393*	27	20 48 30	25 55 35	7.6
6001093*	45	15 62 50	23 70 56	11

* With drain tap and lifting handles.

IMMERSION THERMOSTATS WITH ANALOGUE AND DIGITAL CONTROL

The most precise solution for maintaining constant liquid temperatures

SAFETY:
STANDARD DIN 12879.2
ADJUSTABLE OVER TEMPERATURE SAFETY THERMOSTAT WITH MANUAL RESET AND LOW LIQUID LEVEL FLOAT SENSOR.
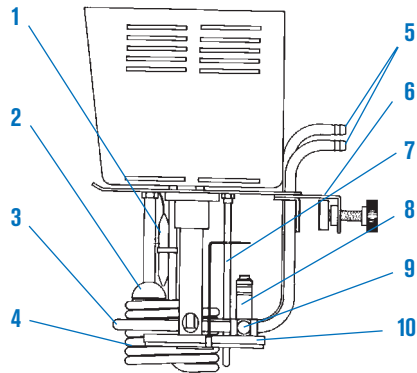
SCHEMATIC SHOWING ALL PARTS THAT ARE IN CONTACT WITH LIQUID

1. Safety over temperature thermostat.
2. Liquid level float.
3. Cooling coil.
4. Heating element made of stainless steel INCOLOY that can withstand high temperatures and is corrosion resistant.
5. Refrigeration coil connections.
6. Clamp support.
7. Pt 100 temperature probe.
8. Pump outlet for external circulation.
9. Circulating pump outlet.
10. Circulation pump.

Outlet nut of the fluid flow fixed in A or B interchangeable:
A. Internal stirring within the tank.
B. External circulation.

H₂O FLOW OUTPUT

	Flow l/m
Cuvette inner circulation level	**Up to 7,05**
External circulation level raised to a meter.	**Up to 5,16**

Tests made with silicone tubes of 8 mm internal Ø.

TEMPERATURE RATE RISE FOR DIFFERENT TANK VOLUMES USING STAINLESS STEEL TANKS MADE BY SELECTA.

| 9 L. | 12 L. | 20 L. | 27 L. | 45 L. | WITH LID |
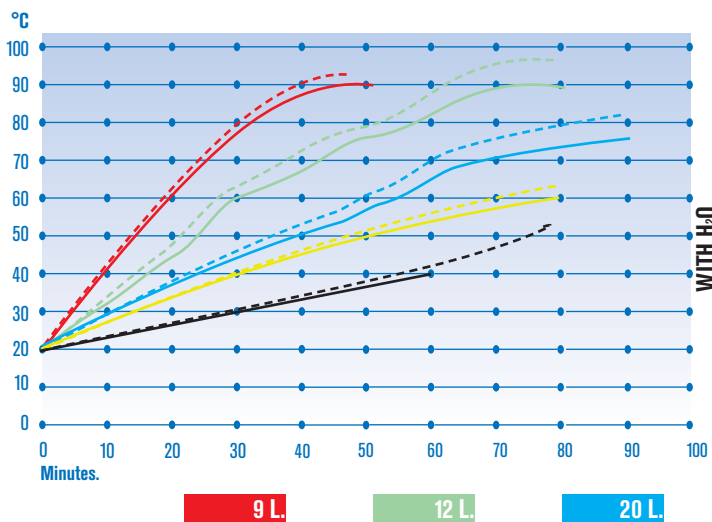
Temperature rate rise curve of (1 KW) for different tank volumes.
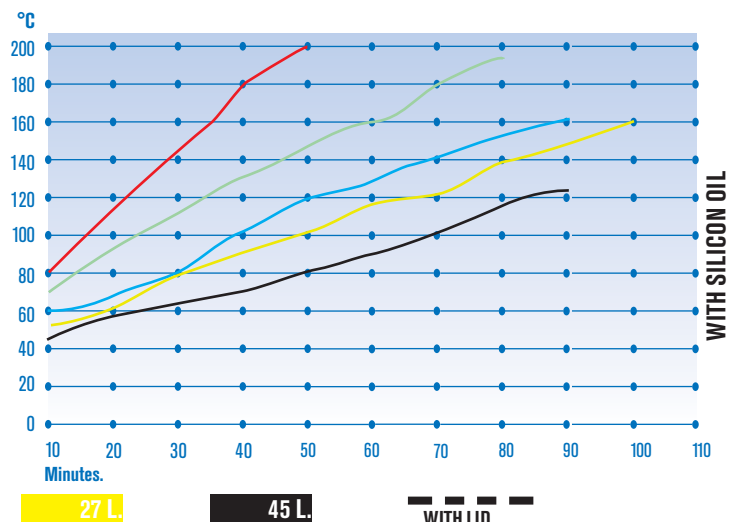
Temperature rate rise curve of (2 KW) for different tank volumes.

Immersion Thermostats **93**

Immersion thermostat for baths with analogue control "Tectron Bio-100"

ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C TO 100 °C.

> **Temperature selector range: 25 - 30 - 37 and 56 ºC and linear control from 0 to 100 ºC.**

> **SAFETY:**
> **STANDARD DIN 12879.2**
> **ADJUSTABLE OVER TEMPERATURE SAFETY THERMOSTAT WITH MANUAL RESET AND LOW LIQUID LEVEL FLOAT SENSOR.**

COMMON FEATURES

Temperature sensor: Pt 100 probe. Maximum volume at maximum attainable temperature: 20 litres. Circulation pump internal or external: (Polarimeters, refractometers and viscometers, etc). Cooling coil for maintaining ambient temperature using tap water. External case made of metal with an epoxy corrosive resistant coating, all parts in contact with liquid are made of AISI 304 stainless steel.
Fixed to the tank by a clamp and screw nut at the back or by extension bridge that can be added as an accessory.
Minimum fixing height 14 cm.

CONTROL PANEL

Main power switch with power "ON" indicator lamp.
Temperature selector.
Adjustable fine control OFFSET of 1 °C.
Heater "ON" indicator lamp.
Indicator lamp showing alarm status.
Temperature selector range:
25, 30, 37 and 56 °C, and linear control from 0 to 100 °C.

MODELS	Part No.	Control range °C	Stability °C	Height / Width / Depth (exterior) cm			Pump Pressure / Flowrate H_2O	Power W	Weight Kg
TECTRON BIO	**3473100**	**Amb.+5 to 100** **with external cooling** **from 0 to 100**	**±0.05**	**28**	**18**	**19**	**150 mbar-5, l/min.**	**1050**	**3**

A check thermometer location position and thermometer come as standard.

ACCESSORIES

Extension support bridge.
Made of AISI 304 stainless steel, adjustable,
to fit the immersion thermostat models "Tectron
and "Digiterm".
The bridge can span baths of 22 to 44 cm across.
Part No. **6001092**

Methacrylate tank "Clinic-Term". Specially designed for clinical assays .

Part No.	Capacity litres	Maximum temperature °C	Height / Width / Depth (usable) cm			Capacity Racks	Weight Kg
1000544	**8**	**60**	**14**	**16**	**39**	**4**	**2**

AISI 304 stainless steel racks for the "Clinic-Term" tank.
Racks for 50 micro-tubes of 11mm dia. Part No. **1000546**
Racks for 50 haemolysis tubes and coagulation tests with a diameter of 13 mm. Part No. **1000545**
Racks for 14 tubes with a diameter of 18 mm. Part No. **1000547**
Racks for 8 cuvettes for spectrophotometers 10 mm square, standard for monotest flask of different sizes. Part No. **1000548**
See accessories (page 100).

IMMERSION THERMOSTAT
WITH DIGITAL MICROPROCESSOR CONTROL

DIGITAL TEMPERATURE DISPLAY AND CONTROL.

STABILITY:	100 °C ±0.05 °C	SET ERROR: ±1 °C.	RESOLUTION: 0.1 °C.
	200 °C ±0.1 °C	SET ERROR: ±2 °C.	RESOLUTION: 0.1 °C.

RS232

High precision temperature control

SAFETY:
STANDARD DIN 12879.2
1. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET
2. OVER TEMPERATURE ALARM - 3. MAIN POWER FAILURE - 4. LOW LIQUID LEVEL FLOAT

DIGITERM 100 – DIGITERM 200
ULTRATERM 200
FRIGITERM-10 – FRIGITERM-30
DIGIT-COOL

COMMON FEATURES

Microprocessor temperature control. The following parameters can be configured and shown on the LCD display:
- Maximum and minimum temperature limits.
- Select °C or °F
- Display resolution 0.1 °C
- External temperature (Probe).
- Over temperature set limits for alarm.
- Calibration
- Low liquid level indicator.

Temperature probe Pt 100.

Heating element made of stainless steel INCOLOY resistant to high temperatures and corrosive environments.

Circulation Pump for internal or external temperature control for:
 (Polarimeters, refractometers and viscometers, etc).

Cooling coil to maintain ambient temperatures using tap water.

External temperature control connection using a Pt 100 probe (see page 100).

RS-232 interface for computer control or printing data.

External metal case coated in a corrosive resistant epoxy.

All parts in contact with liquid are made of AISI 304 stainless steel.

Units with a RS-232 connection can be controlled by a computer and can print out parameters.

CONTROL PANEL
1.- Main power switch.
2.- LCD Display showing working parameters.
3.- Push button configuration selector.
4.- Push button parameter selection.
5.- Push button increase set value.
6.- Push button decrease set value.
7.- Start / Stop, push button.
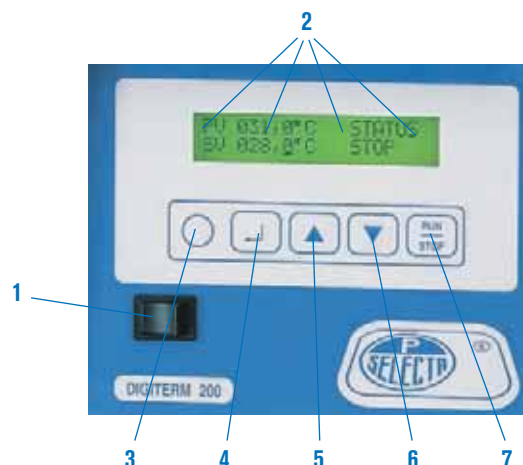
Thermostat immersion "Digiterm-100" and "Digiterm-200"

ADJUSTABLE TEMPERATURE
DIGITERM 100: FROM AMBIENT +5°C TO 100°C.
With external refrigeration from -20 to 100.
DIGITERM 200: FROM AMBIENT+5°C TO 200°C.
With external refrigeration from -20 to 200.

RS232

SAFETY:
STANDARD DIN 12879.2 SAFETY OVER TEMPERATURE
THERMOSTAT WITH ADJUSTABLE MANUAL RESET
LOW LIQUID LEVEL SENSOR PROTECTION.

FEATURES

Maximum working volume to maintain maximum temperature: 20 litres.
A clamp and finger screw attach the unit to the tank, alternatively the extendible support bridge accessory can be used.
Minimum fixing depth to the tank: 14 cm.
Output: RS-232 that can be used direct with a printer or computer.

MODELS	Part No.	Control range °C	Stability °C	Height / Width / Depth (exterior) cm			Pump Pressure / Flowrate H₂0	Power W	Weight Kg
DIGITERM 100	3000542	From amb. +5 to 100	±0.05	28	18	19	150 mbar-12 l/min.	1060	3.9
DIGITERM 200	3000613	From amb. +5 to 200 °C	to 100 °C ±0.05	28	18	19	150 mbar-12 l/min.	2060	4.5

See accessories (page 100).

ACCESSORIES
Extension support bridge.
Made of AISI 304 stainless steel, adjustable,
to fit the immersion thermostat models "Tectron
and "Digiterm".
The bridge can span baths of 22 to 44 cm across.
Part No. **6001092**

Recirculation thermostat "Ultraterm-200"

ADJUSTABLE TEMPERATURES
FROM AMBIENT+5 °C TO 200 °C.

RS232

SAFETY:
STANDARD DIN 12879.2 SAFETY OVER TEMPERATURE
THERMOSTAT WITH ADJUSTABLE MANUAL RESET
LOW LIQUID LEVEL SENSOR PROTECTION.

FEATURES

Maximum working volume to maintain maximum temperature: 8 litres.
AISI 304 stainless steel top and lid with an inner tank of AISI 310 stainless steel.
Complete with a pump for internal and external liquid circulation with inlet and outlet connectors. A cooling coil to maintain ambient temperatures using tap water is also provided.
A RS-232 interface for print out or computer control comes as standard.
A drain tap is also fitted.

MODEL

Part No.	Capacity litres	Control range °C	Stability °C	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Pump Pressure / Flowrate H₂0	Power W	Weight Kg
6000383	8	From amb. +5 to 200 °C	to 100 °C ±0.05	15	20	14	36	28	36	150 mbar-12 l/min	2060	9.5
		With external refrigeration	to 200 °C ±0.1									
		from -20 to 200										

Refrigerated recirculation baths "Frigiterm-10" and "Frigiterm-30"

ADJUSTABLE TEMPERATURE FROM -10 °C TO 100 °C. STABILITY: 0 °C TO 100 °C, ±0.05 °C / -10 °C, ±0.1 °C.
ADJUSTABLE TEMPERATURE FROM -30 °C TO 100 °C. STABILITY: 0 °C TO 100 °C, ±0.05 °C / -30 °C, ±0.2 °C.
SET ERROR : ±1 °C. RESOLUTION: 0.1 °C.

SAFETY:
STANDARD DIN 12879.2 SAFETY OVER TEMPERATURE
THERMOSTAT WITH ADJUSTABLE MANUAL RESET.
LOW LIQUID LEVEL SENSOR PROTECTION.

FEATURES
Maximum working volume to maintain maximum temperature: 8 litres.
AISI 304 stainless steel top and lid with an inner tank of AISI 310 stainless steel.
Complete with a pump for internal and external liquid circulation with inlet and ou-
tlet connectors. A drain tap is placed at the side of the unit.
A hermetically sealed compressor is mounted on anti-vibration mounts.
A RS-232 interface for connection to a printer or computer.

MODELS

	Part No.	Capacity litres	Control range °C	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Pump Pressure / Flowrate H₂0	Power W	Compresser power H.P.	Weight Kg
FRIGITERM-10	6000382	8	–10 + 100	12	20	14	36	66	44	150 mbar-12 l/min	1150	1/8	28
FRIGITERM-30	6001091	8	–30 + 100	12	20	14	36	66	44	150 mbar-12 l/min	1460	3/8	30

PRECISE CIRCULATING BATHS
Choice of baths and immersion circulators
"Tectron Bio-100", "Digiterm-100" and "Digiterm-200"

CONTROLLABLE TEMPERATURES FROM AMBIENT +5 °C TO 100 OR 200 °C.
CAPACITY FROM 20 TO 27 LITRES.

APPLICATIONS
Incubation processes.
Enzymatic reactions, Fermentation, laboratory cultures in general.

COMMON FEATURES
Double skinned baths with an AISI 310 stainless steel internal tank with an AISI 304
stainless steel external, for convenience, handles at the side and drain tap are provi-
ded as standard. A detachable immersion thermostat for controlling stirring and tem-
perature is fitted. A cooling coil with the use of tap water or cooled re-circulator can
be used to maintain ambient temperatures. Internal or external circulation pump
(Polarimeters, refractometers and viscometers, etc)
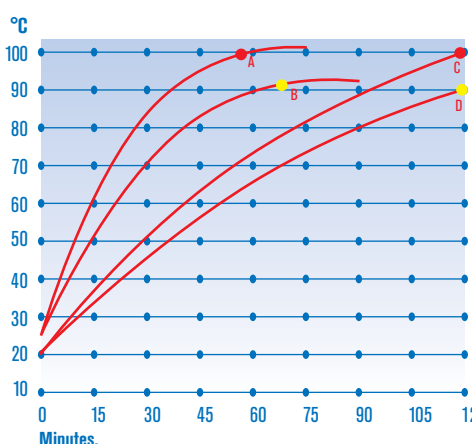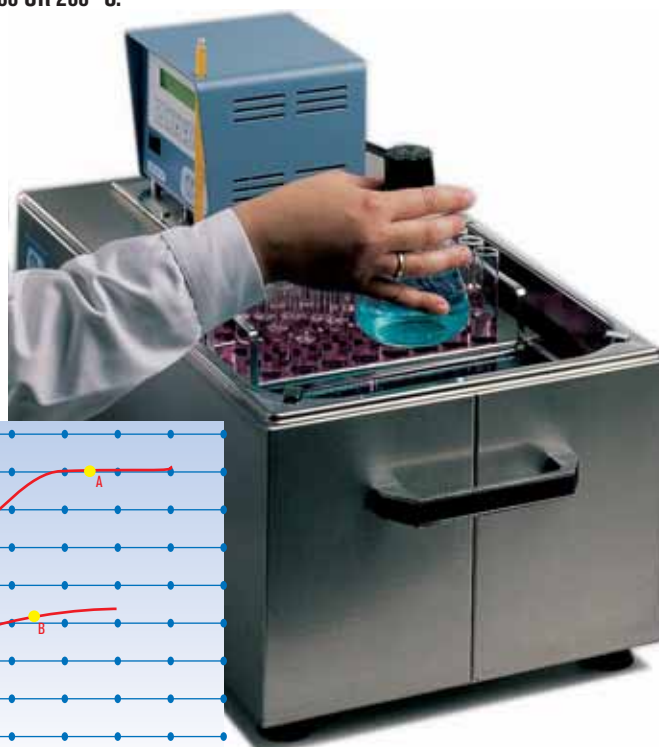
Graph of temperature and time for the Tectron Bio
100 and Digiterm 100 and 200, units with capacity of
20 litres.
Tests completed with water up to 100**°C**:
A. Digiterm 200 with lid at 100 °C.
B. Digiterm 200 no lid at 90 °C.
C. Tectron-Bio 100 and Digiterm 100 with lid at 100 °C.
D. Tectron-Bio 100 and Digiterm 100 no lid at 90 °C.
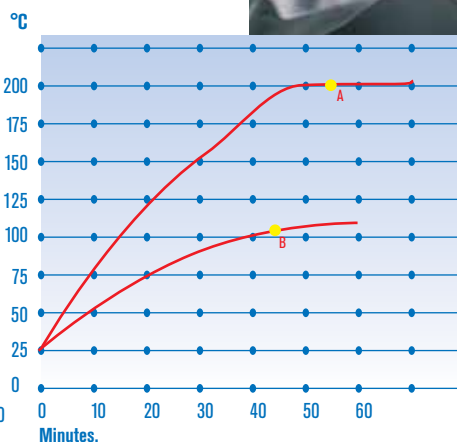
Graph of temperature and time for the Digiterm 100
and 200, units with capacity of 20 litres.
Tests completed with Silicon oil up to 200**°C**:
A. Digiterm 200 with lid at 200 °C.
B. Digiterm 200 with lid at 100 °C.
27 litres capacity baths take 20% more time to
reach the same temperature.

Bath circulators "Tectron Bio-100"

CUVETTES SET OF 20 AND 27 L. CAPACITY, WITH THERMOSTATIC EQUIPMENT INCLUDED. ANALOGUE CONTROL.
TECTRON-BIO: TEMP. LINEAR FROM AMB+5 TO 100 °C AND FIXED TEMPERATURE SETTINGS OF: 25, 30, 37 AND 56 °C. STABILITY: ±0.05 °C.
TECTRON-200: LINEAR TEMPERATURE FROM AMB+5 TO 100 °C OR UP TO 200 °C. STABILITY ±0.1 °C.

SAFETY:
SAFETY STANDARD DIN 12879.2 .
SAFETY ADJUSTABLE OVER TEMPERATURE CUT OFF WITH MANUAL RESET.
LOW LIQUID LEVEL CUT OFF.

CONTROL PANEL
Mains switch with indicator "ON" lamp. Temperature selection control.
Fine temperature control to 1 °C. Indicator lamp when the heater is on.
Alarm lamp showing over temperature failure.

MODELS	Part No.	Temperature Range °C	Cuvettes Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Pump Pressure mbar	Pump rate l/min	Power W	Weight Kg
TECTRON BIO-100 20	3001287	100	20	15	30	29	36	55	35	150	12	1060	9.2
TECTRON BIO-100 27	3001288	100	27	20	30	29	41	55	35	150	12	1060	10.8

ACCESSORIES see page 99 and 100.

Bath circulators "Digiterm-100" and "Digiterm-200"

CUVETTES SET OF 20 AND 27 L. CAPACITY, WITH THERMOSTATIC EQUIPMENT INCLUDED.
DIGITAL TEMPERATURE CONTROL AND DISPLAY.
DIGITERM 100: TEMP. RANGE AMB.+5 °C TO 100 °C. STABILITY ±0.05 °C. SET ERROR ±1 °C. RESOLUTION 0.1 °C.
DIGITERM 200: TEMP. RANGE AMB.+5 °C TO 200 °C. STABILITY ±0.1 °C. SET ERROR ±2 °C. RESOLUTION 0.1 °C.

SAFETY:
CONFORMS TO THE DIN 12879.2 STANDARD. ADJUSTABLE OVER TEMPERATURE SAFETY CUT OFF WITH ADJUSTABLE MANUAL RESET.
LOW LIQUID LEVEL CUT OFF. ELECTRICAL FAULT ALARM.

FEATURES
Microprocessor temperature control. The following parameters can be configured and shown on the LCD display.
- Maximum and minimum temperature limits.
- Select °C or °F.
- Display resolution 0.1 °C
- Over temperature set limits for alarm.
- Calibration.
- Low liquid level indicator.
Temperature sensor probe Pt 100.
Heating element made of stainless steel INCOLOY, resistant to high temperatures and corrosive environments.
Circulation pump with flow rate, suitable for external temperature control for: (Polarimeters, refractometers, viscometers, etc).
Cooling coil to maintain ambient temperatures, using tap water.

External temperature control connection using a Pt 100 probe (see page 100).
RS-232 interface for computer control or printing data.
External metal case with a corrosion resistant epoxy coating.
All parts in contact with liquid are made of AISI 304 stainless steel.
Handles at the side and drain tap.

CONTROL PANEL
Main power switch.
LCD Display showing working parameters.
Push button configuration selector.
Push button parameter selection.
Push button increase set value.
Push button decrease set value.
Push button Start/Stop.

RS232

MODELS	Part No.	Temperatura Range °C	Cuvettes Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Pump Pressure mbar	Pump rate l/min	Power W	Weight Kg
DIGITERM-100 20	3001291	100	20	15	30	29	36	55	35	150	12	1060	10
DIGITERM-100 27	3001292	100	27	20	30	29	41	55	35	150	12	1060	12
DIGITERM-200 20	3001293	200	20	15	30	29	36	55	35	150	12	2060	10
DIGITERM-200 27	3001294	200	27	20	30	29	41	55	35	150	12	2060	12

ACCESSORIES see page 99 and 100.

1. Gable lid.
Part No. **3001295**

2. Lifting rack support. Capacity 3 tube racks.
Part No. **1001296**

3. Tube racks for lifting rack support.

Part No.	For Ø tubes mm	Capacity Rack tubes	Height/Width/Depth (exterior) cm		
1001202	13	36	8	8.2	23.6
1001203	16	24	8	8.2	23.6
1001204	20	24	8	8.2	23.6

Immersion thermostat for baths "Digit-Cool"

DIGITAL SELECTOR AND TEMPERATURE CONTROL.
ADJUSTABLE TEMPERATURE FROM 0 °C TO 100 °C.
STABILITY: 100 °C ±0.1 °C, AND AT 0 °C ±0.05 °C. SET ERROR: ±0.1 °C. RESOLUTION: 0.1 °C.

SAFETY:
STANDARD DIN 12879.2
SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE
MANUAL RESET LOW LIQUID LEVEL SENSOR PROTECTION.

Autonomous unit with cooling system

Compressor unit built-in

Features and control panel see page 98.

FEATURES
Maximum volume to achieve the working temperature: 20 litres.
Minimum depth of the elements with contact with the liquid: 15 cm.
Hermetically sealed compressor.
RS-232 out put to a computer control or printer.
Portable control and stirring unit with lifting handle.

MODEL

Part No.	Control Range °C	Height / Width / Depth (exterior) cm			Pump Pressure / Flow H₂O	Power W	Power H.P.	Weight Kg
3001373	0 +100	45	21	51	150 mbar / 12 l/min	1460	1 / 5	22

ACCESSORIES

Stainless steel baths.
Double skinned with an AISI 304 stainless steel exterior
with a bath of AISI 310 stainless steel interior.
Supplied with a drain tap and lifting handles.

1. Lifting rack support. .
Capacity 3 tube racks. Part No. **1001296**
2. Tube racks for lifting rack support.

Part No.	For Ø tubes mm	Capacity Rack tubes	Height / Width / Depth (exterior) cm		
1001202	13	36	8	8.2	23.6
1001203	16	24	8	8.2	23.6
1001204	20	24	8	8.2	23.6

MODELS

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Weight Kg
6000392	20	15	48	30	20	55	35	6.6
6000393	27	20	48	30	25	55	35	7.6

Ring set lid 105, 80, 60 and 37 mm Ø
reduction rings and a check thermome-
ter location hole in the lid.
Capacity 4 places.
Part No. **1001374**

*Digitcool thermostat with bath
and 4 place ring set lid.*

ACCESSORIES FOR IMMERSION THERMOSTATS

Pt100 temperature sensor with handle
4 mm Ø x 135 mm long submersion.
Supplied with a 150cm cable and connector .
Part No. **1000893**

Extension support bridge.
Made of AISI 304 stainless steel, adjustable,
to fit the immersion thermostat models "Tectron
and "Digiterm".
Support for apertures from 22 to 44 cm across.
Part No. **6001092**

Example showing the support bridge. Part No. 6001092.

Stainless steel baths.
Double skinned with an AISI 304 stainless steel exterior and internal bath of AISI 310 stainless steel.

MODELS

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Weight Kg
6000390	9	15	29	22	20	34	28	3.5
6000391	12	15	30	31	20	37	35	4.3
6000392*	20	15	48	30	20	55	35	6.6
6000393*	27	20	48	30	25	55	35	7.6
6001093*	45	15	62	50	23	70	56	11

* With drain tap and lifting handle.

Stainless steel baths, thermally insulated. Ideal for low temperatures. Suitable for J.P. Selecta refrigerated units. Similar to our other bath but with additional internal expanded foam insulation that prevents external condensation or heat loss, working temperature range from –40°C to +90°C.

MODELS

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Weight Kg
6003901	9	15	29	22	24	40	34	6
6003921*	20	15	48	30	24	61	41	9
6003931*	27	20	48	30	29	61	41	11

* With drain tap and lifting handles.

Methacrylate baths. Maximum temperature 60 °C.

MODELS

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Thickness mm
1000394	8	15	18	31	6
1000544	9.5	14.5	16.5	39	6
1000395	13	15	23	40	8
1000396	30	20	30	50	8

Removable constant liquid level. Suitable for any type of bath. Adjustable height to obtain the required liquid level.

Part No.
6001400 Bath depth up to 15 cm.
6001800 Bath depth up to 20 cm.

Thermometer support. Stainless steel, suitable for thermometer. Fixation aperture up to 40 mm.
Part No. **6000896**

Thermometer.

Suitable for "Tectron-Bio" immersion thermostat. Scale 0-100 °C.
Part No. **3009100**

Refrigerated cooling coils for baths "Frigedor" and "Frigedor-Reg"

TEMPERATURES FROM -20 °C TO +20 °C.

APPLICATIONS

Designed for bath and tank applications that require below ambient temperatures.

COMMON FEATURES

The unit is bench mountable and contains within the epoxy coated case a CFC free hermetically sealed compressor with condenser and evaporator, the cooling coil is made of AISI 304 stainless steel.

COIL DIMENSIONS

Refrigerated immersion length: 900 mm.
Cooling coil Ø: 45 mm.
Coil length: 150 mm.

MODEL FRIGEDOR

No temperature controller incorporated. Continually operates the compressor.

CONTROL PANEL

Mains switch with "ON" indicator lamp.

MODEL FRIGEDOR REG

Equipped with a temperature controller with digital control and display. Includes a Pt 100 temperature probe. Resolution: 1 digit.

CONTROL PANEL

Mains switch with indicator "ON" lamp. Digital temperature controller with push buttons, connector for the Pt 100 temperature probe. (See accessories).

Graph showing the cooling performance of the 8 litre H_2O "Frigedor" With insulated stirring tank.

MODELS	Part No.	Temperature range °C	Stability °C	Height / Width / Depth (exterior) cm			Cooling potential	Power W	Weight Kg
FRIGEDOR	3000778	-20 to +20	–	41	21	34	to -20 °C = 50 W	285	14
FRIGEDOR-REG	3001214	-20 to +20	±1.5	41	21	34	to -20 °C = 50 W	285	14

We recommend our thermally insulated baths (see page 100).

Water recirculator "Intercooler"

TEMPERATURES FROM +3°C TO AMBIENT.

DESCRIPTION

Water circulation unit, designed to feed closed water loop circuits for condensers, distillation columns, reactor jackets, viscometers, electrophoresis baths etc. designed specifically for:
- Constant temperature.
- Constant pump rate of refrigerated fluid.
- Closed loop circuit, avoids the build up of scale in cooling coils,and cooling circuits.
- Reduced running costs, eliminates the waste of thousands of litres of water that are daily drained away within the laboratory.

FEATURES

Controllable temperature from +3 °C to ambient.
Digital electronic temperature control.
Circulation pump.
Hermetically sealed compressor, ventilated condenser and refrigerated cooling coil, made of AISI 304 stainless steel.
Refrigerant pump rate: 350 litres per hour.
Maximum pressure: 1 bar.
Epoxy covered steel case, bench top.

CONTROL PANEL

1. Mains switch.
2. Digital temperature control.
3. Pressure gauge.
4. Entry valve.
5. By-pass pressure valve control.
6. Exit valve.
7. Water level in the reservoir.

MODELO								
Part. No.	Height / Width / Depth (exterior) cm.			Cooling capacity W 3 °C / 10 °C / 20 °C			Power W	Weight Kg
6001421	65	40	60	508	696	1031	670	52

THERMOSTAT DRY-BLOCKS
WITH DIGITAL ELECTRONIC CONTROL OF TEMPERATURE AND TIME

SAFETY: CONFORMS TO EN 61010 DIRECTIVE, OVER TEMPERATURE CUT OUT SYSTEM.

High precision. Free from contamination.

APPLICATIONS
Clinical, biochemical and chemical laboratories.
Incubation of DNA, enzyme assays, residual testing in dairy, incubation and fusion of AGAR, cell culture.
Thermo control to dry, boiling, evaporation, concentration, hydrolysis, digestion etc.

COMMON FEATURES
Dry block systems have several advantages over wet contact methods such as: no risk of evaporation of heating liquid, higher working temperatures, better long term temperature stability and no sample cross contamination or germination of bacteria in the bath.
Digital temperature calibration. Timer from 1 to 999 mi nutes or continuous operation. Over temperature alarm.
Heating elements are distributed evenly across the contact surface maintaining an even distribution of heat.
Easy to use digital temperature and time control with a digital display (3 Digits).
Built in temperature sensor Pt 100.
Interchangeable blocks made of anodised DURAL alloy to accommodate a variety of tube diameters.
(Customer specific sizes also available.)
External case made of epoxy covered steel with an AISI 304 stainless steel top.
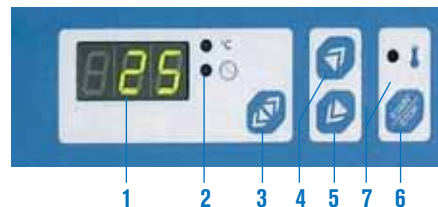
CONTROL PANEL
1. Digital display showing temperature and time in minutes.
2. Indicator show displayed parameter (Time or temperature.).
3. Push button selector to show time or temperature.
4. Push button increase displayed value.
5. Push button decrease displayed value.
6. Push button Start / Stop.
7. Over temperature alarm indicator.

Dry block heater for tubes "Tembloc"
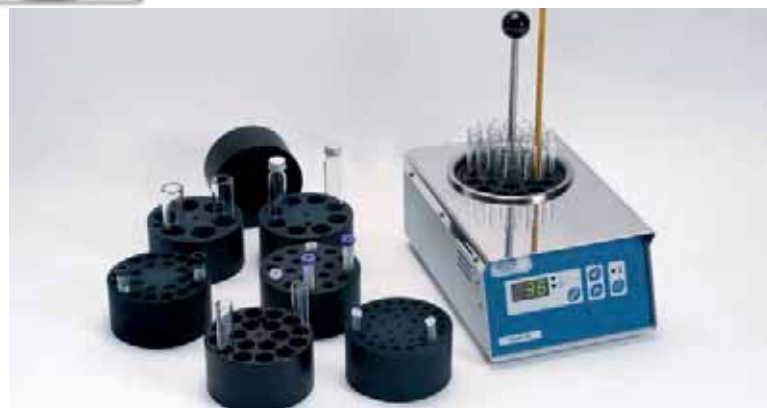
ACCESSORIES

Metal blocks, size: 105 Ø x 55 mm high.
Part No.
7000346 for 34 x 6 mm Ø tubes
7000714 for 18 x 1.5 ml. Eppendorf tubes
7001224 for 24 x 12 mm Ø tubes.
7001618 for 18 x 16 mm Ø tubes.
7000208 for 8 x 20 mm Ø tubes.
7000256 for 6 x 25 mm Ø tubes.
7000715 Blank block with no holes for customized demand.

MODEL

Part No.	Temperature °C	Stability °C	Homogeneity %	Set error %	Resolution °C	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7462200	**30 - 200**	**±0.75**	**±1.5**	**±2**	**1**	**11**	**19**	**29**	**350**	**3.7**

Supplied complete with thermometer 0-200 °C and extraction tool for blocks.

Dry Block heater for tubes "Multiplaces"
CAPACITY: THREE BLOCKS.

ACCESSORIES
Metal Blocks: 55 high x 95 wide x 75 mm deep.
Part No.
7000306 For 30 x 6 mm Ø tubes (total 3 blocks = 90 tubes).
7000716 For 20 x 1.5ml, Eppendorf tubes. (total 3 blocks = 60 tubes.)
7031220 For 20 x 12 mm Ø tubes (total 3 blocks = 60 tubes).
7031612 For 12 x 16 mm Ø tubes (total 3 blocks = 36 tubes).
7003208 For 8 x 20 mm Ø tubes (total 3 blocks = 24 tubes).
7001256 For 6 x 25 mm Ø tubes (total 3 blocks = 18 tubes).
7000717 Blank block without holes, can be customised to customer requirements.
7001474 Block for 15 cuvettes 10 x 10. Capacity: 3 blocks.
7001475 Block for 96 well microplates of 1.2 ml. Capacity: 1 block.

MODEL

Part No.	Temperature °C	Stability °C	Homogeneity %	Set error %	Resolution °C	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7471200	**30 - 200**	**±0.75**	**±1.5**	**±2**	**1**	**11**	**31**	**31**	**700**	**7.4**

Supplied complete with thermometer 0-200 °C and extraction tool for blocks.

Metallic thermostat dry block "Clinic-Bloc" and "Bio-Bath"

FIXED TEMPERATURE OF 37 °C WITH CHECK THERMOMETER.

SAFETY: NORM EN 61010. OVER TEMPERTURE CUT-OUT FITTED.

NEW

"CLINIC-BLOC"
Capacity 20 tubes (5x4) of 75x13 mm. VAC. Part No.**7001569**

"CLINIC-BLOC" 1537
Capacity 15 cuvettes (5x3) of 10x10 mm. Part No. **7001570**

MODEL

Part No.	Height / Width / Depth (exterior) cm			Stability °C	Power W	Weight Kg
7001569	11	18	28	±0.5	10	2.4
7001570	11	18	28	±0.5	10	2.4

"BIO-BATH"
Capacity 8 tubes (5x4) of 75x13 mm VAC.

MODEL

Part No.	Height / Width / Depth (exterior) cm			Stability °C	Power W	Weight Kg
7001561	8.8	9.6	7	±0.5	8	0.5

For VAC tubes (75x13)
Part No. 7001569

For cuvettes (10x10)
Part No. 7001570

ivymen OPTIC SYSTEM®

NEW

Thermo shaker "TRM-4" for Microtiter plates

WITH ELECTRONIC CONTROL AND DIGITAL DISPLAY OF TEMPERATURE, SHAKING SPEED AND TIME. FOR TEMPERATURES FROM AMBIENT +5 °C. TO 60 °C. STABILITY ± 0,5 °C.

APPLICATIONS
For clinical analysis, immunology and nutritious quality control use.

FEATURES
External ABS case with a platform for heating and shaking 2-4 96-well Microtiter plates.
Upper lid with aluminium plate coated inside, and simultaneous heating system to the main platform.
Digital display of current and set point temperature, time and shaking speed parameters.
Acoustic and luminous indications at the end of the cycle and due to malfunction in temperature or time programmed.
A built-in motor generates a uniform movement depending on the speed programmed, protected to over temperature with auto switch off and switch on activation.
Temperature calibration to meet the user's needs.
Protection device for over temperature that provides safety and reliability.

CONTROL PANEL
LCD display indicating temperature, speed in r.p.m. and time.
Push button SET to program temperature, speed in r.p.m. and time.
Push button ▲ increase value.
Push button ▼ decrease value.
Push button START / STOP for starting and stopping the shaking system.
Push button OFF for any function.

Cover inner plate with heating system.

SPECIFICATIONS
Temperature: Ambient +5ºC to 60ºC.
Heating time: ≤23 min (to 60ºC).
Shaking range: 100-1200rpm.
Orbital rotation: 2mm.
Timer: From 1 min. to 99h. 59 min.

MODEL

Part No.	Temperature ºC	Stability ºC	Block homogeneity ºC	Height / Width (platform) cm		Height / Width / Depth (exterior) cm			Power W	Weight5 Kg
5109200	ambient +5 to 60	±0,5	±0,5	21,5	30	18	40	39	132	9.5

Metallic dry block thermo shaker "TR100-G"

WITH ELECTRONIC CONTROL AND DIGITAL DISPLAY OF TEMPERATURE, SHAKING SPEED AND TIME.
FOR ADJUSTABLE TEMPERATURE FROM AMBIENT +5 ºC. UP TO 100 ºC.

APPLICATIONS

Wide applications of TR100-G for DNA analysis, lipids and other cellular components extraction, DNA libraries creation, DNA amplification, electrophoresis pre-denaturalization, serum solidification, etc.

FEATURES

External ABS case with multiadapter device for different blocks depending on the analysis to be made.
Digital display of current and set point temperature, time and shaking speed parameters.
Acoustic and luminous notification at the end of the cycle and due to malfunction in temperature or time programmed.
A built-in motor generates a uniform movement depending on the speed programmed, protected to over temperature with auto switch off and switch on activation.
Temperature calibration to meet the user's needs.
The thermostat includes a heater platform to adapt multiple blocks, depending on the analysis to be made.
Protection device for over temperature that provides safety and reliability.

CONTROL PANEL

LCD display indicating temperature, speed in r.p.m. and time.
Push button SET to program temperature, speed in r.p.m. and time.
Push button ▲ increase value.
Push button ▼ decrease value.
Push button START / STOP for starting and stopping the shaking system.
Push button OFF for any function.

SPECIFICATIONS

Temperature: Ambient +5ºC to 100ºC.
Heating time: ≤23 min (to 100ºC).
Shaking range: 200-1500rpm.
Orbital rotation: 2mm.
Timer: From 1 min. to 99h. 59 min.

MODEL

Part No.	Temperature ºC	Stability ºC	Block homogeneity ºC	Height / Width / Depth (exterior) cm			Power W	Weight Kg
5109100	**ambient +5 to 100**	**±0,5**	**±0,5**	**18**	**21**	**30**	**88**	**9.5**

ACCESSORIES

ABS coated **metallic blocks** adapted to TR100-G thermostat by means of fixing screws to the block. Easy to clean and autoclavable.

For 24 tubes of Ø 11mm.
Depth: 30 mm.
Part No. **5109101**

For 12 tubes of 15 ml.
Ø Up to 15 mm.
Depth: 100 mm.
Part No. **5109102**

For 6 tube of 50 ml.
Ø Up to 28 mm.
Depth: 100 mm
Part No. **5109103**

For 96 microtubes of 0,2 ml.
with polypropylene lid.
Part No. **5109104**

For 54 microtubes of 0,2 ml.
with polypropylene lid.
Part No. **5109105**

For 15 microtubes of 0,5 ml.
and 20 microtubes of 1,5 ml.
with polypropylene lid.
Part No. **5109106**

For 35 microtubes of 1,5 ml.
with polypropylene lid.
Part No. **5109107**

For 35 microtubes of 2 ml.
with polypropylene lid.
Part No. **5109108**

"Inspiration exists, but you can only find it by working for it"
Pablo Picasso

Description	Micro-haematocrit	Reaction vial	Reaction vial	Hemolisis	Glass
Capacity		0.25/0.5 ml	1.5/2.2 ml	5 ml	7 ml
Dimensions	Ø 1.4 x 75 mm	Ø 6,3/7 x 47/49 mm	Ø 10.7/13 x 42 mm	Ø 12.5 x 75 mm	Ø 12 x 100 mm

Description			Tube RIA	Tapval or VAC tube	
Capacity			5 ml	5 ml	
Dimensions			Ø 12 x 55/75 mm	Ø 12 x 75/80 mm	
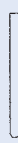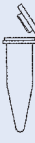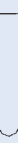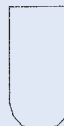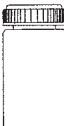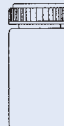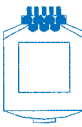
SUMMARY TABLE OF CENTRIFUGES BY MODEL IN RELATION TO VOLUME, CAPACITY SPEED AND MAXIMUM RCF (G). *QUICK OVERVIEW*

Model	Part No.	Max. Volume ml	Max. Volume of tube ml	R.p.m. max.	R.c.f. max. (xg)	Micro-haematocrit	Reaction vial	Reaction vial / Tube RIA	Hemolisis / Tapval VAC	Glass
Manual	7000014	30	15	1500	360					
	7000015	60	15	1500	360					
	7000016	2 x butyrometer	–	1500	370					
Cencom I	7002239	12	1,5	14500	14000		12	12		
Cencom II	7002240	90	15	4000	1760					
Centro 4-BL	7002560	20	5	5000	2907				4	
Centro 8-BL	7002356	120	15	5000	2515				8	8
Centrolit II-BL	7002357	40.5	2.2	12000	14103	24	18	18		
Centromix II-BL	7002555	120	25	4400	2601				8	4
Mixtasel-BL	7002575	400	100	4200	2901				20 16	20
Centronic BL-II	7001668	400	100	13500	19048	24	40	30	20 16	20
Centrofriger BL-II	7001669	400	100	15300	23550	24	40	30	20 16	20
Meditronic BL-S	7001376	800	200	11000	12619			30 48	48 28	48
Medifriger BL-S	7001377			15000	23470					
Macrotronic BL	7001385	2000	500	10000	12296			80	80 48	96
Macrofriger BL	7001386			12000	17706					
Macrofriger BL-B	7001390	9600	1000	4070	5370					144

See page 127 for tubes and accessories. Tubes supplied as an accessory unless stated.

Plastic with cap 10 ml (Ø 16.1 x 81.1 mm)	Glass 15 ml (Ø 16 x 100 mm)	Glass 25 ml (Ø 24 x 100 mm)	Plastic with cap 30 ml (Ø 25.3 x 92 mm)	Glass 50 ml (Ø 34 x 100 mm)	Falcon 50 ml (Ø 29.5/35 x 117 mm)	Glass 100 ml (Ø 44/45 x 100 mm)	Bottle 200 ml (Ø 56.5 x 104 mm)	Glass 250 ml (Ø 56 x 147 mm)	Bottle 500 ml (Ø 69 x 159 mm)	Bottle 1000 ml (Ø 98/100 x 160-175 mm)	Butyrometer	ASTM (Ø 58 x 158 mm)
Tapval or VAC tube 10 ml (Ø 16 x 100 mm)	Falcon 15 ml (Ø 16/23 x 120 mm)				Plastic with cap 80/85 ml (Ø 38 x 112 mm)				Blood bag 500/600 ml	Microtiter 6x96 (Ø 85 x 130 mm)		ASTM 100 ml (Ø 37 x 200 mm)
	2											
	4											
											2	
	6 6											
	8											
4	8	4										
16	18 16	8	8	8	4	4						
10 16	18 16	8	8	8	4	4						
10 16	18 16	8	8	8	4	4						
20 28	28 12	8	6	8	4 6	6	4			6x96		
20 68	68 16	36	20	16	8 6	4	4	4	4	12x96		4 4
	102	54		24		12	6		6 12	6		

Hand operated centrifuges

FEATURES
For 15 ml and butyrometer tubes.
Comes with a table holding clamp.
Adaptable heads for 2 or 4 x 15 ml tubes or for 2 butyrometer tubes.

MODELS

Part No.	Comes with head for	Max. speed r.p.m.	Max. R.c.f.	Weight Kg
7000014	2 tubes	1500	360	1.1
7000015	4 tubes	1500	360	1.2
7000016	2 butyrometers	1500	370	1.2

Comes with head and metal buckets.

ADDITIONAL ACCESSORIES
Head for two tubes.
Part No. **7000017**
Head for four tubes.
Part No. **7001388**

Bucket for 15 ml tubes.
Part No. **7001500**
Head for two butyrometers.
Part No. **7000018**

Microcentrifuge "Cencom I"

FOR MICROTUBES OF 2,0 – 1,5 – 0,5 AND 0,2 ML.
DIGITAL ELECTRONIC CONTROL OF SPEED AND TIME. ADJUSTABLE SPEED UP TO 14000 r.p.m.

FEATURES
ABS external case.
Maintenance free induction drive motor.
Rubber suspended motor which reduces the vibrations.
High speed microcentrifuge that minimizes the samples over temperature.
Extremely quiet operation.
For 12 microtubes with identification code.
Polycarbonate upper lid.
Peephole on the lid to visualize the centrifuge inside.

CONTROL PANEL
Start switch.
Push button Start/Stop.
LCD display indicating time and speed.
Time selector push button.
Speed selector push button.
Push button ▲ increase different parameters.
Push button ▼ decrease different parameters.
Push button motor drive rotation for quick acceleration Short/Spin.
Push button open lid when cycle has ended.

NEW

MODEL

Part No.	Tubes capacity	Height/ Width/ Depth (exterior) cm	Max. speed r.p.m.	R.c.f.(xg)	Power W	Time selected	Weight Kg
5059600	12	15 21 25	14500	14000	105	till 99' 99"	4

Comes complete with 12 adapters of 1,5-0,5 and 0,2ml.

Centrifuge Angle rotor "Cencom II"

WITH ANGLE ROTOR FOR 6 X 15 ml TUBES AND 6 ADDITIONAL ADAPTERS FOR 15 ML FALCON TUBES.
DIGITAL ELECTRONIC CONTROL OF SPEED AND TIME. ADJUSTABLE SPEED UP TO 4000 r.p.m. (1790 R.c.f.)

SAFETY:
SAFETY ACCORDING TO EN. 61010.2.020 SAFETY MICRO-SWITCH THAT DISCONNECTS THE POWER TO THE MOTOR WHEN THE LID IS OPENED. PROTECTIVE FUSE LOCATED AT THE BACK OF THE INSTRUMENT.

APPLICATIONS
General laboratory use and teaching.

FEATURES
External case made from coated ABS plastic.
Rubber suspended motor, reduces any motor vibrations.
Fixed angle 6 place rotor with identification code.
Transparent polycarbonate lid that allows the user to see inside the centrifuge.
Speed selection from 1000 to 4000 r.p.m. in 500 r.p.m. steps.
Time selection from 1' to 60' in steps of 1'.

CONTROL PANEL
Digital display of speed and time.
Push button Start-Stop.
Push button selector for speed and time.
Push button increase value.
Push button decrease value.

Cross section view of the angle rotor showing bucket and bucket support.

MODEL

Part No.	Tube capacity ml	Height/Ø (exterior) cm	Max. speed r.p.m.	Max. R.c.f.	Power W	Weight Kg
7002240	6 x 15	28 26	4000	1760	80	4.5

Supplied complete with 6 x 15 ml tubes with adapters and 6 adapters for 15 ml Falcon tubes.

ACCESSORY
Adapter. Suitable for 12 Ø x 75 mm VAC tubes.
Rotor capacity, 6 adapters.
Part No. **1001556**

Digital microprocessor controlled Centrifuges, Series BL

INDUCTION DRIVE, MAINTENANCE FREE (NO CARBON BRUSHES).
-SPEED CONTROL BY VARIABLE FREQUENCY SYSTEM.
-RELIABLE FUNCTIONS AND REPEATABILITY.
-LOGICAL EASY TO USE CONTROL PANEL.
-SUSPENDED, DAMPENED VIBRATION FREE MOTOR DRIVE, GUARANTEES SMOOTH
 OPERATION.
-QUIET OPERATION, INTERNAL INSULATION WHICH ABSORBS NOISE AND VIBRATIONS.
-SUCTION SUPPORT FEET THAT PREVENTS BENCH CREEP.

SAFETY:

AUTOMATICALLY STOPS IF OUT OF BALANCE.
LID CANNOT BE OPENED IF THE MOTOR IS RUNNING.
SYSTEM CANNOT BE STARTED IF THE LID IS OPEN.
SPEED LIMITED BY EACH ROTOR.

THREE DIFERENT CONTROL SYSTEMS: (A) Digital, (B) and (C), by microprocessor.

**CENTROLIT II-BL - CENTRO 4-BL - CENTRO 8-BL
CENTROMIX II-BL - MIXTASEL-BL**

CENTRONIC BL-II - CENTROFRIGER BL-II

MEDITRONIC BL-S - MEDIFRIGER BL-S - MACROTRONIC BL - MACROFRIGER BL - MACROFRIGER BL-BLOOD

CENTRIFUGES
Marked as diagnostic Medical Devices
(Directive 93/42/CE) and for "In vitro" I V D (Directive 98/79/CE)

MEDICAL CENTRIFUGES

J.P. SELECTA, S.A, is certified by TÜV Rheinland, according to the ISO 13485, for the design and manufacture of centrifuges used to obtain autologous extract of blood tissue, adipose and bone marrow.

These centrifuges models are used in the sanitary, cosmetic and plastic surgery fields. They are an important help for serious injuries treatment and for damages tissues regeneration.

From the models:

CENTROMIX II-BL CENTRIFUGE	Part No. 7002555
CENTRO-4-BL CENTRIFUGE	Part No. 7002560
CENTRO-8-BL CENTRIFUGE	Part No. 7002356

and from different rotors and adapters configurations, we offer the possibility of manufacturing an OEM centrifuge which complies with your demands and marked as sanitary products.

"IN VITRO" MEDICAL CENTRIFUGES

J.P. SELECTA S.A has the manufacture's license on the following models, issued by the Spanish Agency for the Regulation of Medicines and Sanitary Products (5733-PS), for manufacture centrifuges of medical use and "in vitro" analysis.

MEDITRONIC-BL-S CENTRIFUGE	Part No. 7001376
MEDIFRIGER-BL-S CENTRIFUGE	Part No. 7001377
CENTRONIC-BL-II CENTRIFUGE	Part No. 7001668
CENTROFRIGER-BL-II CENTRIFUGE	Part No. 7001669
CENTROLIT II-BL CENTRIFUGE	Part No. 7002357
MIXTASEL-BL CENTRIFUGE	Part No. 7002575

CENTRIFUGES ELECTRONIC DIGITAL CONTROL
"Centrolit II-BL", "Centro-4-BL", "Centro-8-BL", "Centromix II-BL" and "Mixtasel-BL" with induction drive maintenance free motor.

> **SAFETY:**
> UNE-EN 61010.2.020. ELECTROMAGNETIC LID LOCK, PREVENTS THE OPENING OF THE CENTRIFUGE IF THE ROTOR IS IN MOTION. PREVENTS THE STARTING OF THE MOTOR IF THE LID IS OPEN. ROTOR AND BUCKETS ARE IDENTIFIED BY LASER SIGNAL. AUTOCLAVABLE.

COMMON FEATURES

Electronic control with digital display of speed and time, with acceleration and brake ramp.
Timer controllable from 1' to 60' or continuous operation.
Rubber suspended motor that guarantees a smooth operation.
Digital speed display.
Pulse button, that drives the motor while pressed.
Automatic stop if out of balance, with indicator light.
Suction base supports that adhere to the work bench surface.
Quiet operation, insulated interior that absorbs noise and vibrations.
In the case of mains failure, manual open override aperture.
Noise level 50-60dBA.
Rotors and buckets with laser identification.
Autoclavable.
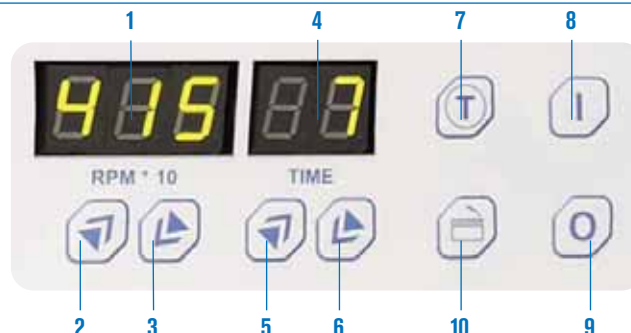
CONTROL PANEL
1. Speed display.
2. Push button increase speed.
3. Push button reduce speed.
4. Run Time display.
5. Push button increase run time.
6. Push Button decrease run time.
7. Push button pulse start (RUN/STOP).
8. Push button start.
9. Push button stop.
10. Push button open lid.

Centrifuge "Centrolit II-BL"

SUITABLE FOR HAEMATOCRIT AND SMALL VIALS OF 0.25/0.5 ml AND TUBES OF 1.5/2.2 ml.
FREE MAINTENANCE INDUCTION DRIVE MOTOR.

"in vitro" diagnostic medical devices I V T

ABS plastic moulded external case.

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7002357	27	18 x 1.5 / 2.2 ml	20	28	34	200	6.5

SPARES. Tubes (see page 127).

ACCESSORIES
Interchangeable rotors made of hardened anodised aluminium. Autoclavable.

Part No. head	Rotor type	Volume rotor	Tube capacity maximum	Max. R.p.m.	Max. R.c.f. (xg)
7001704	Micro-haematocrit	-	24 x 1.4 mm Ø	12000	13143
7001703	Angle+lid	40.5 ml	18 x 0.25/0.5 ml + 18 x 1.5/2.2 ml	12000	14103

Angle rotors supplied without tubes.
Micro-haematocrit rotor supplied with one box of 100 tubes.
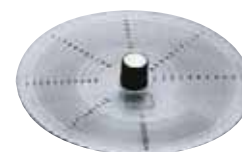
Micro-haematocrit reader.
Suitable for micro-haematocrit rotor 7001704.
Part No. **7000929**

Centrifuge "Centro-4-BL"

WITH SWINGOUT HEAD FOR 4 TUBES OF 75 X 13 mm VAC. FREE MAINTENANCE INDUCTION DRIVE MOTOR.

Control panel features (see page 111).
Centrifuge kit for separating plasma rich platelets from whole blood.

This model can be marked as medical device

ABS plastic moulded external case.

MODEL

Part No.	Height / Width / Depht (exterior) cm			Power W	Max. R.p.m.	Max. R.c.f. (xg)	Weight Kg
7002560	**20**	**28**	**34**	**170**	**5000**	**2907**	**6**

Rotor comes without tubes.

Centrifuge "Centro-8-BL"

WITH ANGLE ROTOR FOR 7-15 ml TUBES AND 75 X 13 mm VAC (WITH ADAPTERS). FREE MAINTENANCE INDUCTION DRIVE MOTOR.

Control panel features (see page 111).

This model can be marked as medical device

ABS plastic moulded external case

MODEL

Part No.	Max. Volume ml.	Tube capacity	Height / Width / Depth (exterior) cm			Power W	Max. R.p.m.	Max. R.c.f. (xg)	Weight Kg
7002356	**120**	**8 x 15 ml**	**20**	**28**	**34**	**170**	**5000**	**2515**	**6.5**

Supplied complete with 8 x 15 ml glass tubes.

ACCESSORIES

Bucket adapter for 7 ml tubes.
Rotor capacity: 8 adapters.
Part No. **7000700**

Bucket adapter for 75 x 13 mm VAC. tubes.
Rotor capacity: 8 adapters.
Part No. **1001557**

SPARES. Tubes (see page 127).

Centrifuge "Centromix II-BL"

**WITH A CHOICE OF ROTORS AND INTERCHANGEABLE ADAPTERS.
FREE MAINTENANCE INDUCTION DRIVE MOTOR.**

This model can be marked as medical device

Control panel features (see page 111).

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depht (exterior) cm			Power W	Weight Kg
7002555	**120**	**4 x 25 ml**	**23**	**30**	**35**	**180**	**12**

External DUR-AL case, with AISI 304 stainless steel bowl.

ACCESSORIES
Rotors and interchangeable buckets and adapters.

Part No. head	Rotor type	Part No. bucket	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
7000550	**Angle**	–	**120 ml**	**8 x 15 ml**	**16.5 x 100**	**4400**	**2063**
7001065	**Swing out**	–	–	–	–	–	–
	Swing out	**7001066**	**100 ml**	**1 x 25 ml**	**24 x 100**	**4400**	**2601**
	Swing out	**7001067**	**60 ml**	**1 x 15 ml**	**16.5 x 100**	**4400**	**2601**
7001065	**Swing out**	**7001068**	**28 ml**	**1 x 7 ml**	**12 x 100**	**4400**	**2601**
	Swing out	**7001573**	**40 ml**	**2 x 5 ml VAC**	**13 x 75**	**4400**	**2163**
	Swing out	**7001070**	**60 ml**	**VAC**	**16 x 100**	**4400**	**2601**
	Swing out	**7001072**	–	**undrilled**	–	**4400**	**2601**
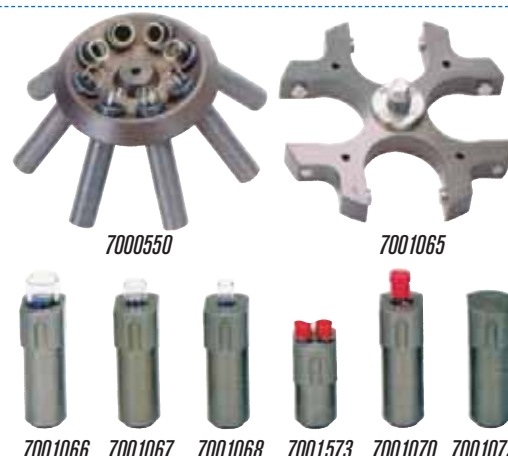
7000550   *7001065*

7001066 7001067 7001068 7001573 7001070 7001072

Note: All buckets and adapters come without tubes unless stated, see page 127 for tubes and accessories.

Centrifuge "Mixtasel-BL"

MAINTENANCE FREE INDUCTION DRIVE MOTOR.

Polyvalent with rotors and interchangeable adapters

Control panel features (see page 111).

NEW DESIGN

External case of DUR-AL alloy with ABS plastic coated front AISI 304 stainless steel bowl.

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depht (exterior) cm			Power W	Weight Kg
7002575	**400**	**4 x 100 ml**	**29**	**39**	**44**	**210**	**22**

ACCESSORIES

Interchangeable angle rotors with lids, made of hardened anodised aluminium. Rotors come with identification system. Autoclavable rotors and buckets.

Part No. head	Rotor type	Max. volume	Tube capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
7001705	Angle+lid	270 ml	18 x 15 ml	16.5 x 100	4200	2669
7001711	Angle+lid	400 ml	8 x 50 ml	34 x 100	4200	1921

7001705　　　　　*7001711*

Tube adapters for rotor Part No. 7001711
Part No.
7001707 for 50 ml plastic tubes (29 Ø x 103 mm).
7001708 for 25 ml glass tubes (24 Ø x 100 mm).
7001709 for 30 ml plastic tubes (25 Ø x 92 mm).
7001710 for 15 ml glass tubes (16.5 Ø x 100 mm).

Swing out rotor, interchangeable buckets and adapters each with identification code. Autoclavable.

BUCKETS
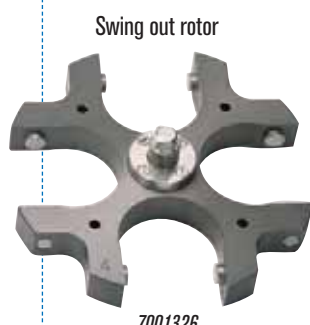
Swing out rotor

7001326

7001700　*7000793*　*7000794*　*7000795*　*7000796*　*7000797*　*7000930*　*7000931*　*7001073*　*7001074*　*7000798*

Sealed bucket with hermetically sealed lid.

ADAPTERS

7001315　　*7001316*　*7001317*　*7001318*　*7001319*　*7001320*　*7001321*　*7001322*

Part No. Rotor	Rotor type	Part No. bucket	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7001700	–	–	400 ml	1 x 100 ml	44 x 104	4200	2901
	Swing out	7000793	–	–	200 ml	1 x 50 ml	34 x 100	4200	2901
	Swing out	7000794	–	–	100 ml	1 x 25 ml	24 x 100	4200	2901
	Swing out	7000795	–	–	240 ml	4 x 15 ml	16.5 x 100	4200	2901
	Swing out	7000796	–	–	140 ml	5 x 7 ml	12 x 100	4200	2901
	Swing out	7000797	–	–	100 ml	5 x 5 ml	12.5 x 75	4200	2441
	Swing out	7000930	–	–	240 ml	4 x 15 ml Falcon	16.5 x 120	4200	3030
	Swing out	7000931	–	–	200 ml	1 x 50 ml Falcon	30 x 117	4200	3030
	Swing out	7001073	–	–	16 VAC	4 VAC*	16 x 100	4200	2901
7001326	Swing out	7001074	–	–	16 VAC	4 VAC*	13 x 75	4200	2441
	Swing out	7000798	–	–	undrilled	–	–	4200	2901
	Swing out	–	7001315	100 ml glass tube**	400 ml	1 x 100 ml	44 x 104	4200	2901
	Swing out	–	7001315	7001316	200 ml	1 x 50 ml	34 x 100	4200	2901
	Swing out	–	7001315	7001317	100 ml	1 x 25 ml	24 x 100	4200	2901
	Swing out	–	7001315	7001318	240 ml	4 x 15 ml	16.5 x 100	4200	2901
	Swing out	–	7001315	7001319	140 ml	5 x 7 ml	12 x 100	4200	2901
	Swing out	–	7001315	7001320	100 ml	5 x 5 ml	12.5 x 75	4200	2901
	Swing out	–	7001315	7001321	64 ml	4 VAC*	13 x 75	4200	2901
	Swing out	–	7001315	7001322	undrilled	-	–	4200	2901

*VAC(r): Blood tube with cap (bung).
**Sealed bucket part no. 7001315 accommodates a 100 ml glass tube without the need of an adapter.
Note: All buckets and adapters come without tubes unless stated, see page 127 for tubes and accessories.

TECHNICAL SCHEMATICS OF DIFFERENT COMPONENTS

Rotor detector
Peephole
Rotor identification
Multifunctional single button
Main switch
Mains filter
Supply conector base
Flexible suspension
Induction motor
Speed control circuit
Suction support base
Rotors bowl
Refrigerated safety chamber: with thermal insulation
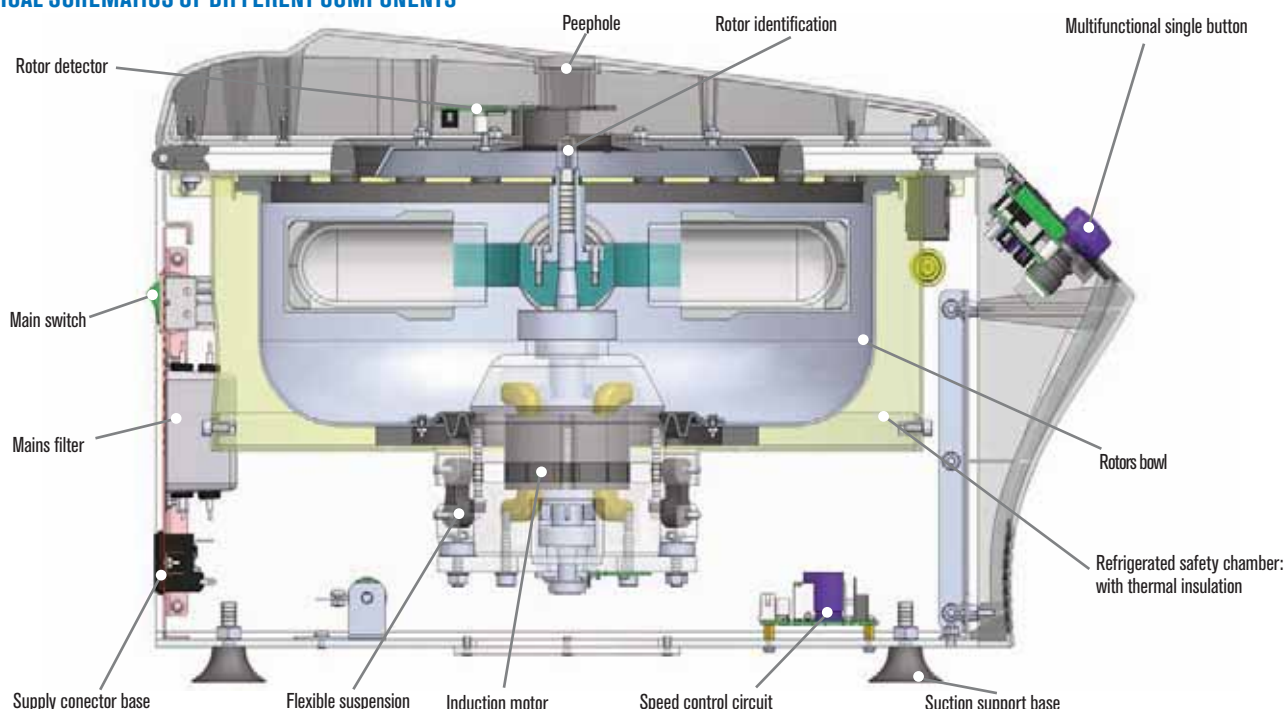
COMMON FEATURES

Induction drive maintenance free motor.
Low noise level 50-60 dBa.
Robust all metal construction:
-External case made from DUR-Al alloy.
-Internal bowl and top plate all stainless steel
-Internal steel safety chamber within the case.
Electronic circuits, microprocessor digital control of all parameters and functions: speed, acceleration, brake, RCF, temperature, timer, 10 program storage, automatic rotor recognition and alarm system.

Rotor identification head, when the centrifuge lid is closed the rotor communicates all the data of the functions of it. This prevents, before use, any risk of failure of using the wrong rotor in a program or exceeding the rotors running parameters. The advantage of this system is that we can add additional rotors to the range without changing the centrifuge model.
All Rotors, buckets and adapters are identified with an inalterable engraved laser code.
Air circulation system, to limit any excessive rise in temperature within the centrifuge, all air circulated within the chamber is channelled out of the back and is not re-circulated, this means that the centrifuges internal temperature will remain low and constant.
Hermetically sealed compressor, mounted on anti-vibration mounts with re-circulating evaporator around the centrifuge chamber. (only applies to refrigerated centrifuges).
MONO single button programming:

- Speed	- RCF	- Acceleration ramp
- Deceleration ramp (brake)	- Time	- Temperature
- Configuration °C/°F	- Temperature calibration.	

ALARM	Informs of a fault:
POWER FAIL	Power failure during the run.
ROTOR FAIL	Fault in reading the rotor identification.
DOOR OPEN	Lid open- not closed properly.
UNBALANCED	Out of balance, adjust distribution of tubes.
EEPROM FAIL	Set parameters failed to be recognised.
CONTROL FAIL	Speed detector indicator failure.
OVER TEMP	Over set temperature value.

CONTROL PANEL
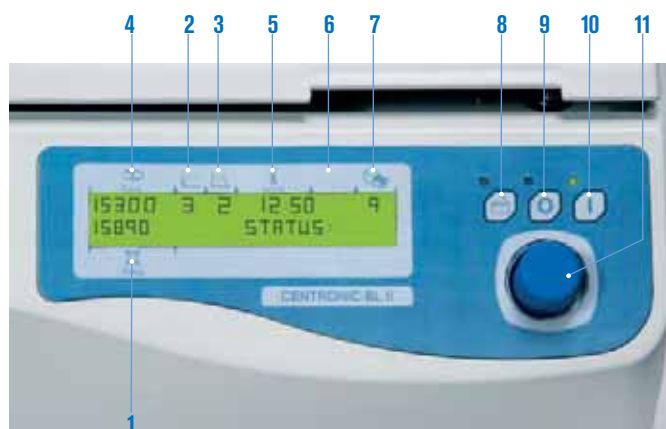
1. R.c.f.	**7.** Memory.
2. Acceleration ramp.	**8.** Open lid.
3. Brake ramp.	**9.** Stop.
4. Speed.	**10.** Start.
5. Timer from 1' to 59' 59".	**11.** Single button control.
6. Temperature **(Refrigeration model only)**.	

CONTROL PANEL INFORMATION **LCD display of 2 x 20 characters** that permanently show the running conditions of the machine.

STATUS	Status.
STOP	Stop.
START	Starts the run.
STANDBY	Wait, standby.
STORED	Stores the last set of parameters.
CONFIG	Sets the program parameters.
PROGRAM	Select stored program.
RAMP	Centrifuge accelerating to set speed.
SET SPEED	Centrifuge is running at set speed.
BRAKE	Centrifuge is slowing down in deceleration phase.
ROTOR⋈PRG	The selected program does not match the installed rotor.
PROGRAM TIME	Informs that a time needs to be set to operate.

High speed centrifuges with microprocessor control
"Centronic BL-II" and "Centrofriger BL-II"

"in vitro" diagnostic
medical devices I V T

Versatile. Large range of rotors and adapters. Maintenance free induction motor drive.

Model "Centronic BL-II"

Control panel features (see page 115).
External case of DUR-AL alloy with ABS plastic coated front AISI 304 stainless steel bowl.

MODEL

Part No.	Max. Volume ml	Max. number of tubes	Height / Width / Depht (exterior) cm			Power W	Weight Kg
7001668	400	4 x 100 ml	34	41	54	440	22

Model "Centrofriger BL-II" refrigerated, temperature range 0 °C to 30 °C.

MODEL

Part No.	Max. Volume ml	Max. number of tubes	Height / Width / Depht (exterior) cm			Power W	Weight Kg
7001669	400	4 x 100 ml	34	41	71	960	39

Note: The rotor being used limits the actual temperature in the chamber due to the speed and ambient temperature. Internal temperature indicated on the LCD display.

ACCESSORIES

Angle rotors with lid, made of anodised hardened aluminium with identification system. All rotors are autoclavable.

Tube adapters for rotor Part No. 7001706

Part No.		Part No.	
7001707	for plastic tubes, 50 ml (29 Ø x 103 mm).	7001709	for plastic tubes, 30 ml (25 Ø x 92 mm).
7001708	for glass tubes, 25 ml (24 Ø x 100 mm).	7001710	for glass tubes, 15 ml (16.5 Ø x 100 mm).

7001670　　7001324　　7001706

7001325　　7001323　　7001671　　7001672　　7001673　　7001408　With calculator reader

Part No. head	Rotor type	Max. volume	Tubes capacity	Ø x Length mm	CENTRONIC BL-II		CENTROFRIGER BL-II	
					Max. R.p.m	Max. R.c.f. (xg)	Max. R.p.m	Max. R.c.f. (xg)
7001670	Angle+lid	270 ml	18 x 15 ml	16.5 x 100	4200	2669	4200	2669
7001706	Angle+lid	400 ml	8 x 50 ml	34 x 100	6000	3920	6000	3920
7001325	Angle+lid	500 ml	6 x 50 ml	29 x 103	13500	18844	15300	24204
7001324	Angle+lid	180 ml	6 x 30 ml	25 x 92	13500	15890	15300	20410
7001323	Angle+lid	100 ml	10 x 10 ml	16 x 80	13500	18335	15300	23550
7001671	Angle+lid	40.5 ml	18x0.25/0.5 ml + 18x1.5/2.2 ml	–	13500	15992	15300	20541
7001672	Angle+lid	60 ml	40 x 0.25/0.5 ml	–	13500	13298	15000	20120
7001673	Angle+lid	45 ml	30 x 1.5/2.2 ml	–	13500	19048	15000	23716
7001408	Angle+lid	Microhaematocrit	24	1.4 x 75	12000	15935	12000	15935

Note: All buckets and adapters come without tubes unless stated, see page 127 for tubes and accessories.

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Swing out rotor

7001407

BUCKETS

7001700 *7000793* *7000794* *7000795* *7000796* *7000797* *7000930* *7000931* *7001073* *7001074* *7000798*

ADAPTERS

Sealed bucket with hermetically sealed lid.

7001315 *7001316* *7001317* *7001318* *7001319* *7001320* *7001321* *7001322*

Part No. head	Rotor Type	Part No. bucket	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7001700	–	–	400 ml	1 x 100 ml	44 x 104	5000	4137
	Swing out	7000793	–	–	200 ml	1 x 50 ml	34 x 100	5000	4137
	Swing out	7000794	–	–	100 ml	1 x 25 ml	24 x 100	5000	4137
	Swing out	7000795	–	–	240 ml	4 x 15 ml	16.5 x 100	5000	4137
	Swing out	7000796	–	–	140 ml	5 x 7 ml	12 x 100	5000	4137
	Swing out	7000797	–	–	100 ml	5 x 5 ml	12.5 x 75	5000	3318
	Swing out	7000930	–	–	240 ml	4 x 15 ml Falcon	16.5 x 120	5000	4109
	Swing out	7000931	–	–	200 ml	1 x 50 ml Falcon	30 x 117	5000	4109
	Swing out	7001073	–	–	16 VAC	4 VAC*	16 x 100	5000	4137
7001407	Swing out	7001074	–	–	16 VAC	4 VAC*	13 x 75	5000	3318
	Swing out	7000798	–	–	undrilled	–	-	5000	4137
	Swing out	–	7001315	100 ml glass tube**	400 ml	1 x 100 ml	44 x 104	5000	4137
	Swing out	–	7001315	7001316	200 ml	1 x 50 ml	34 x 100	5000	4137
	Swing out	–	7001315	7001317	100 ml	1 x 25 ml	24 x 100	5000	4137
	Swing out	–	7001315	7001318	240 ml	4 x 15 ml	16.5 x 100	5000	4137
	Swing out	–	7001315	7001319	140 ml	5 x 7 ml	12 x 100	5000	4137
	Swing out	–	7001315	7001320	100 ml	5 x 5 ml	12.5 x 75	5000	4137
	Swing out	–	7001315	7001321	64 ml	4 VAC*	13 x 75	5000	4137
	Swing out	–	7001315	7001322	undrilled	–	-	5000	4137

*VAC(r): Blood tube with cap.
**Sealed bucket part no. 7001315 accommodates a 100 ml glass tube without the need of an adapter.
Micro-haematocrit rotor comes with a box of 100 tubes and calculus graph.
Note: All buckets and adapters come without tubes unless stated, see page 127 for tubes and accessories.

COMMON FEATURES

Induction drive maintenance free motor.

Low noise level 50-60dBa.

Robust all metal construction:
-External case made from DUR-AI alloy.
-Internal bowl and top plate all stainless steel
-Internal steel safety chamber within the case.

Electronic circuits, microprocessor digital control of all parameters and functions: speed, acceleration, brake, RCF, temperature, timer, 10 program storage, automatic rotor recognition and alarm system.

Rotor identification head, when the centrifuge lid is closed the rotor communicates all the data of the functions of it. This prevents, before use, any risk of failure of using the wrong rotor in a program or exceeding the rotors running parameters. The advantage of this system is that we can add additional rotors to the range without changing the centrifuge model.

All Rotors, buckets and adapters are identified with an inalterable engraved laser code.

Air circulation system, for centrifuges without refrigeration to limit any excessive rise in temperature within the centrifuge, all air circulated within the chamber is channelled out of the back and is not re-circulated, this means that the centrifuges internal temperature will remain low and constant.

Hermetically sealed compressor, mounted on anti-vibration mounts with re-circulating evaporator around the centrifuge chamber. (only applies to refrigerated centrifuges).

CONTROL PANEL INFORMATION **LCD display of 2 x 20 characters** that permanently show the running conditions of the machine.

STATUS	Status.	ALARM	Informs of a fault:
STOP	Stop.	POWER FAIL	Power failure during the run.
START	Starts the run.	ROTOR FAIL	Fault in reading the rotor identification.
STANDBY	Wait, standby.	DOOR OPEN	Lid open- not closed properly.
STORED	Stores the last set of parameters.	UNBALANCED	Out of balance, adjust distribution of tubes.
CONFIG	Sets the program parameters.	EEPROM FAIL	Set parameters failed to be recognised.
PROGRAM	Select stored program.	CONTROL FAIL	Speed detector indicator failure.
RAMP	Centrifuge accelerating to set speed.	OVER TEMP	Over set temperature value.
SET SPEED	Centrifuge is running at set speed.		
BRAKE	Centrifuge is slowing down in deceleration phase.		
ROTOR⨯PRG	The selected program does not match the installed rotor.		
PROGRAM TIME	Informs that a time needs to be set to operate.		

CONTROL PANEL

1. R.c.f.
2. Acceleration ramp.
3. Brake ramp.
4. Speed.
5. Timer from 1' to 59' 59''.
6. Temperature **(Refrigeration model only)**.
7. Memory
8. Configuration.
9. Cursor.
10. Push button increase/decrease set or value.
11. Validation.
12. Open lid.
13. Program.
14. Stop.
15. Start.
16. LCD Display.

High speed centrifuges with microprocessor control "Meditronic-BL-S" and "Medifriger-BL-S"

"in vitro" diagnostic medical devices I V T

Capacity up to 800 ml. Maintenance free induction motor drive.

Control panel features (see page 118).
External case made of DUR-AL alloy with an AISI 304 stainless steel bowl.

Model "Meditronic-BL-S"

Model "Medifriger-BL-S" refrigerated, temperature range 0 °C to 30 °C.

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001376	800	4 x 200 ml	38	46	52	520	44

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001377	800	4 x 200 ml	38	68	52	1230	70

Note: The rotor being used limits the actual temperature in the chamber due to the speed and ambient temperature. Internal temperature indicated on the LCD display.

ACCESSORIES

Angle rotors with lid, made of anodised hardened aluminium with identification system. All rotors are autoclavable.

7000741

7000742

7000743

7001449

7001448

7001447

7001446

7001445

7001444

Part No. head	Rotor type	Max. volume	Tube capacity			Ø x Length mm		MEDITRONIC BL-S		MEDIFRIGER BL-S	
								Max. R.p.m	Max. R.c.f. (xg)	Max. R.p.m	Max. R.c.f. (xg)
7000741	Angle+lid	600 ml	6	x	100 ml	44	x 104	4500	3170	4500	3170
7000742	Angle+lid	400 ml	8	x	50 ml	34	x 100	4600	3075	4600	3075
7000743	Angle+lid	360 ml	24	x	15 ml	16.5 x 100		4800	3761	4800	3761
7001449	Angle+lid	510 ml	6	x	85 ml	38	x 105	8000	6868	12000	15455
7001448	Angle+lid	400 ml	8	x	50 ml	29	x 103	8000	7802	12000	15938
7001447	Angle+lid	180 ml	6	x	30 ml	25	x 92	9000	7424	14000	17965
7001446	Angle+lid	200 ml	20	x	10 ml	16	x 80	9000	8964	11000	13390
7001445	Angle+lid	100 ml	10	x	10 ml	16	x 80	9000	7293	15000	20124
7001444	Angle+lid	45 ml	30	x	1.5/2.2 ml	-		11000	12619	15000	23470

Note: All buckets and adapters come without tubes unless stated, see page 127 for tubes and accessories.

ACCESSORIES

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Swing out rotor   Sealed bucket with hermetically sealed lid.   Open bucket   Adapters

7000732   7000731   5715202   7000733   7000734   7000935   7000735

7009079

7000736   7000934   7001646   7001647   7000737   7000738   7001648   7000739   7000740   7000609

Part No. head	Rotor type	Bucket open	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm		Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7000731	7000732	Bottle 200 ml 5715202**	800 ml	1 x 200 ml	56.6 x 104		5000	4137
	Swing out	7000731	7000732	7000733	400 ml	1 x 100 ml	44	x 104	5000	4137
	Swing out	7000731	7000732	7000734	200 ml	1 x 50 ml	34	x 100	5000	4137
	Swing out	7000731	7000732	7000935	200 ml	1 x 50 ml Falcon	30	x 117	5000	4137
	Swing out	7000731	7000732	7001645	240 ml	2 x 30 ml	25	x 92	5000	4137
	Swing out	7000731	7000732	7000735	200 ml	2 x 25 ml	24	x 100	5000	4137
	Swing out	7000731	7000732	7000736	420 ml	7 x 15 ml and VAC*	16.5 x 100		5000	4137
7009079	Swing out	7000731	7000732	7000934	180 ml	3 x 15 ml Falcon	16.5 x 120		5000	4137
	Swing out	7000731	7000732	7001646	–	4 x 17 Ø x 110 mm	-		5000	4137
	Swing out	7000731	7000732	7001647	240 ml	6 x 10 ml	17	x 110	5000	4137
	Swing out	7000731	7000732	7000737	336 ml	12 x 7 ml	12	x 100	5000	4137
	Swing out	7000731	7000732	7000738	240 ml	12 x 5 ml	12.5 x 75		5000	4137
	Swing out	7000731	7000732	7001648	140 ml	7 x 5 ml and VAC*	13	x 75	5000	4137
	Swing out	7000731	7000732	7000739	144 ml	12 x 3 ml	11	x 100	5000	4137
	Swing out	7000731	7000732	7000740	–	undrilled	-		5000	4137
7000609	Swing out	–	–	–	–	6 x 96 microtiter	-		4200	2702

*VAC: Blood tube with stopper.
** Bucket part nos. 7000731 and 7000732 accommodate 1 x 200 ml polypropylene bottle with cap without the need of an adapter.
Note: All buckets and adapters come without tubes unless stated, see page 127 for tubes and accessories.

Microprocessor controlled Centrifuge "Macrotronic-BL" and "Macrofriger-BL"

Multi-capability. Capacity from 1.5/2.2 ml vials up to tubes of 500 ml and 500ml blood bags.

Maintenance free induction motor drive.

Control panel features (see page 118).
External case made of DUR-AL alloy with an AISI 304 stainless steel bowl.

Model "Macrotronic-BL"

Model "Macrofriger-BL" refrigerated, temperature range 0 °C to 30 °C.

MODEL

Part No.	Max. volume ml	Max. No. of bags	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001385	2000	4 x 500 ml	45	60	66	720	76

MODEL

Part No.	Max. volume ml	Max. No. of bags	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001386	2000	4 x 500 ml	97	60	66	1230	156

Note: The rotor being used limits the actual temperature in the chamber due to the speed and ambient temperature. Internal temperature Indicated on the LCD display.

ACCESSORIES

Angle rotors with lid, made of anodised hardened aluminium with identification system. All rotors are autoclavable.

7000561   7000560

7001650   7001651   7001652   7001653   7001654

Part No. head	Rotor type	Max. volume	Tube capacity	Ø x Length mm	MACROTRONIC BL Max. R.p.m	MACROTRONIC BL Max. R.c.f. (xg)	MACROFRIGER BL Max. R.p.m	MACROFRIGER BL Max. R.c.f. (xg)
7000561	Angle+lid	600 ml	12 x 50 ml	34 x 100	4530	3785	4530	3785
7000560	Angle+lid	840 ml	56 x 15 ml	16.5 x 100	4030	3268	4030	3268
7001650	Angle+lid	1500 ml	6 x 250 ml	62 x 122	8000	10373	9000	13129
7001651	Angle+lid	510 ml	6 x 85 ml	38 x 105	10000	10731	12000	15452
7001652	Angle+lid	400 ml	8 x 50 ml	29 x 103	10000	11066	12000	15935
7001653	Angle+lid	360 ml	12 x 30 ml	25 x 92	10000	12296	12000	17706
7001654	Angle+lid	200 ml	20 x 10 ml	16 x 80	10000	11066	12000	15935

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Open bucket

Swing out rotor

Sealed bucket with hermetically sealed lid.

7000746

7000745

7000756

Adapters

7001387   7001657   7000747   7001658   7000748   7000939   7001659   7001660   7000749   7000750

7000938   7001661   7001662   7000751   7000752   7000753   7000754   7000755

Part No. head	Rotor type	Bucket open	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7000746	7000756	7001387	800 ml	1 x 200 ml	56.6 x 104	5000	4615
	Swing out	7000746	7000756	7001657	500 ml	1 x 125 ml	51 x 115	5000	4615
	Swing out	7000746	7000756	7000747	400 ml	1 x 100 ml	44 x 104	5000	4615
	Swing out	7000746	7000756	7001658	320 ml	1 x 80 / 85 ml	38 x 105	5000	4615
	Swing out	7000746	7000756	7000748	400 ml	2 x 50 ml	34 x 100	5000	4615
	Swing out	7000746	7000756	7000939	400 ml	2 x 50 ml Falcon	30 x 117	5000	4615
	Swing out	7000746	7000756	7001659	400 ml	2 x 50 ml	29 x 103	5000	4615
	Swing out	7000746	7000756	7001660	600 ml	5 x 30 ml	25 x 92	5000	4615
	Swing out	7000746	7000756	7000749	500 ml	5 x 25 ml	24 x 100	5000	4615
7000745	Swing out	7000746	7000756	7000750	720 ml	12 x 15 ml	16.5 x 100	5000	4615
	Swing out	7000746	7000756	7000750	720 ml	12 VAC*	16.5 x 100	5000	4615
	Swing out	7000746	7000756	7000938	240 ml	4 x 15 ml Falcon	16.5 x 120	5000	4615
	Swing out	7000746	7000756	7001661	-	12 VAC*	13 x 75	5000	4615
	Swing out	7000746	7000756	7001662	480 ml	12 x 10 ml	16.8 x 85	5000	4615
	Swing out	7000746	7000756	7000751	560 ml	20 x 7 ml	12 x 100	5000	4615
	Swing out	7000746	7000756	7000752	400 ml	20 x 5 ml	12.5 x 75	5000	4615
	Swing out	7000746	7000756	7000753	240 ml	20 x 3 ml	11 x 100	5000	4615
	Swing out	7000746	7000756	7000754	120 ml	20 de 1.5 / 2.2 ml	-	5000	4615
	Swing out	7000746	7000756	7000755	undrilled	–	-	5000	4615

*VAC: Blood tube with stopper.
Note: All buckets and adapters come without tubes unless stated, see page 127 for tubes and accessories.

ACCESSORIES

Swing out rotor

7001450

Open bucket
1 blood bag

7001451

Adapters

7001395　　7001655　　7001396　　7001397

7001398　　7001399　　7001400　　7001401

Bucket for
3 x 96 well plates

7001656

Part No. head	Rotor type	Bucket open	Part No. adapter	Total max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	swing out	7001451	7001395	2000 ml	1 x 500 ml	70　x 165	3200	2358
	swing out	7001451	7001655	1000 ml	1 x 250 ml	62　x 122	3200	2358
	swing out	7001451	7001396	800 ml	1 x 200 ml	56.6 x 104	3200	2358
	swing out	7001451	7001397	800 ml	2 x　100 ml	44　x 104	3200	2358
7001450	swing out	7001451	7001398	800 ml	4 x　50 ml	34　x 100	3200	2358
	swing out	7001451	7001399	900 ml	9 x　25 ml	24　x 100	3200	2358
	swing out	7001451	7001400	1020 ml	17 x　15 ml	16.5 x 100	3200	2358
	swing out	7001451	7001401	672 ml	24 x　7 ml	12　x 100	3200	2358
	swing out	7001656	-	-	3 plates　x　96 microtiter	-	3200	2117

Swing out rotor

7000552

Buckets

7000763　　7001075　　7000764

ASTM buckets
for testing
sediments in oil and
petroleum

200 Height x36 mm Ø
for buckets Part No. 7001075

158 Height x 58 mm Ø max.
for buckets Part No. 7000764

Part No. head	Rotor type	Open Bucket	Total max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	swing out	7000763	1000 ml	1 x 250 ml	56 x 147	3520	3567
7000552	swing out	7001075	4 x 1 ASTM	1 x ASTM cylindrical	36 x 200	3720	3567
	swing out	7000764	4 x 1 ASTM	1 x ASTM pear shaped	58 x 158	3720	3567

Note: All buckets and adapters come without tubes unless stated, see page 127 for tubes and accessories.

Refrigerated high capacity microprocessor controlled centrifuge suitable for tubes, flasks and blood bags "Macrofriger-BL-Blood"

CONTROLLABLE TEMPERATURES FROM 4 TO 40 °C.
CAPACITY FOR FLASKS UP TO 1000 ml AND ESPECIALLY FOR TRIPLE AND QUAD BLOOD BAGS FROM 500-800 ml.
MAXIMUM CAPACITY 12 BAGS.

Original J.P. Selecta design. With maintenance free induction drive motor

APPLICATIONS

Specially designed for blood bank applications, where repeatability, precision and reliability of: speed, time, temperature, acceleration and deceleration are significant factors in obtaining perfect separations of the distinct blood fractions.
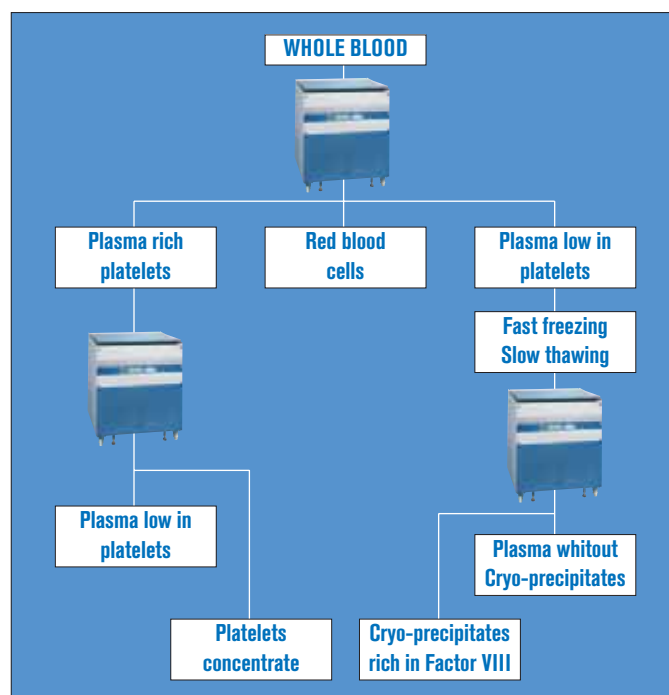
Serology investigatios.
Molecular biology.
Serum separation, pharmaceutical applications.

FEATURES

Case: internal structure of tubular steel with lateral Dur-al supports.
Internal Stainless steel bowl .
Aluminium windshield protector.
Safety shield: 8 mm thick steel.
Swing-out rotor, buckets and adapters made of high-density material, engraved identification unalterable.
Suspended motor with silent-block and shock absorbers that guarantee smooth, quiet operation without vibrations.
Drive force: equipped with an induction drive maintenance free and highly efficient pollution free motor.
Semi-hermetically sealed, compressor pollution free with no hydrocarbons or fluorocarbons.
Mounted on an anti vibration adjustable rubber feet.
Microprocessor digital control of all functions: speed, acceleration, brake, R.C.F., temperature, time, 20 program memory, rotor identification, operation fault alarm.

Cross-section of the motor, rotor drive mechanism, showing the windshield protector with lid that reduces the air resistance and maintains a regulated temperature.

CONTROL PANEL INFORMATION

LCD display of 2 x 20 characters that permanently show the running conditions of the machine in the form of machine/operator communication.
Message and display:

STATUS	Machine state,
STOP	Not running.
START	Running.
STANDBY	Waiting for command.
STORED	Stores the last set of data input into the machine.
CONFIG	Change the parameter of the machine.
PROGRAM	Select a pre-stored programme.
RAMP	The machine is accelerating to its set value.
SET SPEED	The machine is running at the set speed.
BRAKE	The machine has finished its run and is now braking.
ALARM	There is an error:

POWER FAIL: The power was disconnected while in operation.
ROTOR FAIL: The rotor was not identified.
DOOR OPEN: The lid has not been closed properly.
UMBALANCED: The buckets are not well balanced or the tubes are not evenly distributed
EEPROM FAIL: The data or parts of the data have not been programmed.
CONTROL FAIL: The speed detector has failed to read the machine speed.
OVER TEMP: The cooling system is in excess of the set temperature
PROGRAM TIME: The length of time for the run has nor been inserted.

Image showing the rotor and double buckets for quad and triple blood bags of 500 and 800 ml.
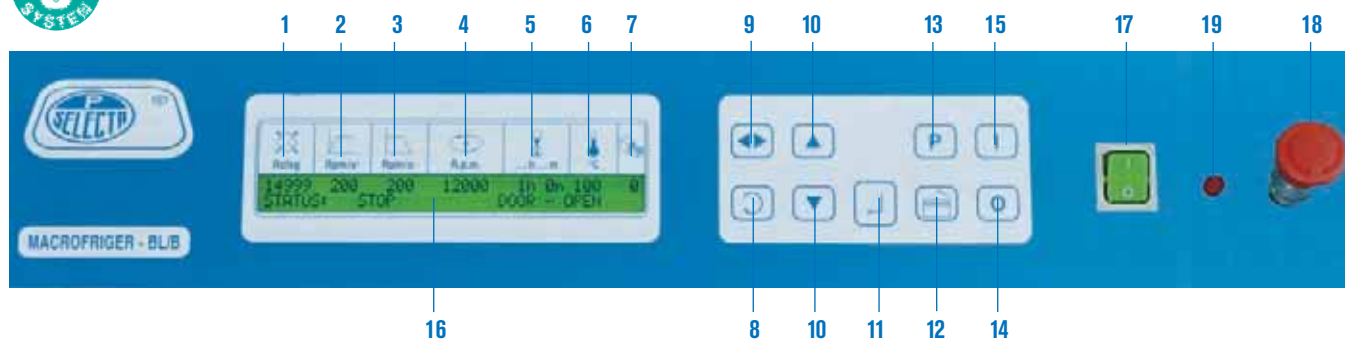
1. R.C.F.
2. Acceleration ramp.
3. Deceleration ramp.
4. Speed.
5. Time.
6. Temperature.
7. Memory.
8. Configure.
9. Cursor.
10. Increase decrease value.
11. Validate / Confirm settings.
12. Open lid.
13. Program / Stored.
14. Stop.
15. Run / Start.
16. LCD display.
17. Mains switch.
18. Emergency stop.
19. Red Light indicator showing emergency stop.

TECHNICAL SPECIFICATION

Maximum volume: . . . . .9600 ml
Maximum bucket volume: .1600 ml
Speed: . . . . .from 300 to 4070 r.p.m.
Accuracy: . . . .± 5 r.p.m.
Resolution r.p.m.: . . . . .10 r.p.m.
R.C.F.: . . . . .from 29 to 5370
Imbalance: . . . .± 5 g
Accuracy: . . . . .4 g
Temperature range: . . . . .from 0 °C to 40 °C
Temperature stability: . . . .±4 °C
Resolution: . . . . .1 °C
Temperature range: . . . . .59 min. 59 sec.
Centrifuge radius: . . . . .290 mm
Acceleration profile: 5
Brake profile: . . . . .9 linear 6 quadratic
Voltage: . . . . .230/400 three phase.
Power: . . . . .4500 VA

MODEL

Part No.	Max. Volume ml	Max. Capacity	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001390	**9600**	**6 x 1600 ml**	**105**	**90**	**100**	**5500**	**420**

ACCESSORIES

Swing out rotor 6 place, treated steel.

Buckets and adapters with engraved indentification. Autoclavable.

Buckets with two compartments for blood bags of 500 to 800 ml. For triple and quad bags
Part No.**7001392**

Single bucket. Capacity: 1 blood bag of 500 to 800 ml or 1 flask of 1 litre or with tube adapters.
Part No. **7001393**

Part No. **7001391**

Adapters for single bucket Part No. 7001393.

Bottle

| 1001394 | 7001395 | 7001396 | 7001397 | 7001398 | 7001399 | 7001400 | 7001401 |

Double Bucket	Single Bucket	Part No. adapter	Total max. Volume (6 adapters)	Capacity: bags, tubes by adapter		Ø x Length mm		R.p.m. Min./Max.	R.c.f. (xg) Min./Max.
7001392	–	–	**9600 ml**	**2 bags 500 or 800 ml**		–		**300/4070**	**29/5370**
–		**Bottle 1000 ml 1001394**	**6000 ml**	**1 bottle 1000 ml or 1 bag**		98	x 175	**300/4070**	**29/5370**
–	**7001393**	**7001395**	**3000 ml**	**1 bottle**	**500 ml**	70	x 165	**300/4070**	**29/5370**
–	**Capacity**	**7001396**	**1200 ml**	**1 bottle**	**200 ml**	56.6	x 104	**300/4070**	**29/5370**
–	**without adapter:**	**7001397**	**1200 ml**	**2 tubes**	**100 ml**	44	x 104	**300/4070**	**29/5370**
–	**1 bag of**	**7001398**	**1200 ml**	**4 tubes**	**50 ml**	34	x 100	**300/4070**	**29/5370**
–	**500 to 800 ml**	**7001399**	**1350 ml**	**9 tubes**	**25 ml**	24	x 100	**300/4070**	**29/5370**
–	**or 1x bottle**	**7001400**	**1530 ml**	**17 tubes**	**15 ml**	16.5	x 100	**300/4070**	**29/5370**
–	**1000 ml**	**7001401**	**1008 ml**	**24 tubes**	**7 ml**	12	x 100	**300/4070**	**29/5370**

Note: All buckets and adapters come without tubes unless stated, see page 127 for tubes and accessories.
Other adapters can be manufactured to the customers specification.

COMMON ACCESSORIES. Tubes of glass and plastic.

Plastic tubes and flasks with screw cap lids.

Volume ml	Dimensions mm	Type	Part No.	Material	Max. (xg) range	Temperature °C
10	16 Ø x 80	Comecta	5752399	Polypropylene	50000	4 ... 121
		Herolab	5752421	Polypropylene	57000	–180 ... 145
		Herolab	5752401	Polycarbonate	57000	–150 ... 121
30	25 Ø x 92	Comecta	5752398	Polypropylene	50000	4 ... 121
		Herolab	5752955	Polypropylene	64000	–180 ... 145
		Herolab	5752951	Polycarbonate	64000	–150 ... 121
50	29 Ø x 103	Comecta	5752397	Polypropylene	50000	4 ... 121
		Herolab	5753205	Polypropylene	69000	–180 ... 145
		Herolab	5753201	Polycarbonate	69000	–150 ... 121
80	38 Ø x 105	Comecta	5752396	Polypropylene	40000	4 ... 121
		Herolab	5753243	Polypropylene	50000	–180 ... 145
		Herolab	5753241	Polycarbonate	50000	–150 ... 121
200	56.6 Ø x 104	Herolab	5715202	Polypropylene	10000	–180 ... 145
		Herolab	5715203	Polycarbonate	10000	–150 ... 121
250	62 Ø x 122	Comecta	5752395	Polypropylene	13200	4 ... 121
		Herolab	5753411	Polypropylene	33000	–180 ... 145
		Herolab	5753401	Polycarbonate	33000	–150 ... 121
500	70 Ø x 165	Herolab	5753512	Polypropylene	14000	–180 ... 145
		Herolab	5753501	Polycarbonate	14000	–150 ... 121
1000	98 Ø x 175	Herolab	5752571	Polypropylene	4936	–180 ... 145
		Herolab	5752561	Polycarbonate	4936	–150 ... 121

Type HEROLAB polycarbonate tubes transparent Polypropylene tubes translucent. Autoclavable.

Type COMECTA polypropylene translucent. Autoclavable.

Glass Tubes.

Volume	Dimensions mm	Part No.
Micro-haematocrit*	1.4 Ø x 75	7000910
7 ml	12 Ø x 100	7000773
15 ml	16.5 Ø x 100	7000772
25 ml	24 Ø x 100	7000771
50 ml	34 Ø x 100	7000770
100 ml	44 Ø x 104	7000769
250 ml	56 Ø x 147	7000768
ASTM	Conical	7001088
ASTM	Pear shape	7000767

*Box of 100 tubes.

SPARE

Buckets for angle rotors.

Suitable for model	Part No. 7001403 15 ml plastic	Part No. 7001500 15 ml metal	Part No. 7005000 50 ml metal	Part No. 7001000 100 ml metal
Cencom II Part No. 7002240	Yes			
Centro-8 Part No. 7002356		Yes		
Centromix II-BL Part No. 7002555		Rotor 7000550		
Meditronic BL-S Part No. 7001376		Rotor 7000743	Rotor 7000742	Rotor 7000741
Medifriger BL-S Part No. 7001377		Rotor 7000743	Rotor 7000742	Rotor 7000741
Macrotronic BL Part No. 7001385		Rotor 7000560	Rotor 7000561	
Macrofriger BL Part No. 7001386		Rotor 7000560	Rotor 7000561	

ALL THE ROTORS, BUCKETS AND ADAPTERS COME WITH LASER ETCHED IDENTIFICATION.

Centrifuge kit for separating plasma rich platelets from whole blood

MADE UP OF:

This model can be marked as medical device

Centrifuge "CENTRO-4-BL"
Swing-out rotor (not an angle rotor), that performs the correct separation of the distinct blood fractions.
Capacity: 4 tubes, 75 x 13 mm VAC tubes.
Electronic control with digital display. Maximum speed of 5000 r.p.m. Maximum time 15 minutes or continuous operation. Fixed acceleration and deceleration rate.
Strong moulded external case of ABS plastic, extremely light weight, (6 Kg).
Part No. **7002560**

Metallic thermostat dry block "BIO-BATH"
Small size with a fixed temperature of 37 ºC with check thermometer, 8 tube positions for 75x13 VAC tubes.
Note: Accelerates the extraction of plasma for faster results and waiting time for the patient.

MODEL

Part No.	Height / Width / Depht (exterior) cm			Stability ºC	Power W	Weight Kg
7001561	8.8	9.6	7	0.5	8	0.5

Part No. **5904013**   **Pipette** fixed volume "Dispen-Fix" 50 µl
Part No. **5904014**   **Pipette** fixed volume "Dispen-Fix" 100 µl
Part No. **5904017**   **Pipette** fixed volume "Dispen-Fix" 500 µl
Part No. **1001562**   **Support** rack made from stainless steel for 3 pipettes
Part No. **1001563**   **Tube rack** made from stainless steel for 24 tubes (6x4) of 75x13 mm VAC tubes.
Part No. **1001574**   **Flask** containing 10% calcium chloride, quantity 30 units.
Part No. **1001568**   **Strap** bracelets of pure silicon "Esmarch". 3 units.

1 Part No. **1001558** **Pipette tips, sterile** with filters packed as individual tips, size 5-200 µl, and quantity 250 units.*
1 Part No. **1001559** **Pipette tips**, sterile with filters packed as individual tips, size 100-1000 µl, and quantity 250 units.*
2 Part No. **1001565** **Tubes VE** Sodium citrate 75x13mm VAC tubes, blue 4 ml sterile tubes. Box of 100 units.
2 Part No. **1001566** **Tubes** 75x13 mm sterile,100 units in bags of 4 units.
3 Part No. **1001567** **Micro extractor** for the extraction of blood by vacuum. Box of 50 units. Complete with two adapters.

> **Note:**   * All above components are individually sterilized.
> If aseptic conditions are required a laminar flow cabinet should be used for sample manipulation.

1   **2**   **3**

Part No. **5900499**   **Timer alarm bench top** "RELAVIS" 0-60 minutes.

J.P. SELECTA has designed an effective small centrifuge and thermostat dry block that is suitable for easy transportation for consultants, emergency services, reception labs and clinical trials etc. To maintain the complete kit, a robust **metallic case** with moulded interior is provided. The complete kit comprises of:

1 centrifuge "Centro-4", 1 metallic thermostat dry block "Bio-Bath", mains cables, 3 fixed volume pipettes "Dispen-Fix", 1 rack 24 tubes, 1 timer "Relavis", and 2 boxes for consumables, tubes, tips, micropercusors, strips and flasks. In the lid are clip positions for easy access for the pipette rack and 3 pipettes. Total weight with all items: 11.5Kg.

Part No. **1001570**   **Metallic** case with moulded compartments Armaflex, two perspex boxes for tubes and consumable Clips for pipette support.

"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

LABORATORY OVENS AND INCUBATORS
Leading edge technology. Maximum Precision.

Drying and sterilization ovens:
Drying: For all drying processes of diverse laboratory material or glass material in general, printed circuits, granule and powder, etc.
Sterilization: They guarantee microorganisms destruction, either pathogen ones or not, which will be over or inside the material. They allow sterilization of powder and non-volatile viscose substances. For a good sterilization, a temperature between 160 °C and 180 °C and 2 hours exposition is usually required.
Vacuum drying ovens:
They are developed for applications of thermal and drying treatments of heat-sensitive products.
Bacteriological culture ovens:
For microorganisms or culture incubation in clinical diagnosis, in sanitary or nutritious industry. The samples are preserved at a determined temperature and period of time.
Cooled low temperature ovens:
For microorganisms or culture incubation, in clinical diagnosis, in sanitary or nutritious industry. The samples are preserved at a determined temperature and period of time.
Anaerobic cell and tissue cultures for CO_2 ovens:
Essential element in laboratories for research, cell biology, molecular biology, different cancer sorts and general pharmaceutical laboratories.

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.
• CO_2 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.

MODEL RANGE	MODELS	CONTROL	CAPACITY					Safety	RS-232

STERILIZERS POUPINEL — 2.5 litres / 19 litres

MODEL RANGE	MODELS	CONTROL	2.5 litres	19 litres	Safety	RS-232
100 ... 250 °C	DRYTIME	ANALOGUE	2000911	-	YES	-
60 ... 250 °C	DRYTERM	ANALOGUE	-	2000787	YES	-

GLASS DRYING — 126 litres

MODEL RANGE	MODELS	CONTROL	126 litres	Safety	RS-232
40 ... 170 °C	DRYGLASS	ANALOGUE	2000381	YES	-

CONVECTION NATURAL — 19 / 36 / 52 / 80 / 150 litres

MODEL RANGE	MODELS	CONTROL	19 litres	36 litres	52 litres	80 litres	150 litres	Safety	RS-232
40 ... 250 °C	CONTERM	ANALOGUE	2000208	2000209	2000200	2000210	2000201	YES	-
Ambient+5 ... 250 °C	DIGITHEAT	DIGITAL µ	2001241	2001242	2001243	2001244	2001245	YES	YES

FORCED AIR, FAN CONVECTION BENCH TOP — 33 / 47 / 76 / 145 litres

MODEL RANGE	MODELS	CONTROL	33 litres	47 litres	76 litres	145 litres	Safety	RS-232
Ambient+5 ... 250 °C	DIGITRONIC	DIGITAL µ	2005131	2005151	2005141	2005161	YES	YES
Ambient+5 ... 250 °C	DIGITRONIC glass door	DIGITAL µ	2005132	2005152	2005142	2005162	YES	YES

FORCED AIR, FAN CONVECTION FLOOR STANDING — 216 / 288 / 400 / 720 litres

MODEL RANGE	MODELS	CONTROL	216 litres	288 litres	400 litres	720 litres	Safety	RS-232
Ambient+5 ... 250 °C	DRYBIG 230/400V III PHASES	DIGITAL µ	2002961	2002971	2003721	2003741	YES	YES
Ambient+5 ... 250 °C	DRYBIG 230V I PHASE	DIGITAL µ	2002962	2002972	-	-	YES	YES

HIGH TEMPERATURE — 80 litres

MODEL RANGE	MODELS	CONTROL	80 litres	Safety	RS-232
60 ... 400 °C	HIGHTEMP 230/400V III PHASES	DIGITAL µ	2001406	YES	-

VACUUM OVEN — 3 litres / 47 litres

MODEL RANGE	MODELS	CONTROL	3 litres	47 litres	Safety	RS-232
35 ... 200 °C	VACIOTEM T	DIGITAL µ	-	4001489	YES	YES
35 ... 200 °C	VACIOTEM TV	DIGITAL µ	-	4001490	YES	YES
Ambient+5 ... 170 °C	VACUO-TEMP	DIGITAL	4000474		YES	-

DESICCATOR — 55 litres

MODEL RANGE	MODELS	CONTROL	55 litres	Safety	RS-232
			1001403	YES	-

INCUBATION CHAMBER — 110 litres

MODEL RANGE	MODELS	CONTROL	110 litres	Safety	RS-232
Ambient+5 ... 57 °C	BOXCULT	DIGITAL	3000957	YES	-

INCUBATORS BENCH TOP — 19 / 36 / 52 / 80 / 150 litres

MODEL RANGE	MODELS	CONTROL	19 litres	36 litres	52 litres	80 litres	150 litres	Safety	RS-232
Ambient+5 ... 80 °C	INCUBAT	ANALOGUE	2000205	2000206	2001615	2000207	2000994	YES	-
Ambient+5 ... 80 °C	INCUDIGIT	DIGITAL µ	2001246	2001247	2001616	2001248	2001249	YES	YES

INCUBATORS LARGE AND FLOOR STANDING — 288 / 400 / 720 litres

MODEL RANGE	MODELS	CONTROL	288 litres	400 litres	720 litres	Safety	RS-232
Ambient+5 ... 80 °C	INCUBIG	DIGITAL µ	2000237	2003711	2002471	YES	YES

LOW TEMPERATURE CABINETS — 36 / 80 / 150 litres

MODEL RANGE	MODELS	CONTROL	36 litres	80 litres	150 litres	Safety	RS-232
5 ... 60 °C	PREBATEM	DIGITAL µ	2000961	2000962	2001250	YES	YES

CO₂ INCUBATOR — 150 litres

MODEL RANGE	MODELS	CONTROL	150 litres	Safety	RS-232
Ambient+5 ... 50 °C	INCUBATOR CO$_2$	DIGITAL µ	4002628	YES	YES

WITH REFRIGERATION — 160 / 319 / 442 / 600 litres

MODEL RANGE	MODELS	CONTROL	160 litres	319 litres	442 litres	600 litres	Safety	RS-232
+5 ... 65 °C	HOTCOLD-S	DIGITAL µ	2101618	-	-	-	YES	-
0 ... 50 °C	HOTCOLD A-B-C	DIGITAL µ	-	2101502	2101503	2101504	YES	YES
-10 ... 50 °C	HOTCOLD UB - UC	DIGITAL µ	-	2101505	2101506		YES	YES
5 ... 50 °C	HOTCOLD GL	DIGITAL µ	-	-	-	2101507	YES	YES

MUFFLE FURNACE — 3.6 litres / 9 litres

MODEL RANGE	MODELS	CONTROL	3.6 litres	9 litres	Safety
Up to ... 1150 °C	SELECT-HORN	DIGITAL	2000366	2000367	YES

µ: with microprocessor.

Poupinel dry heat sterilizer "Drytime"

ADJUSTABLE TEMPERATURES FROM 100 °C UP TO 250 °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.
Analogue temperature reading thermometer.

MODEL

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
2000911	2.5	5	30	16	17	40	32	430	8

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

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
2000787	19	25	32	23	37	54	34	770	19
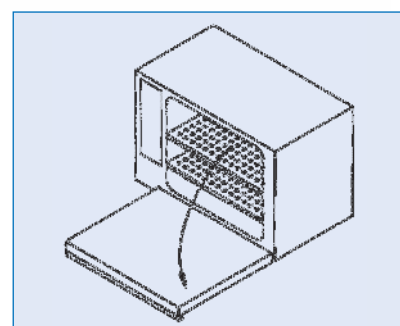
Glass drying oven "Dryglass"

FAN ASSISTED AIR CIRCULATION.
ADJUSTABLE TEMPERATURE FROM 40 °C TO 170 °C.

SAFETY:
EN.61012 STANDARD OVER TEMPERATURE SAFETY CUT OUT FITTED.
DIN 12.880.2 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 knop.
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

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelf Positions	Power W	Weight Kg
2000381	126	45	70	40	66	94	54	8	3000	65

ACCESSORIES

Accessories must be factory installed.

Part No.

2000002 **Timer switch** 0-120 minutes.
2000003 **Timer switch** 0-12 hours.

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

SPARES

Part No.
2000081 **Shelf guides** x 2.
2000091 **Shelf.**
Each shelf requires 2 guides.

OVENS AND INCUBATORS SERIES 2000

MODELS:
- NATURAL AIR CONVECTION, DRYING AND STERILIZATION.
- FAN ASSISTED CIRCULATION, UNIVERSAL APPLICATIONS.
- NATURAL AIR CONVECTION, BACTERIOLOGY AND INCUBATION.

CONTROL: ANALOGUE OR DIGITAL MICROPROCESSOR CONTROL OF TEMPERATURE AND TIME, MODEL DEPENDENT.
COMPLIES WITH THE STANDARDS: DIN 50011 - DIN 58945. REQUIRED FOR HEATING, STABILITY AND HOMOGENEITY.

2000 serie

SAFETY:
STANDARD EN.61010. INCORPORATED FIXED OVER TEMPERATURE DEVICE .
STANDARD DIN 12880.2. (CLASS 2 AND 3.1)SAFETY THERMOSTAT CONTROLLER FITTED.

Leading edge technology

Detailed longitudinal cross section.

ORIGINAL SELECTA
Locking device on analogue temperature controls and security.

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.

5. Flexible floating door seal, self adjusting that maintains the best possible seal.

Technical Properties.

6. Excellent thermal qualities of the insulation has the optimum performance according to heater capacity and power consumption, with minimal external temperature loss.

7. 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:

8. Locking device in analogue temperature controls.

9. Adjustable guide and shelf positions.

10. Double seal around the chamber to provide a gentle but effective seal.

11. Floating spring door that adjusts the pressure and absorbs the thermal expansion.

12. Adjustable door pressure system closure.

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 Analogue control.
1. Mains switch.
2. "On" indicator lamp.
3. Temperature control thermostat.
4. Heating "ON" indicator lamp.
5. Analogue thermometer temperature indicator.
6. Vacant positions for additional accessories.
7. Controllable safety thermostat that disconnects power to the heater in case of a fault in the main thermostat, manual reset (Directive DIN12880.2 class 2 and 3.1) and function signal lamp.

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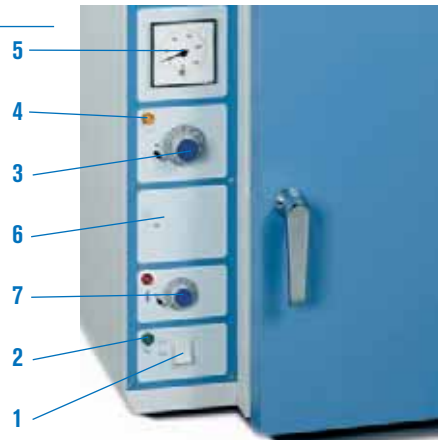
Models with microprocessor control and digital display.
1. Mains switch with "ON" indicator.
2. Temperature mode indicator.
3. Time mode indicator.
4. Display for temperature and time.
5. Operating, "RUN" mode.
6. Delay time state indicator.
7. Push button temperature selector.
8. Push button time selector.
9. Push button "increase" value or parameter.
10. Push button "decrease" value or parameter.
11. Push button Start / Stop.
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 for a computer, printer or USB adapter.
16. Controllable safety thermostat (that disconnects power to the heater in case of a fault in microprocessor), manual reset and function signal lamp.

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13
14
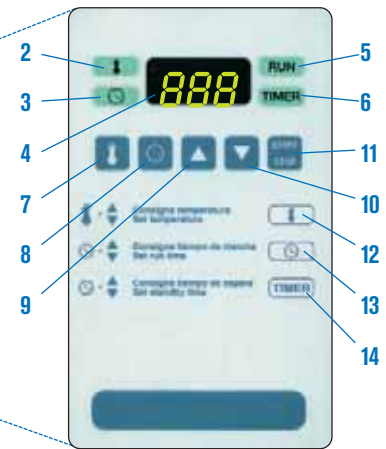
MODEL SUMMARY TABLE

Models	CONTERM	DIGITHEAT	DIGITRONIC	INCUBAT	INCUDIGIT
TYPE	**Drying Oven**	**Drying Oven**	**Universal**	**Bacteriological Incubator**	**Bacteriological Incubator**
CONTROL	**Temperature**	**Temperature + time**	**Temperature + time**	**Temperature**	**Temperature + time**
DISPLAY	**Analogue**	**Digital**	**Digital**	**Analogue**	**Digital**
AIR	**Convection**	**Convection**	**Fan assisted**	**Convection**	**Convection**
CIRCULATION	**natural**	**natural**		**natural**	**natural**
CAPACITY LITRES	**19 - 36 - 52 - 80 - 150**	**19 - 36 - 52 - 80 - 150**	**33 - 47 - 76 - 145**	**19 - 36 - 52 - 80 - 150**	**19 - 36 - 52 - 80 - 150**

ACCESSORIES

Part No.
2000002 Timer switch 0-120 minutes.
Suitable for **CONTERM**.
2000003 Timer switch 0-12 hours.
Suitable for **CONTERM** and **INCUBAT**.

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

4120131 USB adapter model.
Pen-Drive included (Memory board) for data storage. Only for RS-232 outlet ovens.

Part No.
2000016 Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.
Suitable for **DIGITHEAT**, **DIGITRONIC** and **INCUDIGIT**.

2000007 Digital programmable microprocessor. Capacity: 10 programs of 100 segments. Programmable timer: up to 99 hours 59' 59''. Program repitition: up to 99 times. Programs can also be linked for up to 4 stages. RS-232 interface for data down load to a printer or computer.
Suitable for **DIGITRONIC**.

DRYING AND STERILIZATION OVENS

Drying and sterilization ovens "Conterm"

NATURAL CONVECTION.
TEMPERATURE THERMOSTAT CONTROL WITH ANALOGUE THERMOMETER.
FOR ADJUSTABLE TEMPERATURES FROM 40 °C UP TO 250 °C.
STABILITY: ±0.5 °C UP TO 100 °C. HOMOGENEITY: ±1 °C UP TO 100 °C.

SAFETY:
STANDARD EN.61010. INCORPORATED FIXED OVER TEMPERATURE DEVICE .
STANDARD DIN 12880.2. (CLASS 2 AND 3.1) SAFETY THERMOSTAT CONTROLLER FITTED.

FEATURES, CONTROL PANEL, SAFETY, STANDARD AND ACCESSORIES (see pages 134 and 135).

Models Conterm, Part No. 2000208, 2000209 and 2000210.

Model Conterm type Poupinel, Part No. 2000200 and 2000201.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelf Positions	Power W	Weight Kg
2000208	19	30	25	25	50	60	44	5	640	27
2000209	36	40	30	30	60	65	49	7	950	35
2000200	52	33	47	33	53	82	52	5	1075	44
2000210	80	50	40	40	70	74	59	8	1230	54
2000201	150	50	60	50	70	95	68	8	2150	76

ACCESSORIES
Accessories must be installed in the factory.

Part No.
2000002 Timer switch 0-120 minutes.
2000003 Timer switch 0-12 hours.

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

Performance graph of temperature and time.
A. Set at 250 °C: 1 h 30'.
B. Set at 180 °C: 1 h 12'.
C. Set at 100 °C: 1 h.

SPARES
Shelves and guides.

Oven Part No.	2000208	2000209	2000200	2000210	2000201
Guides set (2 units)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

Each shelves requires two guides (one set).

Drying and sterilization ovens "Digitheat"

NATURAL CONVECTION.
DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C UP TO 250 °C.
STABILITY: ±0.25 °C, UP TO 100 °C. HOMOGENEITY: ±1 °C, UP TO 100 °C.
SET ERROR: ±2 % OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C.

2000 serie

SAFETY:
STANDARD EN.61010. INCORPORATED FIXED OVER TEMPERATURE DEVICE .
STANDARD DIN 12880.2. (CLASE 2 AND 3.1)CONTROLLABLE SAFETY THERMOSTAT FITTED.

Reaches working temperature with minimum delay

FEATURES, CONTROL PANEL, SAFETY, STANDARD AND ACCESSORIES (see pages 134 and 135).

USB

RS232

Model Digitheat type Poupinel,
Part No. 2001243 and 2001245.

Model Digitheat, Part No. 2001241, 2001242 and 2001244.

RS-232 Interface output for a computer, printer or USB adapter.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelf Positions	Power W	Weight Kg
2001241	19	30	25	25	50	60	44	5	600	24
2001242	36	40	30	30	60	65	49	7	900	35
2001243	52	33	47	33	53	82	52	5	1000	44
2001244	80	50	40	40	70	74	59	8	1200	59
2001245	150	50	60	50	70	95	68	8	2100	73

ACCESSORIES

4120131 USB adapter model.
Pen-Drive included (Memory board) for data storage.

Accessories must be factory installed:

Part No.

2000016 Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.
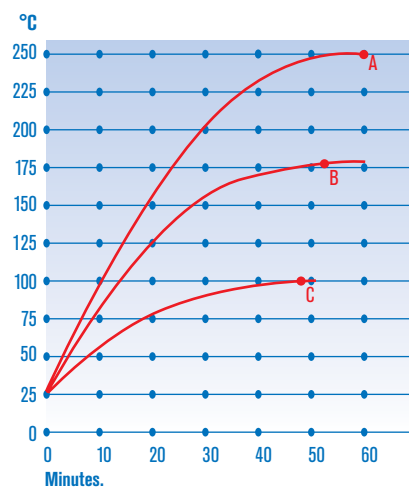
Performance graph of temperature and time.
A. Set at 250 °C: 60'.
B. Set at 180 °C: 54'.
C. Set at 100 °C: 48'.

SPARES
Shelves and guides.

Oven Part No.	2001241	2001242	2001243	2001244	2001245
Guides set (2 units)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

Each self requires two guides (one set).

Universal precision ovens "Digitronic"

FAN ASSISTED CIRCULATION.
BACTERIOLOGICAL ASSAYS, DRYING PROCESSES AND STERILIZATION.
MICROPROCESSOR CONTROL AND DIGITAL DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C UP TO 250 °C.
STABILITY: ±0.25 °C, UP TO 100 °C. HOMOGENEITY: ±1 °C, UP TO 100 °C.
SET ERROR: ±2% OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C.

2000 serie

SAFETY:
EN.61012 STANDARD OVER TEMPERATURE SAFETY CUT OUT FITTED.
ADJUSTABLE OVER TEMPERATURE SAFETY THERMOSTAT DIN 12.880.2 (CLASS 2 AND 3.1) FITTED.

Multipurpose oven. Fast response and recuperation of temperature.

FEATURES

1. Microprocessor control with Digital display of temperature with pre-set programmable run time and pre-set temperature monitoring using a Pt 100 sensor probe.
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. Control panel with additional locations for mounting accessories.
12. Epoxy coated outer case.
13. Ventilator with adjustable outlet (access at the back of the unit).
14. Adjustable height positions for guides and shelves.
15. Shelves made of AISI 304 stainless steel.
16. Toughened double safety glass door for viewing the contents of the oven without having to open the door. (Model dependent).

CONTROL PANEL, SAFETY, STANDARD AND ACCESSORIES (see pages 134 and 135).
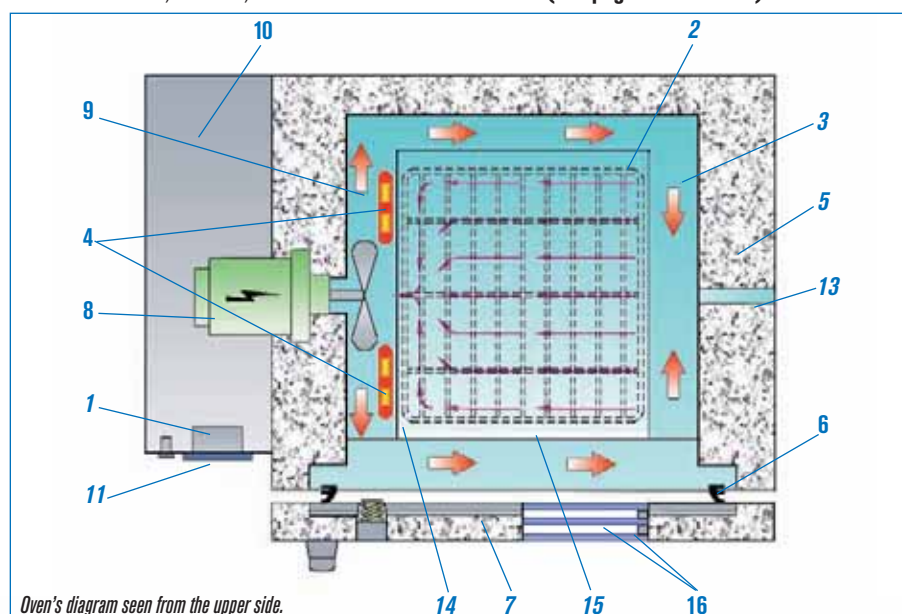
Oven's diagram seen from the upper side.
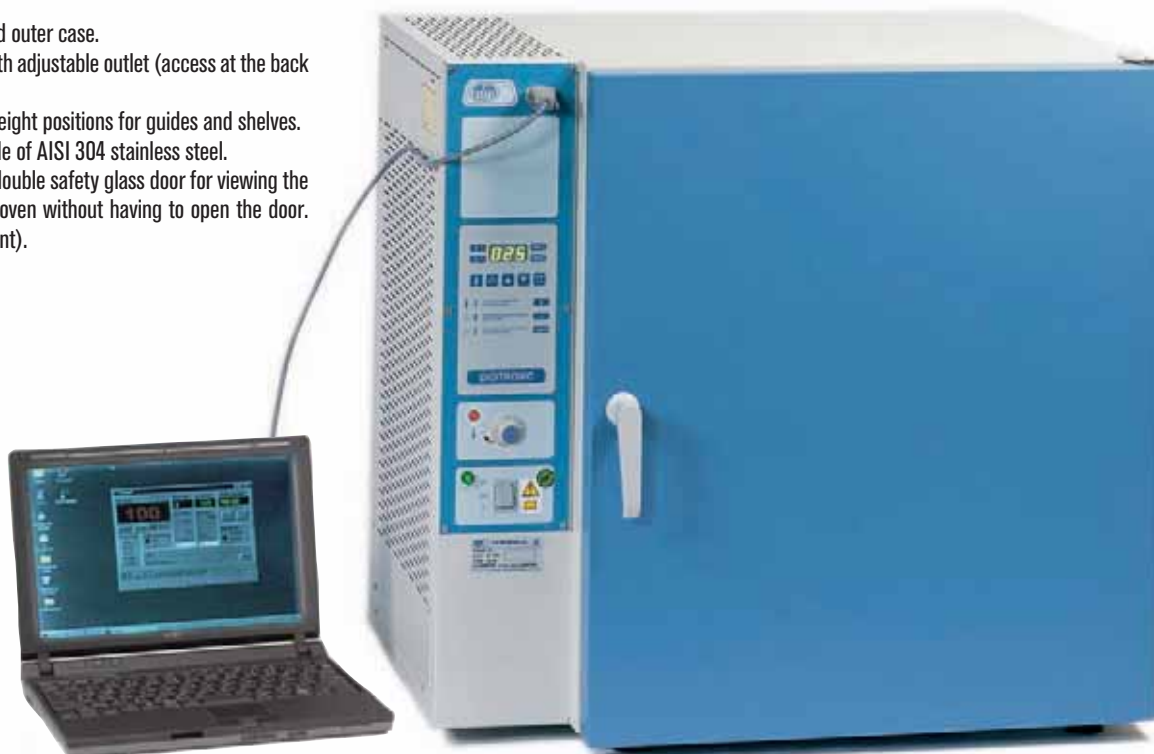
RS-232 for data download to a printer or computer or USB adapter.

Model Digitronic with solid metal door. Part No. 2005131 and 2005141. (With toughened glass window door. Part No. 2005132 and 2005142).

Model Digitronic type Poupinel, door with toughened double glass window Part No. 2005152 and 2005162.

Model Digitronic type Poupinel, Part No. 2005151 and 2005161.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Door Type	Heating rate to 100 °C minutes	Recovery time* minutes	Complete air exchange per hour	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelf Positions	Power W	Weight Kg
2005131	33	metal	15	7	16	40	28	30	60	65	55	7	1200	38
2005132	33	glass	15	7	16	40	28	30	60	65	55	7	1200	40
2005151	47	metal	16	7	16	33	45	32	53	81	58	5	1200	46
2005152	47	glass	16	7	16	33	45	32	53	81	58	5	1200	50
2005141	76	metal	17	9	14	50	38	40	70	75	65	8	1600	58
2005142	76	glass	17	9	14	50	38	40	70	75	65	8	1600	64
2005161	145	metal	17	10	12	50	58	50	70	95	72	8	2000	74
2005162	145	glass	17	10	12	50	58	50	70	95	72	8	2000	79

* 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'.
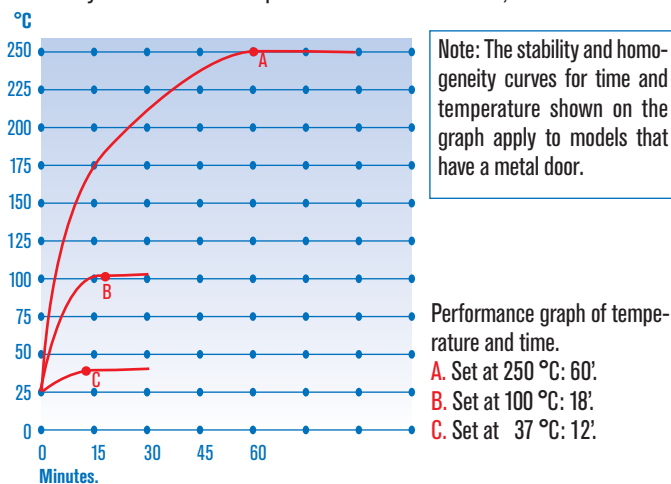
SPARES
Shelves and guides.

Oven Part No.	2005131 2005132	2005151 2005152	2005141 2005142	2005161 2005162
Guides (2) (Set)	2000012	2000033	2000013	2000015
Shelves	2000072	2000073	2000074	2000075

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

ACCESSORIES

4120131 USB adapter model. Pen-Drive included (Memory board) for data storage.

Accessories that must be installed in the factory:

2000016 Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.

2000007 Digital programmable microprocessor. Capacity: 10 programs of 100 segments. Programmable timer: up to 99 hours 59' 59''. Program repetition: up to 99 times. Programs can also be linked for up to 4 stages.
RS-232 interface for data download to a printer or computer.

Ovens, Incubators and Furnaces **139**

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: ±0.25 °C, UP TO 100 °C. HOMOGENEITY: ±1.2 °C, UP TO 100 °C
SET ERROR : ±2.5% OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C

USB

RS232

SAFETY:
STANDARD EN.61010. FIXED OVER TEMPERATURE DEVICE FITTED.
STANDARD DIN 12880.2. (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. Pre mixing 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 air flow from the premixing chamber round the heating elements to the oven chamber.
8. Independent insulated control box.
9. Air inlet.
10. Ventilator with adjustable outlet of 120 Ø mm.
11. Shelf guides.
12. Shelves made of AISI304 stainless steel.
13. Flexible silicon door gasket around the entrance of the chamber.
14. Epoxy coated outer case.
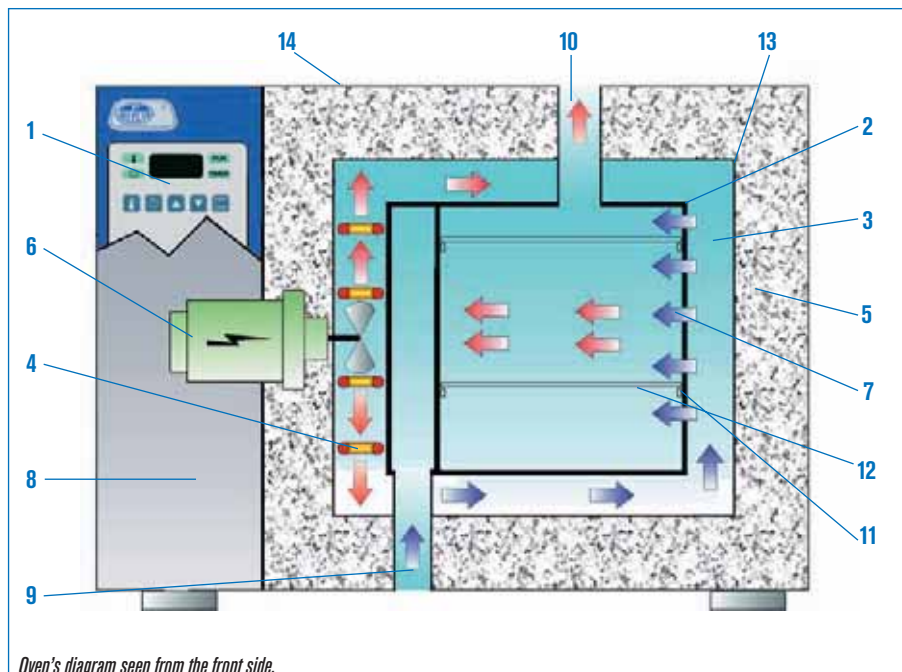
CONTROL PANEL

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, for printer or USB adapter.
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

Part No.	Voltage	Capacity litres	Heating rate to reach 100 ºC, minutes	Recovery time* minutes	Air exchanges per hour	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Number of shelf positions	Power W	Weight Kg
2002961	230 / 400 three phase	216	16	10	12	60	60	60	87	112	84	6	4000	150
2002962	230 single phase													
2002971	230 / 400 three phase	288	18	10	11	80	60	60	107	112	84	8	5000	161
2002972	230 single phase													
DOUBLE DOOR CABINET														
2003721	230 / 400 three phase	400	18	13	6	100	80	50	128	132	74	10	5250	200
2003741	230 / 400 three phase	720	19	13	6	120	100	60	150	152	80	12	6000	264

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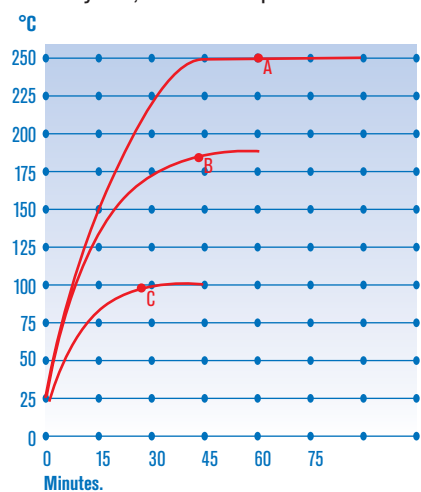
Performance graph of temperature and time.
A. Set at 250 °C: 1 h 6'.
B. Set at 180 °C: 42'.
C. Set at 100 °C: 24'.

ACCESSORIES

4120131 USB adapter model.
Pen-Drive included (Memory board) for data storage.

Accessories that must be installed in the factory :

2000016 Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.

2000007 Digital programmable microprocessor. Capacity: 10 programs of 100 segments. Programmable timer: up to 99 hours 59' 59''. Program repetition: up to 99 times. Programs can also be linked for up to 4 stages.
RS-232 interface for data download to a printer or computer.

SPARES
Shelves.

Oven Part No.	2002961/62	2002971/72	2003721	2003741
Shelves	**2000062**	**2000062**	**2000063**	**2000064**

High temperature oven "Hightemp"

FAN CONVECTION.
DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURES FROM 60 °C UP TO 400 °C.
STABILITY: ±1 °C, UP TO 300 °C. HOMOGENEITY: ±3 °C, UP TO 300 °C
SET ERROR : ±2 % OF THE WORKING TEMPERATURE.

SAFETY:
STANDARD DIN 12880.2 ADJUSTABLE OVER TEMPERATURE THERMOSTAT FITTED.

FEATURE
Digital electronic temperature control. Independent control box chamber thermaly 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).
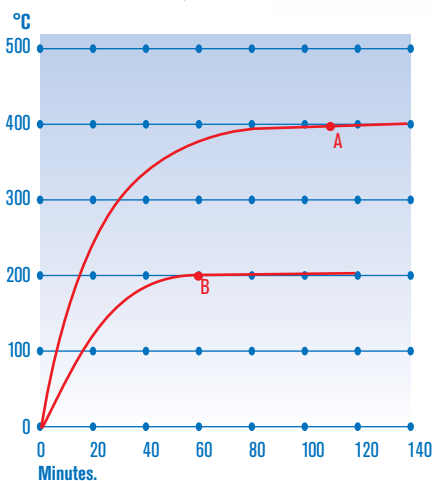
Performance graph of temperature and time.
A. Set at 400 ºc: 1h 50'.
B. Set at 200 ºc: 1h.

ACCESSORIES. Shelves made of AISI 310 stainless steel. Part No. **2000071**

MODEL

Part No.	Voltage	Capacity litres	Height / Width / Depth (interior) cm shelf			Height / Width / Depth (exterior) cm			Nº of shelf positions	Power W	Weight Kg
2001406	230 / 400 three phase	80	50	40	40	80	120	61	4	4000	75

ACCESSORIES
Accessories that must be installed in factory.

Part No.
2000007 Digital programmable microprocessor. Capacity: 10 programs of 100 segments. Programmable timer: up to 99 hours 59' 59''. Program repetition: up to 99 times. Programs can also be linked for up to 4 stages. RS-232 interface for data download to a printer or computer.

2000002 **Timer switch** 0-120 minutes.

2000003 **Timer switch** 0-12 hours.

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

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 ±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 12880.2 STANDARD ADJUSTABLE SAFETY THERMOSTAT FITTED.

FEATURE

Digital electronic control of: temperature, vacuum pressure and pre-selected pro-grammable 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, printer or USB adapter.

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 value.
13. Push button to decrease value.
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.

BACK

27. Air inlet.
28. Pump power connection.
29. Vacuum connection.
30. Adjustable safety thermostat

MODEL

Part No.	Vacuum Max.	Capacity litres	Ø / Depth (interior) cm		Height / Width / Depth (exterior) cm			Shelves	Power W	Weight Kg
4001490	**10^{-2} mm Hg**	**47**	**34**	**52**	**54**	**76**	**70**	**2**	**2000**	**73**

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

ACCESSORIES

4120131 USB adapter model.
Pen-Drive included (Memory board) for data storage.

Accessories see page 145

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.

USB
RS232

SAFETY:
OVER TEMPERATURE CUT OUT FITTED IN ACORDANCE WITH THE EN.61010 STANDARD.
DIN 12880.2 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, printer or USB adapter.

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

Part No.	Vacuum Max.	Capacity litres	Ø / Depth (interior) cm		Height / Width / Depth (exterior) cm			Shelves	Power W	Weight Kg
4001489	10⁻² mm Hg	47	34	52	54	76	70	2	2000	73

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

ACCESSORIES

4120131 USB adapter model.
Pen-Drive included (Memory board) for data storage.

Accessories see page 145

VACUUM EQUIPMENT ACCESSORIES FOR VACIOTEM-T AND VACIOTEM-TV

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-TEMP".

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 60 °C.
Portable, with lifting handle included.

MODEL

Part No.	Pump rate m³/h	Vacuum limit mbar	Height / Width / Depth (exterior) cm			r.p.m.	Power W	Weight Kg
5900621	**1,8**	**0.06**	**25**	**32**	**15**	**1400**	**180**	**11**

VACUUM PUMP CONNECTION KIT AND NON RETURN VALVE.

Description

Prevents the oil from the pump to penetrate the tube and consequentially to go into the vacuum oven chamber or vacuum desiccator.

Features

Made of an electro-valve and standard vacuum connections type KF DN16 calibre and switch cable that connects directly to the vacuum oven Part Nos. 4001489 and 4001490.

The vacuum pump is controlled via a Start/Stop switch from the control panel of the vacuum oven, model Vaciotem-T part No. 4001489 and automatically for Vaciotem-TV, part no.. 4001490.

Supplied with a high pressure rubber tube 8 x 15 mm Ø. 2 meters large.

Vacuum pump connection Kit
Part No. **4001537**
1. Vacuum pump connection Kit.
2. Vacuum pump "Vacum-10Pa"
Part No. **5900621**

1
2

Heated vacuum desiccator "Vacuo-Temp"

WITH TEMPERATURE THERMIC LIMITER.
TIME AND TEMPERATURE DIGITAL ELECTRONIC CONTROL.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C TO 170 °C.
STABILITY: ±1 °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.
Vacuum bleed valve.

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.

NEW DESIGN

MODEL

Part No.	Vacuum Max	Usable volume litres	Ø heating plate cm	Heigth / Width / Depth (exterior) cm			Power W	Weight Kg
4000474	**10⁻² mm Hg**	**3**	**23.5**	**17**	**28**	**34**	**540**	**9**

10^{-2} mm Hg

Supplied complete with bell jar and silicon seal.

SPARES

Tempered glass bell 15 cm high and 23 cm Ø.
Part No. **4000475**
Silicon seal. Part No. **4000476**

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 ANALOGUE 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 134 and 135).

SAFETY:
OVER TEMPERATURE CUT OUT INCORPORATED ACCORDING TO THE EN.61010 STANDARD.
ADJUSTABLE SAFETY THERMOSTAT DIN 12880.3.1 FITTED.

Horizontal model. Part No. 2001615
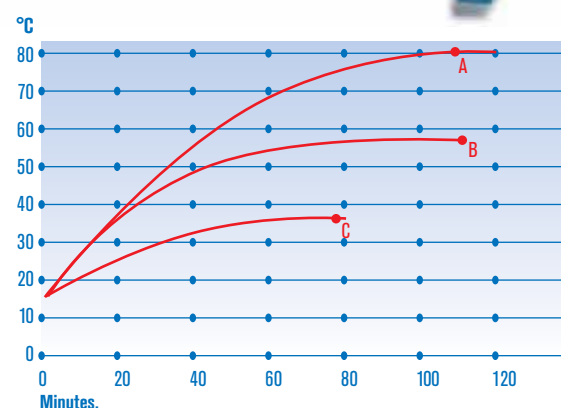
STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

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'.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelves positions	Power W	Weight Kg
2000205	19	30	25	25	50	60	44	5	165	26
2000206	36	40	30	30	60	65	49	7	245	36
2001615	52	33	47	33	53	82	52	5	275	46
2000207	80	50	40	40	70	74	59	8	315	54
2000994	150	50	60	50	70	95	68	8	535	78

ACCESSORIES
Accessories must be factory installed.

Part No.
2000003 Timer switch 0-12 hours.

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

SPARES
Shelves and guides.

Oven Part No.	2000205	2000206	2001615	2000207	2000994
Set guides (2 units)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

Each shelve requires two guides (one set).

Digital bacteriological incubators "Incudigit"

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.

FEATURES, CONTROL PANEL, STANDARD AND ACCESSORIES (see pages 134 and 135).

2000 serie

USB

RS232

SAFETY:
OVER TEMPERATURE CUT OUT INCORPORATED ACCORDING TO THE EN.61010 STANDARD.
ADJUSTABLE SAFETY THERMOSTAT DIN 12880.3.1 FITTED.

Horizontal model. Part No. 2001616

RS-232 Interface output for a computer, printer or USB adapter.

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'.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelves positions	Power W	Weight Kg
2001246	19	30	25	25	50	60	44	5	150	26
2001247	36	40	30	30	60	65	49	7	225	36
2001616	52	33	47	33	53	82	52	5	250	46
2001248	80	50	40	40	70	74	59	8	300	54
2001249	150	50	60	50	70	95	68	8	525	75

SPARES
Shelves and guides.

Oven Part No.	2001246	2001247	2001616	2001248	2001249
Guides (2) (Set)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

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

ACCESSORIES

4120131 USB adapter model.
Pen-Drive included (Memory board) for data storage.

Accesories must be factory installed.

2000016 Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.

Incubators for bacteriology and cell culture "Incubig"

NATURAL CONVECTION.
MICROPROCESSOR CONTROL AND DIGITAL DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C 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.

USB

RS232

SAFETY:
STANDARD EN.61010 OVER TEMPERATURE CUT OUT FITTED.
STANDARD DIN 12880.3.1. ADJUSTABLE SAFETY THERMOSTAT FITTED.

Capacities up to 720 litres

FEATURE
Microprocessor control and digital display of the temperature and time.
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.
RS-232 Interface output for a computer, printer or USB adapter.

STANDARD EQUIPMENT
For Part No. 2000237, 2 shelves and 4 shelf guides.
For Part No. 2003711 and 2002471, 2 shelves.

Model Part No. 2000237.
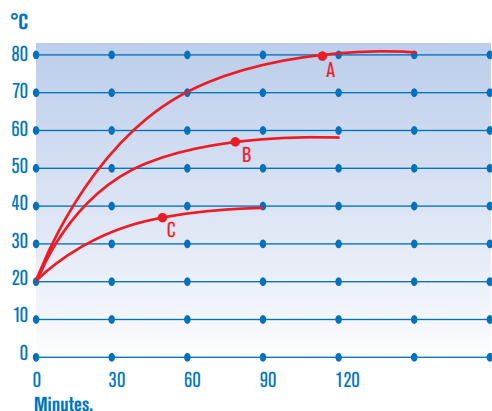
Performance graph of temperature and time.
A. Set at 80 °C: 1 h 45'.
B. Set at 56 °C: 1 h 10'.
C. Set at 37 °C: 54'.

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. 2003711 and 2002471.

CONTROL PANEL

1. Illuminated mains switch.
2. Temperature mode indicator.
3. Time mode indicator.
4. Display for temperature and time.
5. Operating, run mode.
6. Delay time indicator.
7. Push button for temperature selection.
8. Push button for time selection.
9. Push button to "increase" value or parameter.
10. Push button to "decrease" value or parameter.
11. Push button to 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, printer or USB adapter.
16. Adjustable safety thermostat. Maintains the temperature in case the microprocessor fails. Indication lamp.
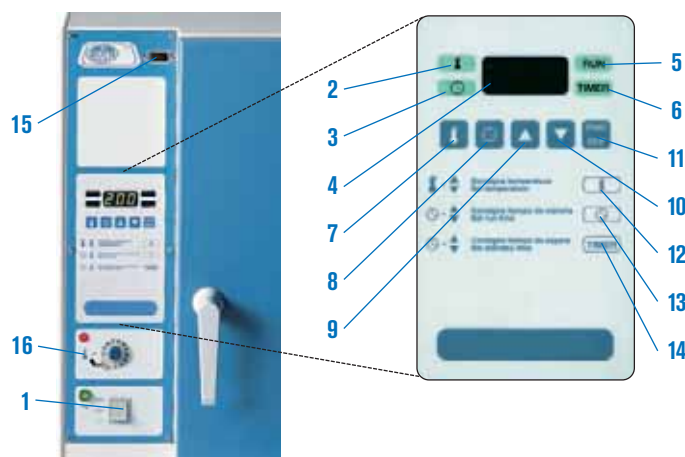
MODELS

Part No.	Type	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Nº of shelf guides	Power W	Weight Kg
2000237	1 door	288	80	60	60	97	91	76	8	570	87
2003711	2 door	400	100	80	50	130	114	75	10	1100	160
2002471	2 door	720	120	100	60	152	134	85	12	1600	225

ACCESSORY

4120131 **USB adapter model.** Pen-Drive included (Memory board) for data storage.

Accessories must be factory installed.

2000016 **Digital printer for time and temperature** with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.

SPARES
Shelves and guides.

Oven Part No.	2000237	2003711	2002471
Shelves	**2002372**	**2000063**	**2000064**
Guides (2) (Set)	**2002371**	-	-

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

Incubation chamber "Boxcult"

FAN CONVECTION.
ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C UP TO 57 °C.
STABILITY: ±0.25 °C, UP TO 37 °C HOMOGENEITY: ±1 °C, UP TO 37 °C.
SET ERROR: ±2 % OF THE WORKING TEMPERATURE. RESOLUTION 0.1 °C.

SAFETY: **SAFETY STANDARD EN 61010. OVER TEMPERATURE SAFETY THERMOSTAT FITTED.**

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

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000957	110	50	47	47	61	51	51	220	18

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

Incubation chamber "Boxcult" Part No. 3000957 with base Part No.3001172 and support rack with two shelves Part No. 1000973. Supplied as accessories.

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**

Cooled low temperature incubator "Prebatem"

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.

USB

RS232

> **SAFETY:**
> CONFORMS TO THE DIN 50011 STANDARD FOR TEMPERATURE STABILITY AND HOMOGENEITY.
> CONFORMS TO THE DIN 12880.3.1.STANDARD ADJUSTABLE SAFETY THERMOSTAT FITTED.

Leading edge technology, Peltier effect. No compressor.

APPLICATIONS

Biotechnology, Bacteriology, Plasma fractionation, Biology, Enzymatic test, Research, Serum studies, metrology, Botany, Phytopharmacy, Cosmetics, Water analysis and Agricultural research.

FEATURE

1. Microprocessor control and temperature display.
2. Inner chamber and elements made of AISI 304 stainless steel.
3. Premixing temperature chamber.
4. Semiconductor- static radiator for heating and cooling.
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 / heating system.
8. Independent insulated control box .
9. Support rack for trays.
10. Shelves of AISI 304 stainless steel.
11. Epoxy coated outer case.

J.P. Selecta original technology
12. Adjustable guide rail positions.
13. Flexible silicon door gasket around the entrance of the chamber.
14. Excellent door seal and thermal insulator.
The floating inner door forms a hermetic seal every time.
15. Adjustable pressure door lock.
16. Adjustable safety thermostat. Maintains the temperature in the case if the microprocessor fails. Indication lamp.
17. Internal tempered glass door.
18. RS-232 Interface output for a computer, printer or USB adapter.

PERFORMANCE

	Specification		
	at 5 °C	at 37 °C	at 60 °C
Stability	±0.05 °C	±0.05 °C	±0.05 °C
Homogeneity	±0.35 °C	±0.30 °C	±0.75 °C
Set error	±0.25 °C	±0.20 °C	±0.40 °C

Oven's diagram seen from the front side.
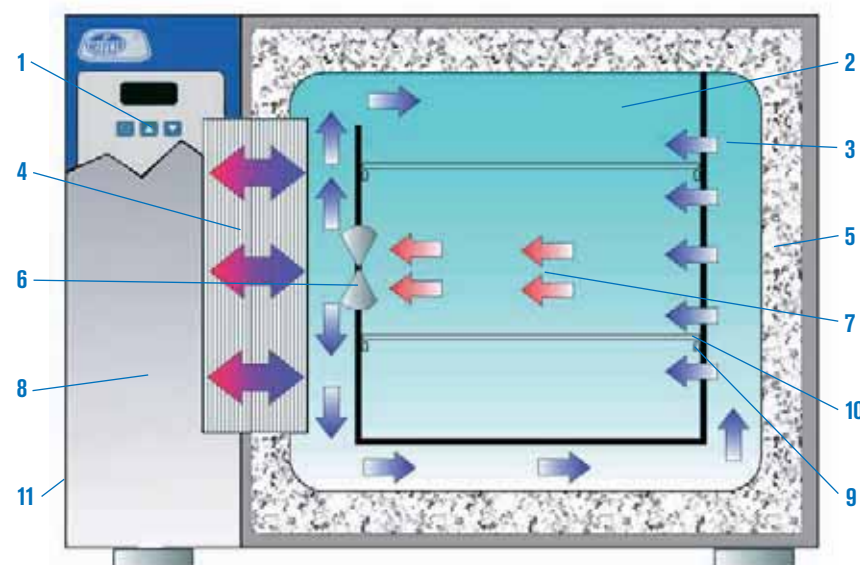
Forced air passes through the heat exchanger chamber prior to entering the main cabinet chamber.

Cross section of the circulation of air maintaining the temperature in the cabinet below ambient by the use of an electronic heat exchanger rather than a compressor.

CONTROL PANEL
Main switch.
Mains indicator lamp.
Microprocessor control and digital temperature display.
Adjustable safety thermostat.

RS 232 to download for a computer, printer of all para- meters or USB adapter.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelf guides	Power consumption W/hr.		Power W	Weight Kg
									at 5 °C	at 40 °C		
2000961	36	40	30	30	60	65	49	7	70	50	310	54
2000962	80	50	40	40	70	75	59	8	75	55	310	73
2001250	150	50	60	50	70	95	68	8	90	60	310	94
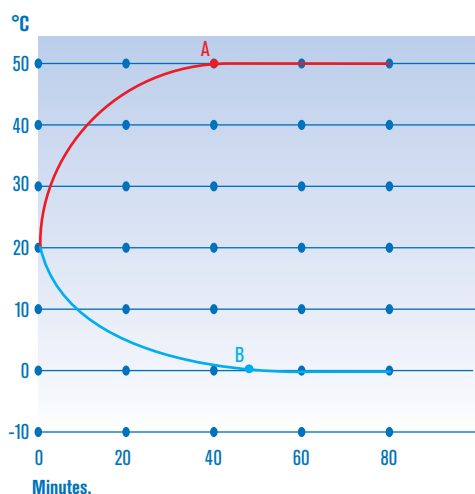
Performance graph of temperature and time.
A. Set at 50 °C: 40'.
B. Set at 0 °C: 48'.

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

ACCESSORIES

USB adapter model. Pen-Drive included (Memory board) for data storage. Part No. **4120131**

Accessories must be factory installed.

Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours. Part No. **2000016**

24 hour programmer with continuous on/off cycling up to every 15 minutes. Part No. **2000009**

SPARES
Shelves and guides.

Oven Part No.	2000961	2000962	2001250
Guides (2) (Set)	**2000012**	**2000013**	**2000015**
Shelves	**2000022**	**2000023**	**2000025**

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

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%

USB

RS232

SAFETY:
STANDARD DIN 12880 CLASE 3.1. DOUBLE INDEPENDENT OVER TEMPERATURE SAFETY THERMOSTAT.
CO₂ DEVIATION FROM SET VALUE. OPEN DOOR INDICATOR, ELECTRICAL FAULT INDICATOR. LOW CO₂ PRESSURE.

Infrared CO₂ sensor

Chamber sterilization function

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, printer or USB adapter.

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.
3. Button single control of multilevel functions.
4. Printer (Optional)
5. Main On switch.

MODEL

Part No.	Capacity litres	Height/Width/Depth (interior) cm			Height/Width/Depth (exterior) cm			Shelf guide positions	Power W	Weight Kg
4002628	150	65	50	46	95	65	73	9	800	110

Comes with two shelves.

ADDITIONAL Shelves stainless steel. Part No. **1001675**

ACCESSORIES

USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No. **4120131**

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**

PRECISE COOLED INCUBATORS HOTCOLD

HOTCOLD S	CONTROLLABLE TEMPERATURES FROM	+5 °C TO 65 °C
HOTCOLD A-B-C	CONTROLLABLE TEMPERATURES FROM	0 °C TO 50 °C
HOTCOLD UB-UC	CONTROLLABLE TEMPERATURES FROM	-10 °C TO 50 °C
HOTCOLD GL	CONTROLLABLE TEMPERATURES FROM	0 °C TO 50 °C (DEPENDING ON WORKING MODE)

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
Epoxy coated external case. Interior AISI304 stainless steel. Door with double glazed glass to maintain internal temperature. Illumination switch with internal fluorescent light. Side port for the introduction of external cables probes and tubes etc.
Cooling gas R134a.
4 wheels with brake.

CONTROL SYSTEM
Electronic digital controller for temperature and time.
Timer and off programmable from 1' to 99 hrs 59'.
Programmable defrost.
High and low temperature alarm.
Temperature calibration.

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.
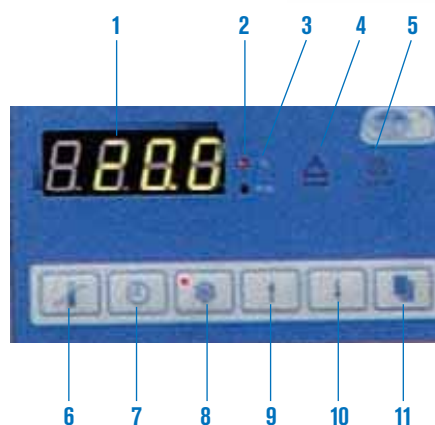
SPARES
Part No.
1001619   Guides (2) (Set).
1001620   Shelves.

Optimum temperature homogenization can be achieved with an even load distribution of up to 70% unit volume.

MODEL

HOTCOLD	Part No.	Range °C	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Number of shelves	Motor HP	Power W	Weight Kg
S	2101618	+5 +65	160	65	50	43	128	63	63	10	3/8	400	70

Precise refrigerated cabinets "Hotcold A-B-C-UB-UC"

FORCED AIR CIRCULATION.
DIGITAL ELECTRONIC CONTROL OF TEMPERATURE AND TIME.
HOTCOLD A-B-C ADJUSTABLE TEMPERATURE FROM 0 °C TO 50 °C.
HOTCOLD UB-UC ADJUSTABLE TEMPERATURE FROM -10 °C TO 50 °C.

NEW DESIGN

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

PRECISION TABLE
STABILITY . . . . ±0.1 °C, UP TO 20 °C
HOMOGENEITY. . . . . . ±0.5 °C, UP TO 20 °C
SET ERROR . . . . ±0.5 °C
RESOLUTION . . . . 0.1 °C

CONTROL PANEL
1. Graphic display.
2. Push button increase value.
3. Push button decrease value.
4-5. Push button move cursor.
6. Push button, validate set value.
7. Push button set program.
8. Push button start.
9. Push button stop.
10. Printer for time and temperature (Optional). Part No. 2101508, (needs to be factory fitted.)

Models A, B and UB.   *Models C and UC.*
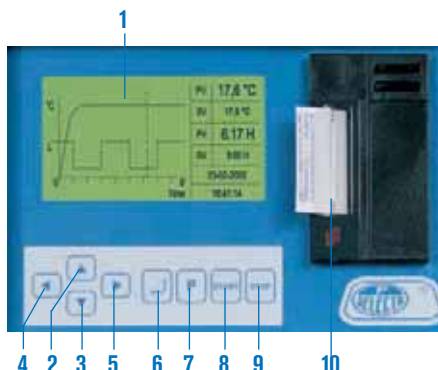
FEATURES
Exterior case, door and interior made from AISI 304 stainless steel.
steel shelves, PVC laminated.
Reversible door which can be opened by either side, with easy to change the lock and the joint, manual lockout.
Hermetically sealed compressor with anti vibration mounts with fan forced evaporation unit with ventilated condenser
Homogeneous internal temperature by forced circulating air.
Refrigerant R134 for models B and C.
Refrigerant R404 for model UB and UC.
Two safety power sockets.

Two external ports for external connections.
Temperature calibration.
Adjustable timer.
RS-232 Interface output for a computer, printer or USB adapter.

CONTROL SYSTEM
Programmable graphic display of temperature and time. All operation modes are programmable in up to 5 cycles and each cycle can be programmed at 1 hour intervals. These cycles can be repeated indefinitely or can be manually finished. Up to 5 different temperatures can be programmed into each cycle. All parameters can be stored. A temperature safety thermostat comes as standard.

MODELS

HOTCOLD	Part No.	Range °C	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Number of shelves	Included shelves	Power W	Power HP	Weight Kg
A	2101502	0 +50	319	139	48	45	198	60	64	14	3	180	1/5	78
B	2101503	0 +50	442	126	58	55	198	70	71	14	3	200	1/5	89
C	2101504	0 +50	600	136	58	69	207	70	82	14	4	750	3/8	100
UB	2101505	-10 +50	442	126	58	55	198	70	71	14	3	750	1/2	94
UC	2101506	-10 +50	600	138	58	69	207	70	82	14	4	900	1/2	110

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.

ACCESSORIES
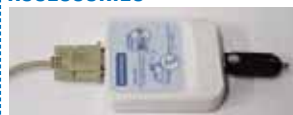
USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No. **4120131**

Printer shows temperature and time. Needs to be factory fitted.
Part No. **2101508**

SPARES
Shelves and guides.

Cabinet Part No.	2101502	2101503 / 2101505	2101504 / 2101506
Guides set (4 units).	**1001801**	**1001802**	**1001803**
Shelves	**1001804**	**1001805**	**1001806**

Each self requires 4 guides i.e. one set.

Precision refrigerated cabinets "Hotcold GL"

FORCED AIR CIRCULATION.
DIGITAL ELECTRONIC CONTROL OF TEMPERATURE,TIME AND HUMIDITY.
SUITABLE FOR TEMPERATURES FROM 5 °C TO 50 °C.

PRECISION TABLE
STABILITY . . . . ±0.5 °C
HOMOGENEITY . . . . ±1 °C
SET ERROR . . . . ±1 °C
RESOLUTION . . . . 0.1 °C

SAFETY:
SAFETY STANDARD:CONFORMS TO THE DIN 12880.2.
ADJUSTABLE OVER TEMPERATURE CUT OUT FITTED THAT CUTS OFF
HEATING IF OVER TEMPERATURE FAILS, MANUAL RESET.

APPLICATIONS

Refrigerated climate cabinet for botany testing of plants flowers, seed germination, photosynthesis agriculture etc. that require control of temperature, humidity and light.
Specifically designed with four function modes:
Mode A: Refrigerated incubator from 5 °C to 50 °C.
Mode B: Refrigerated incubator with illumination from 10 °C to 50°C
Mode C: Refrigerated incubator from 18 °C to 40 °C with an adjustable humidity range from 50 to 98%.
Mode D: Refrigerated incubator with illumination from 18 °C to 40 °C with an adjustable humidity range from 50 to 98%.

	Mode A	Mode B	Mode C	Mode D
Humidity	NO	NO	YES	YES
Illumination	NO	YES	NO	YES
Temperature range	5 / 50 °C	10 / 50 °C	18 / 40 °C	18 / 40 °C
Stability	±0.5 °C	±0.5 °C	±0.5 °C	±0.5 °C
Homogeneity	±1.0 °C	±1.0 °C	±1.0 °C	±1.0 °C
Resolution	0.1 °C	0.1 °C	0.1 °C	0.1 °C
Set Error	±1.0 °C	±1.0 °C	±1.0 °C	±1.0 °C
Humidity range	-	-	50 / 98% Hr	50 / 80% Hr
Illumination range (Choice of 3)	-	0 / 4 K / 12 K lux	-	0 / 4 K / 12 K lux
Humidity resolution	-	-	1%	1%
Humidity precision 50 - 75%	-	-	±3%	±4%
75 - 80%	-	-	±4%	±5%

FEATURES

Exterior case, door and interior made from AISI 304 stainless steel. Reversible door can be fitted to open from either side, with automatic closing if left open.
The door interior supplies fluorescent illumination to the chamber, the power of which can be selected as 0 / 4K or 12 K Lux.
Hermetically sealed compressor with anti vibration mounts with fan forced evaporation unit with ventilated condenser.
Fan circulated homogeneous temperature.
All operation modes are programmable in up to 5 cycles of which each cycle can be programmed at 1 hour intervals. These cycles can be repeated indefinitely or can be manually terminated.
The humidity is constant during the program.
There are 10 Program storage memories of all parameters. The fan, temperature radiator and two thermal safety internal electrical sockets are located in the upper chamber.

Two external ports are located on each side for the introduction of tubes and cables for other diverse applications.
A humidity tray is located at the back of the unit for controlling humidity and is generated through evaporation.
RS-232 Interface output for a computer, printer or USB adapter.

CONTROL PANEL
1. Graphic display.
2. Push button increase value.
3. Push button decrease value.
4-5. Push button move cursor.
6. Push button, validate set value.
7. Push button set program.
8. Push button start.
9. Push button stop.
10. Printer for time and temperature (Optional). Part No. 2101508, (needs to be factory fitted).

STANDARD EQUIPMENT
2 shelves and 8 shelf guides.

ACCESSORY

USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No. **4120131**

Printer shows temperature and time. Needs to be factory fitted.
Part No. **2101508**

SPARES
Part No.
1001533   Guides (4) (Set)
1001536   Shelves
Each self requires 4 guides i.e. one set.

MODEL

HOTCOLD	Part No.	Range °C	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Number of shelves	Motor HP	Power W	Weight Kg
GL	2101507	5 +50	557	138	58	69.5	208	70	95	14	3/8	1300	198

NOTE: The HOTCOLD has internal power sockets that allow 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.

Muffle Furnaces

Electric Muffle Furnace "Select-Horn"

TEMPERATURE CONTROLLABLE UP TO 1150 °C.
SET ACCURACY: ±1 °C OF THE SET VALUE. RESOLUTION: 1 DIGIT.
DIGITAL ELECTRONIC CONTROLLER FOR TEMPERATURE AND TIME THAT HAS THE POSIBILITY TO PROGRAM A SLOPE OF 8 SEGMENTS OR TWO SLOPS OF 4 SEGMENTS.

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.

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.
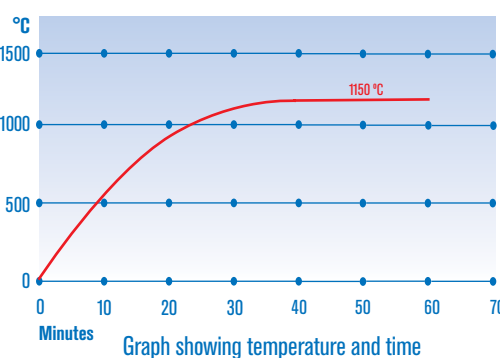
CONTROL PANEL
Mains Switch.
Mains indicator lamp.
Digital electronic controller for temperature and time that has the possibility to program a slope of 8 segments or two slops of 4 segments.
Simultaneously indication of the actual and set temperature (4 digits).
K-Type Probe.

Graph showing temperature and time

Image of the flap door system in operation.

MODELS

Part No.	Capacity litres	Height / Width / Width (interior) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
2000366	3.6	10	15	24	52	54	56	2500	54
2000367	9	15	20	30	58	59	65	3000	70

Supplied complete with support tray, made from annealed steel.

Programmable Microprocessor.
Capacity: 10 Programs of 10 segments per program.
Run time for 1 program: from 1" to 99 hours.
Program repetition: from 0 to 99 times or cycles.
Precision: ±0.25%.
Part No. **2001227**

Exterior exhaust tube.
Located at the back of the furnace with a ventilator motor to extract gases and vapours.
With an 80 mm Ø hat adapter.
Gases and Vapours can be extracted outside through the connecting tube.
Power consumption: 30 W.
Part No. **2001477**

ACCESSORIES

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.

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**

Crucibles made of zirconium Zr.
Crucibles made of pure nickel Ni.
Crucibles made of glazed porcelain.
Crucibles made of stainless steel.
(See page 176).

Muffle furnace electric "N-8 L" 1100 °C

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 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.

CONTROL PANEL
Illuminated main 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.

MODEL	Part No.	Capacity litres	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Weight Kg
N-8 L	2200851	8.2	14.5	20	30	41	43.5	54	1800	33

Supplied complete with a refractory ceramic tray as a base and support for material to be assayed.
Shelf size: 1 cm height x 16 cm width x 25 cm depht.

Muffle furnace electric "N-30 L" 1300 °C

FOR TEMPERATURES ADJUSTABLE UP TO 1300 °C.
ELECTRONIC DIGITAL TEMPERATURE CONTROL.
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 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.

MODEL	Part No.	Capacity litres	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Voltage V	Weight Kg
N-30 L	2200853	30	27.5	24	43	63	87	84	4600	230	120

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

Muffle furnace electric "N-80 L" 1100 °C

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 with vent at the back of the unit. 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.

MODEL	Part No.	Capacity litres	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Voltage V	Weight Kg
N-80 L	2200855	80	48	40	40	157	94	98	7500	400 / 3 N	170

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

"A well equipped laboratory is where all types of science can be complete to a high standard."
Patrick Blachett

Clamps and Stands

CLAMPS MADE OF LIGHT WEIGHT "DURAL CROM" ALLOY EXTRAORDINARILY STRONG.
TONGS MADE OF AISI 304 STAINLESS STEEL.
RETORT STANDS - LABORATORY JACKS AND SCAFFOLDING.

BOSSHEAD
Chrome plated. For Ø from 5 to 17 mm.
Part No. 1000069

BOSSHEAD "MINI"
Chrome plated. For Ø from 5 to 12 mm.
Part No. 1001460

BOSSHEAD XL
Maximum opening. For rods 13 to 32 mm Ø.
Part No. 5057022

BOSSHEAD "SUNTECH"
For retort bars of 5 to 22 mm Ø.
With screw clamp joints. Ideal for supporting overhead stirrers.
Part No. 5900600

BOSSHEAD "MAXIM"
For large diameters.
Chrome plated with one opening to hold rods up to 30 mm Ø. Second opening up to 20 mm Ø.
Part No. 7000408

BOSSHEAD "MEDI"
For Ø from 5 to 20 mm.
Part No. 1001461   Chrome plated.
Part No. 1001462   Anodised black.
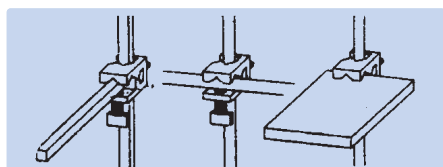
BOSSHEAD "PASS"
Original Phywe.
For joining and clamping multipurpose, round or rectangular rods up to 12 mm across.
For cross T and parallel arrangements.
Part No. 7204055
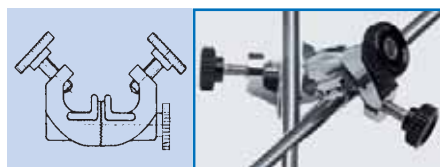
BOSSHEAD "GIROFIX"
Conforms to DIN standard 12895-E16.
Chrome plated with swivel toothed clamp for holding rods at any angle. For rod Ø from 5 to 15mm.
Part No. 7000531

OIRIGINAL BOSSHEAD "TREVINGE"
Made of chrome plated "Dural" alloy.
Due to its strength, it is suitable for multilevel and three dimension constructions.
Part No. 7008133   For Ø of 9 to 13 mm.
Part No. 7008253   For Ø of 19 to 25 mm.

J.P Selecta

BOSSHEAD FOR THERMOMETERS
Thermometer support for water and oil baths with locking screw (up to 40 mm). Thermometer rod diameters up to 7mm Ø.
Part No. 6000896

90 mm
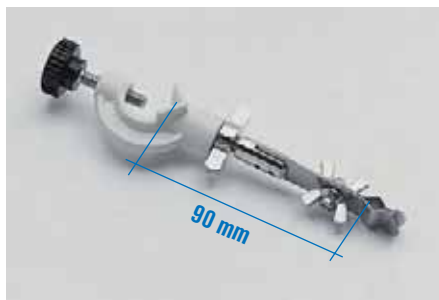
THERMOMETER CLAMP
Swivel bosshead and press lock, made of AISI 304 stainless steel. For Ø from 6-15 mm.
Part No. 6000036

90 mm

THERMOMETER CLAMP
Hook at one end for a thermometer. Chrome plated.
Part No. 1000037

170 mm

Model burette stand Part no. 6000117 and double burette part no. 7000181

170 mm
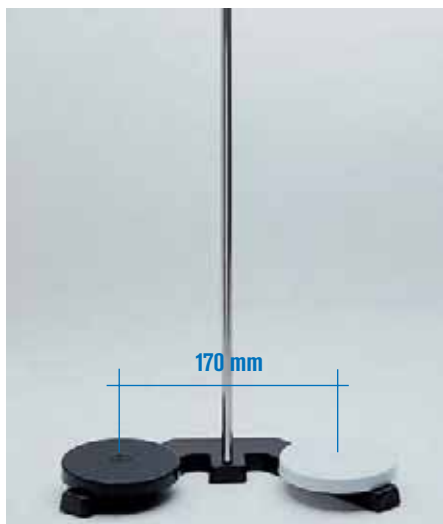
BURETTE STAND
With AISI 304 stainless steel rod of 10 mm Ø x 600 mm high. Weight 2 Kg. Made specifically for the "DUPLEX" burette clamp with two plates at the base, black and white.
Part No. 6000117
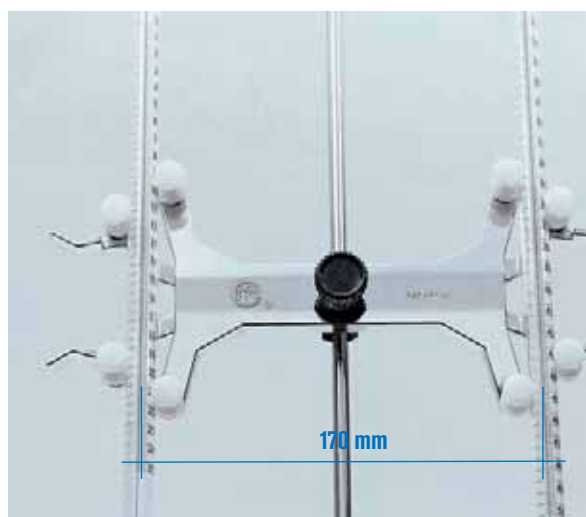
DOUBLE BURETTE CLAMP "DUPLEX"
Self adjusting clamp for 2 burettes, with central bosshead screw. Made of Chrome plated metal with PVC coated jaws. Enables complete visibility of the burette scale while being held. Part No. 7000181

210 mm
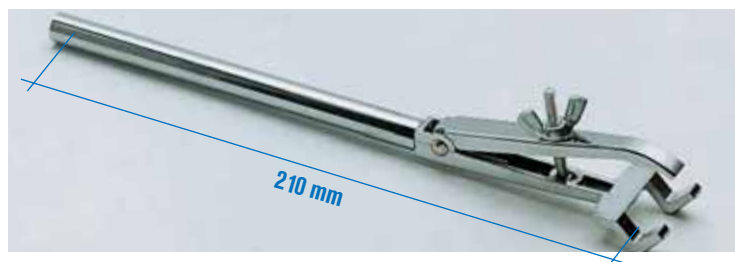
BURETTE CLAMP "TRIPS"
Made of chrome plated metal for Ø from 4 to 20 mm.
Part No. 7000521

70 mm

BOSSHEAD BURETTE AND TUBE CLAMP "TRIPS"
Made of chrome plated metal for Ø from 4 to 20 mm.
Part No. 7005211

155 mm
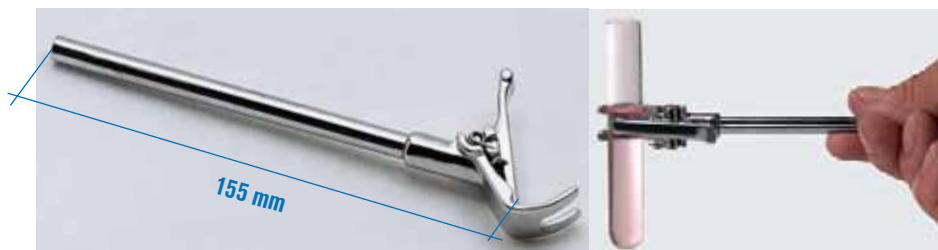
SPRING CLAMP FOR BURETTES AND THERMOMETERS "AUTOMATIC"
Made of chrome plated metal with spring clamp jaw. For Ø from 0 to 25 mm. Designed for test tubes.
Part No. 7000025

70 mm
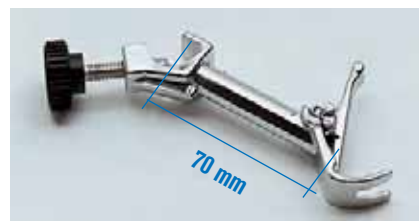
BOSSHEAD WITH "AUTOMATIC" CLAMP FOR BURETTES AND THERMOMETERS
Made of chrome plated metal with spring clamp jaw. For Ø from 0 to 25 mm.
Part No. 7000251

CLAMP FOR BURETTES AND TUBES
Made of chrome plated metal with two prong jaws coated with PVC.
For Ø from 7 to 25 mm.
Part No. **7000130**

BOSSHEAD WITH BURETTE AND TUBE CLAMP
Made of chrome plated metal with PVC coated double prong jaws.
For Ø from 7 to 25 mm.
Part No. **7000140**

CLAMP FOR BURETTES AND CONDENSERS
Made of chrome plated metal with PVC coated jaws.
For Ø from 12 to 45 mm.
Part No. **7000131**

SWIVEL CLAMP BOSSHEAD FOR CONDENSERS
Swivel clamp with double PVC lined jaws For Ø from 12 to 45 mm.
Part No. **7000141**
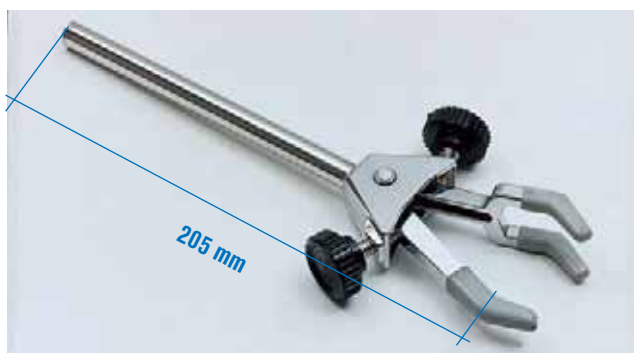
CLAMP "TRIPLEX"
Three pronged PVC coated clamp made of chrome plated metal.
For Ø from 0 to 35 mm.
Part No. **7000160**
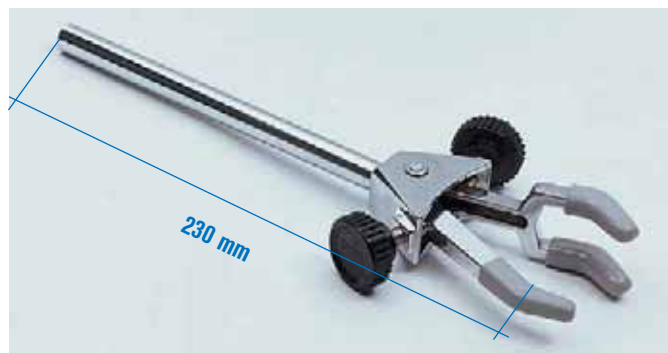
CLAMP "TRIPLEX"
Three pronged PVC coated clamp made of chrome plated metal.
For Ø from 0 to 60 mm.
Part No. **7000161**
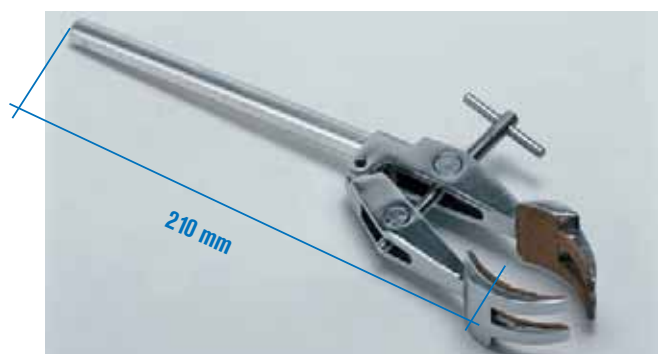
UNIVERSAL CLAMP "MINIMAX CROM"
Chrome plated with cork protected jaws.
For Ø from 0 to 80 mm.
Part No. **1001463**
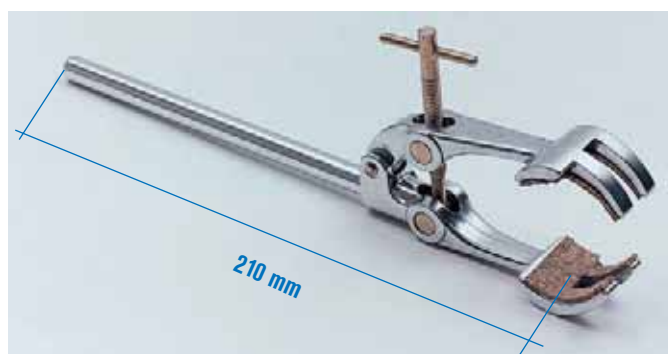
UNIVERSAL CLAMP "MINIMAX"
Made of Dur-aluminium with cork lined jaws.
For Ø from 0 to 80 mm.
Part No. **7000403**

110 mm
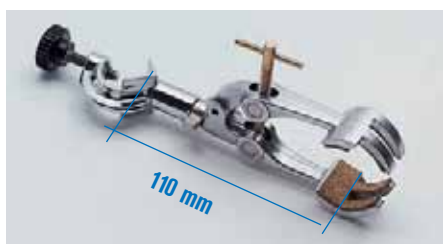
SWIVEL UNIVERSAL CLAMP "MINIMAX"
For Ø from 0 to 80 mm.
Part No. **7000404**

270 mm

UNIVERSAL CLAMPS"GIROMAX" WITH METAL ROTATION
With cork lined jaws. With a hinge joint of 180° rotation angle.
For Ø from 0 to 80 mm.
Part No. **7004031**

370 mm

BEAKER CLAMP "MAXIM"
Made of chrome plated metal with clamp end covered with stabilized glass fibre.
For Ø from 80 to 180 mm.
Part No. **7000406**

200 mm
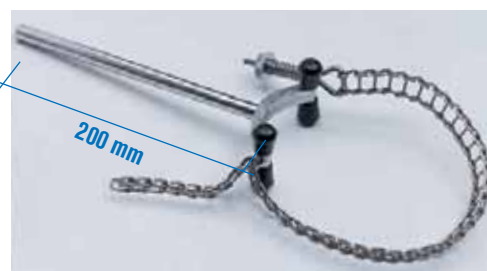
CLAMP "MEDIMAX"
With chain and spring clamp made of AISI 304 stainless steel.
For Ø from 90 to 145 mm.
Part No. **7000405**

CONICAL JOINT CLIPS
Made from AISI 304 stainless steel.
Part No.

1000716	joint	7.5/16
1001019	"	10/19
1001221	"	12/21
1001423	"	14/23
1001926	"	19/26
1002429	"	24/29
1002932	"	29/32
1004540	"	45/40

GROUND ROUND JOINT CLIPS
Made of chromed steel.
Part No.

1040913	joint	round	13 mm.
1040919	"	"	19 mm.
1040929	"	"	29 mm.
1040935	"	"	35 mm.

CONICAL JOINT CLIPS
Made of PMP (polymethyl pentane).

Part No.	joint	colour
1001095	10/19	black
1001096	14/23	yellow
1001097	19/26	blue
1001098	24/29	green
1001099	29/32	red
1001100	34/35	orange
1001101	45/40	brown

GROUND ROUND JOINT CLIPS
Made of AISI 304 stainless steel
 with ratchet fixed pin.
Part No. **1001720** round joint 19 mm.
Part No. **1001464** round joint 29 mm.
Part No. **1001465** round joint 35 mm.

TEST TUBE TONGS
Made of nickel plated steel.
For tubes up to 30 mm Ø. Total length 145 mm.
Part No. **1000285**

TEST TUBE TONGS
Made of wood.
For tubes from 12 up to 25 mm Ø.
Total length 180 mm.
Part No. **1001094**

CRUCIBLE TONGS
Original "J.P.Selecta" design with opposite equilibrium.
Made of Electro-bright finished AISI 304 stainless steel.
Part No. 1001330   Total length 400 mm.

CRUCIBLE TONGS
With bow, curved tips and flat hinge.
Electro-bright AISI 304 stainless steel finish.
Part No. 1010420   Total length 200 mm.
Part No. 1010430   Total length 300 mm.
Part No. 1010440   Total length 400 mm.
Part No. 1010450   Total length 500 mm.

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

STERILIZATION TONGS
Made of AISI 304 electro-bright finished stainless steel.
Total length 200 mm.
Part No. 1002801   Straight end.
Part No. 1002802   Curved end.
Used for bandages, syringes, instruments, test tubes etc.
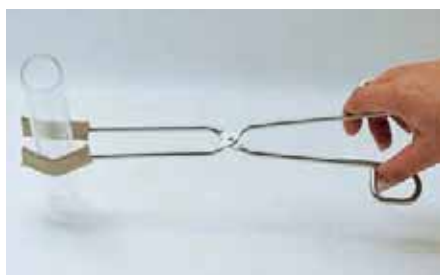
TONGS FOR FLASKS AND TUBES
Electro-bright finished AISI 304 stainless steel.
For diameters from 15 to 60 mm.
Tong tips covered with stabilized glass fibre.
Part No. 1028130   Total length 300 mm.
Part No. 1028140   Total length 400 mm.
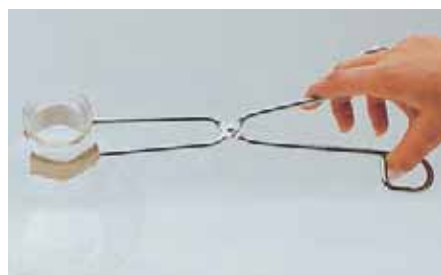
TONGS FOR FLASKS AND TEST TUBES
Sterilization Tongs. Made of AISI 304 electro-bright finished stainless steel. For diameters from 25 to 60 mm.
Tong ends covered with stabilized glass fibre.
Part No. 1028230   Total length 300 mm.
Part No. 1028240   Total length 400 mm.

DISH TONGS
Made of eletro-bright finished AISI 304 stainless steel.
Part No. 1000283   Total length 250 mm.
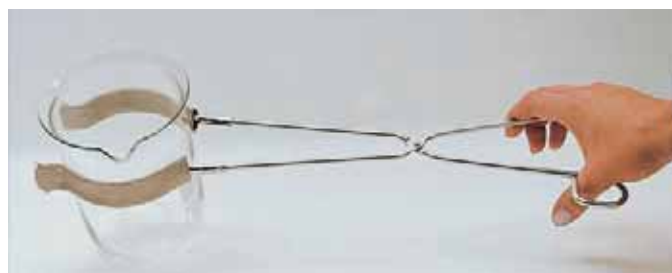
BEAKER TONGS
Made of AISI 304 electro-bright finished stainless steel.
Made for beakers from 150 to 1000 ml.
For diameters from 60 to 100 mm.
Tong tips covered with stabilised glass fibre.
Part No. 1000284   Total length 450 mm.

BEAKER TONGS "PROTECVAS"
Clamps beakers up to 2000 ml.
With a span from 50 to 120 mm Ø.
Jaws protected with rubber pads.
Total length 300 mm.
Part No. 7000532

BEAKER TONGS
Original "J.P.Selecta" design with opposite equilibrium.
Made of Electrobright finished AISI 304 stainless steel.
For beakers from 150 to 1000 ml.
For diameters from 60 to 100 mm.
Tong ends covered with a glass fibre sleeve.
Part No. 1001331   Total length 450 mm.

LABORATORY SCISSORS
AISI 410 stainless steel.

1 Scissors universal "Multi purpose" with a serrated/ dented blade.
Suitable for cutting hard plastic, cardboard and soft wire etc.
Part No. 1001468   Cut length 50 mm.   Total length 180 mm.

2 Long laboratory scissors.
Part No. 1001469   Cut length 100 mm.   Total length 250 mm.

3 Straight multi purpose scissors. General use and bandage dressing.
Part No. 1001470   Cut length 50 mm.   Total length 140 mm.

4 Curved multi purpose scissors. General use and bandage dressing.
Part No. 1000806   Cut length 40 mm.   Total length 145 mm.

5 Dissection scissors
Part No. 1000807   Cut length 35 mm.   Total length 125 mm.

6 Small dissection scissors
Part No. 1001471   Cut length 25 mm.   Total length 110 mm.

7 Flat serrated scissors ideal for laminates, negatives, chromatography, etc.
Part No. 1001472   Flat Length 40 mm.   Total length 160 mm.

HOFFMAN CLAMPS / MOHR CLAMPS

1 Hoffman clip dual, open-close.
Part No. 1000063   Maximum opening: 15 mm.

2 Hoffman clip closed
Part No. 1000662   Maximum opening: 15 mm.

3 Hoffman clip open
Part No. 1000661   Maximum opening: 15 mm.

4 Hoffman clip dual medium, open-closed.
Part No. 1001467   Maximum opening: 25 mm.

5 Hoffman clip large, open and close.
Part No. 1000064   Maximum opening: 30 mm.

6 Mohr clamp, stainless steel AISI 304 electro bright finish.
Part No. 1000067   Total length: 70 mm.

7 Mohr clamp, nickel wire.
Part No. 1001337   Total length: 70 mm.

FORCEPS FOR LIFTING SLIDES
Made of AISI 304 stainless steel, with flat jaws.
Length: 105 mm. Suitable for lifting, slides, watch glass
or small flat object.
Part No. 1000105

HEAT AND SPILLS PROTECTION PAD GLOVE
Made of flexible silicon that fits all hand sizes.
Part No. 1001255

DISSECTING FORCEPS

1 Dissecting Straight forceps round tips, made of AISI304 stainless steel.
Part No. 1000580   Total length 140 mm.

2 Dissecting Straight forceps fine tips, made of AISI304 stainless steel.
Part No. 1000801   Total length 140 mm.

3 Dissecting curved forceps round tips, made of AISI 304 stainless steel.
Part No. 1000865   Total length 140 mm.

4 Dissecting curved forceps fine tips, made of AISI304 stainless steel.
Part No. 1000864   Total length 140 mm.

MAXIMUM OPENING

5 Sprung straight forceps with fine tips, made of AISI 304 stainless steel.
Part No. 1001189   Total length 160 mm.

6 Sprung straight forceps with curved fine tips,made of AISI 304 stainless steel.
Part No. 1001190   Total length 160 mm.

7 Curved point, AISI 304 stainless steel forceps.
Part No. 6000128   Total length 160 mm.

8 Fine point, AISI 304 stainless steel forceps.
Part No. 1001191   Total length 120 mm.

BOSSHEAD "P" TYPE

Nickel alloy bosshead.
For fixing perpendicular structures.
For 12 mm Ø bars.
Part No. **1000011**

ACCESSORY

Allen hex key. Suitable for "P" type bosshead.
Part No. **1000111**

J.P Selecta

ORIGINAL BOSSHEAD "TREVINGE"

Made of chrome plated "Dural" alloy.
Due to its strength, suitable for multilevel and three dimension constructions.
Part No. **7008133**   For Ø of 9 to 13 mm.
Part No. **7008253**   For Ø of 19 to 25 mm.

RODS AND TUBES

12 mm Ø bars and rods. To be used with the "TREVIN" and "P" type bossheads.

Dur-aluminium rods.		AISI 304 stainless steel tube.	
Part No.	Length	Part No.	Length
6000026	60 mm.	6000016	60 mm.
6000220	200 mm.	6000120	200 mm.
6000235	350 mm.	6000135	350 mm.
6000270	700 mm.	6000170	700 mm.
6002100	1000 mm.	6001100	1000 mm.
6002150	1500 mm.	6001150	1500 mm.
6002200	2000 mm.	6001200	2000 mm.
6002300	3000 mm.	6001300 (rod)	3000 mm.

110 mm

250 mm
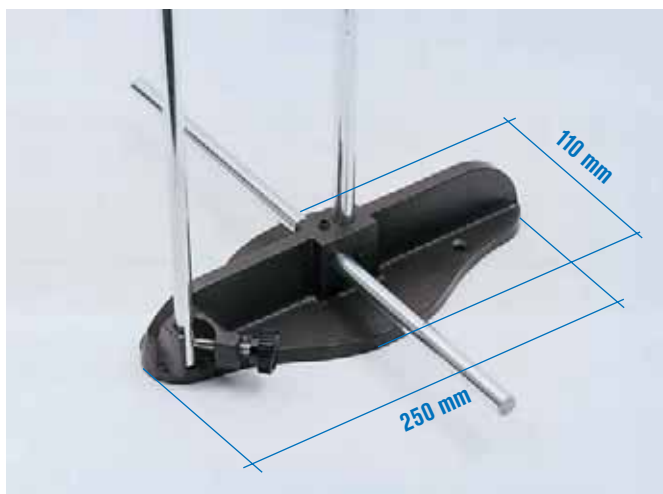
UNIVERSAL MOUNTING BASE

Bench top multiple rod support.
Suitable for mounting and supporting vertical and horizontal bars.
Part No. **1000050**

MOUNTING FOOT SUPPORT FOR RODS

For rod Ø of 12 mm.
Part No. **1000101**   Rod position horizontal.
Part No. **1000049**   Rod position vertical.

SIMULTANEOUS FOOT SUPPORT

For rod Ø of 12 mm.
Simultaneous positions, horizontal and vertical.
Part No. **1001102**

BENCH CLAMP "PASS"

Original Phywe. Clamps to the bench while holding from
4 to 12 mm diameter rod. Bench top width up to 40mm.
Part No. **1394855**

SUPPORT STAND KITS
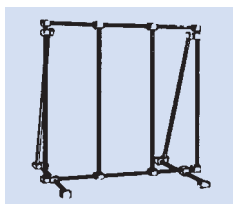
700 high x 700 mm long.
Made up of:
8 rods 700 mm long.
2 rods 350 mm long.
16 "P" type bossheads.
4 foot supports.
1 Allen key.
Part No. **6000090 Dur-aluminium**
Part No. **6000190 AISI 304 stainless steel**
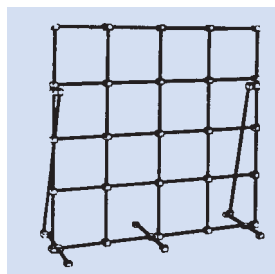
1000 high x 1000 mm long.
Made up of:
10 rods of 1000mm long.
2 rods 700 mm long.
3 rods 350 mm long.
34 "P" type bossheads.
6 foot supports.
1 Allen key.
Part No. **6000902 Dur-aluminium**
Part No. **6001902 AISI 304 stainless steel**
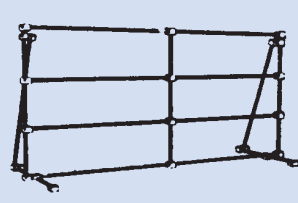
700 high x 1000 mm long.
Made up of:
4 rods 1000 mm long.
5 rods 750 mm long.
2 rods 350 mm long.
20 "P" type bossheads.
4 foot supports.
1 Allen key.

Part No. **6000901 Dur-aluminium**
Part No. **6001901 AISI 304 stainless steel**
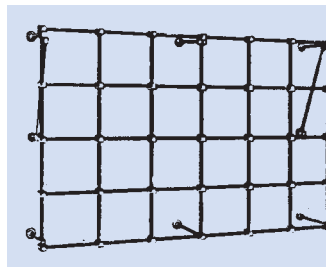
1000 high x 2000 mm long.
Made up of:
5 rods 2000 mm long.
7 rods 1000 mm long.
8 rods 200 mm long.
2 rods 350 mm long.
45 "P" type bossheads.
8 foot supports.
1 Allen key.
Part No. **6000903 Dur-aluminium**
Part No. **6001903 AISI 304 stainless steel**

SUPPORT "STAND"
Solid base, three vertical rods of 800 mm in height, two horizontal rods of 500 mm in length, six "P" type bossheads. Made of Dur-aluminium.
Weight: 6.5 Kg.
Part No. **6000482**

250 mm

500 mm

CENTRAL ROD RETORT STAND
Vertical rod of Dur-aluminium
of 10 Ø x 600mm high.
Weight: 3 Kg.
Base dimensions 315 x 200 mm.
Part No. **6000046**

190 mm

200 mm

210 mm

TRIPOD SUPPORT "PASS"
Original Phywe.
To support square and round rods from 6 to 14 mm dia.
Weight: 2 Kg.
Base with levelling screws.
Part No. **6200255**
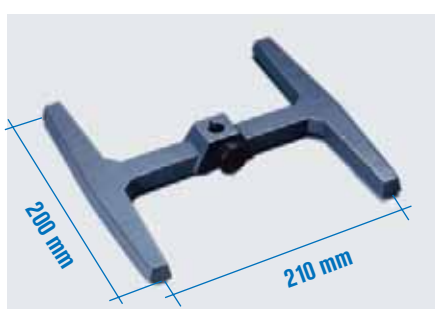
DOUBLE BASE SUPPORT T "MINI"
Small foot support with screw clamp for removable rods from 8 to 12 mm Ø.
Weight: 1.2 Kg.
Part No. **6001103**

STANDARD RODS
Made from AISI 340 stanless steel. Suitable for double "T MINI" and Tripod "PASS"
Part No. **6001160**   8 Ø x 500 mm length
Part No. **6000534**   10 Ø x 600 mm length
Part No. **6000535**   12 Ø x 700 mm length

290 mm | **400 mm**

U SHAPED STAND
AISI 304 stainless steel of
20 Ø x 800 mm high.
Very stable.
Weight: 7 Kg.
Part No. **6000411**

400 mm | **410 mm**

DOUBLE BASE SUPPORT T "MAXI"
Rod of AISI 304 stainless steel of 20 Ø x 800 mm high.
Designed to support weights up to 20 Kg at 300 mm
height from the base. Useful for stirrers.
Weight: 7 Kg.
Part No. **6000410**

telescopic elevation from 725 to 1025 mm

420 mm | **425 mm**

DOUBLE BASE SUPPORT T TELESCOPE
Stainless steel base AISI 304 of 32 mm Ø.
Telescopic elevation from 725 to 1025 mm.
Maximum support weight 20 Kg. Actual weight: 7.7 Kg
Compatible with Part No. 5057022 (See page 152).
Part No. **5057011**

200 mm | **270 mm** | **300 mm**

TRIPOD SUPPORT STAND

AISI 304 stainless steel rod.

Part No.	Ø x Height	Weight Kg
6002278	8 x 500	1.4
6022710	10 x 600	1.8
6022712	12 x 700	2.5

Rods made of Dur-aluminium

Part No.	Ø x Height	Weight Kg
6000798	8 x 500	1.2
6000799	10 x 600	1.5
6007912	12 x 700	2

UNIVERSAL ARM SUPPORT

With holder for up to 4 sensors or electrodes.
Very stable heavy base.
Ideal for working at varying heights.
Part No. **1001552**

RETORT STAND
Conforms to the DIN 12892. Standard.

Rods made of AISI 304 stainless steel

Part No.	Rod Ø x height	Plate size length x width	Weight Kg
6002268	8 x 500 mm.	200 x 125 mm.	2
6022610	10 x 600 mm.	250 x 160 mm.	3
6022612	12 x 700 mm.	315 x 200 mm.	3.6
6022613	12 x 800 mm.	315 x 200 mm.	3.8

Rods of Dur-aluminium

Part No.	Rod Ø x height	Plate size length x width	Weight Kg
6000778	8 x 500 mm.	200 x 125 mm.	1.4
6000779	10 x 600 mm.	250 x 160 mm.	2.4
6007712	12 x 700 mm.	315 x 200 mm.	3
6077812	12 x 800 mm.	315 x 200 mm.	3.4

TRIANGLE SUPPORTS
Made of 4 mm Ø AISI 304 stainless steel with electro-bright finish.

Part No.	Side	Part No.	Side
1002874	40 mm.	1002877	70 mm.
1002875	50 mm.	1002878	80 mm.
1002876	60 mm.	1028710	100 mm.

REFRACTORY TUBE AND WIRE TRIANGLE SUPPORTS

Part No.	Side
1000825	50 mm.
1000826	60 mm.
1000827	75 mm.
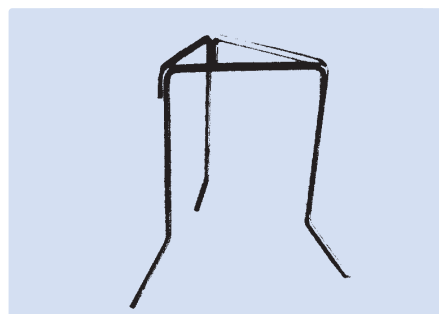
TRIPOD STAND "TRISOP"
Made of galvanised steel.

Part No.	Side	Total height
1000524	130 mm.	200 mm.

TRIPOD SUPPORTS WITH ROUND TOP

AISI 304 stainless steel

Part No.	Ø ext. ring	Total height
6002868	80 mm.	210 mm.
6028610	100 mm.	210 mm.
6028612	120 mm.	210 mm.
6028614	140 mm.	210 mm.

Nickel plated steel

Part No.	Ø ext. ring	Total height
1000818	80 mm.	210 mm.
1008110	100 mm.	210 mm.
1008112	120 mm.	210 mm.
1008114	140 mm.	210 mm.
1008116	160 mm.	210 mm.

TRIPOD STAND WITH RING TOP.
Galvanised steel.

Part No.	Ø ext. ring	Total height
7000808	80 mm.	210 mm.
7008010	100 mm.	210 mm.
7008012	120 mm.	210 mm.

TRIPOD STAND WITH RING TOP, ADJUSTABLE HEIGHT
Galvanised steel.

Part No.	Ø ext. ring	Adjustable height
7022810	100 mm.	170 to 250 mm.
7022812	140 mm.	170 to 250 mm.
7022814	180 mm.	170 to 250 mm.

1. DECANTING FLASK SUPPORT
Made of polypropylene. With support flasks up to 12 cm Ø.
Part No. 1001346

2. DECANTING FLASK SUPPORT WITH BOSSHEAD
Made of polypropylene. With support flasks from 30 to 150 mm Ø.
Complete with reduction ring.
Part No. 1001347
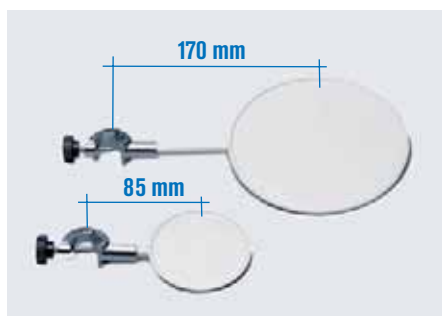
CIRCULAR SUPPORT PLATFORMS WITH BOSSHEAD

To support flat bottom vessels and instruments.
Chrome plated bosshead.

Part No.	Plate Ø
6000879	80 mm.
6000880	150 mm.
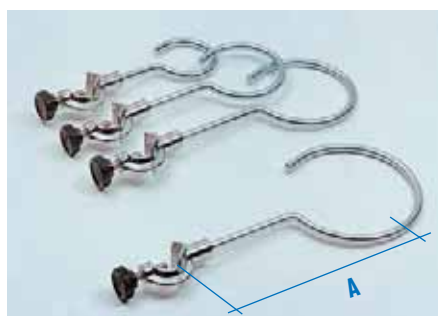
OPEN RING BOSSHEAD SUPPORTS

Made of galvanised steel.

Part No.	Ring exterior Ø	Usable length A
7000506	60 mm.	100 mm.
7000508	80 mm.	130 mm.
7005010	100 mm.	160 mm.
7005012	120 mm.	170 mm.
7005014	140 mm.	180 mm.

CLOSED RING BOSSHEAD SUPPORTS

Made of galvanised steel.

Part No.	Ring exterior Ø	Usable length A
7000536	60 mm.	100 mm.
7000538	80 mm.	130 mm.
7005310	100 mm	160 mm.
7005312	120 mm.	170 mm.
7005314	140 mm.	180 mm.
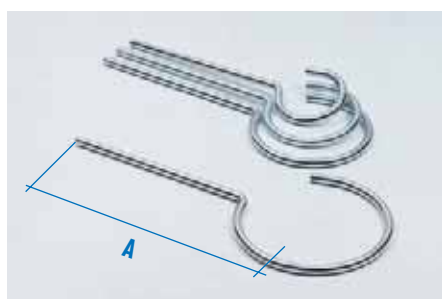
OPEN RING RETORT SUPPORTS

Made of galvanised steel.

Part No.	Ring exterior Ø	Usable length A
1000206	60 mm.	180 mm.
1000208	80 mm.	195 mm.
1002010	100 mm.	200 mm.
1002012	120 mm.	215 mm.
1002014	140 mm.	225 mm.
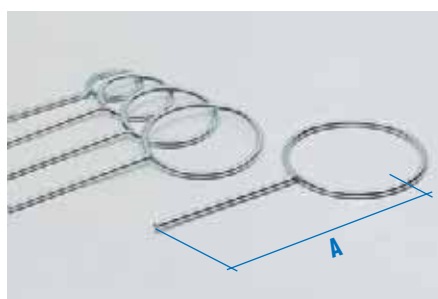
CLOSED RING RETORT SUPPORTS

Made from galvanised steel.

Part No.	Ring exterior Ø	Usable length A
1000236	60 mm.	180 mm.
1000238	80 mm.	195 mm.
1002310	100 mm.	200 mm.
1002312	120 mm.	215 mm.
1002314	140 mm.	225 mm.

GAUZE IRON WIRE WITH CERAMIC FIBRE

Part No.	
1087102	100 mm Side.
1087122	120 mm Side.
1087142	140 mm Side.
1087162	160 mm Side.
1087182	180 mm Side.
1087202	200 mm Side.

ASBESTOS FREE
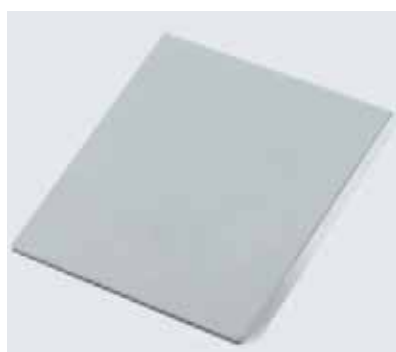
CERAMIC PLATES "NEOCERAM"

Resistant to temperatures from -200 °C to 700 °C.

Part No.	
1000684	120 x 120 x 5 mm.
1000685	140 x 140 x 5 mm.
1000686	160 x 160 x 5 mm.

Heat conductivity

NEOCERAM 0

Temperature °C

Kcal cm-seg °C
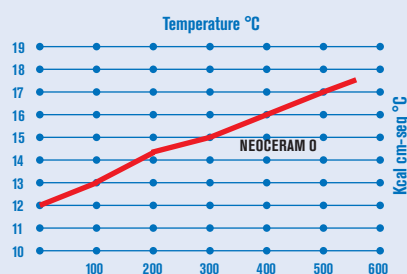
Resistant to temperatures from -200 °C to 700 °C.
Excellent heat conductor.
20% better heat transfer compared to a conventional gauze ceramic.
High chemical resistance to aggressive compounds.
Easy to clean and long lasting.

TRIPOD STAND FOR CERAMIC PLATES

With adjustable sides to prevent the plate from moving or tilting.
Total height 210 mm.

Part No.	For plates of
1000687	120 x 120 mm.
1000688	140 x 140 mm.
1000689	160 x 160 mm.

LABORATORY JACK "LAB-ELE"
With anodised aluminium base.

Part No. **1000294** — Usable platform: 120 x 140 mm.
Elevated height: 260 mm.
Maximum support weight: 7 kg.

Part No. **7000295** — Top plate: 200 x 200 mm.
Maximum elevated height: 260 mm.
Max. support weight: 7 kg.
With hole and clamp screw for a
support rod of 10 Ø x 600 mm high.

LABORATORY JACKS "LAB-STEEL"
Made completely of AISI 304 stainless steel.
Robust construction and stable body for supporting heavy weights.
Models:

"LAB-STEEL" MINI
Part No. **1001104** — Platform Dims.: 100 x 100 mm. Elevation height
55 to 155 mm. Maximum support weight: 12 Kg.

"LAB-STEEL" MEDI
Part No. **1001161** — Platform Dims.: 200 x 200 mm. Elevation height
65 to 270 mm. Maximum support weight: 7 Kg.

"LAB-STEEL" MAXI
Part No. **1001105** — Platform Dims.: 250 x 250 mm. Elevation height
65 to 270 mm. Maximum support weight: 12 Kg.

TABLE TOP "ALMANDINE"
Made of polyester mineral resin.
Features:
Excellent chemical resistance, with resistance to class 1 and 2 chemicals.
Resists abrasion, boiling water, dry heat, fire and scratches.
Stains easily removed with a detergent or abrasive cleaner.
Applications:
Protects bench top surfaces against aggressive chemicals, burns and scratches.
Suitable for working with: Acids, alkali bases, solvents or dyes.
Preparation of horizontal agar gels.
Preparation of petri dishes, etc.

Part No.	Width	Thickness	Depth	
1001090	48 cm	0.6 cm	45 cm	Without level
1001091	48 cm	0.6 cm	45 cm	With adjustable level supports

STABILISING RINGS "CIRCUM"
P.V.C coated steel.
Applications:
The weight of the ring stabilises and prevents flasks from floating when placed in a water bath. Suitable for Conical, volumetric and all types of flasks.

Part No.	Colour	Mode	Ø interior mm.	Weight g.
1001169	red	open	50	207
1001170	red	open	70	340
1001171	red	open	100	470
1001734	blue	closed	48	270
1001735	blue	closed	70	360
1001736	blue	closed	90	440

Ring support holder, made of stainless steel.
Part No. **1001737**

Spatulas, scoops and vessels.

STAINLESS STEEL AND NICKEL EVAPORATING BASINS.
STAINLESS STEEL, NICKEL AND ZIRCONIUM CRUCIBLES.

MICRO SPATULA WITH FLAT ENDS

Made od AISI 304 stainless steel.

Part No.	Length	Width
1027680	80 mm.	4 mm.
1276120	120 mm.	4 mm.
1276150	150 mm.	4 mm.
1276210	210 mm.	4 mm.

MICRO SPATULA WITH FLAT AND SPOON ENDS

Made of AISI 304 stainless steel.

Part No.	Length	Width
1277100	100 mm.	4 mm.
1277150	150 mm.	4 mm.
1277210	210 mm.	4 mm.

1.8 mm
5 mm
7 mm
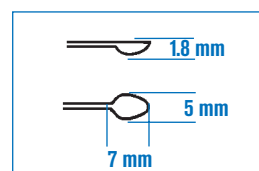
MICRO-SPATULA CURVED ENDS

20 mm
7 mm

Made of stainless steel AISI 304.
Part No. 1001581   Length 150 mm.

SPATULA FLAT AND GROOVED ENDS

Made of Stainless steel AISI 304.
Part No. 1000855   Total length 180 mm.   Flat width 9 mm.   Grooved width 8 mm.

SPATULA WITH CURVED ENDS

Made of stainless steel AISI 304.

Part No.	Length	Width
1010313	130 mm.	11 mm.
1001518	150 mm.	11 mm.
1010318	180 mm.	11 mm.
1010321	210 mm.	11 mm.

SPATULA WITH SPOON AND FLAT ENDS

Part No.	Length	Width	
1096120	120 mm.	18 mm.	stainless steel AISI 304.
1096150	150 mm.	20 mm.	stainless steel AISI 304.
1196120	120 mm.	18 mm.	Pure nickel.
1196150	150 mm.	20 mm.	Pure nickel.

CHISEL AND GROOVED SPOON END SPATULA

Part No.	Length	Width	
6021312	120 mm.	18 mm.	stainless steel AISI 304.
6021315	150 mm.	20 mm.	stainless steel AISI 304.
6121312	120 mm.	18 mm.	Pure nickel.
6121315	150 mm.	20 mm.	Pure nickel.

FLAT SPATULA WITH SPOON

30 mm
55 mm
38 mm
10 mm

Made of Stainless steel AISI 304.
Part No. 1001583   Length 180 mm.

SPATULA DOUBLE SPOON ENDS

23 mm
25 mm
30 mm
20 mm

Made of Stainless steel AISI 304.
Part No. 1001582   Length 150 mm.

DOUBLE SPATULA SEMI-MICRO

Made of Stainless steel AISI 304. Total length 140 mm
Rectangular end: 35 long x 7 mm wide.
Oval end: 35 long x 7mm wide.
Part No. 1278140
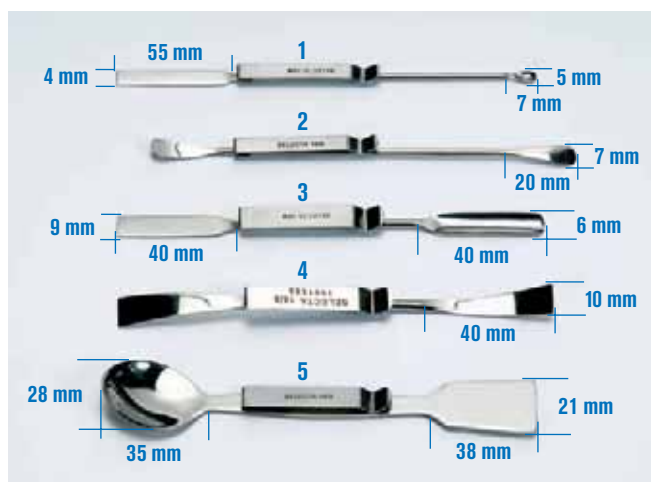
SPATULA WITH POCKET CLIP

Part No.
1. **1001585** Micro-spatula flat spoon end. Length 150 mm.
2. **1001586** Micro-spatula curved end. Length 150 mm.
3. **1001587** Spatula flat with grooved end. Length 150 mm.
4. **1001588** Spatula double end flat. Length 150 mm.
5. **1001589** Spatula flat and spoon ends. Length 150 mm.

Specially designed for lab coats with upper pocket.

FLAT AND CURVED END SPATULA
Made of AISI 304. stainless steel.

Part No.	Length	Width
6099120	120 mm.	20 mm.
6099150	150 mm.	24 mm.
6099180	180 mm.	24 mm.
6099210	210 mm.	24 mm.

SPATULA DOUBLE CURVED ENDS
Made of AISI 304. stainless steel.

Part No.	Length	Width
6100120	120 mm.	15 mm.
6100150	150 mm.	25 mm.
6100180	180 mm.	25 mm.
6100210	210 mm.	25 mm.
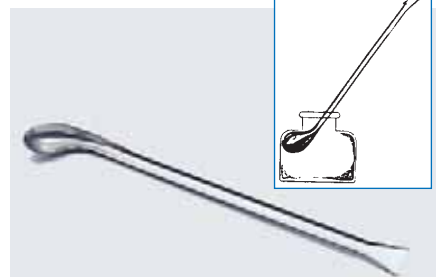
GROOVED SPATULA
Grooved spoon, made of AISI 304 stainless steel.
Total length: 190 mm.
Designed to remove residues from flasks and bottles due to the flat sharp end and curved spoon.
Part No. **1096190**
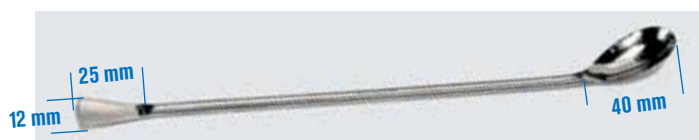
SPATULA SPOON FLAT-CONCAVE
Made Stainless steel AISI 304.
Part No. **1001584**   Length 250 mm.

FLAT SPATULA WITH SPOON
Analytical type, made of AISI 304 Stainless steel. Total length: 210 mm.
Rectangular end: 40 long x 9 mm wide.
Spoon end: 30 long x 18 mm wide.
Part No. **1095210**

PASTE KNIFE WITH WOODEN HANDLE
Blade made from tempered Stainless steel.

Part No.	Blade length	Blade width	Part No.	Blade length	Blade width
1010280	80 mm.	14 mm.	**1102160**	160 mm.	24 mm.
1102100	100 mm.	16 mm.	**1102200**	200 mm.	29 mm.
1102120	120 mm.	18 mm.	**1102240**	240 mm.	34 mm.
1102140	140 mm.	22 mm.	**1102280**	280 mm.	34 mm.
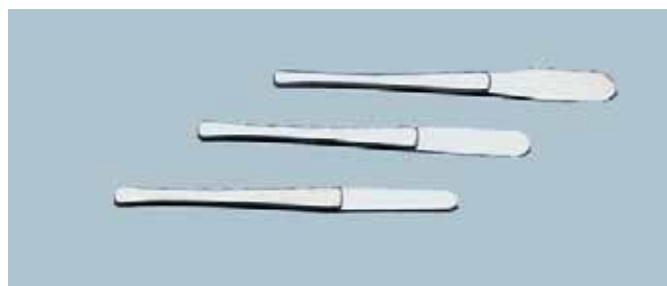
FLEXIBLE SPATULA
With stainless steel AISI 304 blade and handle.

Part No.	Total length	Blade length	Blade width
1000856	160 mm.	52 mm.	11 mm.
1000857	160 mm.	52 mm.	15 mm.
1000858	170 mm.	60 mm.	20 mm.

MULTI PURPOSE KNIFE

With a black bakelite® handle. Designed for comfort and safety
Made of tempered stainless steel.
Total length: 230 mm.
Blade length: 95 mm.
Part No. 1000862

SPATULA POCKET POUCH

Part No. 1001530
Contents:
1 Flexible spatula. Part No. 1000856 . 1 Semi micro spatula. Part No. 1278140
1 Micro spatula flat spoon. Part No. 1277150. 1 Dissection scissors. Part No. 1000807
1 Forceps blunt end. Part No. 1000580

SODIUM SPOON

With brass basket. Ø 25 mm. Total length: 190 mm.
Part No. 1000805

POWDER SCOOPS

Length: 100 mm. Width: 26 mm.
Part No. 6000278   Stainless steel AISI 304.
Part No. 6001278   Pure nickel.
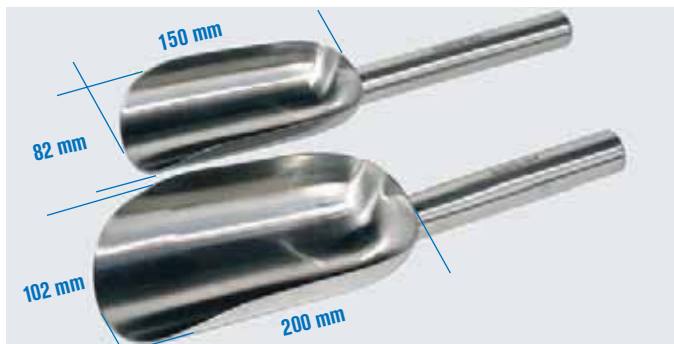
SCOOPS WITH HANDLE

Made of stainless steel AISI 304.
Part No. 1001592 Medium   Total length 320 mm.
Part No. 1001593 Big   Total length 360 mm.

VIBRATING SPATULA AND BALANCE WEIGHT FORCEPS

Vibrating spatula.
With manual vibrating device. Made of AISI 304 stainless steel.
Part No. 1000413   Curve end. Total length 176 mm. Width 12 mm.
Part No. 1000412   Grooved end. Total length 176 mm. Width 12 mm.

Balance weight forceps.
Made of AISI 304 stainless, electrobright finish. Total length 93 mm.
Part No. 1000217

Forceps for balance weights.
Made of AISI 304 stainless, electrobright finish. Total length 100 mm.
Part No. 1000216

FUSION SPOONS

Made of AISI 304 stainless, wooden handle. Total length: 350 mm.

Flat base. Volume 90 ml.
Part No. 6000093

Round base. Volume 75 ml.
Part No. 6000094

SCOOPS WITH HANDLE

Made of stainless steel AISI 304.

Part No.	Total length	Usable length	Width	Capacity
1000859	180 mm.	100 mm.	50 mm.	120 ml.
1000860	260 mm.	150 mm.	75 mm.	450 ml.
1000861	310 mm.	200 mm.	100 mm.	1500 ml.
1001354	330 mm.	210 mm.	150 mm.	2000 ml.

FUNNEL WITH HANDLE
Made of AISI304 stainless steel.
Part No. **1000906**   100 mm Ø x 100 mm high.
Part No. **1000907**   120 mm Ø x 112 mm high.
Part No. **1000908**   150 mm Ø x 159 mm high.
Part No. **1000909**   200 mm Ø x 183 mm high.

SPOON WITH HANDLE
Made of AISI304 stainless steel.
Part No. **1001594** Capacity 100 ml.   Total length 240 mm.
Part No. **1001595** Capacity 200 ml.   Total length 280 mm.
Part No. **1001596** Capacity 300 ml.   Total length 360 mm.

FLAT BOTTOM BASINS

Stainless steel AISI 304 Part No.	Nickel Ni Part No.	Ø	Height	Volume
1009160	**1019160**	60 mm.	25 mm.	40 ml.
1009170	**1019170**	70 mm.	25 mm.	60 ml.
1009180	**1019180**	80 mm.	30 mm.	90 ml.
1091100	**1191100**	100 mm.	35 mm.	180 ml.

EVAPORATION BASINS, ROUND BOTTOM

Stainless steel AISI 304 Part No.	Nickel Ni Part No.	Ø	Height	Volume
1009260	**1019260**	60 mm.	25 mm.	35 ml.
1009270	**1019270**	70 mm.	25 mm.	50 ml.
1009280	–	80 mm.	30 mm.	75 ml.
1092100	–	100 mm.	35 mm.	125 ml.

PETRI DISH WITH LID

Stainless steel AISI 304 Part No.	Nickel Ni Part No.	Ø	Height	Volume
1002126	**1012126**	60 mm.	20 mm.	50 ml.
1002128	**1012128**	80 mm.	20 mm.	90 ml.
1021210	–	100 mm.	25 mm.	150 ml.
1021212	–	120 mm.	25 mm.	260 ml.
1021215	–	150 mm.	30 mm.	550 ml.

BUCKETS WITH HANDLES
Without graduation.

Part No.	Height	Ø	Capacity
1001599	270 mm	270 mm	10 litres
1001600	300 mm	300 mm	15 litres

BUCKET LIDS
Part No. **1001601**   Suitable for buckets 10 litres Part No. 1001599
Part No. **1001602**   Suitable for buckets 15 Litres Part No. 1001600

DYE BEAKER
Stainless steel AISI 304.
Volume: 500 ml.
Part No. **6000291**

114 Ø
90 Ø
102 mm.
135 mm.
70 Ø
80 Ø

CRUCIBLES

STAINLESS STEEL AISI 304- PURE NICKEL - ZIRCONIUM
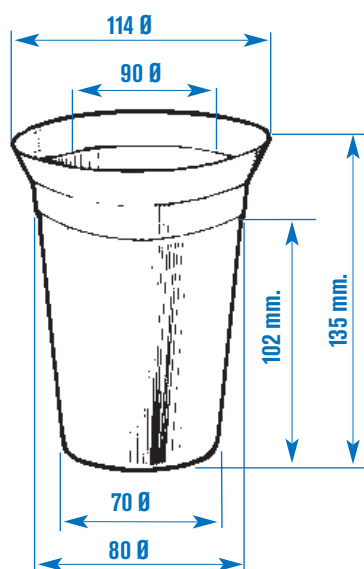
AISI 304 STAINLESS STEEL

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1098302	30 mm.	32 mm.	2 mm.	20 ml.	6009730
1098402	40 mm.	42 mm.	2 mm.	45 ml.	6009740
1009830	30 mm	32 mm.	0.6 mm.	20 ml.	6009730
1009840	40 mm.	42 mm.	0.6 mm.	45 ml.	6009740
1009850	50 mm.	55 mm.	0.8 mm.	85 ml.	6009750
1009860	60 mm.	65 mm.	0.8 mm.	140 ml.	6009760

Stainless steel can be used for temperatures from -180 °C to 500 °C.
Resistant to nitric acid, nitrates and potassium permanganate, Good resistance to concentrate alkali solutions. Medium resistance to acetic acid, dilute sulphuric acid, low concentrations of phosphoric and solutions of sulphates, boric acid, organic acids and bromide solutions.

PURE NICKEL Ni

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1198302	30 mm.	32 mm.	2 mm.	20 ml.	6019730
1198402	40 mm.	42 mm.	2 mm.	45 ml.	6019740
1198502	50 mm.	55 mm.	2 mm.	85 ml.	6019750
1198602	60 mm.	65 mm.	2 mm.	140 ml.	6019760
1019830	30 mm.	32 mm.	0.6 mm.	20 ml.	6019730
1019840	40 mm.	42 mm.	0.6 mm.	45 ml.	6019740
1019850	50 mm.	55 mm.	0.6 mm.	85 ml.	6019750
1019860	60 mm.	65 mm.	0.6 mm.	140 ml.	6019760

NICKEL will not oxidise in air and temperatures up to 500 °C. Good resistance to alkali and sea water. Excellent resistance to damp chlorine and gaseous hydrochloric acid up to 500 °C. Slowly attacked by organic acids, hydrochloric and sulphuric. Low resistance to diluted nitric acid.

ZIRCONIUM Zr

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1000563	33 mm.	30 mm.	1 mm.	20 ml.	6000567
1000564	47 mm.	43 mm.	1 mm.	50 ml.	6000568
1000565	52 mm.	48 mm.	1 mm.	75 ml.	6000569
1000566	59 mm.	51 mm.	1 mm.	100 ml.	6000570

ZIRCONIUM superior to other metals for fusion applications of peroxides and carbonates. Replaces platinum in many cases. An average of 100 fusions per crucible. Resistant to mixtures of alkaline, carbonate hydroxide, peroxide borate, nitrates, chlorides some fluorides and sulphuric acid with concentrations of up to 75 %. Avoid Hydrofluoric acid that attacks it.

QUALITY AISI 310.

LABORATORY-HOSPITAL ✚ SERIES

ROUND BASINS

Part No.	Ø exterior	Ø interior	Height	Volume
8081810	133 mm.	118 mm.	45 mm.	400 ml.
8081812	175 mm.	157 mm.	58 mm.	850 ml.
8081814	217 mm.	199 mm.	66 mm.	1650 ml.
8081815	262 mm.	242 mm.	90 mm.	3400 ml.
8081817	318 mm.	297 mm.	117 mm.	7000 ml.

STERILIZATION BOXES WITH LID

Part No.	Height	Width	Depth
8085504	30 mm.	170 mm.	70 mm.
8085505	50 mm.	200 mm.	100 mm.

RECTANGULAR TRAYS

Conical shape

Part No.	Exterior Height	Exterior Width	Exterior Depth	Interior Width	Interior Depth
8080801	40 mm.	190 mm.	125 mm.	158 mm.	112 mm.
8080802	45 mm.	244 mm.	161 mm.	211 mm.	147 mm.
8080803	50 mm.	305 mm.	195 mm.	270 mm.	177 mm.
8080804	55 mm.	338 mm.	261 mm.	301 mm.	241 mm.

Long shape

Part No.	Exterior Height	Exterior Width	Exterior Depth	Interior Width	Interior Depth
8080208	18 mm.	175 mm.	62 mm.	145 mm.	49 mm.
8080207	28 mm.	380 mm.	160 mm.	351 mm.	145 mm.

BOXES WITH ROUND LIDS

Part No.	
8085513	85 Ø x 50 mm high. Volume 250 ml.
8085514	140 Ø x 65 mm high. Volume 1000 ml.
8085515	180 Ø x 75 mm high. Volume 1500 ml.

KIDNEY DISHES

Part No.	
8085301	32 high x 200 mm long.
8085302	37 high x 250 mm long.
8085303	42 high x 300 mm long.

1   2   3

TALL BEAKERS AND JUGS

Mirror finish stamped beakers and jugs with a curved lip.
Easily cleaned and resistant to large numbers of chemical agents.

1 Standard	2 With Spout	3 With handle and spout		
Part No.	Part No.	Part No.	Ø x Height	Volume
8002902	8012902	8092902	72 x 84 mm.	250 ml.
8002905	8012905	8092905	86 x 129 mm.	500 ml.
8029010	8129010	8929010	102 x 150 mm.	1000 ml.
8029020	8129020	8929020	132 x 184 mm.	2000 ml.
8029030	8129030	8929030	160 x 180 mm.	3000 ml.
8029040	8129040	8929040	180 x 200 mm.	4000 ml.
8029050	8129050	8929050	200 x 220 mm.	5000 ml.

LIDS FOR BEAKERS AND JUGS

Part No.	Beaker size	Part No.	Beaker size
8000250	250 ml.	8003000	3000 ml.
8000500	500 ml.	8004000	4000 ml.
8001000	1000 ml.	8005000	5000 ml.
8002000	2000 ml.		

BUCKET WITH HANDLE

Buckets. Graduated from 1 to 12 litres.
320 Ø x 300 mm high. Volume 12 litres.
Part No. 8000252
Bucket lids
Part No. 1002521

MEDICINE CUPS

Part No.
8085530   Graduated. Capacity 30 ml.
8085531   Graduated. Capacity 50 ml.
8085532   With handle, no graduations. Capacity 300 ml.
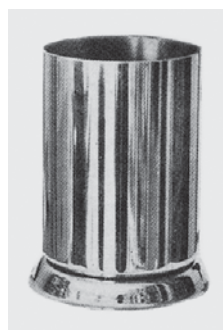
SERILISATION JAR

100 Ø x 155 mm high.
Volume 1600 ml.
Part No. 8080904

ROUND BASIN

370 Ø x 145 mm high. Volume 9000 ml.
Part No. 8000140

SUPPORT FOR ROUND BASIN

Portable with rubber wheels and brake.
Basin Part No. 8000140.
Part No. 6010140

SUPPORT FOR BUCKETS

Portable with rubber wheels and brake.
For bucket Part No. 8000252.
Part No. 6010252

Feeding bottle defroster and heater "CB-6" and "CB-1"

"CB-6" MULTIPLE MODEL UP TO 6 BOTTLES. "CB-1" INDIVIDUAL MODEL

NEW

Dry heat, easy cleaning and with no maintenance. International patent PCT/ES2010/070230.

APPLICATIONS

Shakes and defrosts or heats the bottle contents, even with breast milk. It establishes sanitary warranties as it eliminates the double boiler system which is prone to harmful bacteria and germs generation for the newborn health.
It also improves the microwave heating which destroys some of the nutrients and antibodies that feed and immunize the baby.

COMMON FEATURES

Heating and shaking for 60, 120 and 200ml feeding bottles whether they are plastic or glass made, up to a maximum diameter of 56 mm.
Constant fan air circulated heater system.
Permanent shaking that guarantees the contents homogeneity.

Multiple positions feeding bottle defroster and heater "CB-6"

FEATURES

Suitable for nurseries in clinics and hospitals.
Made of white glazed steel, with Rilsan treated internal chamber and rotatory drum.
For 6 units of 60, 120 and 200ml capacities.
It incorporates an automatic fan cooling at the end of the process, which allows an access to the samples without risk.
Transparent door, with safety switch off in case of opening.
It offers a couple of different programs:
Defrost. From a sample at approx. -20ºC, a temperature control inside the bottle is made by means of infrared sensors with an automatic stop system when arriving to approximately the contents temperature at ±4ºC.
Heating. Temperature control by means of infrared sensors with automatic stop system when arriving to approximately the contents temperature needed for the baby feeding at ±30ºC.

CONTROL PANEL

Illuminated main switch.
Blue push button for defrosting program.
Red push button for heating program at 30ºC.

MODEL	Part No.	Positions No.	Ext. dimensions Height/Width/Depth			Power W	Weight Kg
CB-6	6000150	6	38	30	42	2000	17

THERMAL OUTPUT:

From a sample of 6 bottles at -20ºC. approx.

Bottle ml.	Approx. Time To ±4 ºC
60	30'
120	35'
200	40'

From a sample of 6 bottles at 4ºC. approx.

Bottle ml.	Approx. Time. To ±30 ºC
60	6'
120	8'
200	10'

Individual feeding bottle heater "CB-1"

FEATURES

Suitable for clinic rooms, nurseries or home.
Made of PVC, with metallic inside frame and Rilsan treated chamber.
For one feeding bottle only.
Pendulum-oscillating shaking with a 135º angle that allows the teat to be on the bottle without spilling.
Ease of use.

CONTROL PANEL

Illuminated main switch.
3 positions timer, for 60, 120 and 20ml bottles.

MODEL	Part No.	Positions No	Ext. dimensions Height/Width/Depth			Power W	Weight Kg
CB-1	6000151	1	31	30	19	1000	5

THERMAL OUTPUT:

From a sample of 1 bottle at 4ºC approx.

Bottle ml.	Approx. Time To ±30ºC ºC
60	3'20"
120	4'30"
200	5'40"

Racks, baskets and storage
for tubes pipettes and flasks

TUBE RACKS

Schematic diagram indicating external measurements A-B-C-D

A: Total length.
B: Total width.
C: Total height including feet.
D: Height from the tube base to the top surface.
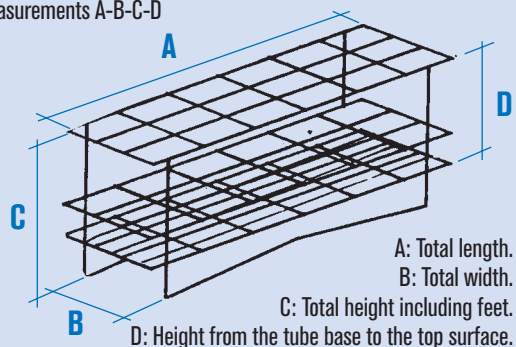
Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1001563	Stainless steel	24 (6 x 4)	13 mm VAC	95	70	70	60

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1001212	PVC coated wire	12 (4 x 3)	13 mm	65	50	65	50
1025500	Stainless steel wire AISI 304	12 (4 x 3)	13 mm	65	50	65	50

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1026112	PVC coated wire	12 (6 x 2)	16 mm	120	45	80	65
1026412	PVC coated wire	12 (6 x 2)	25 mm	180	65	110	95
1025512	Stainless steel wire AISI 304	12 (6 x 2)	16 mm	120	45	80	65
1025812	Stainless steel wire AISI 304	12 (6 x 2)	25 mm	180	65	110	95

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1026124	PVC coated wire	24 (8 x 3)	16 mm	160	65	80	65
1026424	PVC coated wire	24 (8 x 3)	25 mm	235	95	110	95
1025524	Stainless steel wire AISI 304	24 (8 x 3)	16 mm	160	65	80	65
1025824	Stainless steel wire AISI 304	24 (8 x 3)	25 mm	235	95	110	95
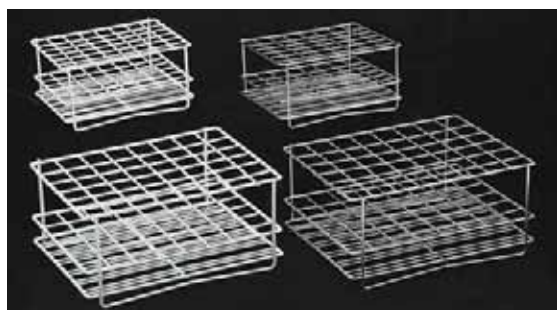
Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1026148	PVC coated wire	48 (8 x 6)	16 mm	160	125	80	65
1026448	PVC coated wire	48 (8 x 6)	25 mm	235	180	110	95
1025548	Stainless steel wire AISI 304	48 (8 x 6)	16 mm	160	125	80	65
1025848	Stainless steel wire AISI 304	48 (8 x 6)	25 mm	235	180	110	95

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm			
				A	B	C	D
1000603	Stainless steel wire AISI 304	50 (10 x 5)	13 mm	162	84	35	35
1000605	Stainless steel wire AISI 304	50 (10 x 5)	13 mm	162	84	60	60
1000607	Stainless steel wire AISI 304	50 (10 x 5)	18 mm	210	110	40	40
1000609	Stainless steel wire AISI 304	50 (10 x 5)	18 mm	210	110	60	60
1000611	Stainless steel wire AISI 304	50 (10 x 5)	18 mm	210	110	85	85
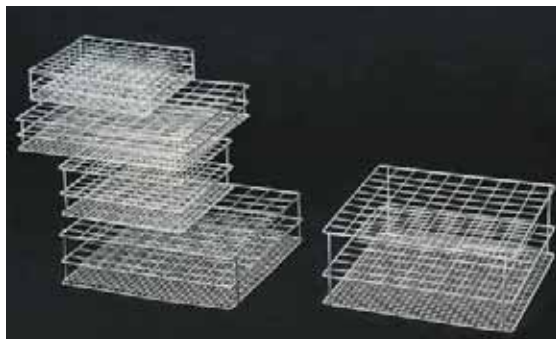
Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm			
				A	B	C	D
1000604	Stainless steel wire AISI 304	100 (10x10)	13 mm	162	162	35	35
1000606	Stainless steel wire AISI 304	100 (10x10)	13 mm	162	162	60	60
1000608	Stainless steel wire AISI 304	100 (10x10)	18 mm	210	210	40	40
1000610	Stainless steel wire AISI 304	100 (10x10)	18 mm	210	210	60	60
1000612	Stainless steel wire AISI 304	100 (10x10)	18 mm	210	210	85	85
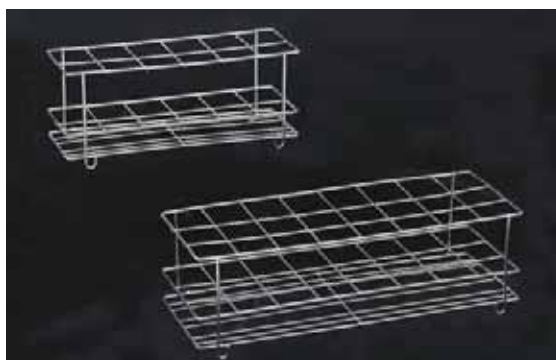
Suitable for Nessler tubes

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm			
				A	B	C	D
1004012	Stainless steel wire AISI 304	12 (6 x 2)	40 mm	260	90	110	95
1004024	Stainless steel wire AISI 304	24 (8 x 3)	40 mm	345	130	110	95

Suitable for Falcon tubes with lids

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm			
				A	B	C	D
1001715	Stainless steel wire AISI 304	15 (5 x 3)	16 mm Falcon 15 ml	120	80	90	75
1001716	Stainless steel wire AISI 304	8 (4 x 2)	30 mm Falcon 50 mm	145	80	90	75

With rack linking guides

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm			
				A	B	C	D
1002532	Stainless steel AISI 304	24 (8 x 3)	12 mm	160	62	65	–
1002531	Stainless steel AISI 304	14 (7 x 2)	16 mm	160	62	65	–

Suitable for butyrometer

Part No.	Made of	Number of tubes	For tube	Dimensions ext. mm			
				A	B	C	D
1025412	Stainless steel AISI 304	12 (6 x 2)	Butyrometer	200	70	165	–
1025424	Stainless steel AISI 304	24 (8 x 3)	Butyrometer	285	95	165	–

With decanting aid

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm			
				A	B	C	D
1000433	Anodised aluminium colour silver	120 (15 x 8)	11 mm	300	170	50	–
1000434	Anodised aluminium colour silver	120 (15 x 8)	14 mm	300	170	50	–

Stackable and numeric

Stackable racks
Made of anodised aluminium with alphanumeric from 1 to 10 and A to E.

Part No.	External dimensions mm.			Tube Capacity	For tubes of Ø up to
	Height	Width	Depth		
1000830	60	165	95	50	11 mm
1000831	60	195	100	50	14 mm
1000832	60	220	110	50	16 mm
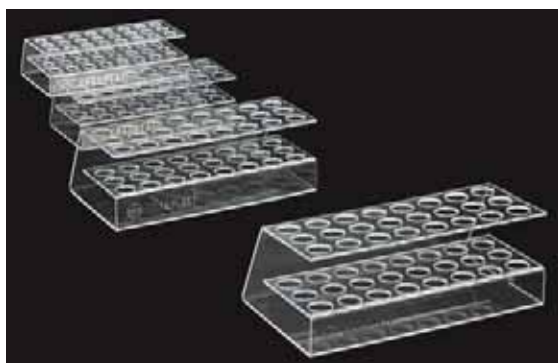
Transparent methacrylate racks

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm			
				A	B	C	D
1052012	Transparent methacrylate	24 (8 x 3)	12 mm	170	90	50	50
1052016	Transparent methacrylate	24 (8 x 3)	16 mm	190	100	60	60
1052022	Transparent methacrylate	24 (8 x 3)	22 mm	255	150	80	80
1052026	Transparent methacrylate	24 (8 x 3)	26 mm	300	170	110	110

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm			
				A	B	C	D
1001251	Methacrylate	25 (5 x 5)	11 mm	85	80	35	30
1001252	Methacrylate	25 (5 x 5)	12 mm	85	80	55	50

PROPISEL RACKS

Made of high density white polypropylene.
Easy to assemble. Stackable. Autoclavable. These racks do not float and are suitable for water baths for temperatures up to 140 °C.
Each rack has a cross reference numbering systems for easy tube identification. Easily cleaned with a disinfectant. Colour white.
Accessory rack identification cards are available in: yellow, blue and red.

Models

Part No.	Number of tubes	For tubes up toØ mm	External dims. cm Height	Width	Depth
1001115	90	13	7	10.5	25
1001116	60	16	7	10.5	25
1001117	40	20	7	10.5	25
1001118	24	25	7	10.5	25
1001119	21	30	7	10.5	25

ACCESSORY
Indentification cards, autoclavable.
Part No.
1001120 Yellow
1001121 Blue
1001122 Red

PROPISEL-FIX RACKS

Made of high density polypropylene. Comes with decanting aid that holds the tubes in place in the rack while the complete rack is emptied in one operation. Features: Same feature as the "Propisel".

Image showing the decanting aid in use and tubes still in place.

Models

Part No.	Number tof tubes	For tubes up toØ mm	External dims. cm Height	Width	Depth
1001123	90	11 to 13	7	10.5	25
1001124	60	14 to 16	7	10.5	25
1001125	40	19 to 20	7	10.5	25

ACCESSORY
Indentification cards, autoclavable.
Part No.
1001120 Yellow
1001121 Blue
1001122 Red
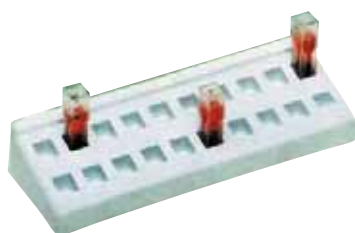
RACK FOR 20 10 mm ◻ SQUARE CUVETTES

Made of polypropylene. Positioning cross-reference.
Height 35 mm. Width 70 mm
Depth 210mm
Colour: white
Part No. **1001528**

CIRCULAR RACK

Made in polyethylene for 4 tubes of 25 mm Ø, 8 tubes of up to 19 mm Ø and 16 up side down peg tube supports.
Dimensions: 95 high x 180 mm Ø.
Part No. **1001339**

RACK FOR 1.5 AND 2 ml MICROTUBES

Made of Polycarbonate, stackable, numbered positions and autoclavable. Number of tubes: 24 microtubes.
Diameter: up to 11 mm Ø.
Part No. **1001340**

RACK FOR 1.5 AND 2 ml MICROTUBES

Made of solid polypropylene, ideal for refrigerator and freezer storage. Numbered positions and autoclavable.
Capacity: up to 80 micro-tubes.
Part No. **1001341**

RACK FOR 20 MICROTUBES OF 1.5 TO 2 ml

Made of polypropylene. Racks can be linked and fitted together. Numbered locations. Total length 21 cm.
Part No. **1001523**

THREE LEVEL MICROTUBE RACK FOR 0.2 - 0.5 AND 1.5 ml

Made from polypropylene and can be linked at either end to form longer racks. Numbered positions.
Lower level 24 micro tubes of 0.2 ml.
Middle level 14 micro tubes of 0.5 ml.
Upper level 12 micro tubes of 1.5 ml.
Standard colour yellow.
Part No. 1001542

MULTI SUPPORT TUBE RACK TUBE SIZE Ø 10/13 AND 14/17 mm

Suitable for drying and storing of tubes. Autoclavable.
Suitable for use in a water bath.
Standard colour blue.
Part No. 1001543 Group of 80 spikes for tubes
of 10-13 mm Ø.
Part No. 1001544 Group of 50 spikes for tubes
of 14-17 mm Ø.

REVERSIBLE TUBE RACK FOR MICROTUBES 0.2/0.5 AND 1.5/2 ml

Made from polypropylene with removable lid that fits on any side.
Alphabetic identification positions.
Face A for 168 micro tubes of 0.2 ml and 12 x 1.5 ml.
Face B for 110 micro tubes of 0.5 ml and 12 x 1.5 ml.
Standard colour yellow.
Part No. 1001545

REVERSIBLE TUBE RACKS FOR 0.5 - 1.5 AND 2 ml TUBES

Face A for 96 micro tubes of 0.5 ml.
Face B for 96 micro tubes of 1.5 to 2 ml.
Made from polypropylene with removable lid.
Alphabetic tube position identification.
Height 26 mm, with lid 50 mm. Width 115 mm. Length 250 mm.
Standard colour yellow.
Part No. 1001524

BOX TO STORE 100 CRYO VIALS AND 1.5 TO 2 ml MICROTUBES

Made from polyethylene, with hinged, lid and pressure latch close.
Alphabetical grid tube location within the lid.
Height with lid 55 mm. Width 140 mm. Length 140 mm.
Standard neutral colour.
Part No. 1001525

BOX FOR 50 CRYO VIALS AND 1.5 TO 2 ml MICROTUBES

Made from polyethylene, with hinged, lid and pressure latch close.
Alphabetical grid tube location within the lid.
Height with lid 55 mm. Width 80 mm. Length 140 mm.
Standard neutral colour.
Part No. 1001526

STORAGE BOX FOR 96 TUBES OF 0.2 ml

Made from polypropylene, with hinged lid and pressure latch close.
Alphanumeric identification positions.
Height with lid 30 mm. Width 90 mm. Length 130 mm.
Standard colour yellow.
Part No. 1001527

BOX FOR STORING 12 X 10 mm ◻ CUVETTES

Made from Polypropylene, with hinged lid and pressure latch close.
Removable base.
Cuvette heights up to 60 mm high.
Height with lid 60 mm. Width 115 mm. Length 115 mm.
Standard colour neutral.
Part No. 1001529

FREEZER BOXES FOR VIAL STORAGE

Made from polycarbonate.
Suitable for freezer or liquid nitrogen storage for temperatures between -196 °C to +121 °C.
Alphanumeric identification, with ventilation holes and drain. Pressure lid.
Part No. 1001713 Box of 25 vials.
Height with lid 55mm. Width 75 mm. Length 75 mm.
Part No. 1001714 Box of 100 vials, Lid with hinge.
Height with lid 55mm, Width 130mm. Length 130 mm.

COMMON FEATURES

Specially designed for protecting and maintaining PCR* reagents, enzymes, bacteria, viruses and other biological samples cool or frozen during use. Also provides protection from temperature fluctuation, defrost cycles and freezer power failure.

Made from polycarbonate with a pre-filled chamber of non-toxic gel, complete with alphabetical identification grid in the lid.
Freezer temperature resistant down to -135 °C.
Tubes are isolated and have no contact with the cooling solution.

* Note: PCR is a registered name of Hoffman-La Roche.

"QUICK FREEZE" CONTAINER

Quick freeze container with the capacity for 12 tubes 0.5 ml or 2 ml tubes.
Unique reproducible freezer system for biological samples using ethanol samples of DNA and RNA.
It will maintain the interior temperature for up to 45 minutes after removal from a freezer.
Freezing speed:
2 ml solution of alcohol at –20 °C, 3 minutes.
2 ml solution of water 0 °C, 4 minutes.
Size (with lid): 95 high x 100 depth x 140mm width.
Part No. **5601050**

MINI FREEZER CONTAINERS "COOLER 1051" AND "COOLER 1052"

Cooler 1051
Freezer container at 0 °C with the capacity for 12 tubes of 0.5 to 2 ml.
Alphanumeric matrix on the lid.
It will maintain temperature for up to 2 to 5 hours
Size (with lid): 95 high x 100 depth x 140mm width.
Part No. **5601051**
Cooler 1052
Freezer container at 0 °C to –20 °C with a capacity for 32 tubes of 0.5 to 2 ml.
Alphanumeric matrix on the lid.
Double insulation body and lid that can maintain the internal temperature for a period of up to 2 hours.
Size (with lid): 105 high x 130 depth x 270 mm width.
Part No. **5601052**

Cooler 1052   *Cooler 1051*

MINI FREEZER CONTAINERS "COOLER 1053"

Freezer container at 0 °C with the capacity for 12 tubes of 16/17 mm Ø and 15 ml centrifuge tubes.
Alphanumeric matrix on the lid.
It will maintain temperature for up to 2 to 5 hours.
Size (with lid): 150 high x 140 depth x 190 mm width.
Part No. **5601053**

CONTAINER "CRYO 1 °C COOLER"

Freezer container with constant reproducible progressive cooling rate of 1 °C/min with a capacity for 18 cryo tubes of 1.2 to 2 ml
Operation: fill the container with alcohol isopropanol (C_3H_8O) and place tube rack inside replace the lid and put into a freezer.
The container can be placed in a water bath for thawing.
Capacity of $C_3H_8O = 250$ml
Size (with lid): 86 high x 117 mm Ø.
Part No. **5601055**

"ICE BUCKET"

Container with lid, made of double-bodied polystyrene of 2 mm thickness with thermal insulation that is chemically resistant, made from expanded polystyrene.
Ideal for maintaining samples submerged in ice for short time periods. Capacity 3-5 litres.
External dimensions: 19 height x 27 width x 27 cm depth.
Internal dimensions: 17 height x 25 width x 25 cm depth.
Part No. **5601054**

Flake ice maker "IMS" 40 and "IMS" 85

"IMS" 40 MODEL: PRODUCTION 40 kg-24 HOURS.
"IMS" 85 MODEL: PRODUCTION 85 kg-24 HOURS.

APPLICATIONS

For preservation and storage of analytic samples, biological tissues, cellular cultures and other applications that require maintenance of the temperature below ambient.

FEATURES

External case made of AISI 304 stainless steel.
Thermal isolated inside.
High capacity for flake ice production from running or purified water.
Water pressure between 1,5 and 3 bars.
Automatic switch off when there's water shortage and when the ice tank capacity is full.

CONTROL PANEL

Main power switch.
Luminous indicator for: Flake ice production.
                        Water shortage.
                        Ice tank full.

NEW

MODELS	Part no.	24 h. (Kg) Production	Tank Capacity(Kg)	Height / Width / Depth cm			Power W	Weight Kg
IMS-40	**5020100**	**40**	**8**	**72**	**38**	**54**	**280**	**40**
IMS-85	**5020101**	**85**	**13**	**88**	**55**	**61**	**420**	**57**

STRUCTURE:
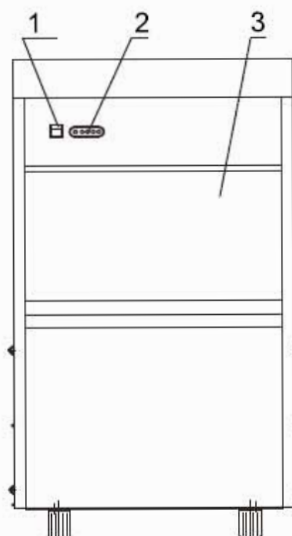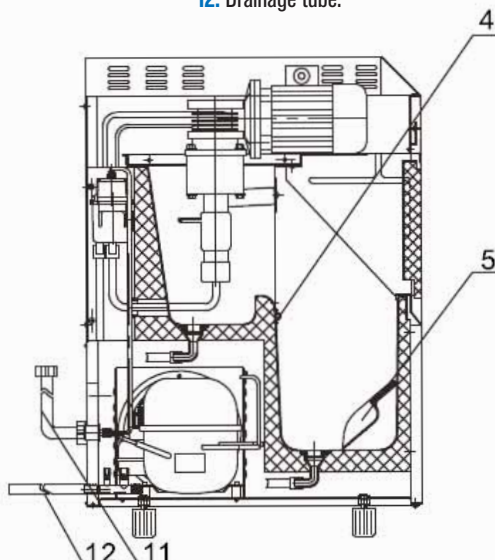
Frontal panel	**Lateral panel**	**Back panel**
1. Switch.	**4.** Temperature sensor.	**6.** Back panel.
2. Operation board.	**5.** Ice shovel.	**7.** Power cable.
3. Door.	**11.** Water inlet tube.	**8.** Screw for drainage.
	12. Drainage tube.	**9.** Water oulet tube.
		10. Foot screw.
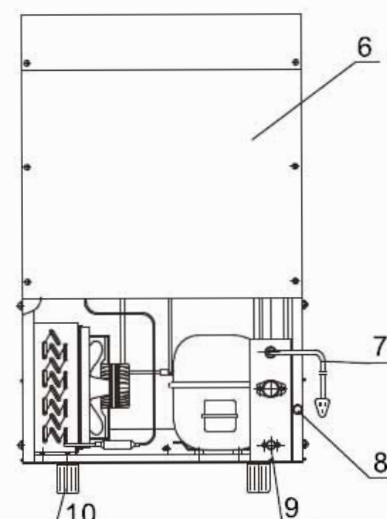
COMPLEMENT "ICE BUCKET"
See page 185

NEW

FREEZING CONTAINER
For sample freezing with liquefy gas (liquid nitrogen), liquids and solutions.
Spherical inside. Exterior made of AISI 304 stainless steel. Double body with thermal isolated PRTFE joint.
Hit-resistant.
External measures: 14 high x 24cm wide.
Capacity: 1.5 L.   Weight Kg: 2,9.
Part No. **1001640**

FLOATING TUBE RACK 1.5 AND 2 ml MICRO-TUBES
Made of polypropylene, with a support to hold microtubes. Ideal for constant temperature application.
Capacity: 16 microtubes.
Dimensions: 4 high x 10 wide x 10 cm deep.
Part No. **1001342**

THERMOMETER AND PIPETTE RACK
Made of polypropylene.
No. of positions: 12 positions.
Part No. **1001314**

SUPPORT TRAY FOR PIPETTES, THERMOMETERS AND DENSIMETER.
Made of PVC. No. of places: 16 places.
Dimensions: 3 high x 21 wide x 28 cm deep.
Part No. **1001372**

PIPETTE RACK "STABIL"
Pipette rack made from polyethylene for 28 pipettes or thermometers up to 14 mm Ø. Stable heavy base with drain and two adjustable height supports.
Weight 1.5 Kg.
Part No. **1001466**

PIPETTE RACK "CIRPIP"
Portable upright rack for pipettes and thermometers, made of PVC. No. of positions: 93 of various sizes.
Stable heavy base with drain
Weight 0.4 Kg.
Part No. **1001254**

CIRCULAR RACKS
Made of AISI 304 stainless steel.
138 mm Ø x 120 mm high. Suitable for the "Baher" and "Univeba" baths (see BATHS for more details).
Part No. **7000541** for 24 tubes up to 18 mm in Ø.
Part No. **7004002** for 24 tubes up to 13mm in Ø.
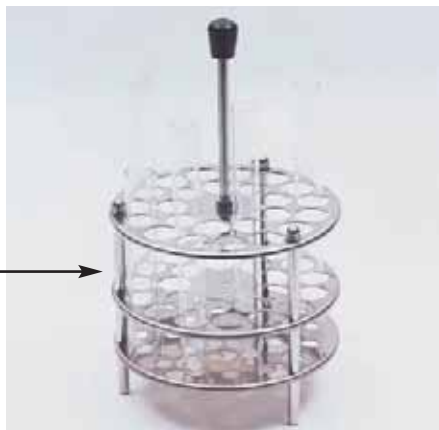
SAMPLE CONTAINERS "CONTESEL"
Applications: designed for dispensing, storage or preservation of organic and inorganic samples.
Polypropylene container and quick fit screw cap lid.
Lid system with flap AQUISEL (international patent.) That allows the manipulation of the sample without having to remove the lid and maintains a seal.
Dosing by means of an automatic or standard pipette.
Vessel graduated to: 20, 40, 60, 80 and 100 ml, frosted screen for writing.
Includes gullet for pouring .
Comes complete with violet coloured lid valve.

Part No.	colour	capacity ml	total height cm	quantity
1001699	violet	100	7	300

SUPPORT AND DRAIN RACK FOR PIPETES "SOP-PIP"
Made AISI 304 stainless steel.
Holds up to 112 pipettes of different sizes.
Part No. **1001223**

TILTED SUPPORT RACK "SOP-INC"
Suitable for pipettes, hydrometers and thermometers rack, made of methacrylate. 6 positions.
Part No. **1000015**

KJELDAHL FLASK SUPPORT
Made of AISI 304 stainless steel with electrobright finish.
Suitable for flasks up to 500 ml.
Part No. **1000002**

PIPETTE RACK
Made of AISI 304 stainless steel.
No. of places: 6 dosing pipettes of various sizes up to 28 cm in length. (See pages 204 - 205).
Part No. **1001215**

SUPPORT RACK FOR PIPETTE AID "COM-PIP"
Made of AISI 304 stainless steel.
No. of places: 6 dosing pipettes of various sizes.
(See page 186).
Part No. **1001702**

ROUND BOTTOM FLASK SUPPORT
Made of moulded rubber (E.P.D.M.). Temperature resistance up to 100 °C. Specially designed with stepped surface to support different flask diameters. From 100 ml up to 10 litre capacity.
Dimensions: 50 mm high x 160 mm Ø.
Part No. **1000863**

TABLE TOP OR WALL MOUNTABLE DRAIN RACK
Made of PCV coated wire.
640 high x 500 mm wide.
With 79 positions, complete with drip tray.
Part No. **1000481**

DRAIN RACK
Made of PCV coated wire.
  32 positions.
  300 high x 400 mm wide.
  Part No. **1024132**

48 positions.
500 high x 400 mm wide.
Part No. **1024148**

88 positions.
620 high x 500 mm wide.
Part No. **1024188**

NUEVO

WIRE BASKETS

Made of AISI 304 stainless steel sheet with electro-bright finish. Designed to fit the Selecta autoclaves. (See page 54 to 67).

Part No.		Part No.	
1004771	220 Ø x 140 mm high.	**1000496**	380 Ø x 280 mm high.
1000596	225 Ø x 240 mm high.	**1000780**	480 Ø x 220 mm high.
1000495	280 Ø x 200 mm high.		
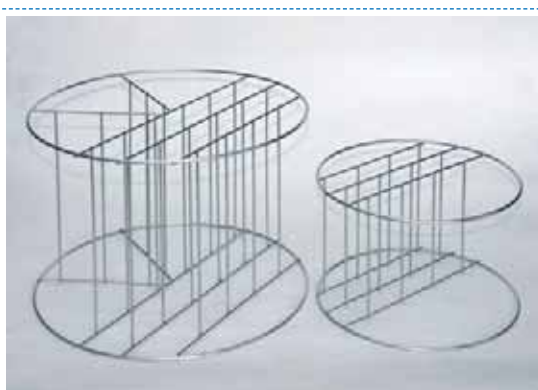
ACCESSORY

Basket dividers, stainless steel AISI304 , electrobright finish.

Part No.		For baskets, Part No.
1001217	4 compartment divider	1000495
1001218	6 compartment divider	1000496
1001222	7 compartment divider	1000780

WIRE BASKETS

Electropolished stainless steel AISI 304.

Part No.	Dimensions	With cross dividers. Part No.
1025115	210 Ø x 180 mm high	**1125115**
1025121	150 Ø x 120 mm high	**1125121**
1025124	240 Ø x 180 mm high	**1125124**

STERILIZATION DRUMS

Made from AISI 304 stainless steel. Designed to fit the Selecta autoclaves. (See page 54 to 67.)

Part No.	Ø cm	Height cm	
1002418	28	18	
1002419	35	27	
1002420	28	18	**Doesn't match Selecta autoclaves**.

STERLIZER CAN FOR PIPETTES

Made from Stainless steel AISI 304.

Part No.	height mm	Ø mm
1000829	400	72
1001126	400	130

STERILIZATION CONTAINER FOR PETRI DISHES

Made of AISI 304 stainless steel. Complete with Petri dish rack for up to 120 mm Ø.

Models Part No.	height / Ø mm	No. of plates
1001127	260 / 130	10
1001128	400 / 130	18

PETRI DISH RACK

Made of AISI 304 stainless steel, with electro-bright finish. For 10 dishes of 80 to 100 mm Ø.
Part No. **1000259**

PIPETTE BASKET

Made of AISI 304 stainless steel with electro-bright finish. 90 mm Ø x 250 mm high.
Part No. **1000251**

STERILIZATION CONTAINER FOR PIPETTES

Made from Stainless steel AISI 304. Lid interior and base lined with silicon to protect pipette end and tip.

Part No.	height mm	Ø mm
1001597	290	65
1001598	340	65

Burners, alcohol, butane, propane and natural gas
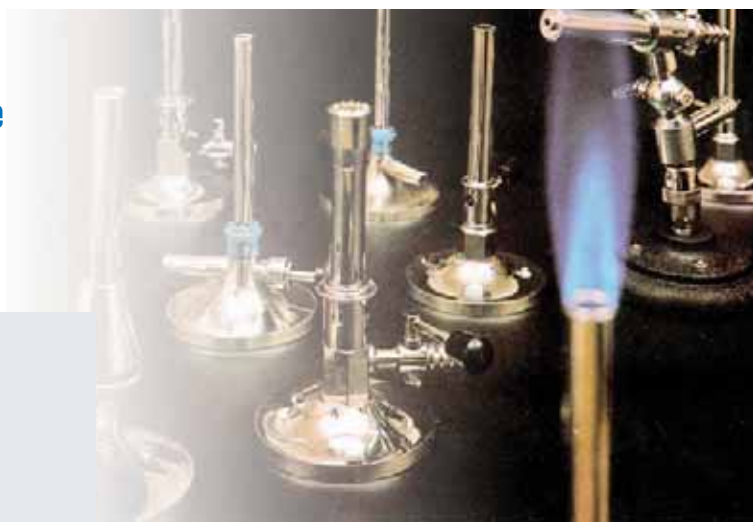
ALCOHOL BURNER
Screwcap jar with wick.
Capacity 120 ml.
Part No. **1001256**

ALCOHOL BURNER
Chrome plated top with wick height control.
With lid and chain.
Capacity 85 ml.
Part No. **1001434**

BUNSEN BURNER
With both gas and air regulator.
Tube Ø exterior: 11 mm. Total height: 140 mm.
Part No.
7000134   For butane/propane gas.
7009133   For natural gas.

SIMPLE BUNSEN BURNER
Air regulator only, nickel plated.
External tube Ø : 11 mm. Total height: 130 mm.
Part No.
7000044   For butane/propane gas.
7000937   For natural gas.

MEKER BURNER
With permanent flame. Gas and air control.
External tube Ø at its widest point: 22 mm.
Total height: 175 mm.
Part No.
7001106   For butane/propane gas.
7001107   For natural gas.

MEKER BURNERS
Conforms to CE 370.
With gas and air regulator.

Model Small. External tube Ø at its maximum point: 22 mm. Total height: 175 mm.
Part No.
7001108   For butane/propane gas.
7001109   For natural gas.

Model Medium. External tube Ø at its maximum point: 27 mm. Total height: 185 mm.
Part No.
7001110   For butane/propane gas.
7001111   For natural gas.

Model Large. External tube Ø at its widest part: 32 mm. Total height: 190 mm.
Part No.
7001112   For butane/propane gas.
7001113   For natural gas.

TECLU BURNER
Conforms to CE 370.
With air and gas regulator.
External tube Ø: 13 mm. Total height: 180 mm.
Part No.
7012019   For butane/propane gas.
7094519   For natural gas.

NATURAL GAS BURNERS
Conforms to CE 370.
With air and gas regulator.
With approved gas pressure connection 1/2" nut and olive, supplied as an accessory.
External tube Ø: 11 mm. Total height: 165 mm.

Part No.	For gas	Working pressure	Normal power	Weight Kg
7001551	natural	18 mbar	0.69 kw	1.6

ACCESSORY
Gas tube with connections (see page 191).

BUNSEN BURNER WITH SAFETY GAS CUT OUT
Conforms to CE 370.
With gas and air regulator
Designed for maximum laboratory safety.
Equipped with a flame detector that will shut off the gas supply within 20 seconds if the flame is extinguished. With tube connection.
Tube Ø ext.: 11 mm. Total height: 140 mm.

Part No.	Gas type	Pressure	Nominal power
7001546	butane	28/37 mbar	0.69 kw
7001547	natural	18 mbar	0.69 kw

BUNSEN BURNER WITH SAFETY GAS CUT OUT, NATURAL GAS
Conforms to CE **370.**
With gas and air regulator.
Designed for maximum laboratory safety.
Equipped with a flame detector that will shut off the gas supply within 20 seconds if the flame is extinguished.
Tube connection of 1/2 inch. Supplied as an accessory.
Tube Ø ext.: 11 mm. Total height: 165 mm.

Part No.	Gas type	Pressure	Nominal power	Weight Kg
7001539	natural	18 mbar	0.69 kw	1.6

BUNSEN BURNER
Conforms to CE 370.
With air and gas regulators.
Ø ext. tube: 11 mm. Total height: 140 mm.

Part No.	Gas type	Pressure	Nominal power
7000657	butane	28/37 mbar	0.69 kw
7000658	natural	18 mbar	0.69 kw

Tube Ø ext. : 13 mm. Total Height: 170 mm.

Part No.	Gas type	Pressure	Nominal power
7000660	butane	28/37 mbar	1.14 kw
7000661	natural	18 mbar	1.14 kw

BURNER FOR BUTANE GAS
Suitable for use with bottled gas "International Camping Gas ". Approved following ACTA of the GENERAL LABORATORY ANALYSIS AND SERVICES FOR INDUSTRY. Manufactured in accordance with the "regulation for apparatus used with combustible gasses" decree 1651/1974. External tube Ø: 14mm. Direct regulated pressure. Nominal power 0.72 Kw at 1 bar.
Part No. **7000666**

ACCESSORIES

Wide flame burner head made of tin. Suitable for the "Camping Gas" burner.
Part No. **7003612**

Tripod support with flat ring, fitted with a burner, suitable for "Camping Gas International" bottle.
Exterior Ring Ø : 140 mm.
Interior Ring Ø : 110 mm.
Part No. **7000489**

ACCESSORY
Gas cable with connections, flexible coated stainless steel 100 cm long with 1/2 inch connection with quick fit and safety valve. Conforms to the UNE 60715 & BS669. Safety regulations.
Part No. **1001541**

HIGH POWER BURNER
Conforms to CE 370.
With air and gas regulators. Tube Ø ext. at its maximum diameter 21 mm. Total height 170 mm.
Part No. **7000225** Suitable for butane/propane.
Part No. **7009223** Suitable for Natural gas.

BUNSEN WITH PERMANENT PILOT FLAME
Permanent flame. Total height: 150 mm.
Part No.
1000875 For butane/propane gas (45/57 mbar).
1000876 For natura gas (18/25 mbar).

BUNSEN BURNER WITH CONICAL TUBE TECLU
Conforms to CE 370.
With air and gas regulators.
Total height: 150 mm.

Part No.	Gas type	Pressure	Nominal power
7000663	butane	28/37 mbar	0.69 kw
7000664	natural	18 mbar	0.69 kw

BUNSEN J2000 BLUE UNIVERSAL

For Butane gas. Instant safety flame push button ignition incorporating a LOCK/ON mechanism that prevents accidental fires, Unit switches off when the users hand is removed. Gas fill by a simple lighter gas fuel as used common gas lighters. Long life flint. Power by a 1.5 V battery.

APPLICATIONS

Microbiology, bacteriology, dentistry and for general use where a fine hot flame is required for fast heat and fusion.
Part No. **1001114**

BURNER "MICROTORCH"
APPLICATIONS:

Used for soldering, dentistry, general laboratory use. Suitable for plastic moulds, glass and metal tubes. etc. Butane gas.

Portable with a removable bench top base.
Microflame instant piezo electric start.
Flame temperature controllable to 1300 °C.
Refill using common gas lighter cartridge.
Gas capacity: 26 g.
Total time before refill: 2 hours.
Part No. **5000011**

BLOW PIPES
Part No.
1000877   Butane gas.
1000878   Natural Gas.

ACCESSORIES

FLAME SPREADER BURNER HEAD

Straight form.
Stainless steel AISI 304.

Part No. **7003611**   For tube of Ø 11 mm.
Part No. **7003613**   For tube of Ø 13 mm.

FLAME SPREADER BURNER HEAD
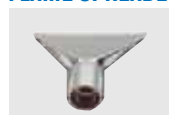
Straight form.
Made of tin.

Part No. **7003612**   For tube of Ø 11 mm.
Part No. **7003614**   For tube of Ø 13 mm.
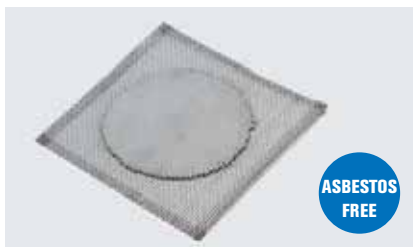
ASBESTOS FREE

GAUZE IRON WIRE WITH CERAMIC FIBRE
Part No.
1087102	100 mm side.
1087122	120 mm side.
1087142	140 mm side.
1087162	160 mm side.
1087182	180 mm side.
1087202	200 mm side.

TRIPOD STAND WITH RING TOP
Galvanised steel.
Part No.	Ø exterior ring	Total height
7000808	80 mm.	210 mm.
7008010	100 mm.	210 mm.
7008012	120 mm.	210 mm.

Variable height (see page 161).
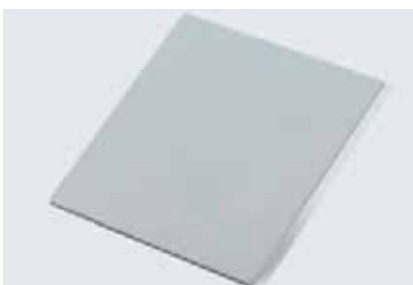
CERAMIC PLATES "NEOCERAM"
Resistant to temperatures from -200 °C to 700 °C.
Part No.
1000684	120 x 120 x 3 mm.
1000685	140 x 140 x 3 mm.
1000686	160 x 160 x 3 mm.
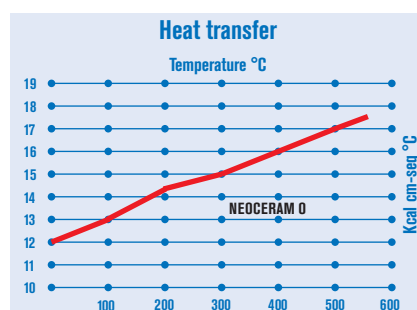
Heat transfer

Temperature °C

NEOCERAM 0

Kcal cm-seg °C

Excellent heat conductor.
20% better heat transfer compared to a conventional gauze ceramic.
High chemical resistance to aggressive compounds.
Easy to clean and long lasting.

Infrared tip sterilizer "Sterilbio"

APPLICATIONS

Sterilization of culture tips, needles and small instruments. Incinerates organic material at 900 °C for 5/8 seconds.

FEATURES

Made from ceramic elements with a quality quartz tube interior.
Does not need purged oxygen and can be used in anaerobic environments.
Eliminates problems of aerosols and bacterial contamination.
Support at the side for 4 Kolle handles, needles, lancet or dissecting forceps etc.

MODEL

Part No.	Height/Width/Depth (exterior) cm			Ø/Length (tube interior) cm		Power W	Weight Kg
3000788	20	13	18	1.4	15	110	1.5

COMECTA Hot Air gun "Salki 1500"

WORKING TEMPERATURE 400 °C AND 590 °C.

APPLICATIONS

Suitable for heating liquids, solids and gasses:
- Dry
- Soft solder
- Fusions
- Evaporation
- Curing adhesives
- Plastic moulds
- Softening surfaces
- Fast defrost
- Film drying R.X.
- Chromatography applications drying paper and electrophoresis.
- Heating moulds and drying dental moulds etc.

FEATURES

Industrial model with vertical angle support.
Brushless motor.
Three positions:
- Position 0 stop.
- Position I temperature 400 °C.
- Position II temperature 590 °C.

MODEL

Part No.	Temperature °C	Power W	Weight Kg
5000750	until 590	1500	0.8

ACCESSORIES

Burner head 75 mm.
Part No. **5011148**

Shaft Ø 20 mm.
Part No. **5014415**

Tube deflector.
Surface 75 mm.
Part No. **5014449**

Diverse laboratory instruments

COMECTA Pocket Balance "Pocket Scale"

FEATURES

Capacity up to 200 g, measuring in g, oz and qty.
Digital LCD display.
Stabilization time ±3 seconds.
Tare by subtraction to maximum weight.
Piece counting function and automatic reset to zero.
Automatic calibration, external.
Batteries 3 x 1.5 V.
Lid to cover the weighing pan and operation menu.

MODEL

Part No.	Max. weight. capacity g	Precision ±g	Height / Width / Depth (exterior) mm			Width / Depth (plate) mm		Weight Kg
5830024	200	0.1	24	74	120	74	71	0.13

Comes with protective cover.

DIAMOND POINT PENCIL
For glass engraving.
Part No. 1001130

TUNGSTEN SCRIBE
For glass engraving, slides, ceramics, plastic etc.
Retractable tip and pocket clip.
Part No. 1001674

GLASS TUBE CUTTER
For tubes with diameters up to 30 mm.
Part No. 1000016

CORK PRESS
Model Crocodile shape.
Part No. 6000070

LABORATORY VIBRO-ENGRAVER SIGNOGRAPH-COM 25 DIAMOND
For engraving all types of glass, metal, plastic material, ceramic etc. Mains voltage 220-230 V. 50Hz. Power consumption: 25 W. Comes complete with a set of 5 engraving tips: Diamond, carbide, tempered steel and two for decorative work.
Part No. 1001129

WATER JET VACUUM PUMPS

Part No.	Material	Pressure	Pump rate	Aspiration
4000633	PVC	2 Kg	8 l/min	2.6 l/min
7000293	Metal	2 Kg	5 l/min	1 l/min
7000292	Metal	2 Kg	5 l/min	0.5 l/min

BLOW PIPE
Student model.
Total length: 250 mm.
Part No. 1000595

MORTARS WITH PESTLE
Made of grey steel.

Part No.	Ø Usable	Height
1004713	130 mm	65 mm
1004715	150 mm	75 mm

CORK BORER SHARPENER
With a wooden handle, blade of tempered steel.
Part No. 7000004

CORK BORER

Electrobrite finish. Universal handle. Part No.		Electrobrite finish. Individual handle. Part No.	
7000846	6 bores.	7000856	6 bores.
7000848	8 bores.	7000858	8 bores.
7008412	12 bores.	7008512	12 bores.

MINI CORK BORER
1001332 6 bores: 4, 5, 6, 7, 8 and 10 mm Ø.

PIPETTE FILLER, RUBBER BULB.
With three glass ball valves for filling, fine adjustment and empty. Accepts pipettes from 6 to 10 mm Ø.
Part No. 1001733

RICHARDSON RUBBER BULB
With net covered decompression bulb.
For blowing out bench top automatic burettes.
Part No. 1001168

SPECTACLES "ULTRASPEC 2000"
Ideal for laboratory use. UV resistant.
Conforms to: DIN 4646-47 and DIN 58211; Spain MT 16/MT 17 regulations.
Safety glasses made from one single lens, extremely light weight, anti-scratch coated. Panoramic vision due to a 180° single lens. One size fits all.
Ventilation anti mist vents at the side of the legs.
Part No. **5028192**

SPECTACLES "ULTRASPEC 1000"
Ideal for working in the laboratory, UV resistant.
Conforms to: DIN 4646-47 and DIN 58211; Spain MT 16/MT 17.
Safety glasses made from one single lens, extremely lightweight, comfortable with a 180° panorama. Adjustable legs: length and angle. Detachable frame for easy cleaning.
Style: Sporty.
Part No. **5028194**

2. GOGGLES FLEXIBLE "IVYMEN 3000"
Ideal for general laboratory use.
Conforms to: EN-166.
Panoramic view. Prescription spectacles can be used underneath the goggles.
Made from transparent flexible plastic that moulds to the face. Held on by an stretch band. Indirect vents at the side prevent misting.
Part No. **5028196**

1. SPECTACLES "IVYMEN 1000"
Ideal for general laboratory use.
Conforms to: DIN 4646-47 and DIN 58211.
Safety Spectacles of one single lightweight lens, comfortable protection.
With a wide panorama of 180°. Adjustable legs: length and angle.
Removable frame for easy cleaning. Style: Sporty.
Part No. **5028195**

3. SPECTACLES "IVYMEN 2000"
Ideal for general laboratory use.
Conforms to: DIN 4646-47 and DIN 58211
Safety spectacles of one single lightweight anti scratch lens. Perceptual panoramic vision of 180°. Can be use over normal prescription spectacles.
Indirect vents at the side of the legs prevent misting.
Part No. **5028193**

GLOVES ANTI-ACID "SOLVEX-PLUS"
Conforms to CE standards.
Effective protection against chemical products and solvents, manufactured with a thick coating of strong durable Nitrile.
Flexible with anti bacterial and fungal protection for hygiene and against skin irritations.
Length 32 cm. Universal fit.
Part No. **5000044**

GLOVE HAND PROTECTOR AGAINST HEAT AND SPILLS
Adaptable silicon glove.
Part No. **1001255**

GLOVES THERMAL "KEVLAR 400"
Conforms to: EN-388 and EN407
These gloves can withstand temperatures up to 400 °C.
Manufactured from Kevlar terry knit, seamless, with double face fibres, ambidextrous fit, high level of protection against heat and flame. Length 25 cm, universal fit.
Part No. **5000041**

APRON ANTI-ACID "DELNEO 125"
Conforms to: EN 342 and EN 511 standards.
For effective protection against chemicals and solvents, made from high resistant Neoprene.
Part No. **5000045**

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

PROTECTIVE MASK "P3-SL"
Conforms to DIN-EN 149:2001 standards.
High range auto-filtering mask, for particles, dust, mists and smoke use. Made of cellulose and with a filtration valve.
Part. No **5000046**

TABLE TOP MAGNIFIERS WITH ILLUMINATION
Magnifiers with high quality lenses and double lateral illumination, plastic body.

42.5 cm

46.5 cm

38 cm

23.5 cm

21.5 cm
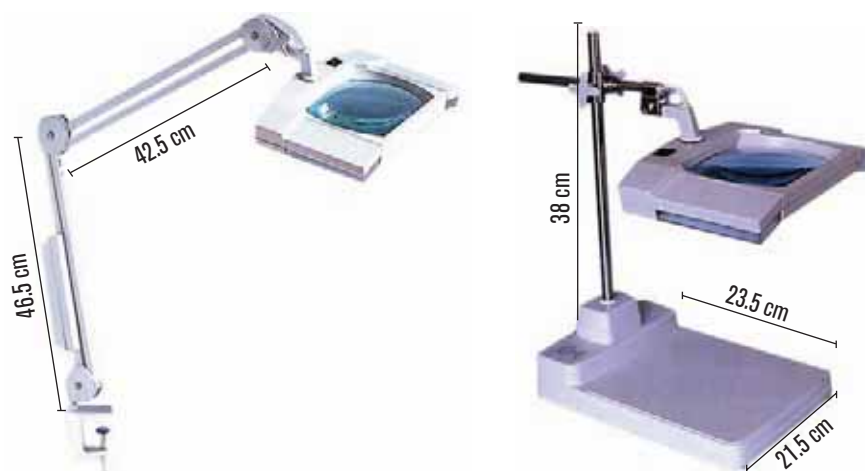
Extendable and height adjustable angle poise, 89 cm made from epoxy coated metal.

Lens size cm	Magnification	Power	Weight Kg
15 height x 19 width	3 x	2 x 9 W	3.5

Part No. **5310500**

With support base, large base with adjustable height and orientation.

Lens size cm	Magnification	Power	Weight Kg
13 height x 18 width	3 x	2 x 7 W	2.3

Part No. **5310506**

ILLUMINATED SCREEN
Small screen specially designed to illuminate slides, Petri dishes Slides, electrophoresis gels, etc.
Observation zone, 127 mm long x 102 mm wide.
Illumination power by four AA batteries (included).
Part No. **5310508**

Accessory
Mini magnifier with pivotal stand, 1.57x magnification, 185 mm wide x 100mm depth, support height 207 mm.
Part No. **5310509**

BIFOCAL

MONOFOCAL

BIFOCAL AND MONOFOCAL "MAGNIFIER"
Magnifying glass bifocal "Magnifier"
Completely made of high impact plastic.

Part No.	Ø Lens	Magnification	Bifocal
5310501	65 mm	3 x	5 x
5310502	90 mm	2 x	5 x

Magnifying glass monofocal "Magnifier"
Lens made of high quality ground crystal.
Rim made from chromed steel with plastic handle.

Part No.	Ø Lens	Magnification
5310503	50 mm	2 x
5310504	75 mm	2 x
5310505	115 mm	2 x

VERNIER CALLIPERS WITH DIGITAL DISPLAY
5 digits display.
AISI 304 Stainless steel with double measuring scale.
Reproducibility: 0.01 mm or 0.0005 inches
1.5 V battery power.
Battery life: 1 year of continuous use.
Comes complete with wooden case.

Part No.
5900601   Measuring range: 0 - 150 mm or 0 - 6".
5900603   Measuring range: 0 - 300 mm or 0 - 12".

PALMER MICROMETER WITH DIGITAL DISPLAY
5 digits.
Measuring range: 0-25 mm or 0-1 inch. Resolution: 0.001 mm or 0.0001 inches.
Precision: 0.002 mm. 1.5 V battery power.
Battery life: 1 year of continuous use.
Comes complete with wooden case.
Part No. **5900602**

MEASURING RANGE

Made of polypropylene with silicon joints, for volumes up to 25 ml. Precise and safe, ergonomic design that allows filling and emptying without having to change the setting. Flexible thermoplastic seal against any type of burette. A button on the side empties the burette automatically. Easily dismantled and cleaned.

Part No.	Capacity	Identification colour
1001131	0 to 2 ml	Blue
1001132	0 to 10 ml	Green
1001133	0 to 25 ml	Red

PIPETTE RACK "COM-PIP"

Made from AISI 304 stainless steel.
Capacity 6 pipettes of differing sizes.
Part No. 1001702

REVERSIBLE POLYPROPYLENE UNIVERSAL TRAY

Suitable for 8 and 12 channel micro-pipettes, 5 ml capacity per channel or 1 single capacity of 50 ml, graduated at 10-25-40 and 50 ml.
Part No. 5310102
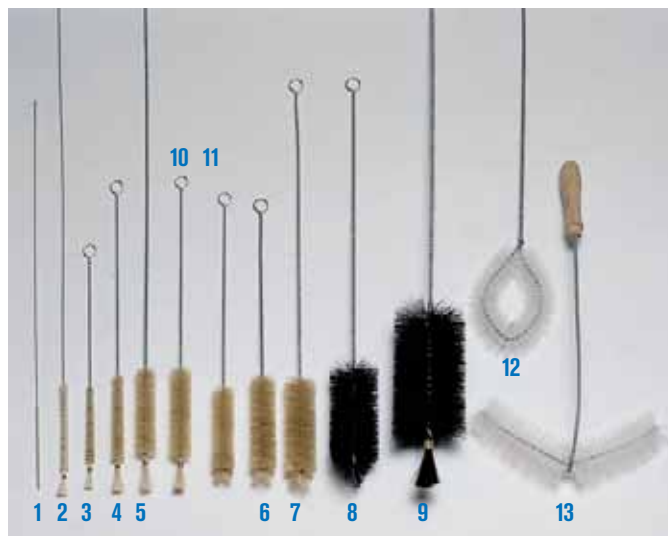
BRUSHES "COMCEP"

Made with natural bristles. Applications:

- **1 –** Pipettes and capillaries of 3 to 5 mm Ø. (Brush)
- **2 –** Graduated pipettes and tubes from 5 to 10 mm Ø. (Brush)
- **3 –** Haemolysis tubes 8 to 10 mm Ø. (Brush)
- **4 –** Test tubes and graduated flasks of 10 to 16 mm Ø. (Brush)
- **5 –** Burettes of 25 to 50 ml and tubes of 15 to 20 mm Ø. (Brush).
- **6 –** Cylinders, flasks and test tubes etc. from 20 to 32 mm Ø. (Fan Brush).
- **7 –** Erlenmeyer flasks, test tubes, flasks etc. from 25 to 45 mm Ø. (Fan Brush).
  8 - Flasks, Erlenmeyer flasks and test tubes etc. 35 to 80 mm Ø. (Fan Brush).
- **9 –** Beakers cylinders and Erlenmeyers etc. from 50 to 100 mm Ø. (Brush).
- **10 –** Test tubes of 16 to 25 mm Ø. (Brush).
- **11 –** Test tubes of 16 to 25 mm Ø. (Fan Brush).
- **12 –** Flasks, round bottom flasks of 0 to 100 mm Ø.
- **13 –** Beakers of 50 to 250 mm Ø. (brush with handle).

Part No.	Style	Bristle mm Ø	lenght	Length total mm	Bristle type
1001143	1	4	90	400	Goat hair
1001144	2	10	100	700	Goat hair
1001145	3	10	90	240	Pig bristle
1001146	4	15	100	320	Pig bristle
1001147	5	25	100	700	Pig bristle
1001148	6	30	100	300	Pig bristle
1001149	7	35	100	440	Pig bristle
1001150	8	55	100	440	Horse hair
1001151	9	80	130	700	Horse hair
1001333	10	25	130	350	Pig bristle
1001334	11	25	100	320	Pig bristle
1001335	12	110	450	450	Nylon
1001336	13	40	250	400	Nylon

POLYCARBONATE CONICAL FLASKS
DURABLE, CAPACITY 250 ml

Rigid, transparent, autoclavable, unbreakable, reusable.
Density: 1.20 g/ml.
Temperature resistance from -135 °C to +135 °C.
Excellent chemical resistance including acids. Exceptions chemical that attack polycarbonate. Two models with or without screw-top, PP caps included.

Part No.	Capacity ml	PP cap	Specific weight
5310100	250	Not	1.2
5310101	250	Yes	1.2

Laboratory sponges and fiber scrubbers

Features

Designed specially for cleaning plastic and glass items.

Made from polyethylene foam that is durable and long lasting (20 times more than a sponge or brush.) Do not absorb water, easily cleaned with hot or cold water.

Examples of sponge uses

1 2 and 4. polyethylene foam scrubbers

3. Fiber scrubber

5 and 6. Fiber scrubbers with polyethylene foam end.
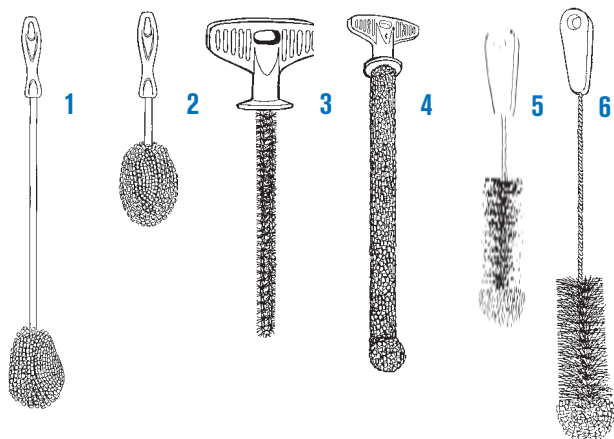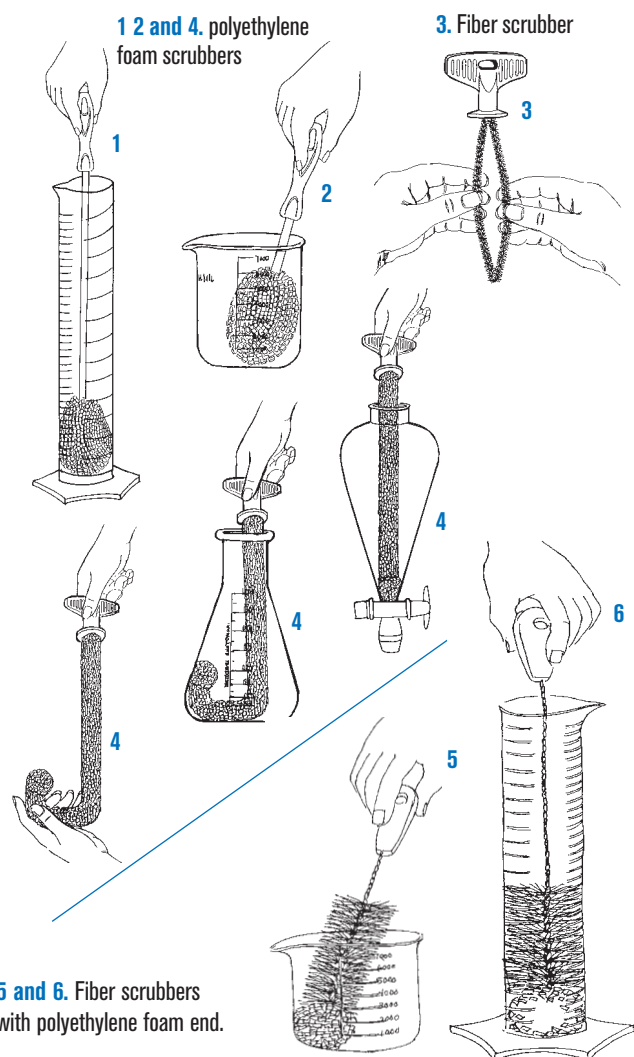
Models

1. Used for all types of tubes and cylinders such as: test tubes distillation tubes, thermal flasks, cryogenic vessels, measuring cylinders etc.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
1	**1001435**	70	100	480

2. Used for cleaning short vessels such as: jars, beakers, etc.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
2	**1001436**	70	100	250

3. Scrubber suitable for all types of assay tube up to 25 mm Ø. Adjustable width.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
3	**1001437**	22	170	220

4. Suitable for all types of tubes and vessels including Conical flasks, etc. Very flexible, can be used in vessels with small necks, such as separating funnels, by simply pressing down the scrubber that is sufficiently flexible to take the internal shape and also be easily extracted.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
4	**1001438**	20	380	440

5. Fiber scrubber with brush polyethylene at the end, suitable for cleaning flasks, culture jars and vessels in general.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
5	**1001439**	50	140	300

6. Fiber scrubber with brush polyethylene at the end, suitable for any kind of vessels cleaning, test-tubes, culture jars and flasks in general.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
6	**1001440**	50	180	500

Stirrer bars and propellers

TO CHOOSE THE CORRECT STIRRER BAR: THE LENGTH SHOULD BE APPROX. 2/3 OF THE DIAMETER OF THE VESSEL BEING USED.

STIR-BARS FOLLOWERS FOR MAGNETIC STIRRERS.

Encased in PTFE with pivot ring, temperature resistant to +275 °C.

Part No.

Part No.	Dimensions	
1000009	6 Ø x 10 mm long	without pivot ring.
1000012	4 Ø x 12 mm long	without pivot ring.
1000019	7 Ø x 20 mm long	with pivot ring.
1000032	8 Ø x 32 mm long	with pivot ring.
1000039	8 Ø x 40 mm long	with pivot ring.
1000045	10 Ø x 45 mm long	with pivot ring.
1001061*	12 Ø x 75 mm long	with pivot ring.
1001062*	16 Ø x102 mm long	with pivot ring.
1001063*	16 Ø x127 mm long	with pivot ring.
1001064*	19 Ø x150 mm long	with pivot ring.

* With pivot ring for large volumes.

CONCENTRIC STIR-BAR WITH BEAKER COVER "CENTRIMAN"

Encased in PTFE with an adjustable axis bar made of AISI 304 stainless steel. Suitable for applications with volumes of 100 to 2000 ml.

Soft start stirring and adjustable height prevents the stir-bar jumping inside the vessel.

Conical fitting lid of polypropylene with excellent chemical and thermal properties that resists temperatures up to 160 °C. The lid has an auto-lubricating central axis hole with two lateral air displacement holes.

Part No.

Part No.	Description
1000900	Concentric stir-bar with conical fitting lid for beakers volumes of 100 ml to 500 ml. Length 32 mm.
1000901	Beaker capacities of 500 ml up to 1000 ml. Stir-bar length 50 mm.
1000902	Beaker volumes of 1000 ml up to 2000 ml. Stir-bar length 55 mm.
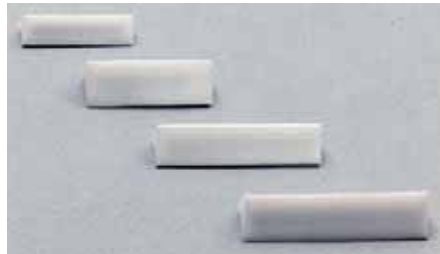
TRIANGULAR STIR-BAR "TRIMAG"

Encased in heat resistant PTFE of temperatures up to 275 °C. useful for "dissolving solids" and stirring silts. Liquids flow upwards as well as sideways. Quiet with excellent stability. Suitable for flat bottomed vessels.

Part No.

Part No.	Dimensions
1000536	9 side x 35 mm long.
1000538	12 side x 50 mm long.
1000537	14 side x 40 mm long.
1000539	14 side x 55 mm long.

STARHEAD STIR BAR

Circular, encased in heat resistant PTFE for temperatures up to 275 °C. Useful for tubes, matrix flasks and round bottom vessels.

Part No.

Part No.	Dimensions
1000790	25 Ø x 15 mm high.
1000791	40 Ø x 17 mm high.

BOX OF 17 ASSORTED STIR BARS

Box with 17 assorted stir-bars encased in temperature resistant PTFE for temperatures up to 275 °C.

Contents:
1 stir-bar with pivot ring 6x10 mm.
1 stir-bar with pivot ring 4 x12 mm.
1 stir-bar with pivot ring 7x20 mm.
2 stir-bars with pivot ring 8x32 mm.
2 stir-bars with pivot ring 8x40 mm.
2 stir-bars with pivot ring 10x45 mm.
1 triangular stir-bar of 9x35 mm.
1 triangular stir-bar of 14x40 mm.
1 triangular stir-bar of 12x50 mm.
1 triangular stir-bar of 14x55 mm.
1 stir-bar Rotor-Pat of 11x35 mm.
1 oval stir-bar of 16x30 mm.
1 oval stir-bar of 20x40 mm.
1 star head stir-bar of 20x15 mm.
1 star head stir-bar of 40x17 mm.
Part No. 1000487

STIR BAR "ROTOR-PAT"

Encased in PTFE useable up to temperatures of 275 °C.

Excellent stability with strong vortexing turbulence, useful for round bottom or convex bottom flasks.

Part No.

Part No.	Dimensions
1000001	10 Ø max. x 32 mm long.

OVAL STIR-BARS

Encased in PTFE for temperatures up to 275 °C. Can be used in all types of vessel and recommended for round bottom flasks.

Part No.

Part No.	Dimensions
1000788	16 Ø x 30 mm long.
1000789	20 Ø x 40 mm long.

FLOATING MAGNETIC STIR-BAR "IMANFLOTER"

Encased completely in PTFE. Dismountable structure, autoclavable. Designed specifically for low constant speed stirring. Recommended for tissue culture applications.

The floating conception of the Imamfloter minimises the grinding effect of cell damage as there is no friction on the bottom of the flask.

Medium speed levels prevent the IMANFLOTER from jumping within the vessel.

Part No.	Total length	Stir bar length
1000897	50 mm.	39 mm.
1000898	60 mm.	45 mm.

STIR-BAR RETRIEVER

Flexible, encased in PTFE.

Part No.

Part No.	Description
1000020	Length: 280 mm.

OVERHEAD STIRRER ACCESSORIES "RZR"
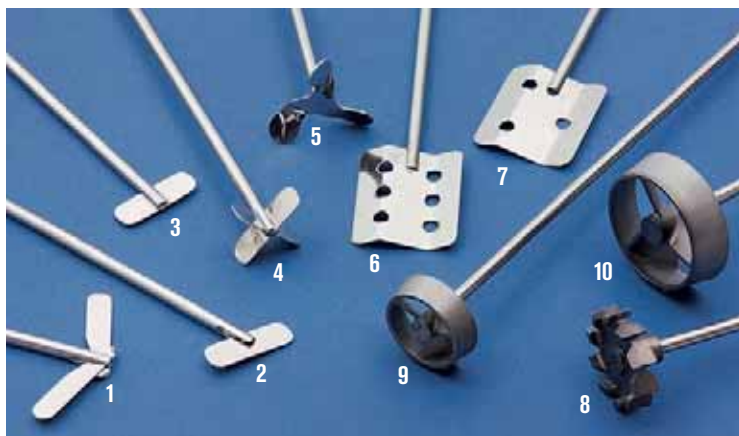
STIRRING SHAFTS WITH ROTORS
Shaft with AISI 304 stainless steel rotor. Shaft: 7mm Ø.

Part No.	Rotor type	Ø shaft mm	Total length mm	Features
6002891	1	90	400	Double fly vane
6002892	2	60	400	Fly vane
6002893	3	50	400	Fixed blade
6002894	4	50	400	Double cross vane
6002895	5	58	400	Helix
6002896	6	70	450	Six hole paddle
6002897	7	70	450	Three hole paddle
5050921	8	50	400	Radial turbine
5050932	9	45	400	Turbo helix 45 mm Ø
5050933	10	66	400	Turbo helix 66 mm Ø

SHAFTS WITH PTFE PADDLES
Shaft of 8 mm Ø.

Part No.	Rotor type	Ø shaft mm	Total Length mm	Features	Speed range r.p.m.
5050934	11	50	500	Helix PTFE	500
5050935	12	80	500	Anchor PTFE	500
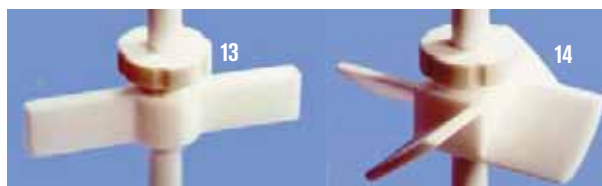
ADJUSTABLE HEIGHT SHAFT STIRRERS
Shafts made of AISI 304 stainless steel coated in PTFE and PTFE stirrer paddles. Shaft: 8 mm Ø. Adjustable height paddles using a locking thread.
Can be used with differing paddles on the same shaft to create a multiple mixing action.

Part No.	Rotor type	Ø shaft mm	Total Length mm	Features
5050936	13	70	400	Shaft PTFE
5050937	14	40	400	Helix PTFE
5050938	**Shaft PTFE** Spare or additional paddle for multiple stir effect			
5050939	**Helix PTFE** Spare or additional paddle for multiple stir effect			

SHAFTS WITH ROTORS VISCO-JET®
- Shafts with rotors made from AISI 316Cb stainless steel. Shaft: 10 mm Ø.
- Shaft made from AISI 316Cb stainless steel with POM plastic rotor. Shaft: 10 mm Ø.

Part No.	Rotor type	Ø shaft mm	Total Length mm	Features	Speed range r.p.m.
5050950	15-S	60	500	Doble cone-S Stainless	200 - 800
5050951	16-M	80	500	Triple cone-M Stainless	200 - 700
5050952	17-M	80	500	Triple cone-M Plastic	200 - 700
5050953	18-L	120	500	Triple cone-L Stainless	120 - 500
5050954	19-L	120	500	Triple cone-L Plastic	120 - 500

VISCO-JET®
A suitable system for all types of stirring.
Dynamic stirring with turbulent flow on vessel walls and bottom.
Homogenised liquids and fluids of low viscosity.
The fluid is aspirated by the widest part of the cone and is expulsed by acceleration from the smaller Ø, creating in the middle a turbulent effect; prevents the formation of foam, clots, aeration and heating up of the sample, degasses the medium being stirred.
Reduces the vortex formed, for short stir periods.

Graphic effect of the incident fluid flow using differing paddle forms: paddle, helix, turbine and conical Visco-Jet®

Rotor Type 5 9 10 11 14

Axial flow, diagram showing the agitation flow. Representative of rotors with blades angles of 90° in relation to the stirring axis. (Rotor type; Helix).

Rotor Type 1 2 3 4 6 7 12 13

Radial flow, diagram showing the agitation within the liquid medium. Representative of rotors such as paddles and anchors that run parallel to the stirring axis

Rotor Type 8
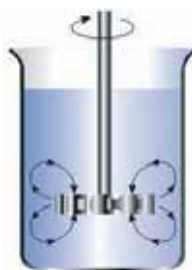
Radial flow, diagram showing the agitation within the liquid. Representative of radial turbine rotors that run parallel to the stirring axis.

Rotor Type Visco-Jet® 15 16 17 18 19

Dynamic radial flow, diagram showing the principal of agitation through a cone within the liquid. Representative of the Visco-Jet®. Rotors. Excellent results for minimum power consumption.

Sterile stoppers

Features

Designed for microbiology and cell culture applications.
Made from very flexible cellulose, tapered to fit most sizes of: Erlenmeyer,
matrix flasks and tubes.
Sterile to 200 °C.
Permeable to air.
Transpirable.
Hermetically adjustable by pressing on the top of the glass vessel.

RANGE OF SIZES 1:1
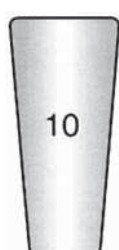
For Ø of 9
to 11.5 mm
Part No. **1001478**

For Ø of 12.5
to 14.5 mm
Part No. **1001479**
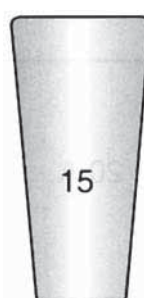
For Ø of 13.5
to 15.5 mm
Part No. **1001480**
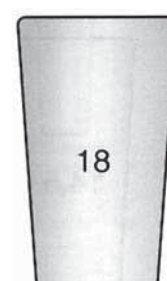
For Ø of 17.5
to 18.5 mm
Part No. **1001481**
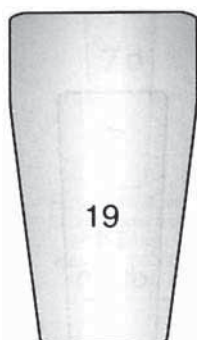
For Ø of 18 to 22 mm
Part No. **1001482**
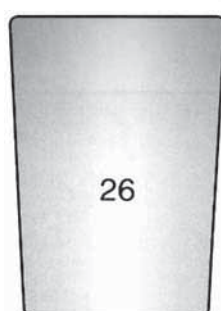
For Ø of 25 to 27 mm
Part No. **1001483**
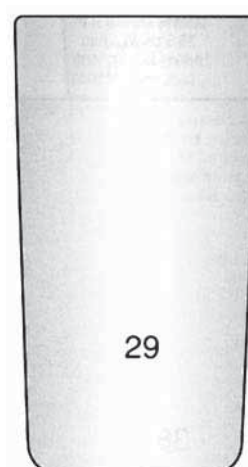
For Ø of 28
to 31 mm
Part No. **1001484**
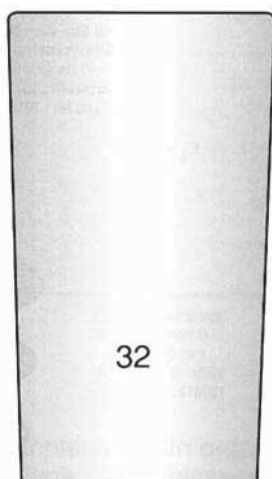
For Ø of 31 to 35 mm
Part No. **1001485**

For Ø of 36 to 42 mm
Part No. **1001486**
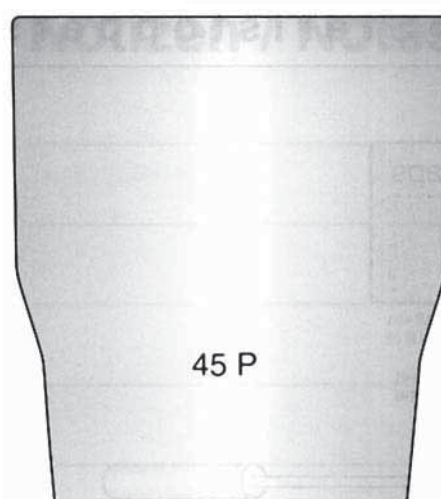
For Ø of 44
to 48 mm
Part No. **1001487**

Caps for biological culture tubes "Sero-Tap"

Made of anodised aluminium with internal AISI 304 stainless steel spring inside the cap.
Not hermetically sealed. Autoclavable at 1 bar.
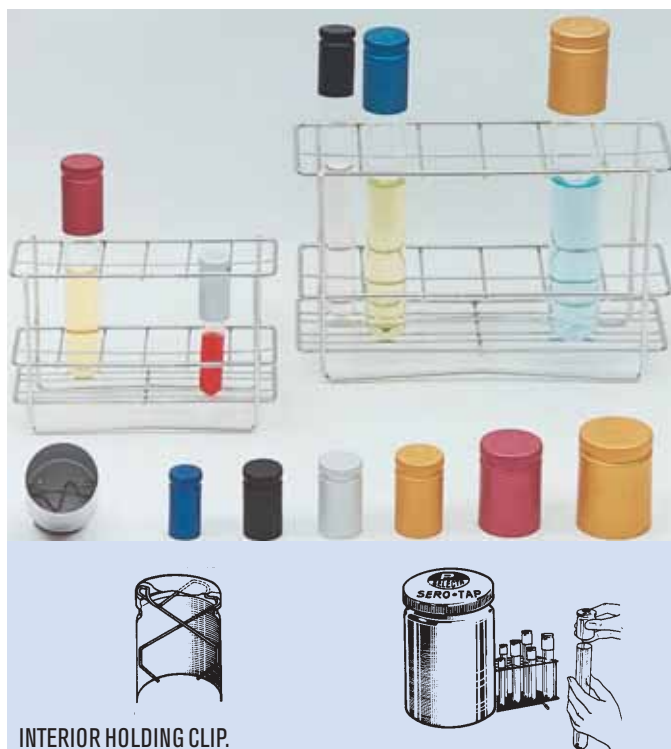
INTERIOR HOLDING CLIP.

Made of anodised aluminium with internal AISI 304 stainless steel spring inside the cap. Not hermetically sealed. Autoclavable at 1 bar.

Part No.	For tubes Ø 12 – 13 mm	Part No.	For tubes Ø 19 – 20 mm
1012131	Colour Blue	1019201	Colour Blue
1012132	Colour Silver	1019202	Colour Silver
1012133	Colour Gold	1019203	Colour Gold
1012134	Colour Garnet	1019204	Colour Garnet
1012135	Colour Black	1019205	Colour Black

Part No.	For tubes Ø 15 – 16 mm	Part No.	For tubes Ø 24 – 26 mm
1015161	Colour Blue	1024261	Colour Blue
1015162	Colour Silver	1024262	Colour Silver
1015163	Colour Gold	1024263	Colour Gold
1015164	Colour Garnet	1024264	Colour Garnet
1015165	Colour Black	1024265	Colour Black

Part No.	For tubes Ø 17 – 18 mm	Part No.	For tubes Ø 28 – 30 mm
1017181	Colour Blue	1028301	Colour Blue
1017182	Colour Silver	1028302	Colour Silver
1017183	Colour Gold	1028303	Colour Gold
1017184	Colour Garnet	1028304	Colour Garnet
1017185	Colour Black	1028305	Colour Black

SELF-SEALING PARAFILM ® M

APPLICATIONS

Parafilm ® M, is ideal for laboratories because it is a thermoplastic, self-sealing film that enables to cling even to irregular surfaces, culture tubes, flasks, Erlenmeyers, bottles, Petri capsules and any kind of recipients with an adequate sealing, protected against moisture loss, spillage, pollution or evaporation.

FEATURES

Parafilm ® M, is a translucent waxy polyethylene film of 127µm width which slowly stretches to about three or four times its original length.

PROPERTIES

It is resistant to acids, gases and alkaline solutions as well as methanol and many common reagents. It resists operating temperatures from -45 ºC to 50ºC. It can be sterilized by using radiation techniques as hydrogen peroxide.

MODELS

Part No.	Roll width mm.	Roll length m.
1012201	50	75
1012202	100	38
1012203	100	75

ACCESSORIES

Paraffin dispenser ® made of blue ABS plastic for 50 and 100 mm. width Parafilm® rolls, with built-in cutter
Capacity: One or two 50 mm. rolls or one 100 mm. roll.
Part No: 1012200

PARAFILM®
Dispenser

POLYPROPYLENE TOPS FOR CULTURE TUBES "BACTI-CAPS"

General features:
Adaptable to the tubes by three flexible internal flaps that hold onto the edge of the tube, not a hermetic seal, for minimal sample evaporation.
Highly resistant to culture media, acids, alkalis, alcohol and ether.
Easy to clean, can be sterilized at 121 °C (1 atm, vapour pressure).
Not suitable for dry sterilization.
Come in 6 colours:
YELLOW, BLUE, WHITE, RED and GREEN.

Part No.	For tube Ø 12 - 13 mm
5726013	Yellow Colour
5726113	Blue Colour
5726213	White Colour
5726413	Red Colour
5726513	Green Colour

Packet of 100 units.

Part No.	For tube Ø 15 - 16 mm
5726016	Yellow Colour
5726116	Blue Colour
5726216	White Colour
5726416	Red Colour
5726516	Green Colour

Packet of 100 units.

Part No.	For tube Ø 18 - 19 mm
5726019	Yellow Colour
5726119	Blue Colour
5726219	White Colour
5726419	Red Colour
5726519	Green Colour

Packet of 100 units.

Part No.	For tube Ø 24 - 25 mm
5726025	Yellow Colour
5726125	Blue Colour
5726225	White Colour
5726425	Red Colour
5726525	Green Colour

Packet of 100 units.

Part No.	For tube Ø 37 - 38 mm
5726238	White Colour

Boxes of 25 units

WEIGHING BOATS "ACCU-WEIGH"

Anti-static, Suitable for weighing with reproducible tare weight.
Free from contaminants, Wide range of sizes.
General features:
Made from high impact polystyrene with a flat base, round edge, smooth surface, contamination free and hydrophilic.
Flexible and easy to manipulate, suitable for liquids and solids.
Supplied in two forms:
- Diamond, black or white colours.
- Rectangular, white colour.

Part No.	Shape	Capacity ml	External dimensions mm			Weight g	Colour	Quantity
			Height	Width	Depth			
5726004	Diamond	5	3.8	31	54	0.25	White	100 units
5726005	Diamond	5	3.8	31	54	0.25	Black	100 units
5726006	Diamond	30	13.5	55	85	1.00	White	100 units
5726007	Diamond	30	13.5	55	85	1.00	Black	100 units
5726008	Diamond	100	20	92	132	2.6	White	100 units
5726009	Diamond	100	20	92	132	2.6	Black	100 units
5726010	Rectangular	7	8.5	44	44	0.65	White	100 units
5726011	Rectangular	100	24	80	80	2.2	White	100 units
5726012	Rectangular	250	24	134	134	6.1	White	100 units

ALUMINIUM DISHES

Pressed with crenulated edge.
No static.
Withstands temperatures up to 450 °C.
Can be used as a lid by mounting one on top of another.
Ideal for sample testing of solids, humidity, mixtures of emulsions and moisture determinations by weight loss.
Suitable use as a weighing boat, cooling or evaporation of samples.
Single use and disposable.

Part No.	Thickness mm	Height. / Ø (usable) mm		Quantity
5726000	0,2	5	42	packet of 112 units
5726001	0,2	10	57	packet of 110 units

Porcelain

GLAZED PORCELAIN, RESISTANT TO THERMAL SHOCK UP TO 1050 °C.
BETTER CHEMICAL AND ACID RESISTANCE COMPARED TO GLASS.
INCOMPATIBLE WITH HYDROFLUORIC ACID AND ALKALI SALTS.

GLAZED PORCELAIN TRAYS

Part No.	Height mm	Length mm	Base length mm	Width mm	Base width mm
5310001	15	50	42	28	17
5310002	15	60	52	30	20
5310003	18	87	80	60	50
5310004	18	120	110	60	45

GLAZED PORCELAIN EVAPORATION BASINS, ROUND BOTTOM WITH SPOUT

Part No.	Capacity ml	Length mm	Ø exterior mm
5310005	35	25	60
5310006	60	30	74
5310007	100	35	90
5310008	300	52	126
5310009	500	58	168

FLAT BOTTOM CRUCIBLE WITH HANDLE AND SPOUT

Part No.	Capacity ml	Height mm	Ø Top mm	Ø Bottom mm
5310010	50	34	60	36
5310011	100	45	80	52
5310012	200	52	96	56
5310013	300	62	110	66
5310014	500	70	132	80

STAINING BEAKER INTERIOR AND BOTTOM GLAZED

Part No.	Capacity ml	Total Height mm	Ø mm	Support ring Ø mm
5310028	500	145	90	100
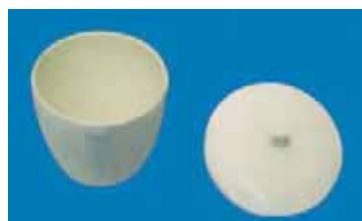
CRUCIBLES MEDIUM HEIGHT WITH GLAZED LIDS

Part No.	Capacity ml	Height mm	Ø Bottom mm	Ø Top mm
5310015	15	30	21	35
5310016	25	36	23	40
5310017	50	46	30	53
5310018	100	57	34	63

CRUCIBLES, LOW FORM WITH LIDS, GLAZED

Part No.	Capacity ml	Height mm	Ø Bottom mm	Ø Top mm
5310019	15	23	19	43
5310020	25	27	24	47
5310021	50	38	28	59

MORTAR AND PESTLE, WITH SPOUT, UNGLAZED INTERIOR AND PESTLE

Part No.	Capacity ml	Length mm	Ø Bottom mm	Ø superior mm	Handle length mm	Ø Pestle mm
5310023	100	45	60	100	110	30
5310024	300	62	80	130	140	37
5310025	500	74	90	160	170	42
5310026	1000	90	114	216	200	48

SPATULA SPOON GLAZED

Part No.	Total Length mm
5310022	140

COMBUSTION BOATS, UNGLAZED

Part No.	Height mm	Width mm	Depth Width mm	Exterior length ml
5310027	10	15	9	95

AGATE MORTAR AND PESTLE

Suitable for grinding and mixing, medium and hard substances.
Very resistant to abrasions and contamination.
Hardness: 7 Mohs scale.
Compression resistance: 110 Kg/mm²
Breaking resistance: 210 Kg/mm²
Mortar and pestle polished externally and internally.

Models Part No.	Capacity ml	Ø / Base (interior) mm		Dimensions (exterior) mm
5310029	15	45	11	60
5310030	30	65	16	80
5310031	70	80	24	100
5310032	140	105	32	120

SPARES
Pestle

Part No.	For Mortar Part No.	Handle length mm
5310033	5310029	77
5310034	5310030	95
5310035	5310031	100
5310036	5310032	130

GREY IRON MORTAR WITH PESTLE

In grey iron.

Part No.	Ø usable	Height
1004713	130 mm	65 mm
1004715	150 mm	75 mm

COMECTA Sealer "305-C"

FEATURES

Sealer for any type of thermo-plastic material up to 0.4 mm thickness.
Easy to use: Pressure and release.
Manual cutting by slip cutting edge.
Energy saving system by a micro-switch, activated only when the sealing arm is in place.
Heat impulse for only 0.2 to 1.3 seconds.
Time controll according to the thickness of plastics to be seal.
A LED and audible beep are activated when the seal is complete.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Maximum plastic thickness mm	Seal time seconds	Height / Width / Depth (exterior) cm			Power W	Weight Kg
5800042	5	300	0.4	of 0.2 to 1.3	19	48	8.2	1100	5.2

Supplied complete with 2 heaters, 2 PTFE heater covers and cutting blade.

ADDITIONAL SPARES: Maintenance kit 305-C: 2 heaters, 2 PTFE heater covers and cutting blade Part No. Part No. **5800044**

COMECTA Sealer "455"

HIGH THROUGHPUT SEALER.

FEATURES

Ideal for large size samples.
Sealer for any type of thermo-plastic material up to 0.8 mm thickness.
Easy to use by pressing a foot pedal which enables to have the hands free in order to manipulate the bag.
Includes a platform of 45 cm wide x 12 cm depth to support the sample. This platform is adjustable in height up to 19.5 mm to adapt different volumes.
Energy saving system by a micro-switch, activated only when the sealing arm is in place.
Heat impulse for only 0.2 to 2.2 seconds.
Time controll according to the thickness of plastics to be seal.
A LED and audible beep are activated when the seal is complete.
Replaceable PTFE anti stick coated heaters.
The pressure of the pedal can be adjusted.
Includes a recoil mains cable at the back of the unit.
All metal robust construction.
Adjustable base level.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Maximum plastic thickness mm	Seal time, seconds	Height / Width / Depth (exterior) cm			Power W	Weight Kg
5800047	5	450	0.8	of 0.2 to 2.2	90	54	38	1000	29

Supplied complete with 2 heaters and a fuse.

ADDITIONAL SPARES: Maintenance kit 455: 2 heaters and fuse. Part No. **5800049**

COMECTA Portable sealer "150-C"

FEATURES

Plastic sealer, PE, PP and thermoplastic material such as cellophane, Aluminium covered paper and craft paper up to 0.6 mm thickness.
Easy to use pressure clamp.
Parallel seal for both sides of the bag.
Superior heaters covered in PTFE that produces a parallel hermetic seal.
Two temperature selection switch 120 °C and 180 °C

Bench top sealer.

Manual sealer.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Maximum plastic thickness mm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
5800038	14	150	0.6	9	17	18	50	0.6

Vacuum sealer "Sealcom-V"

OPTIMUM QUALITY SEAL AND PRESERVATION.
SUITABLE FOR SEALING SOLIDS AND LIQUIDS.

APPLICATIONS

Vacuum seal for any type of thermoplastic material: polyethylene, polypropylene, polyester, aluminium etc. Ideal for sealing solids, liquids, powders, granules, seeds, fruit, food, medical apparatus, forensics, chemical products, sludge samples, mud, cores, etc. Prevents the oxidation, mould and decomposition. Prolongs the quality, durability and freshness of items to be stored.

FEATURES

Bench top. Stainless steel AISI 304 robust construction with transparent lid.
Easy to use and program. After closing the door the complete process is automatic.
Operates using a oil vacuum pump (type AV-30 or N32).

CONTROL PANEL

Vacuum gauge with scale 0 to -0.1 Mpa.
Sealer temperature adjustment, high, medium or low.
Push button emergency stop.
LED indicator of operation.
Digital selection and display of the following parameters:
- Vacuum time 0-99 seconds.
- Seal time 0 to 9.9 seconds
- Discharge time 0 to 9.9 seconds

MODEL	Part No.	Seal Width mm	Max. seal length mm	Pump rate m³/h	Vacuum limit Mpa	Height / Width / Depth (usable) cm			Height / Width / Depth o (exterior) cm			Power W	Weight Kg
SEALCOM-V	4100050	10	260	10	-0.1	5	28	32	28	32	52	370	35

Supplied with a maintenance kit that includes 2 heaters, 3 PTFE heater covers. 1 lid seal and a 250 ml bottle of oil.

ADDITIONAL SPARES	**Maintenance kit for Sealcom-V:** 2 heaters, 3 PTFE heater covers. 1 lid seal. Part No. **4100051**
	Vacuum pump oil: 1 litre bottle (Type AV-30). Part No. **4100052**

Bag sealer "S-400"

SUITABLE FOR POLYPROPYLENE-POLYESTER STERILIZING BAGS WITH A PAPER BASE.

FEATURES

Metal epoxy covered case.
Pressure sealer. Manual cut.
Stainless steel AISI 304 reel support at the back.

CONTROL PANELS

Illuminated mains switch.
Lamp "ON" when the thermostat has reached the pre-set working temperature.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4100041	9	270	12	35	21	200	5.3

SEALING MACHINE ACCESSORIES

Rolls of paper for sterilisation "Polisteril"
Paper base polypropylene and polyester bags showing differing ink prints of sterilized items.

Part No.	Bag width cm	Bag length m
4100075	7,5	100
4100100	10	100
4100200	20	100

Automatic bag sealer
"Seal-Com". Part No: **4100043**

Bag sealer
"Seal-1000". Part No: **4101712**

DISECTION KIT

KOLLE MANDLES LOOPS
Infrared sterilizers.

LABORATORY LIGHT

RECTANGULAR HOTPLATE "PLACFIN"

SLIDE BOXES

PIPETTE DISPENSERS AND AUTOMATIC DISPENSERS

MEASURING RANGE

REPEAT MULTIDISPENSER

PARAFFIN WAX FLOATING BATHS

BLOOD AND CELL COUNTERS

COLONY COUNTERS

INSTRUMENTS FOR BIOLOGIE AND HISTOLOGIE

"Work is the law of life, and to reject it as boredom is to submit to it as torment."
Victor Hugo

1 **2** **3** **4** **5** **6** **7**

LABORATORY SCISSORS
Made of AISI 410 stainless steel.

1 Scissors universal "Multi purpose" with a serrated/notched blade.
Suitable for cutting hard plastic, cardboard and soft wire etc.
Part No. **1001468**   Cut length 50 mm.   Total length 180 mm.

2 Large laboratory scissors.
Part No. **1001469**   Cut length 100 mm.   Total length 250 mm.

3 Multipurpose straight scissors, general use and bandages.
Part No. **1001470**   Cut length 50 mm.   Total length 140 mm.

4 Multipurpose scissors, general use and bandages.
Part No. **1000806**   Cut length 40 mm.   Total length 145 mm.

5 Dissection scissors.
Part No. **1000807**   Cut length 35 mm.   Total length 125 mm.

6 Mini dissection scissors.
Part No. **1001471**   Cut length 25 mm.   Total length 110 mm.

7 Flat scissors with serrated edge, ideal for laminates,
negatives and chromatography.
Part No. **1001472**   Flat length 40 mm.   Total length 160 mm.

DISSECTION NEEDLES
Plastic handled, AISI 304 stainless steel needle.

Part No.	Point	Total length
1000431	Lancet	140 mm
1000275	Fine	140 mm

DISSECTION NEEDLES
Hexagonal metallic handle with a AISI 304 stainless steel needle.

Part No.	Point	Total length
1001359	Lancet	40 mm
1001360	Fine	140 mm

SCALPEL HANDLE No. 4
Made of AISI 304 stainless steel, comes with three sterile blades No. 20, 22 and 23.
Part No. **1001361**
Spares:
Part No.
1001362 10 sterile blades nº 20
1001363 10 sterile blades nº 22
1001364 10 sterile blades nº 23

ANATOMY SCALPEL
Made of AISI 304 stainless steel.
Blade length: 35 mm.
Part No. **1000809**

DISSECTION KIT
Model Student.
Contains: 1 fine point probe, 1 lancet probe, 1 blunt end forceps, 1 fine tip forceps, 1 scalpel handle nº 4, 3 sterile blades for scalpel handle nº 4, 1 scissors, 1 magnifying glass, 1 style probe, 1 scalpel.
Part No. **1001365**

DISSECTION KIT
Wooden box.
Contents: 1 fine needle, 1 lancet needle, 1 dissection forceps blunt end, 1 forceps fine point, 1 scalpel handle nº 4 with 3 sterile blades Nos. 20, 22 & 23, 1 scalpel and 1 scissors.
Part No. **1001152**

FORCEPS RING SHAPED TIP
AISI 304 stainless steel forceps for picking up swabs and textiles etc.
Part No. **1001192**

DISSECTING FORCEPS AND GENERAL LABORATORY USE

Made of AISI 304 stainless steel with electro-bright finish.

Type	Description	Total length	Part No.
1	**Dissecting Straight forceps round tips**	140 mm	**1000580**
2	**Dissecting Straight forceps fine tips**	140 mm	**1000801**
3	**Dissecting curved forceps round tips**	140 mm	**1000865**
4	**Dissecting curved forceps fine tips**	140 mm	**1000864**
5	**Sprung straight forceps with curved fine tips**	160 mm	**1001190**

with wood laminate sides

6	**Forceps straight serrated fine point,** with wood laminate sides.	160 mm	**1001189**
7	**Laboratory forceps curved point**	160 mm	**6000128**
8	**Laboratory forceps fine point**	120 mm	**1001191**

KOLLE HANDLES

Nickel metal handle with loop end of Ni-Cr.
Handle length: 43 mm. Internal loop Ø: 3 mm.
Part No.
1000033   Bakelite handle. Handle length: 200 mm.
1000488   "Pasteur", with metal handle. Handle length: 290 mm.
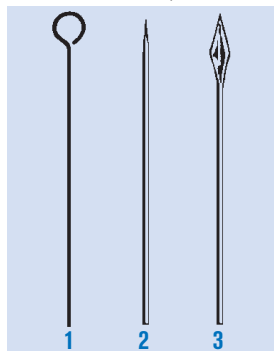
1. KOLLE HANDLE
Loop end.
Handle length: 43 mm. Loop Ø: 3 mm.
Part No.
1000013 Made of Ni-Cr.
1000014 Made of Platinum iridium.

2. NEEDLE FOR KOLLE HANDLE
Made of Ni-Cr.
Part No. **1000802**

3. LANCET TIP FOR KOLLE HANDLE
Made of Ni-Cr. Total long: 50 mm.
Part No. **1000803**

STAND
Support rack for Kolle handles dissection needles made of hardened methacrylate.
Capacity: 6 places.
Part No. **1000903**
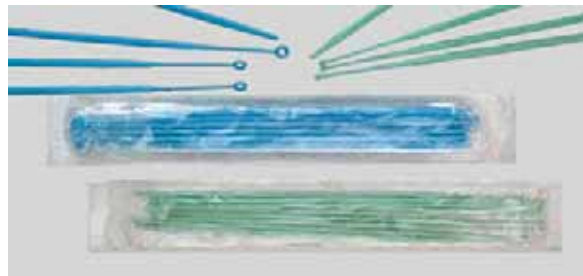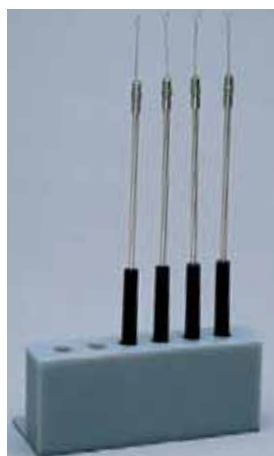
STERILE CULTURE LOOPS

Disposable flexible polystyrene culture handle, one loop and one pointed end.

Part No.	Capacity	Colour	internal loop Ø	In packets of
1000866	1 µl	green	1 mm	20 units
1000867	10 µl	blue	4 mm	20 unts

INFRARED TIP STERILIZER "STERILBIO"

Applications
Sterilization of culture tips, needles and small instruments. Incinerates organic material at 900 °C for 5/8 seconds.

Features
Made from ceramic elements with a quality quartz tube interior.
Does not need purged oxygen and can be used in anaerobic environments.
Eliminates problems of aerosols and bacterial contamination.
Support at the side for 4 Kolle handles, needles, lancet or dissecting forceps etc.

Model

Part No.	Height/Width/Depth (exterior) cm			Ø/Length (tube interior) cm		Power W	Weight Kg
3000788	20	13	18	1.4	15	110	1.5

BURNER J-2000 UNIVERSAL

For Butane gas. Instant safety flame, push button ignition, incorporating a LOCK/ON mechanism that prevents accidental fires, the unit switches off when the users hand is removed. Gas filled, using simple lighter gas fuel, as used in common gas lighters. Long life flint. Power by a 1.5 V battery.

Applications: Microbiology, bacteriology, dentistry and for general use where a fine hot flame is required for fast heat and fusion.
Part No. 1001114

GLASS SLIDES

Slides, unground of 26 x 76 x 1.5 mm thickness.
Box of 72 units.
Part No. 5600400

Slides of 26 x 76 x 1.5 mm with ground end of 26 x 20 mm for writing.
Box of 72 units.
Part No. 5600399

Cover slide of 18 x 18 mm.
Box of 100 units.
Part No. 5600396

Cover glass of 22 x 22 mm.
Box of 100 units.
Part No. 5600397

Cover glass of 24 x 24 mm.
Box of 100 units.
Part No. 5600398

RECTANGULAR HOTPLATE "PLACFIN"

Adjustable temperature from ambient+5 °C to 130 °C.
Stability ±3 °C. Not suitable for boiling.
Coated with chemically treated aluminium, enamelled outer case.

Part No.	Width/Depth (plate) cm		Height/Width/Depth (exterior) cm			Power W	Weight Kg
7000497	23	22	8	22	30	400	3.7

ACCESSORY: Slide support rack for Placfin
"Placfin" slide support adapter.
Made of AISI 304 stainless steel. Capacity: up to 18 slide of 76 x 25 mm (in a horizontal or inclined position).
Part No. 7000498
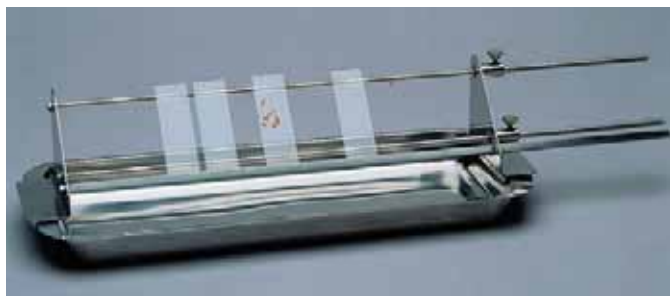
SLIDE STAINING STAND

Extendible and made of AISI 304 stainless steel. Fits tanks and trays up to 50 cm in length. Capacity 12 to 14 slides inclined at an angle.
Part No. 6000904

ACCESSORY: Long rectangular instrument tray.
Made from AISI 304 stainless steel, 350mm long x 150mm wide.
Part No. 8080207

SLIDE DISPENSER

Made of ABS plastic with a transparent polycarbonate lid. With single slide manual extraction.
Capacity 50 slides of 76 x 26 mm.
Part No. 1001366
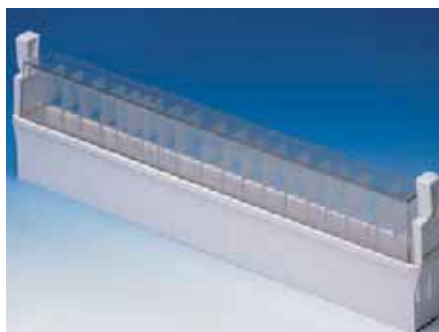
SLIDE SUPPORT RACK, FOR 26 x 76 mm SLIDES

Made from ABS plastic with transparent polycarbonate lid. Holds 100 slides in a vertical position, with numbered guides and index table.
Part No. 1001367

FORCEPS FOR LIFTING SLIDES

Made of AISI 304 stainless steel, with flat jaws.
Length: 105 mm. Suitable for lifting, slides, watch glass or small flat object.
Part No. 1000105

LABORATORY LIGHT "LABOR-LAM"

Used for the classification and manipulation of blood images of; anti serum transparencies, albumin control, RH tests, colony counting, micro examination, colloidal rings, observation of precipitates, acid and oil filters etc. Swivel accessory for bench or wall mount bracket. Light: white light with diffusing methacrylate screen. Temperature 30 °C to 35 °C on the screen surface. Screen light: 300 mm long x 85 mm wide. External dimensions: 320 mm long x 130 mm wide x 55 mm high. Power: 8 W.
Part No. **3000438**

ACCESSORY: **Table top support.** Swivel type. Part No. **7000483**

STORAGE BOX FOR 26 x 76 mm SLIDES

Made of white ABS with a hinge lid and catch, numbered slots for slides and a cork base. An index for slide identification is placed inside the lid.
Part No. **1001371** for 100 slides
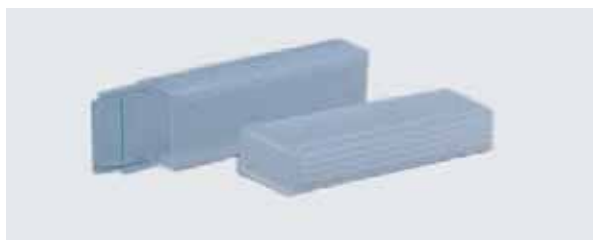
SLIDE BOXES

Holds 5 slides, made of polypropylene. Ideal for personal use. Dimensions:82 mm long x 30 mm wide.
Part No. **1000869**

COMECTA **Magnifier screen**

ILLUMINATED SCREEN

Small screen specially designed to illuminate slides, Petri dishes Slides, electrophoresis gels, etc. Observation zone, 127 mm long x 102 mm wide. Illumination power four AA batteries (included).
Part No. **5310508**
Accessory
Mini pivotal magnifier 1.75X magnification, 185 mm long x 100mm wide with support 207mm high.
Part No. **5310509**

SLIDE BOX FOR STORING 26 x 76 mm SLIDES

PVC base, colour white, with numbered dividers.
Index in the lid interior.
Part No. **1052050** for 50 slides
Part No. **1052100** for 100 slides
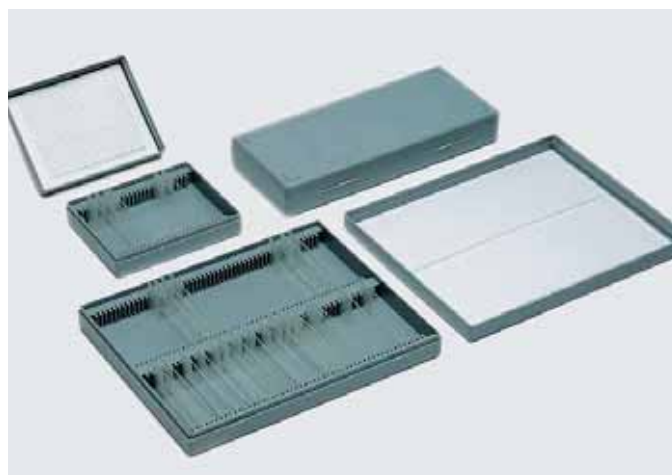
STORAGE BOX FOR SLIDES OF 26 x 76 mm

Made of polystyrene with numbered slots and index in the lid.
Part No. **1001368** for 25 slides
Part No. **1001369** for 50 slides
Part No. **1001370** for 100 slides

EPS SLIDE HOLDER FOR 5 SLIDES

Polystyrene slide holder designed for transporting and preservation of samples and the mailing of slides with safety, such as blood samples, serum and section samples. System of 5 divided sections to prevent rubbing against each other in transit. Up to 10 slides (75 x 24mm). A fitted lid holds the slides in place.
Dimensions: 53 mm height x 100 mm long x 63 mm deep.
Part No. **1001717** Packs of 25 units

Cooling plate "Plac-Center"

DIGITAL DISPLAY WITH ANALOGUE TEMPERATURE CONTROLLER.
ADJUSTABLE TEMPERATURES FROM -10 TO 5 °C.

APPLICATIONS
Designed to keep material in a solid state.

FEATURES
External case made of AISI 304 stainless steel. Cooling plate made of black anodised aluminium.
Anti vibration, hermetically sealed CFC free compressor.

CONTROL PANEL
Illuminated Mains ON/OFF switch.
Analogue electronic temperature control with digital display (2 digits).
Resolution: ±1 digit.
Temperature probe: PTC.

MODEL

Part No.	Width/Depth (plate) cm		Height/Width/Depth (exterior) cm			Power HP	Power W	Weight Kg
4000501	30	15	27	33	50	1/3	160	15

Wax dispenser "Dispenser"

ADJUSTABLE TEMPERATURE FROM AMBIENT +5 TO 100 °C.
STABILITY ±1.5 °C.

FEATURES
External metal case coated with epoxy. Internal tank made of aluminium coated with black indelible PTFE. Independently heated tap.

CONTROL PANEL
Illuminated Mains switch.
Indicator lamp shows when the heater is on.
Adjustable temperature thermostat controller.
Adjustable tap temperature controller.

MODEL

Part No.	Capacity litres	Ø / Height (usable) cm		Ø / Height (exterior) cm		Power W	Weight Kg
4000490	4	20	15	28	30	400	5

Paraffin wax floating out bath for histology samples "Termofin"

ADJUSTABLE TEMPERATURE FROM 40 °C TO 80 °C. STABILITY ±1 °C.

APPLICATIONS
Suitable for the fusion and preservation of paraffin wax in a liquid state that enables the users to see the floated sections.

FEATURES
Bath and lid made of black PTFE. coated aluminium with a location hole in the lid for a thermometer.

CONTROL PANEL
Mains ON/OFF switch. Adjustable temperature thermostat synchronised with an indicator lamp while heating.

MODEL

Part No.	Capacity litres	Ø / Height (usable) cm		Ø / Height (exterior) cm		Power W	Weight Kg
3000459	4	25	10	34	14	430	2.3

Supplied complete with lid and thermometer.

> **ACCESSORY**
> **Thermometer support** (can only be used without the lid).
> Part No. 6004591

PTFE coated lid

Staining tanks "Colour Com" made from glass.

Staining tank with screw cap hermetically sealed lid.

STAINING TANK

Part No.	Type	Height / Width / Depth (exterior) mm			Slide quantity	Applications
1001138	1	85	105	70	10 of 76 x 26 mm	Tank with lid, requires rack No. 2 that is placed inside.
1001139	2	30	90	48	10 of 76 x 26 mm	Tank rack, bottomless, submerge in No.1 tank.
1001140	3	105	60	55	16 of 76 x 26 mm	Hellendahl vertical tank with lid.
1001141	4	50	85	70	10 of 76 x 26 mm	Horizontal staining tank with lid.
1001142	5	105	45	45	10 of 76 x 26 mm	Coplin, vertical staining tank with lid.
1001352	6	110	56	56	10 of 76 x 26 mm	Coplin, staining tank made of polyethylene with lid.

1. ANGLE FORM MOULDS
For paraffin wax covers.
Supplied as two separate angular plates made of AISI 304 stainless steel.

Part No.	Height / Width / Depth (usable mould) mm			Part No.	Height / Width / Depth (usable mould) mm		
6051622	14	22	44	6051645	20	45	85
6051635	20	35	65	6051690	25	90	150

2. COMPACT MOULDS WITH LID
For tissue covered moulds.

Part No.	Height / Width / Depth (usable mould) mm			Part No.	Height / Width / Depth (usable mould) mm		
7051720	9	20	20	7051735	9	26	35
7051725	9	25	25	7051740	9	26	40

3. ROUND INSERT MOULDS
Made of perforated AISI 304 stainless steel with lid.

Part No.	Ø mm	Height mm
1051837	37	8

Cooling bath "Refricub"
ELECTRONIC CONTROL WITH DIGITAL DISPLAY
ADJUSTABLE TEMPERATURE DOWN TO -25 °C.

APPLICATIONS
Suitable for maintaining paraffin wax and waxes in a solid form for long periods of time, etc.

FEATURES
Temperature homogeneity: ±2 °C.
Precision of temperature controller: 1 °C.
External case made of epoxy covered metal with AISI 304 stainless steel tank and top.
An anti vibration hermetically sealed CFC free compressor is mounted in the base of the unit, supplied with ventilated evaporator, regulating valve and condenser.

CONTROL PANEL
Illuminated mains indicator switch.
Electronic controller for temperature with two digit digital display with a resolution of: ±1 digit.
PTC probe.

Part No.	Capacity litres	Height/Width/Depth (tank) cm			Height/Width/Depth (exterior) cm			Power HP	Power W	Weight Kg
4100519	18	20	30	31	80	46	44	3/8	350	22

Chromatography tanks

APPLICATIONS
For quantitative analysis. Useful for storing and protecting the plates by means of the hermetic upper lid.

FEATURES
Made of heavy thick glass, with a flat bottom, ground rims with rounded edges. Solid glass rectangular lid, smooth base with ground edges to make an air tight fit tank. Rectangular glass lid with handle, smooth base and ground surface for hermetically sealed closure with the tank.

MODELS	Part No.	Dimensions mm	Nº of plates	With Lid
MINICROM	1001162	100 x 100	1	Yes
CROMACROM	1001163	200 x 200	1	Yes
MULTICROM	1001164	200 x 200	5	Yes

The model MULTICROM has 5 plate slots to maintain the plate upright.

Stackable Anatomy - Histology sample storage chest

FEATURES
Manufactured in steel epoxy coated. Resistant to corrosive atmospheres.

STACKABLE MODULAR SYSTEM

Cabinet for storing slides.
Complete with 14 drawers for slides of 26 x 76 mm.
Drawer capacity: 350 slides.
Part No. 1052014

Cabinet for storing transparencies.
Complete with 7 drawers for transparencies of 50 x 60 mm.
Drawer capacity: 230 transparencies.
Part No. 1005207

Cabinet for storing paraffin wax mounted samples.
Complete with 10 drawers.
Part No. 1052010

MODELS

Part No.	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Weight Kg
1052014	9	2.6	45	14	48	48	9.5
1005207	7.2	5.8	47	12	12	48	6.5
1052010	2.6	43.5	47	34.5	48	48	18.5

Base and lid units
Mounted on the top or as a support base. Fits the individual modules to form distinct user definable cabinets.

Part No.		Height / Width / Depth (external) cm			Weight Kg
1005208	Base	5,5	48	48	2,5
1005209	Lid	5,5	48	48	2,5

Fixed volume dispensing pipettes "Dispen-Fix"
WITH CALIBRATION CERTIFICATE WITH SERIAL NUMBER REFERENCE.

FEATURES
Fixed volume pipettes from 1 to 1000 µl, model dependent.
Simple and easy to use.
Discard tip ejection for all models.
Comes complete with calibration tool.

MODELS	Part No.	Capacity µl	Accuracy %	Precision %
Dispen-Fix	5904009	5	±2.0	< 0.8
Dispen-Fix	5904010	10	±1.6	< 0.5
Dispen-Fix	5904011	20	±1.0	< 0.3
Dispen-Fix	5904012	25	±1.0	< 0.3
Dispen-Fix	5904013	50	±0.8	< 0.3
Dispen-Fix	5904014	100	±0.8	< 0.25
Dispen-Fix	5904015	200	±0.8	< 0.15
Dispen-Fix	5904017	500	±0.8	< 0.2
Dispen-Fix	5904018	1000	±0.8	< 0.13

Variable volume dispensing pipettes "Dispen-Var"

WITH CALIBRATION CERTIFICATE WITH SERIAL NUMBER REFERENCE.
AUTOCLAVABLE UP TO 121 °C.

FEATURES
Variable volume from 1 to 5000 µl, model dependent.
Simple and easy to use adjustable dispense volume.
Digital set volume selection.
Discard tip ejection for all models up to 1000 µl.
Comes complete with calibration tool.

MODELS	Part No.	Capacity µl	Divisions µl	Precision %
Dispen-Var	5900010	1 - 10	0.1	< 1.5 - < 0.4
Dispen-Var	5900020	2 - 20	0.1	< 1.5 - < 0.8
Dispen-Var	5900100	10 - 100	1	< 1.0 - < 0.3
Dispen-Var	5900200	20 - 200	1	< 1.0 - < 0.5
Dispen-Var	5901000	100 - 1000	10	< 0.8 - < 0.28
Dispen-Var	5905006	1000 - 5000	10	< 0.4 - < 0.2

Original Comecta design

Dispen - Fix

Dispen - Var

ACCESSORIES. PIPETTE TIPS. Accurate and precise, made of polypropylene.

Models Nº image	Part No.	Range µl	Colour	Qty. tips x part No.	Suitable for pipette part No.	Volumes pipette µl
1	5490040	0.1 - 10	Transparent	1000	5904009	5
					5904010	10
					5900010	1 - 10
2	5490041	2 - 20	Transparent	1000	5900020	2 - 20
					5904011	20
					5904012	25
3	5490042	5 - 200	Transparent	1000	5904013	50
					5904014	100
					5904015	200
					5900100	20 - 100
					5900200	50 - 200
4	5490044	101 - 1000	Blue	1000	5904017	500
					5904018	1000
					5901000	100 - 1000
5	5490047	1000 - 5000	Blue	500	5905006	1000 - 5000
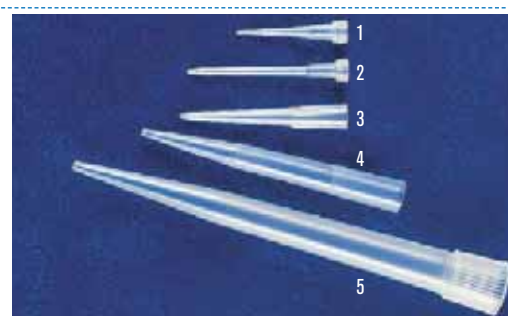
Pipette rack.
Made of AISI 304 stainless steel. No. of places: 6 dosing pipettes up to 28 cm in length.
Part No. **1001215**

Repeat multi dispenser "Repette-HW"

UP TO 49 SUCCESSIVE DISPENSES WITHOUT THE NEED TO REFILL.
DISPENSING VOLUME FROM 2 µl UP TO 5000 µl.

FEATURES

Multi dispenser pipette.
Precise repeat dispenser.
Ideal for dispensing low and high viscosity liquids.
Designed for rapid dispensing.
Depending on the setting, the dispenser can discharge up to a maximum of 49 times successively, without the need to be refilled.

Accepts 8 different syringes.
Precision table using COMECTA syringes. (These values are based on a maximum volume for each pipette using distilled water at ambient temperature):

Type syringe ml	Volume doses µl	Precision nominal volume A ⩽ ±%		Variation coefficient nominal volume CV ⩽ %	
		10%	2%	-10%	2%
0.5	10 - 50	0.8	4.0	0.6	1.4
1.25	25 - 125	0.8	4.0	0.3	0.8
2.5	50 - 250	0.7	3.5	0.2	0.8
5	100 - 500	0.5	2.5	0.2	0.6
12.5	250 - 1250	0.3	1.5	0.2	0.4
25	500 - 2500	0.3	1.5	0.2	0.4
50	1000 - 5000	0.3	1.5	0.15	0.4

Dispense volumes from 2 µl up to 5000 µl, depending on syringe used.
Maximum viscosity per syringe is:
50 ml = 20 mPas, 5 ml = 260 mPas and 1.25 ml = 977 mPas.
Maximum pressure: 500 mbar.
Operating temperature: from 15 to 40 °C.
At the back of the dispenser shows a quick table reference of the volume and dose, that shows the repeatable dose from the syringe to be used and the correct slide position.
Includes an easy to locate wall or bench support.
Supplied complete with a 5 ml syringe and an autoclavable PP adapter for 25 and 50 ml syringes.

Repeat multi dispenser "Repette HW".
Part No. **5490050**

ACCESSORIES
Steril syringes
Supplied in individual bag.

Image Nº	Part No.	Volume ml	Syringes x part No.
1	5490053	0.5	100
2	5490054	1.25	100
3	5490055	2.5	100
4	5490056	5	100
5	5490057	12.5	50
6	5490058	25	50
7	5490059	50	50

SPARE

8	5490060	Adapter made from PP for 25 and 50 ml syringes

Syringe
Slide adjustment position
Dispense volume
Volume dose
Number of repeat doses

Bench top support

Wall support

5ml syringe included

8
Adapter for 25 and 50 ml syringes Included
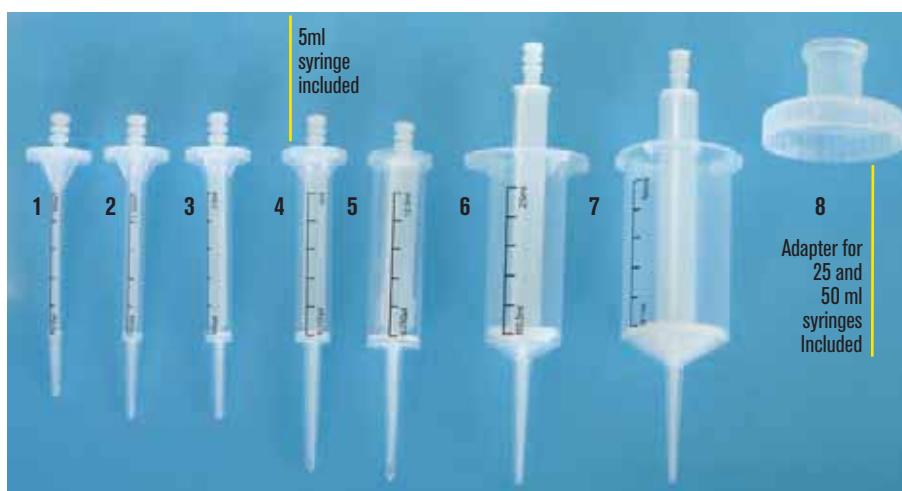
0.1ml syringe can also be fitted for dispense volumes down to 2 µl

COMECTA

Motorized pipette dispenser "Rota-Filler 3000®"

FOR ANY KIND OF PIPETTES FROM 1 TO 100 ML.

NEW

FEATURES

Three positions switch for fast or slow aspiration and dispensation or gravitatorial dispensation for free dispensing.

The pressure over the ergonomic bulbs allows modulation, speed control of aspiration and dispensation.

It is supplied with a couple of 0,45 µm filter by default for and effective protection against contaminated air either of the equipment during aspiration or of the sample during dispensation.

Two rechargeable and interchangeable batteries.

Low-battery light indicator signal.

Can be used while recharging.

TECHNICAL DATA

Charger of 65/12 mA. Charge time: 14 hours.
Weight: 215 g.
Dimensions: 170 height x 47 width x 143 length mm.
Pipettes: from 1 to 100 ml (glass and plastic).

Motorized pipette dispenser "Rota-Filler 300®".
Part no: **5900700**

COMPLEMENT
5 hydrophobe filters pack of 0,45 µm.
Part no: **5900701**

| Position 1
0 º. | Position 2
7.5 º. | Position 3
15 º. |

It includes bench top support.

It includes wall support.

COMECTA
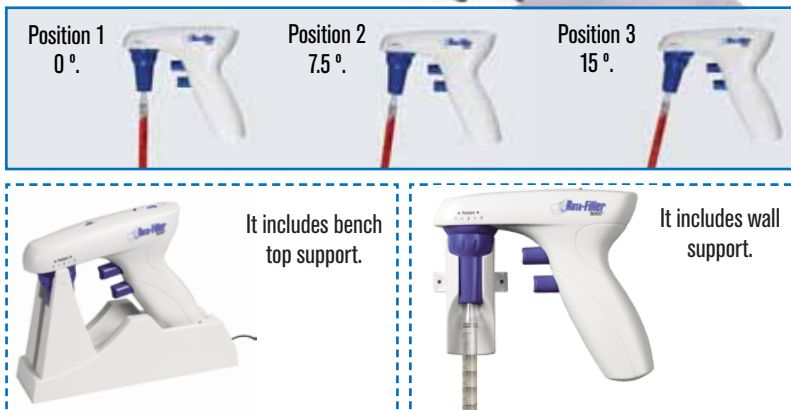
Manual pipette dispenser "Pipet"

FOR ANY KIND OF PIPETTES FROM 1 TO 100 ML.

NEW

FEATURES

Ergonomic, comfortable, solid, lightweight and ease of use.

It has been designed with an ultracompressor silicone bulb that provides a soft manual control of the pipette, either in aspiration or dispensation.

Once the bulb is squeezed, control with the toggle both speeds, the aspiration and dispensation one. Push the middle button to expel blowing-out any liquid remaining in the pipette. 0,45 µm .

Measure: 25 mm Ø.
Weight: 130 g.
Manual pipette dispenser "Pipet". Part no **5900800**

COMPLEMENT
5 hydrophobe filters pack of 0,45 µm.
Part no: **5900801**

Precise pipet control

Compatible with aspiration
and dispensation

Measuring range "COM-PIP"

FEATURES

Made of polypropylene with silicon joints, for volumes up to 25 ml. Precise and safe, ergonomic design that allows filling and emptying without having to change the setting. Flexible thermoplastic seal against any type of burette. A button on the side empties the burette automatically. Easily dismantled and cleaned.

Part No.	Capacity	Identification colour
1001131	0 to 2 ml	Blue
1001132	0 to 10 ml	Green
1001133	0 to 25 ml	Red

PIPETTE RACK "COM-PIP"
Made from AISI 304 stainless steel.
Capacity 6 pipettes of differing sizes.
Part No. **1001702**

Digital cell counter for blood components "CC-1431"

FEATURES

Designed for any type of cell or type counting and blood analysis.

Languages: Spanish, English and French.

Operating menu displayed on the screen, 4 LCD lines of 20 characters per line.

Visualization of data can be displayed as partial, total, and absolute or percentage of key strokes.

Possibility to correct the last count.

Memorizes the last pulsed count and identifies it on the screen.

Audible pulse control when the key is pulsed, advises when the count limit is reached.

Up to 14 separate key inputs per program.

Power: 12 V. Includes mains adapter.

RS232 interface for download of results to a computer.

RS232 connection cable, included.

Includes software for PC with the following parameters: Patient Number, Laboratory name, Date, Hour, Comments and comparison of previous results after treatment.

FOUR PROGRAMS INCLUDED:

LEUC (leukocytes)

- Leukocyte count.
- 14 different cell types.
- 3 Keys for counts that are not used in the final count:
   («11. Normo» «12. Tox Gr» «14. Ery»).
- Total cell count (at the end of counting) selectable from 100 to 1000 in steps of 100.

MYEL (myelocytes).

- Myelocytes count.
- 14 different cell types that accumulate to the total count.
- Total cell count selectable from 100 to 1000 in steps of 100.

RETI (reticuloecytes/erythrocytes)

- Reticuloecytes count.
- No. of cells by configurable view from 50 to 250.
- 1 Key for reticulocyte fields.
- 1 Key for erythrocytes that are not included in the final count.
- Total (end of count) fixed at 1000.

FREE (program, customer set)

- Configurable count.
- Each key can be activated or deactivated for the count.
- Total cell count (at the end of counting) selectable from 100 to 1000 in steps of 100.

KEYS

Two control keys:

- SELECT: choose one program or one option.
- ENTER: accept the option choose.

14 Keys for different cell types:

- Seg: Segments or granulocytes.
- Eos: Eosinocytes.
- Lym: Linfocytes.
- Mono: Monocytes.
- Stab: Bands.
- Baso: Basocytes.
- Met My: Metamielicocytes.

- Myelo: MieloBlasts.
- At Ly: Linfocytes untypical.
- My Bi: Mielococytes Binucleads.
- Normo: NormoBlasts.
- Tox. Gr.: Granulocytes toxic.
- Reti: Reticulocytes.
- Ery: Eritrocytes / EritoBlasts.

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
7121431	7	15	22	6	0.6

Report.

Software download and report.

ACCESSORY

Ink printer (not thermal). Paper 2 1/4" (56 mm) wide. Interface RS232. Includes cable and power transformer for 5V – 3A.

Model

Part No.	Height / Width / Depth cm			Weight Kg
4120113	4	16	10	1

Colony counter "Digital S"
FOR PETRI DISH OF UP TO 100 mm DIAMETER.

APPLICATIONS
Molecular Biology, Genetics and microbiology.

FEATURES
The unit records each pulsed colony count on the digital screen to a total of 999 counts.
Pressure to count can be made by any way (pencil, or pen tip etc.).
Epoxy coated casing. Reversible interior background part in white or black.
Steady, (glare free) fluorescent illumination,clear and wide view visibility.
Removable plates for housing varying sizes of Petri dishes.
Location for reversible contrast plates.
Magnifying glass X2 with adjustable height and rotation support

CONTROL PANEL
Mains switch.
Numerical digital display: 3 digits.
Audible confirmation beep for each count. Zero reset button. RESET.

ACCESSORY
5 Wolffhuegel discs.
Part No. **4905001**

MODEL

Part No.	Ø of magnifying glass cm	Magnification	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4905000	**12.5**	**2x**	**25**	**23**	**30**	**20**	**3.5**

Supplied complete with Wolffhuegel disc.

BENCH TOP ULTRAVIOLET RADIATION STERILIZER "U.V. ESTÉRIL"
Fast destruction of germs by U.V. radiation based on the principle that albuminoid bodies absorb energy that which prevents germination and reproduction of the bacteria. Suitable for destroying: bacterias, virus, spores, yeast and mildew.
FEATURES
Main body made of expanded polystyrene, with a polished AISI 304 stainless steel tray that reflects the U.V radiation and a protective smoke coloured methacrylate top that allows the samples to be seen and at the same time, it is opaque to U.V. light.
U.V. Wave length: U.V. 2537 Angstroms.
U.V. lamp life span: 5000 hours approx.
CONTROL PANEL
Illuminated Mains switch.
To prevent accidental sight or skin damage a safety micro-switch that cuts off the power if the U.V. protective cover is removed.
MODEL

Part No.	Height/Width/Depth (interior) cm			Height/Width/Depth (exterior) cm			Power W	Weight Kg
3000416	7 to 9	50	20	17	57	38	15	7.5

WESTERGREN SEDIMENTATION PIPETTE SUPPORT STAND
Sedimentation tube support stand.
Made of AISI 304 stainless steel.
Supports pipettes with a replaceable vial type rubber plug. Easy to clean.
Sectioned, tilted, 45 °C front panel scribble board for notes.
Designed so that the tubes can be mounted only with one hand.
Part No.
1000093 Three Place.
1000096 Six place.
1000912 Twelve place.

HAND MICROTOME
Cylindrical hand microtome, that can achieve a minimum cut of 10 μm, using a manual advanced mechanism.
External milled knob with a micrometer scale of 50 divisions of 10 μm.
Maximum sample section of 20 mm.
Precise internal sample holder with a maximum aperture of 8 mm.
Part No. **5900019**
Supplied complete with a carry case, dissection forceps, blade and a 5 mm thick glass base.

3   4   2   1
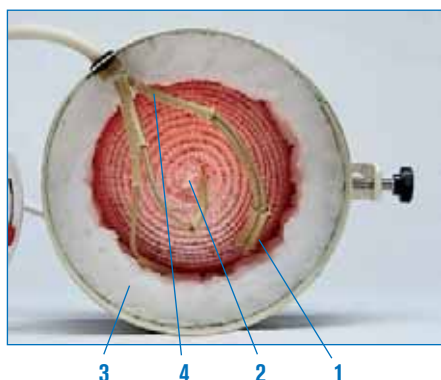
COMMON FEATURES

1. Hand woven mineral wool with flexible braiding, which adapts snugly around the flask, with drain hole, replaceable .

2. The heating element is distributed homogeneously throughout the mantle. Connectors and cables are protected by mineral fibre tubes. Efficient low power consumption of 1 w/cm². Maximum mantle temperature of 450 °C.

3. Double walled fibre wool thermally insulated casing.

4. Pure Nickel connection terminals protected by mineral fibre tubing that prevent the deterioration of the contact due to high temperature.
Support for retort bar.

APPLICATIONS

For digestion distillation, extraction, evaporation and boiling processes.

MODELS SELECTION SUMMARY TABLE

Capacity ml	Ø flask mm	Fibroman C 2 positions	Fibroman D Woven	Fibroman O Funnel hole	Agiman Woven	Fibroman HT-W Electronic regulator	Micro for Kjeldahl banks banks	No. Places	For Kjeldahl/Soxhlet banks	No. Places
100	65	3003141	–	–	–	3031470	6014204	4	–	–
100	65	–	–	–	–	–	6014206	6	–	–
250	83	3003142	3004192	–	3000447	3031471	–	–	–	–
500	102	3003145	3004195	–	3000448	3031472	–	–	6003294	4
500	102	–	–	–	–	–	–	–	6003296	6
1000	132	3031410	3041910	3049110	3000449	3031473	–	–	–	–
2000	164	3031420	3041920	3049120	3000450	3031474	–	–	–	–
3000	190	3031430	–	–	–	–	–	–	–	–
4000	203	3031440	–	–	–	–	–	–	–	–
5000	222	3031450	–	3049150	–	–	–	–	–	–
6000	235	3031460	–	–	–	–	–	–	–	–
10000	290	3314100	–	3491100	–	–	–	–	–	–
20000	365	3314200	–	3491200	–	–	–	–	–	–

HEATING MANTLES

HOT PLATES

"The first requisite for success is the ability to apply your physical and mental energies to one problem incessantly without growing weary."
Thomas Edison

Heating mantle for flasks "Fibroman-C"

DUAL HEATING POWER.

With power heating switch selector

FEATURES

Two position isolated rocker switch heating control with power on indicator lamp.

TECHNICAL DESCRIPTION

- DUR ALLOY aluminium exterior case with epoxy coating.
- Suspended mineral wool woven heating mantle.
- Heating element homogeneously distributed throughout the woven mantle.
- Thermally insulated case, mineral wool fibre insulation.
- Nickel connectors.
- Retort stand clamp at the back of the unit.
- To prevent breakage or spills a drain hole is provided at the bottom of the mantle.
- Safety earth connection.

MODELS

Part No.	Flask capacity ml	Flask Ø approx. mm	Ø / Height (exterior) cm		Power W	Weight Kg
3003141	100	65	16	11	130	1
3003142	250	83	16	11	130	1.1
3003145	500	102	17	12	270	1.2
3031410	1000	132	21	12.5	410	1.4
3031420	2000	164	24	15	530	2
3031430	3000	190	27	18	620	2.2
3031440	4000	203	31	19	700	2.8
3031450	5000	222	31	19	840	3.2
3031460	6000	235	31	19	1000	3.4
3314100	10000	290	38	22	1400	4.7
3314200*	20000	365	48	26	2300	11

CROSS SECTION OF HEATED FLASKS

Position I
50% power output.

Position II
100% power output.

ACCESSORY

Support bar Dur-Aluminium of 12 Ø x 700 mm long.
Part No. **6000270**

Heating mantles for flasks "Fibroman HT-W"

FOR ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C TO 400 °C.
STABILITY ±0,5 TO 1 °C ACCORDING TO TEMPERATURE.
ELECTRONIC REGULATION OF TEMPERATURE WITH DOUBLE SCREEN TO SHOW THE PRESENT TEMPERATURE AND THE PROGRAMMED ONE.

Maximun precision in temperature control and energy saving

Includes "TC" temperature sensor, conectable to case directly

NEW

FEATURES

External case made of AISI 304 stainless steel.
Heating elements homogeneously distributed inside of the mineral wool woven and thermically insulated.
Pure nickel connection terminals.
Temperature control system by inner thermocouple.
TC probe connector included in the equipment for the liquid temperature control inside the flask.
Device to hold support bar.

CONTROL PANEL

On / Off switch.
Digital display indicating set and real temperature.
Heating operating led.
Push button ▲ increase temperature.
Push button ▼ decrease temperature.
Side: TC probe connector for the liquid real temperature.

Device that allows to hold the rod has supported.

MODELS

Part No.	Flask Capacity ml	Ø Flask mm	Height / Width / Depth (exterior) cm			Ø Sensor TC mm	Lenght	Stability °C	Power W	Weight Kg
3031470	100	65 to 67	11	14	18	4	200	±0,5 to 1	130	1,5
3031471	250	83 to 87	12	18	24	4	200	±0,5 to 1	216	3
3031472	500	102 to 105	12	18	24	4	200	±0,5 to 1	220	3.5
3031473	1000	132 to 139	13	21	27	4	200	±0,5 to 1	530	4
3031474	2000	164 to 170	15	25	31	4	200	±0,5 to 1	650	5

Note: the heating mantles are supplied with TC probe connected to the case.

ACCESSORIES

Support bar Dur-Aluminium, 12 mm Ø x 700 mm long.
Part No. **6000270**

Double bosshead.
Part No. **1000069**

Spring clamp to hold thermometers.
Part No. **7000025**

Clamp to support and hold condensers or other glassware.
Part No. **70001161**

Heating mantle for flasks "Fibroman-D"

FEATURES

Soft mantle made with a double woven mineral wool. A mains switch and safety earth are also fitted. The mantle can be supported by a retort ring or tripod stand.

MODELS

Part No.	Flask capacity ml	Ø / Height (exterior) cm		Power W	Weight Kg
3004192	250	15	6.5	130	0.8
3004195	500	17	7	270	0.9
3041910	1000	20	8.5	410	1
3041920	2000	24	11	530	1.5

See accessories (page 223) and controller (pages 286 and 287).

ACCESSORIES

Retort Part No.	Tripod Ring Part No.	Mantle Part No.
7041921	7041922	3004192
7041951	7041952	3004195
7419101	7419102	3041910
7419201	7419202	3041920

Heating mantle for flasks and funnels "Fibroman-O"
WITH TRIPOD SUPPORT STAND.

APPLICATIONS

Suitable for round bottom flasks, decanting funnels and reaction flasks with a bottom drain.

FEATURES

• Woven mineral fibre mantle.
• Epoxy coated exterior.
• On/Off switch.
• Safety earth.

MODELS

Part No.	Flask capacity ml	Ø / Height (Exterior dims.) cm		Ø cm Bottom hole	Tripod Height cm	Power W	Weight Kg
3049110	1000	24	10.5	8	34	410	1.5
3049120	2000	28.5	12	8	36	530	2.5
3049150	5000	37.5	17.5	9	38	840	3.5
3491100	10000	43.5	20	9	43	1400	5
3491200	20000	48	25	12	36	2300	13

Due to its capacity the part no. 3491200, 20000 ml capacity is manufactured in a cylindrical case.
See accessories (page 223) and controller (pages 286 and 287).

Heating mantle for flasks
ADAPTABLE FOR THE "AGIMAN" STIRRER UNIT.

MODELS

Part No.	Flask capacity ml	Ø / Height (Exterior dims.) cm		Power W	Weight Kg
3000447	250	15	6.5	130	0.8
3000448	500	17	7	270	0.9
3000449	1000	20	8.5	410	1
3000450	2000	24	11	530	1.5

ACCESSORIES

Mantle magnetic stirrer "Agiman". With interchangeable mantle adapters. Electronic control of stir speed (up to 1600 r.p.m.).
Connection at the back for an electronic contact thermometer "Sensoterm" or digital electronic regulator "Electemp".
See controller (pages 286 and 287).
Part No. 7000446

Stirring mantle with adapter device.

Stirring mantle, complete.

Banks of heating mantles for digestion, Kjeldahl, Soxhlet extraction and round bottle flasks

CONTROLLABLE MANTLE TEMPERATURE UP TO 550 °C.

FEATURES

Independent heating control for each position.
2 height and angle adjustable bars to support condensers or other glassware for digestion or extraction.
External case made of AISI 304 stainless steel.
Safety earth strip fitted.

CONTROL PANEL

Temperature control with a pulsed energy regulator. An indicator lamp shows when the mantle is on.

MODELS

Part No.	For flasks	Flask volume ml	No. of places	Height / Width / Depth (exterior) cm			Power W	Weight Kg
6003294	Kjeldahl / Soxhlet	300-500	4	18	76	25	1500	12
6003296	Kjeldahl / Soxhlet	300-500	6	18	105	25	2200	16
6014204	Micro-Kjeldahl	100	4	16	59	21	510	9
6014206	Micro-Kjeldahl	100	6	16	81	21	900	12

Supplied with: 2 bars and 4 clamps for Kjeldahl/ Soxhlet models.
1 bar and 2 clamps for Micro-Kjeldahl models.

ACCESSORIES (DIGESTION)

Fume extractor tube clips made of AISI 304 stainless steel.
Part No.
6000008 For bank of Macro-Kjeldahl.
6000009 For bank of Micro- Kieldahl

Borosilicate glass fume extractor tubes.
Part No.
1000104 For: Bank Macro-Kjeldahl, 4 positions.
1000106 For: Bank Macro-Kjeldahl, 6 positions.
1042044 For: Bank Micro-Kjeldahl, 4 positions.
1042066 For: Bank Micro-Kjeldahl, 6 positions.

Kjeldahl flask support made of AISI304 stainless steel. Flasks 300-500 ml.
Part No. **1000002**

ACCESSORIES EXTRACTION

Double nut boss head.
Part No. **1000069**

Clamp for holding condensers.
Part No. **7000403**
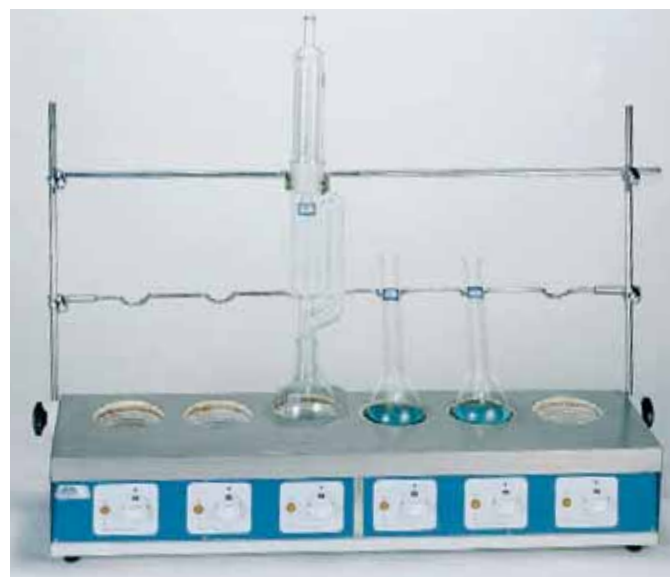
EXTRACTION AND NEUTRALIZATION OF GASSES.
Reduces water wastage.

"Scrubber"   Re-circulation pump

Designed to neutralize and absorb fumes generated in the Kjeldahl digestion process.
Composed of a "Scrubber unit" that blocks the passage and neutralizes the condensed acids, and a re-circulating water pump that produces sufficient vacuum to aspirate the vapours.
No mains water connection required. Prevents waste contamination.
Low noise level (<65dBA).
Re-circulating pump made from chemically resistant materials.
It is essential to put the " Scrubber" unit together with the neutralizer solution between the digestion block and the re-circulating pump.

"Scrubber" unit

Part No.	Height / Width / Depth (exterior) cm			Weight Kg
4001611	32	31	16	2

It is supplied with 3 Kg. acid vapours neutralizer solution.

Re-circulating water vacuum pump.

Part No.	Height / Width / Depth (exterior) cm			Vacuum level bar	Pump rate litre/minute	Weight Kg
4001612	44	39	28	0.98	10	10

Spare part
3 Kg. acid vapours neutralizer solution. **Part No. 4001610**

Heating tapes

HEATING TAPE SURFACE TEMPERATURE UP TO 210 °C. CONFORMS TO VDE EN 60335-A.

FEATURES
Heating elements distributed homogeneously between flexible moulded sheets of silicon.

APPLICATIONS
Used for heating small areas such as heating ducts for distillation, valves and pipes etc.

MODELS

Part No.	Length m	Width mm	Power W
3003178	0.80	25	180
3031710	1	25	210
3031715	1.5	25	265

Flexible heating cord

FEATURES
For tape surface temperatures up to 180 °C. Thermally insulated using flexible silicon tube.

APPLICATIONS
For heating small areas such as heating ducts, distillation, valves and pipes etc.

MODELS

Part No.	Length m	Ø Cord mm	Power W
1000781	1.5	3	45
1000782	3	3	90
1000783	6	3	180
1000784	12	3	360

Large surface area heating mats

**MAT SURFACE TEMPERATURES UP TO 210 °C.
CONFORMS TO VDE STANDARD EN 60335-A.**

FEATURES
The heating element is insulated and distributed homogeneously between two sheets of flexible moulded silicon.
Heating Power: 0.39 W cm^2.
Mat surface temperature up to 210 °C.
Held in place by hooked spring fittings.

APPLICATIONS
Suitable for heating drums up to 200 litres Ø 60 cm.
Total: 3 bands of 171 cm in length x 15 cm wide.
Power consumption 3000 W.
Part No. **4000200**

ACCESSORIES
See controller (pages 286 and 287).

HOTPLATES

Ceramic top hotplates "Ceramic-plac"
ADJUSTABLE HOT PLATE TEMPERATURE UP TO 400 °C.

> **SAFETY**
> **CONFORMS TO THE EN 61010 STANDARD,OVER TEMPERATURE CUT-OUT FITTED.**

Excellent resistance to chemicals.Unaffected by thermal shock

Model part no. 3000920

Model part no. 3000921

Model part no. 3000919

FEATURES AND ADVANTAGES
The "CERAMIC-PLAC" has the following features and advantages:
- Flat, smooth surface.
- Excellent resistance to chemical agents.
- High heating power within the heated area that permits extreme temperature within a short heat up time.
- Excellent thermal qualities and penetration of infrared radiation.
- Easy to clean.

FEATURES
- External case of AISI 304 stainless steel.
- Heating elements mounted on ceramic fibre thus making an insulated compact block.
- Temperature energy control from 6 % to 70 % of nominal power. (Model Part No. 3000919 and 3000920).
- Hydraulic thermostat temperature control up to 400 °C (Model Part No. 3000921).

MODELS

Part No.	Heating Zones	Heating area in cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg	Control system
3000919	1	18 Ø	10	28	33	1800	5.5	Energy controller
3000920	2	14 Ø + 14 x 14 ⊠	10	27	47	2200	7.5	With individual energy controllers for each zone
3000921	1	30 x 30 ⊠	10	49	49	3700	11	With hydraulic thermostat

Round Hotplates

HOTPLATE TEMPERATURE UP TO 400 °C. WITH 6 PLACE HEATING POWER CONTROLLER.

FEATURES
Cast steel plate with embedded heating elements throughout the plate surface.
Fast heating rate at maximum power setting.
Enamelled outer casing that is resistant to high temperatures and corrosive agents.

CONTROL PANEL
Controller 6 position power settings.

MODELS

Part No.	Plate Ø cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
1000718	12	8	20	20	1000	2.1
1000442	15	8	22	22	1600	3
1000443	19	8	26	26	2100	4.5

Hotplate - Circular "Selectemp"

ADJUSTABLE HOT PLATE TEMPERATURE FROM 45 °C TO 250 °C. STABILITY ±2 °C.

FEATURES
Temperature control using a thermostat located in the center of the plate.
Non warping steel plate with embedded heating element throughout the plate's surface.
Enamelled outer casing, resistant to high temperatures and corrosive agents.

CONTROL PANEL
Hydraulic thermostat temperature control synchronised with an indicator lamp.

MODEL

Part No.	Plate Ø cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
1000444	15	8	22	22	1500	3

ACCESSORY
Circular sand, oil or water bath made of AISI 304 stainless steel, suitable for the "Selectemp" hotplate. Dimensions 200 mm dia x 115 mm high.
Comes complete with a lid with concentric reduction rings.
Part No. **7000008**

Hotplate double circular "Duplac"

FOR PLATE TEMPERATURES UP TO 400 °C.

FEATURES
Hot plate with non warping cast steel plate with embedded heating elements throughout the hot plate surface.
Independent plate temperature control is maintained by pulsed energy controllers.
The exterior is epoxy covered steel.

CONTROL PANEL
Two temperature energy controllers.
Two indicator lamps function when the heaters are on.

MODEL

Part No.	Plate Ø cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4000634	19	15	47	24	1900	8.5

Hotplate-Rectangular "Combiplac"

PLATE TEMPERAURE ADJUSTABLE UP TO 400 °C.

FEATURES

Electronic energy temperature control.
The non warping steel hotplate has heating elements embedded throughout the hotplate surface maintaining the heat distribution.
The main case is made of AISI 304 stainless steel.

CONTROL PANEL

Main power switch with "ON" indicator lamp.
Electronic energy control from 0 to 100 %.
An indicator lamp shows when the unit is hot.
Connector at the back for the external digital thermometer, "Sensoterm" or "Electemp".
See Regulators and Controllers (pages 286 and 287).

MODELS

Part No.	Width / Depth (plate) cm		Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000156	20	40	12	22	55	2300	9
3000718	30	30	13	33	46	2800	13

ACCESSORIES

Sand bath adapters. Made entirely of AISI 310 stainless steel, removable for easy cleaning.

Part No.	Hotplate Part No.	Height/Width/Depth (Sand tray dims) cm		
6000719	3000156	5.5	20	40
6000720	3000718	5.5	31	31

Hotplate-Circular "Combiplac"

PLATE TEMPERATURE ADJUSTABLE UP TO 400 °C.

FEATURES

Electronic energy controller and embedded heating element throughout the non warping steel hotplate surface.
A retort bar can be located in a hole at the back of the unit.
The main case is made of AISI 304 stainless steel.

CONTROL PANEL

Main power switch with "ON" indicator lamp.
Temperature controlled by a 0 - 100 % energy controller.
A lamp indicates when the hot plate is "ON".
A Thermometer "Sensoterm" or "Electemp" that can be added and are listed as accessories.
See section Regulators and Controllers (pages 286 and 287).

MODELS

Part No.	Plate Ø cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
3002301	12	10	16	27	550	2
3002302	19	13	21	30	950	3

ACCESSORIES

Suitable for the 12 cm Ø hotplates only Part No.3002301 :

Bath of AISI 304 stainless steel of 140 mm Ø x 75mm high, with concentric reduction ring lid, Suitable for water, oil or sand. Part No. **7002510**

Round bottom flask adapter made of aluminium and suitable for Kjeldahl flasks of 100 ml and 50 to 100 ml round bottom flasks. Part No. **1002290**

Round bottom flask adapter made of aluminium and suitable for Kjeldahl flasks of 300 to 500 ml and round bottom flasks of 250 ml. Part No. **1002280**

Support rod of 12mm Ø and 500 mm high, fits on to the main body of the hotplate. Suitable for the circular Combiplacs 3002301 and 3002302.
Part No.**1000725**

Electronic contact thermometers with digital readout "Sensoterm".
With Pt100 sensor with stainless steel AISI 304 sheath.
Part No. **1001009**
Features. See Regulators and Controllers (pages 286 and 287).

Electronic temperature controller "Electemp"

Part No.	Height / Width / Depth (exterior) cm			Max power (at 230 V) W	Weight Kg
3000887	10.5	13.5	21	3100	1.250

Features. See Regulators and Controllers (pages 286 and 287).

Rectangular precision hotplate "Plactronic"

**ADJUSTABLE TEMPERATURE FROM AMBIENT +5 UP TO 200 °C STABILITY ±0.5 °C.
WITH ELECTRONIC DIGITAL TEMPERATURE AND TIME CONTROL DISPLAY.
SUITABLE FOR THERMAL TESTS (NOT SUITABLE FOR BOILING TESTS).
SURFACE PLATE COATED WITH P.T.F.E. FOR PROTECTION AGAINST CHEMICALS.**

FEATURES

Digitalelectronic temperature and timer control. and Digital display (3 digits).
Display resolution: 1°C.
Temperature probe Pt 100.
DUR aluminium alloy hotplate's coated with P.T.F.E., with heating elements embedded in the plate surface. Main case, heater element and protective grill, made of AISI 304 stainless steel.

SAFETY:
CONFORMS TO EN61010. OVER TEMPERATURE SAFETY CUTOUT FITTED.

Maximum precision
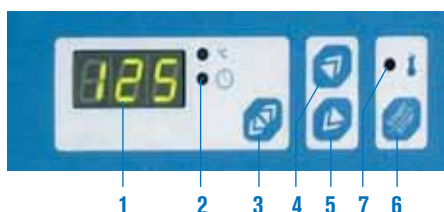
CONTROL PANEL

1. Digital display of temperature and time.
2. Indicator lamp to show the parameters (temperature or time).
3. Push button to select visualised parameter.
4. Push button to increase parameter value.
5. Push button to decrease parameter value.
6. Push button start and stop.
7. Indicator alarm if the plate is over temperature.

MODELS

Part No.	Width / Depth (plate) cm		Height / Width / Depth (exterior) cm			Power W	Weight Kg
6155100	24	24	13	25	42	700	7.5
6156100	20	40	13	22	57	800	8
6157100	25	60	13	27	77	1000	16.5

Rectangular hotplate "Placfin"

**ADJUSTABLE HOT PLATE TEMPERATURE
FROM AMBIENT +5 °C UP TO 130 °C. STABILITY ±3 °C.
SUITABLE FOR THERMAL TESTS (BUT NOT BOILING).**

FEATURES

Temperature control by a hydraulic thermostat.
Protected thermometer from 0 °C to 130 °C.
Hotplate surface protected by chemically treated aluminium, with heating elements distributed throughout the hotplate's surface.
Enamelled external case, resistant against corrosive chemicals.

CONTROL PANEL

Hydraulic thermostat control, synchronised with an indicator lamp when in operation.

MODEL

Part No.	Width / Depth (plate) cm		Height / Width / Depth (exterior) cm			Power W	Weight Kg
7000497	23	22	11	22	30	400	3.7

ACCESSORY

Slide support adapter made of AISI 304 stainless steel. Capacity: up to 18 slide of 76 x 255 mm (in a horizontal position).
Part No. **7000498**

Bank of circular hotplates "Uniplac"

ADJUSTABLE TEMPERATURE HOTPLATE UP TO 400 °C. SUITABLE FOR KJELDAHL DIGESTION ASSAYS AND SOXHLET EXTRACTION.

FEATURES

Independent hotplate control using pulsed energy regulators.
Cast steel hotplates with embedded heating elements distributed throughout the hotplate's surface.
Adjustable height and angle stand bars for supporting condensers and other glassware etc.
External case made of AISI 304 stainless steel.

CONTROL PANEL

Independent temperature control for each position.
- Temperature control by pulsed energy regulators.
- Indicator lamps showing when the hotplate is on.

MODELS

Part No.	No. of places	Plate Ø cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
6002314	4	12	23	77	27	2200	15
6002316	6	12	23	105	27	3300	22

ACCESSORIES

Bath of AISI 304 stainless steel of 140 mm Ø x 75mm high, with concentric reduction ring lid, Suitable for water, oil or sand.
Part No. **7002510**

Round bottom flask adapter made of aluminium and suitable for Kjeldahl flasks of 30 to 250 ml and 50 to 250 ml round bottom flasks.
Part No. **1002290**

Round bottom flask adapter made of aluminium and suitable for Kjeldahl flasks of 500 a 800 ml and round bottom flasks of 250 to 750 ml.
Part No. **1002280**

ACCESSORIES FOR KJELDAHL DIGESTION

Kjeldahl support Bar for Kjeldahl flasks, made of AISI 304 stainless steel.
Part No. **6023141** 4 places
Part No. **6023161** 6 places

Clamp for Kjeldahl condenser tubes made of AISI 304 stainless steel.
Part No. **6000008**

Borosilicate glass fume tube.
Part No. **1000104** 4 place
Part No. **1000106** 6 place

EXTRACTION AND NEUTRALIZING SYSTEM FOR GASSES AND VAPOURS.
Prevents water wastage.

"Scrubber"   Recirculating pump.

Features (see page 246).
Models

Unit "Scrubber"

Part No.	Height / Width / Depth (exterior) cm			Weight Kg
4001611	32	31	16	2

It is supplied with 3 Kg. acid vapours neutralizer solution.

Water recirculating vacuum pump

Part No.	Height / Width / Depth (exterior) cm			Vacuum level bar	Vacuum pump rate litres/minute	Weight Kg
4001612	44	39	28	0.98	10	10

ACCESSORIES SOXHLET EXTRACTION

Boss head for supporting clamps.
Part No. **1000069**

Clamp for flasks or condenser tubes.
Part No. **7000403**

ANALYTICAL TECHINQUES

"As long as men are free to ask what they must, free to say what they think, free to think what they will, freedom can never be lost and science can never regress."
Julius Oppenheimer

Thermocycler for thermal cycles "K96"

WITH FOUR ADAPTER MODULES FOR 0.2ML VIALS, 0.5ML VIALS AND WELLS. ADJUSTABLE TEMPERATURES FROM 0ºC TO 99 ºC.

Advanced technology. Peltier effect.

APPLICATIONS

It is used in molecular biology to amplify DNA via a method based in the polymerase chain reaction process.

BASIC PRINCIPLE

The equipment performs a certain quantity of thermal cycles depending on the method used and repeat them many times for a while, and at the end, the initial DNA fragment Fiber have been replicated thousands times.

For a better process output, changes between temperature levels must be made with minimum time. With thermocycler K96, the cycle temperature can be reached in seconds, even if beginning from remote positions of the last set point. These changes take place by keeping a perfect uniformity between different block points.

The system can also be programmed to produce a linear gradient of temperature widthways the block. This achieves that the highest level of productivity points of the process is optimized and located.

FEATURES

The thermocycler is composed of an inner lid system with heater and with adjustable height in order to perfectly adapt to the samples size. This prevents condensations in the upper side of the samples.

The equipment is based on a heat bomb controlled by continuous electric current and composed by several thermo electrical modules of Peltier effect, a low thermal resistance radiator and a fan convention system.

As it is integrated in the same block, this system allows increasing the process output and also fast transferring and extracting the block's temperature, going from the highest temperature level to the lowest in a minimum time.

The powerful control microprocessor allows monitoring the point where the process is at any moment, and showing it on the screen with real-time graphic images.

There is a useful elaborated software for processes organization, accessible by means of the keyboard and a high resolution LCD screen.
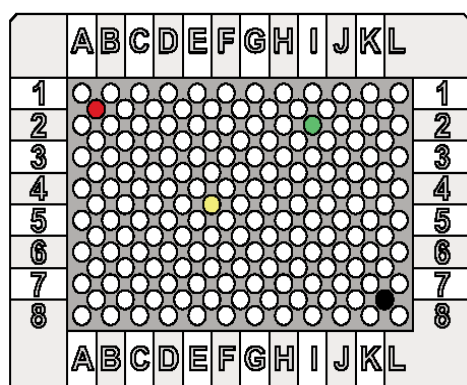
384 wells block, with red, yellow, green and black identification in diferent positions.
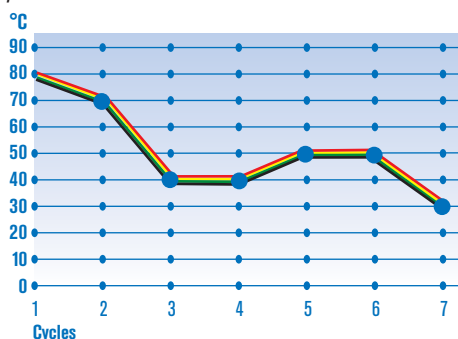
Graphic detail that shows temperature perfect uniformity in the different block wells, distinguished by different colours: red, yellow, green, black. It also shows how uniformity is maintained during all the thermal cycle periods, previously programmed in the display.

INTERCHANGEABLE BLOCKS

Each block incorporates a connector that identifies it and allows the thermocycler to recognize it. There's also an extractor handle which makes easy the block support use.

Thermal cycler door open with a heater system on the back side of the door to avoid condensations.

TECHNICAL SPECIFICATIONS

Temperature range: 0ºC to 99ºC.
Durability: 99min. 99sec.
Warming-up speed: 3ºC/sec.
Cooling down speed: 2.8ºC/sec.
Uniformity: At 95ºC ±0.4ºC.
    From 20ºC to 75ºC ±0.2ºC.
Precision: ±0.2ºC.
Programmed gradient: From 2ºC to 30ºC according to the program.
Heater lid: From 70 to 115ºC according to the program.

Max. cycles number: 99.
Stored programs: Up to 99.
Graphic display of 14.5cm, 320x240 pixels.
USB output.

CONTROL PANEL

START switch.
Interactive graphic display.
Numeric and functions keyboard.
Height levelling control of the inner lid.

MODEL

Part No.	Height / Width / Depth (exterior) cm			Power supply	Power W	Weight Kg
5109000	25	24	38	**220V/50-60Hz**	**780**	**7**

ACCESSORIES

Interchangeable modules:
A. 96 vials of 0,2 ml. Code: **5109001**
B. 54 vials of 0,5 m.l Code: **5109002**
C. 96 vials of 0,2 ml + 77 vials of 0,5 ml. Code: **5109003**
D. 384 wells Code: **5109004**

Visible range spectrophotometers "V-1100" and "VR-2000"

"V-1100" MODEL WITH MANUAL WAVELENGTH SETTINGS AND AUTOMATIC BLANK.
"VR-2000" MODEL WITH AUTOMATIC WAVELENGTH SETTINGS AND BLANK.

NEW

"V-1100" Part no. 4120025

"VR-2000" Part no. 4120026

APPLICATIONS

They are widely used in colleges and enterprises for general quantitatives analysis and experiments based in absorbance measurements.

COMMON FEATURES

High quality silicon photometric diode detector and **1200 lines/mm** diffraction grating ensure the high quality accuracy and precision.
Digital display for an easy readout.
Automatic zero and blank (easy to use). Easy switching of transmittance, absorbance and concentration modes, just by pressing one key.
Large sample compartment, which can accommodate 5 to 100mm path length cuvettes with optional holders.
Its pre-aligned design makes it possible to change the halogen lamps by the user himself.

Optional:

Optional software based on Windows® which can expand the applications to standardcCurve and kinetics.

V-1100 MODEL

Easy of use.
Ergonomic and solid design for a continuous suitable use, for students and workers.

VR-2000 MODEL

Large LCD screen (128x64bits).
It can display a total of 50 groups of data (3 groups per screen).
It can display standard curve and kinetics curve graphic.
The system can also save the test results.
A total of 50 data groups and 10 standard curves can be saved in the RAM memory.
At most 9 standard samples can be used to establish a standard curve.
The curve and the curve equation will be displayed simultaneously on the screen.The unknown concentration solutions, can be measured by the curve.
If one knows the coefficient **k** and **b** of the formula: **C=kA+b**, one can input the value directly.
Data is stored in the memory in case of power cut.

ACCSESORIES

(see page 236).

MODEL	V-1100	VR-2000
Part No.	**4120025**	**4120026**
Wavelength range	**325-1000 nm**	
Spectral bandwidth	**5 nm**	**4 nm**
Optical system	**Single beam, diffraction grating 1200 lines/mm**	
Wavelength adjustment	**Manual**	**Automatic**
Wavelength accuracy	**±2 nm**	**±1 nm**
Wavelength repeatability	**1 nm**	**0,5 nm**
Photometric accuracy	**±0,3% T**	**±0,5% T**
Photometric repeatability	**±0,3% T**	
Photometric range	**-0,3-3 A, 0-200% T. 0-9999 Concentration**	
Stray light	**0,5% T**	**0,3% T**
Stability	**± 0,004 A/h @ 500 nm**	**± 0,002 A/h @ 500 nm**
LCD Display	**3,5 Digits**	**128x64 pixels**
Detector	**Silicon**	
Sample compartment	**10 mm path length standard cuvette (100mm optional)**	
Light source	**Tungsten lamp**	
Output	**USB, Parallel port (printer)**	
Mains supply	**220 V / 50Hz AC or 110 V / 60 Hz AC**	
External dimensions (HxWxD)	**160 x 480 x 360 mm**	**180 x 470 x 370 mm**
Weight (Kg)	**8**	**12**

SPARE	V-1100	VR-2000
Halogen lamp (visible)	**4312004**	

```
0.500A


r=0.999    0              0.8C
C=1.0*A+0.001

[Test]                    [Cancel]
```
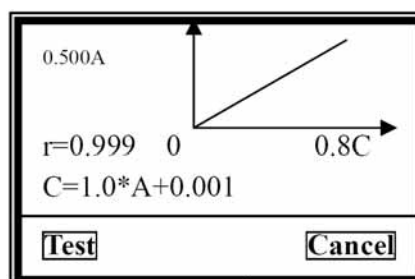
Graphic display visualized detail of a regression line for concentration calculation. (VR-2000)

Ultraviolet and visible range spectrophotometers "UV-2005" and "UV-3100"

AUTOMATIC WALVELENGTH POSITIONING AND BLANK SETTING

USB

"UV-2005" Part no. 4120020

USB

"UV-3100" Part no 4120021

APPLICATIONS

Suitable for pharmaceutical and biochemical laboratories, kinetics, quantitative analysis, wavelength scanning, multiple components and DNA/protein analysis.

COMMON FEATURES

Spectrophotometers UV-2005 and UV-3100 have been developed for accurate tests; Its stray light is only of 0.05% T. They are flexible, easy-to-use and maximize value. Value is provided from every day perfomance. The independent local software provides the following functions: Basic Mode, Quantitative Test, Kinetics and System Utilities.

Data is stored in the memory in case of power cut.

The Special application software provides a complete control of the spectrophotometer from a PC, through the built-in USB port.

Wavelength scanning models can be upgraded when connected to the PC via the special software based in Windows®.

Automatic wavelength settings.

Halogen and deuterium lamps can be switch on/off individually to extend lamp lifetime.

Its pre-aligned design makes it possible to change lamps for the user himself.

Large sample compartment for 5-100mm path length cuvettes, with optional holders.

A wide range of optional accessories can also be selected.

UV-2005 MODEL

Large LCD screen (128x64bits).

It can display a total of 200 groups of data (5 groups per screen).

It can display standard curve and kinetics curve graphic.

The system can also save the test results.

A total of 200 data groups and 200 standard curves can be saved in the RAM memory.

UV-3100 MODEL

Absorbance, transmittance and concentration measurements.

It establishes or uses stored calibration equations to measure solutions of unknown concentration.

Spectrum scan of sample at any selected wavelength range with choice of scanning speed and wavelength interval.

Measurement of absorbance changing versus time with reaction rate calculation function.

Measurement at multiple wavelengths to analyse and determine the composition of the mixtures.

Calculation of concentration and DNA purity.

Note: ratio at other wavelengths can be measured.

ACCSESORIES

MODELS	UV-2005	UV-3100
Part No.	4120020	4120021
Wavelength range	190-1100 nm	
Spectral bandwidth	2 nm	
Optical system	Single beam, diffraction grating 1200 lines/nm	
Wavelength accuracy	±0,5 nm	
Wavelength repeatability	0,3 nm	
Photometric accuracy	±0,3% T	
Photometric repeatability	±0,2% T	
Photometric range	-0,3-3 A, 0-200% T. 0-9999 Concentration	
Stray light	0,05% T @220 nm, 340 nm	
Stability	± 0,002 A/h @ 500 nm	
LCD Display	Graphic(128x64)	Graphic(320x240)
Scanning velocity	-	High,Med, Low.Max 3000 nm/min.
Uniformity	-	± 0,002 A (200-1000nm)
Sample compartment	10mm path length standard cuvette (100mm optional)	
Light source	Halogen and deuterium lamps (pre-aligned)	
Output	USB, parallel port (printer)	
Power requirements	220 V / 50Hz AC or 110 V / 60 Hz AC	
External dimensions(HxWxD)	180 x 470 x 370 mm	160 x 480 x 360 mm
Weight (Kg)	14	16
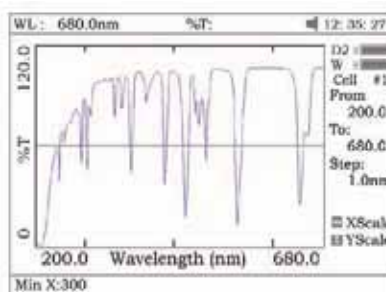
Graphic display visualized detail of holmium crystal scanning, from a UV3100 spectrophotometer.

SPARE PARTS	UV-2005	UV-3100
Halogen lamp (visible)		4312004
Deuterium lamp (UV)		4312006

ACCESSORIES

Thermostatted flow Peltier cuvette holder.
Temperature range: from 15 ºC. to 40 ºC. in steps of 0.1 ºC (ambient temperature ± 22ºC.)
Precision: ± 0,2 ºC.
Sample suction volume: 1, 2, 3, 4, 5, 7.5, 10, 12.5, y 15 ml/min.
LCD Display: 128x64 pixels.

Model

Part No.	Height / Width / Depth (controller) cm	Height / Width / Depth (cuvette holder) cm	Power W	Weight Kg
4120018	11,5 27 17	10 12 7	30	3,5

Cuvette holder
For long cuvettes, pathlength between 1 and 50 nm. Part No. **4120030**
For path leength100 mm. cuvettes. Part No. **4120031**

Test tubes holder
For tubes from 10 to 20 mm. Ø Part No. **4120032**

Part No.4120030   Part No. 4120031   Part No. 4120032

Ink printer (not thermal). Paper 2 1/4" (56 mm) wide roll. Includes power transformer and interface cables. (5V-3A)
Model

Part No.	Height / Width / Depth cm	Weight Kg
4120117	4 16 10	1

COMECTA

Cuvettes
for Spectroscopy

FEATURES
Range of polystyrene, glass and quartz cuvettes.
Standard size pathlength 10mm x 45mm high.
Special cuvette pathlength 40mm x 45 mm high (fig 6).
Special cuvette pathlength 4mm x 45 mm high (fig 1).

MODELS

Standard cuvettes

Part No.	Figure	Material	Optical path length	Description	Presentation
5100020	9	**Quartz**	10 mm	**Standard square, "macro"**	**Pack of 2 units**
5100021	9	**Glass**	10 mm	**Standard square, "macro"**	**Pack of 2 units**
5100022	7	**Polystyrene**	10 mm	**Standard square, "macro", disposable**	**Box of 100 units**
5100025	8	**Glass**	10 mm	**Flow through cell, square "micro"**	**Pack of 2 units**

Special cuvettes

Part No.	Figure	Material	Optical path length	Description	Presentation
5100014	6	**Glass**	40 mm	**Rectangular**	**Pack of 1 unit**
5100015	5	**Glass**	10 mm	**Flow through cell. Window 5 x 10 mm**	**Pack of 1 unit**
5100016	4	**Glass**	10 mm	**Standard square, "micro"**	**Pack of 1 unit**
5100017	3	**Glass**	10 mm	**Standard square, "macro" with round lid**	**Pack of 1 unit**
5100018	2	**Quartz**	10 mm	**Semi-micro**	**Pack of 2 units**
5100019	2	**Glass**	10 mm	**Semi-micro**	**Pack of 2 units**
5100023	7	**Polystyrene**	10 mm	**Square Semi-Micro, disposable**	**Box of 100 units**
5100024	1	**Glass**	4 mm	**Square Semi-Micro**	**Pack of 1 unit**

Double Beam Spectrophotometer "UV-2300"

**BAND WIDTH 1.5 nm. TOTAL STABILITY DOUBLE BEAM OPTICS.
AUTOMATIC WAVELENGTH CORRECTION CALIBRATION.
USB DOWNLOAD OF METHODS AND RESULTS.
WIDE RANGE OF ACCESSORIES.**

COMECTA

RS232

NEW

APPLICATIONS

Research, chemistry, biotechnology, general spectroscopy analysis applications, environmental applications.

FEATURES

Monochromator high resolution optics that eliminate any optical aberrations, monochromator "Seya-Namioka", manufacturer of exclusive beam technologies and diffraction gratings in Japan.

Bandwidth 1.5 nm in accordance with European pharmacopoeia recommendations. (the relation between the maximum and minimum absorbence in Toluene and Hexane at 0.02% (V/V) should be more than 1.5T).

Several modes of operation including spectral scanning, time base scanning, multi wavelength determinations, peak and trough detection, etc.

Fast spectra scan displayed on a screen covering the whole spectral range: quick scan 3600 nm/minute, range 190 to 1100 nm

Validation function for GLP/GMP:
This function maintains and assures the optimum working parameters of the instrument. Parameter such as the wavelength precision and noise are monitored.

Memory facilities of analytical results:
The analytical parameters and results can be stored in the "flash" memory, connected by the USB. The stored information can be stored as text and can be transferred to a computer for reporting using MS WORD/EXCELL.

A DNA/RNA function is fitted to quantify the ratio at 260/280 nm.

Controllable from a computer with application specific optional software: **"UV-Analyst Spectrum"**, (see accessories).

"Flash" storage memory, via USP port.

*Constant temperature 6 place cell changer, 10mm cuvettes, ideal for Kinetics.
Part No. 5110029*
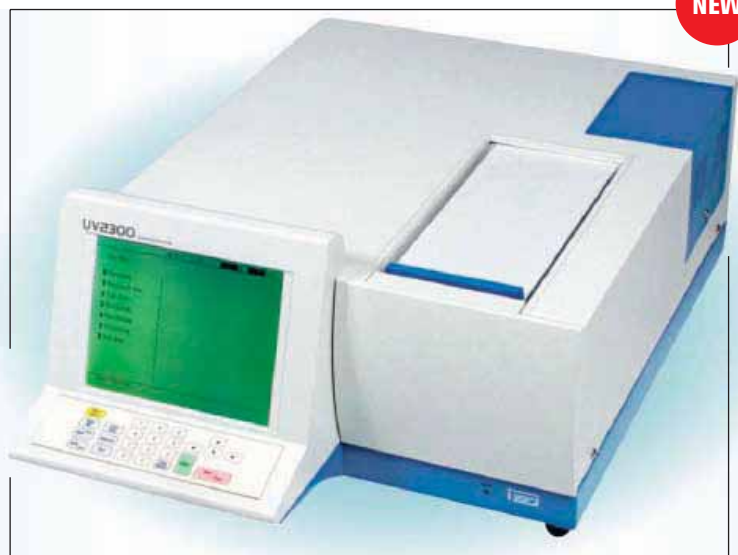
SPECIFICATIONS

Optical system:	Double beam optics.
Wavelength range	190 nm to 1100 nm.
Band pass:	1.5 nm
ABS range:	-2.000 to 3.000 A or 0 to 300% T.
Stray light:	less than 0.05% (220 nm NaI, 340 nm $NaNO_2$).
Scan speed:	10, 100, 200, 400, 800, 1200, 2400 and 3600 nm/minute.
Wavelength accuracy:	±0.3 nm.
Photometric accuracy:	± 0.002 A from 0 to 0.5 A.
	± 0.004 A from 0.5 to 1.0 A.
Baseline stability:	0.003A/hr (500 nm after 2 hours of use.).
Noise level:	0.003 A (at 500 nm).
Light source:	Deuterium D2 and Halogen lamps.
Built in screen:	LCD back light of 190 x 138 mm.
Connections:	RS232 and parallel port.

MODEL	Part No.	Height / Width / Depth cm			Voltage	Weight Kg
UV-2300	5110020	25	50	56	110-220V / 50-60Hz	28

ACCESSORIES

Part No. **5110023** Flow cell 10 mm path length.
Part No. **5110024** Constant temperature single cell holder for 10mm flow cell.
Part No. **5110025** Micro cell holder for 10mm (50 μl) cell.
Part No. **5110026** Long path length cell holder for 100mm cells.
Part No. **5110027** 5 Position cell changer for 10mm cuvettes.
Part No. **5110028** Constant temperature cell holder for 10mm cuvettes
Part No. **5110029** 6 place constant temperature cell changer for 10mm cuvettes.
Part No. **5110033** **Software UV-Analyst Spectrum.** Simple and logical, enhanced software for multiple applications and results and manipulation of data, calculation such as DNA/RNA ratios.

SPARES

Tungsten halogen lamp.
Part No. **5110021**

Deuterium lamp (UV).
Part No. **5110022**

Semi Automatic clinical analyser "Photometer S-2000"

LOW PROFILE FUNCTIONAL CLINICAL ANALYSER.

APPLICATIONS

Clinical laboratories, Clinical Biochemistry, Haematology, E.I.A. Electrolytes and Iones.

FEATURES

47 most commonly used Pre-programmed clinical methods: cholesterol, glucose, blood iron, LHD, AST, UREA etc.
Storage for up to 134 methods and up to 1000 stored results.
6 analytical fitting routines: final point, bio-chromatic, regression fit, multi-standard curve, best fit and kinetics.
Graphic display LCD (640 x 240 pixels, 256 colours).
Lamp life save function.
Graphic display.
Quality control of analysis function.
Built in printer.
Control by "roller ball mouse" or "external mouse."
Temperature conditions: 15 °C to 32 °C: Maximum humidity 85%
External heated incubator block, 37 °C (Model 4120012 only).
RS232 out put interface.

SPECIFICATIONS

Solid state photodiode detector.
Bichromatic optical system with 7 filters, 340, 405, 500, 546, 578, 620 and 670 nm.
Band pass: 10 nm.
Flow cell: 30 ul.
Measuring range: from 0.000 to 2.500 ABS.
Resolution: display 0.001 ABS, calculations to 0.0001ABS.
Thermostatted Peltier cuvette holder: 25, 30 and 37 °C Precision ±0.1 °C.
Tungsten halogen lamp of 6V 10 W.
Comes complete with protective cover, spare lamp and two rolls of printer paper.

SPARE. Halogen lamp 6 V 10 W. Part No. **4312015**

S-2000 Part No. 4120010

S-2000 Part No. 4120012

MODELS

Part No.	External incubator block	Height / Width / Depth cm			Power rating	Power W	Weight Kg
4120010	**No**	14	45	33	**110-220V/50-60Hz**	150	10
4120012	**Yes**	14	45	33	**110-220V/50-60Hz**	151	10.1

Digital colorimeter "Clormic"

MICROPROCESSOR CONTROLLED.
AUTOMATIC ZERO ABSORBANCE AND 100% TRANSMITTANCE.
ALPHANUMERIC 20 CHARACTER 2 LINE L.C.D. DISPLAY.

APPLICATIONS

Chemistry Laboratory, quality control, environmental control.

FEATURES

Wavelength range: 400 to 800 nm, by using special filters with a 40 nm band pass.
12 position Filter disc wheel selection .
Standard filters: 420, 440, 490, 520, 550, 580, 620, 680 nm and 4 optionals.
Expanded Absorption range: -0.3 to 3.5 O.D. in real time.
Transmission: 0 to 100 T %.
Photometric accuracy: >1 %.
Photometric precision: ±1 %.
Photometric stability: 0.004 A/hr.
Light source: Long life tungsten lamp.
Detector: Solid state.

Sample chamber: 10 mm cuvettes or test tubes of 12 and 16 mm Ø.
Minimum volume: 1 ml.
Display: Alphanumeric LCD display of 2 lines of 20 characters.
Calculation functions: Transmission T %. Absorbence, Concentration by factor or standard concentrations.
Calibration: Self adjusting by software.
RS-232 interface.

CONTROL PANEL

ON/OFF switch.
Interactive LCD display.
Numeric and function keypad.

MODEL

Part No.	Built in printer	Height / Width / Depth cm			Power W	Weight Kg
4120009	**NO**	11	18	28	10	4.5

SPARE

Lamp of 6 V / 6 mm.
Part No. **4512009**

Colorimeter "WSD-3"

THE WSD-3 IS A HIGH PRECISION SPECTRAL COLORIMETER FOR MEASURING THE COMPOSITION OF THE COLOUR IN CHROMATIC COMPONENTS. THE OPTICAL SYSTEM WORKS IN A REFLECTION MODE TO EVALUATE THE CHROMATIC COMPONENTS OF ANY SURFACE.

KANGGUANG

APPLICATIONS

Chromatic, surface composition analyser.
Suitable for research and quality control.

FEATURES

- Illumination/measuring conditions: ....o/d
- Measuring system: ....reflection
- Spectral range ....400 to 700 nm
- Illumination standard: ....D 65
- Measuring time: ....10 sec.
- Light source Halogen lamp: 6V 12W
- Head entrance diameter: ....22 / 6 mm
- Field of vision 10º
- Reading precision: ....X,Y ± 0.0001, other scales ± 0.01
- Measuring error: 0.1
- Stability
  - ....Zero set ≤ 0.1
  - ....Measuring error ≤ 0.1
  - ....VPower variation ≤ 0.1
- Measuring precision:...0.1
- Preheat time:...10 min.
- Ambient conditions:...0 - 40 ºC
- Power requirement:...220V 50Hz 10%

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
5120190	**29**	**30**	**32**	**23**	**4.5**

SPARE
Halogen lamp 6V/12W.
Part No. **5313040**

Microtiter Strip Reader "Reader M-2000"

STORAGE MEMORY FOR UP TO 59 METHODES INCLUDING: FACTORS, STANDARDS OR CALIBRATION CURVES WITH UP TO 10 STANDARDS. ADDITIONAL CALCULATION FEATURES.

APPLICATIONS

Clinical diagnostics, E.I.A., Veterinary, quality control.

FEATURES

Spectral range: 400 to 700 nm, using interference filters of 10 nm band pass.
Supplied complete with a filter of 450 nm (other wavelengths available consult for options.)
Measuring range: -0.2 to 3.5 O.D.
Photometric accuracy: >1%.
Photometric precision: ±1%.
Light source: Long life LED.

Detector: solid state.
59 method memories.
Curve point editing feature.
Software: ABS. Concentration and polynomial curve fitting with up to 10 standards.
RS-232 output to connect a printer or to a PC.
Interface RS-232.

RS232

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
4120013	**11**	**18**	**28**	**7**	**2**

ACCESSORY
Ink printer (not thermal). Paper 2 1/4" (56 mm) wide roll. Interface RS232. Includes power transformer and interface cables. (5V-3A)

Model

Part No.	Height / Width / Depth cm			Weight Kg
4120113	**4**	**16**	**10**	**1**

SPARE

Lamp of 4 mm Ø 5 V.
Part No. **4313030**

Microplate reader 2100-C

TOTALLY AUTOMATIC TOUCH SCREEN CONTROL.

APPLICATIONS

Clinical diagnostics. Quality control in food analysis, Haematology.

FEATURES

Bi-chromatic optical system with 4 wavelength selection:
405, 450, 492, 630 nm, (other filters from 405 to 700nm available).
Memory for up to 500 programs, 10000 sample results and 1000 patients.
Patient data software, laboratory personnel and analysis reports.
100 typical analysis methods pre programmed.
Capable of performing up to 12 different tests per plate.
Calculations: ABS, Cut-Off, Curve fitting: regression, linear, logarithmic, exponential and potential.
Measuring absorbance range: 0-2.5A
Displayed absorbance range: 0-3.5A
Accuracy:±1.0% or ±0.007 A.
Precision: ±0.5% or ±0.005 A.
Linearity: r > 0.995.
Resolution:0.001 ABS (display); 0.0001 ABS (calculated).
Measuring time: Continuous mode < 5 s, step by step mode < 15 s.
Output RS-232 for download to a computer or a printer.
Parallel printer interface.
Programmable plate vibrating for mixing with control of time and speed.

CONTROL PANEL

LCD display (320 x 240 pixels) of 5.7 inches.
Operating system WINDOWS CE.
Operation by touch screen or optional "Mouse" control (mouse not included).

Touch screen control.
New generation technology.

MODEL	Part No.	Height / Width / Depth (exterior) cm			Voltage	Weight Kg
2100-C	5109999	19	45	33	AC 110-250 V / 50-60 Hz	10

Microplate washer 2600-C

COMPLETELY AUTOMATIC. EASY TO USE. 50 WASH PROGRAMS.

APPLICATIONS

Clinical laboratories.
Blood banks.
Quality control food laboratories.

FEATURES

Wash head of 8 x 1. (12 x 1 optional).
Plate wash by 12 x 8 strips or 8 wells/strip.
Plate clean for flat, round and V bottom plates.
Automatic wash and rinse processes.
Reservoirs: 2 litre, wash solution.
                2 litre, waste, with liquid level sensor.
Memory for up to 50 wash programs.
Software controll of head's depth adjust and horitzontal position.
Wash cycle times from 1 sec. to 2 hrs.
Wash dosing range: from 50 to 2000ul.
Dosing resolution: 5% CV (based on 350ul of distilled water)
Residual volume (after aspiration):
            < 1 µl (Cells, bottom U and V well plates.).
            < 5 µl (Cells, bottom of flat well plate.)

CONTROL PANEL

LCD graphic display of 90 x 50mm
Membrane key pad of 9 keys.
Emergency stop button.

MODEL	Part No.	Height / Width / Depth (exterior) cm			Voltage	Weight Kg
2600-C	5110000	14	45	33	AC 110-250 V / 50-60 Hz	12

Digital pH-meter "pH-2003"
PORTABLE METER.

FEATURES
Manual temperature compensation from 0 to 60 °C with sample temperature key pad entry (does not read temperature).
Automatic buffer recognition of two of those three buffers: pH4, pH7 and pH9.
Electrode connector: BNC type.
Includes: carry case, pH electrode with support and buffers pH4, pH7 and pH9.

SPECIFICATIONS
	Range	Precision	Resolution
pH:	0 to 14	±0.03	0.01
mV:	±1400	±2	1

Impedance: 5×10^{11} Ohm.

MODEL
Part No.	Height / Width / Depth cm			Power source	Weight Kg
4120300	**17**	**7.5**	**3**	**2 x 1.5V batteries**	**0.5**

See "Accessories for pH meters" for selection of electrodes (Page 242).

Digital pH meter "pH-2004"
PORTABLE METER WITH IP65 PROTECTION AGAINST WATER AND DUST.

FEATURES
Automatic temperature compensation and read out from 0 to 60 °C with temperature sensor Rt-2252. Results memory for up to 250 readings.
Protection against water and dust IP65 (Impermeable to water splashes from any direction.) Automatic buffer recognition and calibration for 1 or 2 buffers, recognition of up to 5 selectable buffers.
RS-232 output to connect a printer or a computer. Electrode connector: BNC type.
Includes: carry case, pH electrode and temperature sensor Rt-2252.
Direct connection to printer Part No. 4120113 (see page 242).

SPECIFICATIONS
	Range	Precision	Resolution
pH:	0 a 14	±0.02	0.01
mV:	±1800	±2	1
Tª:	0 to 60	±0.5	0.1

Impedance: 1×10^{12} Ohm.

MODEL
Part No.	Height / Width / Depth cm			Power source	Weight Kg
4120400	**20**	**10**	**4.5**	**4 x 1.5V AA Batteries**	**0.5**

ACCESSORY
pH probe and additional temperature sensor, gel filled. Temperature sensor Rt 2252. With IP65 protective connectors.
Part No. **4120401**

ACCESSORY
Portable magnetic stirrer, battery operated and submersible.
Part No. 7001731 for "pH-2003" and "pH-2004" (see page 27).

Digital pH meter "pH-2005"
BENCH TOP MODEL WITH LARGE SCREEN.

FEATURES
Automatic or manual temperature compensation from 0 to 99.9 °C Automatic buffer recognition and calibration of 2 buffers, recognition of up to 3 buffers: pH 4, pH 7 and pH9.21.
RS-232 output to connect a printer or a computer.
Electrode connection BNC.
Temperature sensor connection Rt-2252.
Includes electrode's support stand.

SPECIFICATIONS
	Range	Precision	Resolution
pH:	0 to 14	±0.02	0.01
mV:	±1999	±1	1
Tª (ºC):	0 to 99.9	±0.5	0.1

Impedance: 1×10^{12} Ohm.

MODEL
Part No.	Height / Width / Depth cm			Weight Kg
4120500	**30**	**20**	**7.2**	**1.5**

See accessories for electrode, temperature sensor and buffer solutions.
Not compatible with printer Part No. 4120113 (see page 242).

Digital pH meter "pH-2006"
BENCH TOP, LARGE GRAPHIC TOUCH SCREEN CONTROL.

FEATURES

Ergonomic touch screen control functions. Includes support arm.
Automatic temperature compensation from –5 to 105 °C.
Up to 5 buffer calibration with 10 buffer recognition.
Stores up to 200 results.
RS-232 output to connect a printer or a computer.
Electrode connector: BNC type.
Rt-2252 Temperature port.
Selectable resolution range.
Direct interface for printer Part No. 4120113 (see accessories).

SPECIFICATIONS

	Range	Precision	Resolution
pH:	-2 to 18	±0.01	0.001
mV:	±1999.9	±0.1	0.01
Tª (ºC):	-5 to 105.0	±0.3	0.1

Impedance: 1×10^{12} Ohm.
See accessories for electrodes, temperature probes, buffers and printer.

MODEL

Part No.	Height / Width / Depth cm	Weight Kg
4120600	29 20 7	1

ACCESSORIES for pH meters.

1 2 3 4 5 6 7 8 9

Universal arm support.
With holder for up to 4 sensors or electrodes.
Very stable heavy base.
Ideal for working at various heights.
Part No. **1001552**

pH Electrodes

Fig.	Part No.	Range pH	Sensor Tª	Temperature Range	Electrolyte	Dimensions mm	Material Body	Application
1	4120102	0 - 14	No	0 – 80°	Liquid	Ø 12 x 120	Glass	General laboratory use.
2	4120125	0 - 14	Yes	0 – 60°	Gel	Ø 12 x 120	Epoxy	Protective cover. General laboratory and external use.
3	4120101	0 - 14	No	0 – 60°	Gel	Ø 12 x 120	Epoxy	Protective cover. General laboratory and outside use.
4	4120114	0 – 10	No	0 – 60°	Gel	Ø 12 x 120	Epoxy	Surface analysis, Skin, meat, moist semisolids, culture media.
5	4120104	0 - 14	No	0 – 60°	Gel	Ø 12 x 120	Epoxy	Pointed sensor. Suitable for food, semi-solids, fruit meat etc.
6	4120103	0 - 14	No	0 – 80°	Gel	Ø 8 x 60	Glass	For measuring in tubes. Liquid solutions in general.
7	4120126	0 - 14	Yes	0 – 80°	Liquid	Ø 12 x 120	Glass	Fast response, liquids in general.

Temperature sensors

Fig.	Part No.	Range	Type	Dimensions mm	Material
8	**4120121**	0-100	Rt-2252	Ø 5 x 120	Stainless steel
9	**4120120**	0-100	Rt-2252	Ø 12 x 120	Glass

pH Buffer solutions.

4120107   Flask 250 ml Buffer ±0.02 pH **4.00** at 20 ºC; 4.01 at 25 ºC
4120108   Flask 250 ml Buffer ±0.02 pH **7.02** at 20 ºC; 7.001 at 25 ºC
4120127   Flask 250 ml Buffer ±0.02 pH **9.23** at 20 ºC; 9.18 at 25 ºC
4120109   Frasco 250 ml KCl 3M solution (Electrolyte for pH electrodes)

Ion selective electrodes

Part No.	Ion	Range	Limits	Range ºC	Range pH
4120168	Chloride Cl⁻	$1-3 \times 10^{-6}$	35.500 – 1	5-50	1-12
4120174	Nitrate NO_3^-	$1-7 \times 10^{-6}$	62.000 - 0.4	0-50	2-11
4120177	Potassium K⁺	$1-10^{-6}$	39.000 - 0.04	0-50	1-9

Ink printer (Not thermal).

For use with pH and conductivity meters .
Paper 2 1/4" (56 mm) wide roll.
Interface RS232.
Includes power transformer and
interface cables. (5V-3A)

Model

Part No.	Height / Width / Depth cm	Power source	Weight Kg
4120113	4 16 10	DC 5 V, 3 A	1

MAGNETIC STIRRER "AGIMICRO"
Features

Maximum stir volume: 2 litres.
Adjustable stir speed from 40 to 1400 r.p.m.
Excellent chemical resistance.
Location hole at the back for a retort rod. (Accessory)

Control panel

Mains switch with luminous on indicator.
Analogue control of speed in r.p.m.

Model

Part No.	Medidas cm	Power source	Weight Kg
7001638	Ø 12 x 5	230 V 1 W	0.5

Supplied complete with a 8 Ø x 32 mm P.T.F.E. coated stir bar.

ACCESSORY
Support bar and electrode clamp.
Part No. **7001639**

Conductivity meter "CD-2004"
PORTABLE EQUIPMENT WITH IP65 PROTECTION AGAINST WATER AND DUST.

FEATURES

Measures conductivity, TDS and salinity.
Automatic range switching.
Automatic temperature compensation.
Calibration using standards for conductivity, TDS and salinity.
RS-232 output to connect a printer or a computer.
Direct printer connection, see part no. 4120113.
Temperature coefficient programable.
Conductivity cell constant adjustment.
Memory for 250 results.
Ambient protection IP65 (protection against water splashes from any direction).
Includes Carry case, conductivity cell K= 1 and temperature sensor Rt-2252.

SPECIFICATIONS

Reading ranges: (automatic)

Conductivity	TDS
0.00 to 19.99 µS/cm	0.00 to 10.00 mg/L
20.0 to 199.9 µS/cm	10.00 to 100.0 mg/L
200 to 1999 µS/cm	100.0 to 1000 mg/L
2.00 to 19.99 mS/cm	1.000 to 10.00 g/L
20 to 199.9 mS/cm	10.00 to 19.99 g/L
(Cell constant K=10)	(Cell constant K=5 or 10)

Salinity range: 0.00 to 8.00
Temperature range: 0.0 a 40.0 ºC
Precision:

Conductivity: 1.5% base scale
Salinity: 0.20%
Temperature: 0.3 ºC

ACCESSORY

Conductivity cell and temperature sensor.
Conductivity cell with epoxy body. Temperature sensor Rt-2252.
IP65 protection connectors. Part No. **4120411**

MODEL

Part No.	Width / Height / Depth cm	Power source	Weight Kg
4120410	21 10 4.5	**4 1.5 V batteries**	0.5

Conductivity meter "CD-2005"
BENCH TOP METER WITH LARGE SCREEN.

FEATURES

Measures conductivity and TDS.
Automatic or manual setting temperature compensation with fixed coefficient of 2%.
Calibration with standards of conductivity and TDS.
RS-232 output to connect a printer or a computer.
Cell constant adjustment.
Temperature sensor connection Rt-2252.
Temperature measuring range: 0 to 60 °C.

SPECIFICATIONS

Conductivity ranges:
(Manual range change)
0 to 20.00 µS/cm
0 to 200.0 µS/cm
0 to 2000 µS/cm
0 to 10.00 mS/cm
Precision: 1.5% base scale + 1 digit.
TDS ranges: 0 to 1000 mg/L.

Accessories to complement the meter, conductivity cells, temperature sensors and standards (see accessories). Not compatible with the printer 4120113.

MODEL

Part No.	Width / Height / Depth cm	Weight Kg
4120510	30 20 7.2	0.5

Includes sensor stand.

ACCESSORIES

1   2   3   4   5

Conductivity cell
Glass body. Working temperature range 0-100 °C

Fig.	Part No.	K	Sensor Tª (ºC)	Dimensions mm	Applications
1	**4120220**	1	Yes	Ø 12 x 120	General laboratory use up to 2000 µs
3	**4120222**	0.1	Yes	Ø 12 x 120	Pure water up to 20 µS
4	**4120223**	10	Yes	Ø 12 x 120	High conductivity up to 200 ms

Temperature sensors

Fig.	Part No.	Range	Type	Dimensions mm	Material
5	**4120121**	0-100	Rt-2252	Ø 5 x 120	Stainless steel
6	**4120129**	0-100	Rt-2252	Ø 12 x 120	Glass

Conductivity standards.
4120160 Flask 250 ml Standard ±0.05 of 1278 µS/cm at 20 ºC; 1413 µS/cm at 25 ºC
4120161 Flask 250 ml Standard ±0.025 of 4.915 mS/cm at 20 ºC; 5.446 mS/cm at 25 ºC
4120162 Flask 250 ml Standard ±0.06 of 11.67 µS/cm at 20 ºC; 12.88 µS/cm at 25 ºC

MAGNETIC STIRRER "AGIMICRO"
Features
Maximum stir volume: 2 litres.
Adjustable stir speed from 40 to 1400 r.p.m.
Excellent chemical resistance.
Location hole at the back for a retort rod. (Accessory)

Control panel
Mains switch with luminous on indicator.
Analogue control of speed in r.p.m.

Model

Part No.	Medidas cm	Power source	Weight Kg
7001638	Ø 12 x 5	**230 V 1 W**	0.5

Supplied complete with a 8 Ø x 32 mm P.T.F.E. coated stir bar.

ACCESSORY
Support bar and electrode clamp.
Part No. **7001639**

Universal arm support.
With holder for up to 4 sensors or electrodes.
Very stable heavy base. Ideal for working at varying heights.
Part No. **1001552**

NUTRITIONAL AND WATER ANALYSIS APPARATUS

EXTRACTION

Organic nitrogen determination by Kjeldahl "BLOC-DIGEST"
Steam distillation of protein, PRO-NITRO "M"
Steam distillation of protein semiautomatic, PRO-NITRO "S"
Kjeldahl distillation automatic PRO-NITRO "A"
Extractor for the determination of cellulose and fibre, "DOSI-FIBER"
Cold extraction unit, "EF-1425"
Solvent extractor unit for the determination of residues, oils and fats in nutritional and other materials DET-GRAS "N"
Sample Hydrolysis unit, "HI-1427"
Wine (Alcohol), distillation unit "DE 1626"

WATER ANALYSIS

Chemical Oxygen Demand in residual water "C.O.D."
Constant temperature refrigerated incubator cabinets, B.O.D. "MEDILOW S, M, L , LG"
Flocculator for water analysis, laboratory "FLOCUMATIC"
Flocculator for water analysis, portable 'JARTEST"
De-mineraliser "LAB-ION"
Water Distillation unit , "AQUASEL", "L-3" and "AC-L8"

RECOMMENDED METHODS AND EQUIPMENT: PRO-NITRO M, S and A, DOSI-FIBER, EF-1425, HI-1427, DET-GRAS N, BLOC-DIGEST, DE-1626 and C.O.D.*

ANALYSIS OF CEREAL AND DERIVATIVES	Reference	Pro-Nitro M,S and A	Dosi-Fiber	EF-1425	Det-Gras N	Bloc-Digest	HI-1427
Determination index for cellulose	Method Wladesco		YES	YES			
Insoluble fibre in food	Method Van Soest		YES	YES			
Crude Fibre	Method Weende & Wijkströn		YES	YES			
Proteins	Method Kjeldahl	YES				YES	
Soxhlet extraction for fat identification	Soxhlet Extraction				YES		YES
Crude Fat	Soxhlet Extraction				YES		YES
Arsenic	Determination A. A.					YES	
Mercury	Determination A. A.					YES	
ANALYSIS OF MILK AND DERIVATIVES	Reference	Pro-Nitro M,S and A	Dosi-Fiber	EF-1425	Det-Gras N	Bloc-Digest	HI-1427
Crude Fat	Soxhlet Extraction				YES		YES
Crude Protein	Method Kjeldahl	YES				YES	
Casein	Method Kjeldahl through precipitation of casein	YES				YES	
ANALYSIS OF ALCOHOLIC BEVERAGES	Reference	DE-1626	Dosi-Fiber	EF-1425	Det-Gras N	Bloc-Digest	HI-1427
Degree of alcohol	Method Volumetric	YES					
Volatile Acid	Method Volumetric	YES					
Iron	Method Volumetric					YES	
ANALYSIS OF FODDER AND RAW MATERIAS	Reference	Pro-Nitro M,S and A	Dosi-Fiber	EF-1425	Det-Gras N	Bloc-Digest	HI-1427
Raw Cellulose	Method Weende & Wijkströn		YES	YES			
Raw Protein	Method Kjeldahl	YES				YES	
Raw Fat	Soxhlet estraction				YES		YES
Volatile base nitrates	Distillation Kjeldahl	YES					
Soluble Raw Fat en hydrochloric acid and Pipsin	Method Kjeldahl	YES				YES	
Casein total	Method Kjeldahl in casein precipitate	YES					
Phosphorus	Method Photometric					YES	
Hydrocyanic Acid	Distillation in Silver Nitrate	YES					
Pure zolidine	Soxhlet Extraction				YES		YES

ANALYSIS OF FRUIT BEVERAGES AND DERIVATIVES	Reference	Pro-Nitro M,S and A		Dosi-Fiber	DE-1626		Bloc-Digest
Total Nitrogen	Method Kjeldahl	YES					YES
Volatile Acids	Distillation measurement				YES		
Arsenic	Dichromate Determination						YES

ANALYSIS OF WATERS	Reference	Pro-Nitro M,S and A		Dosi-Fiber	D.Q.O. /ECO-8/ECO16		Bloc-Digest
Total Nitrogen	Method Kjeldahl	YES					YES
Total Phosphorus	Method Photometric						YES
C.O.D.	Determination by Dichromate				YES		

* Reference: Methods are official publications issued by the MAPA (Ministry of Agriculture, Fisheries and Nutrition) 1993.

"Only in the dictionary does the word success come before work"
Professor Luis Huguet

Dry block for Determination of Organic Nitrogen by the Kjeldahl method

THE EQUIPMENT FOR THE DETERMINATION OF ORGANIC NITROGEN IS MADE OF TWO BASIC ELEMENTS:
- BLOCK DIGESTER (MINERALISATION) WITH PROGRAMMABLE TEMPERATURE CONTROL AND GLASSWARE (MACRO 250 ml AND MICRO 100 ml).
- DISTILLATION UNIT "PRO-NITRO M", "PRO-NITRO S" (SEMIAUTOMATIC) AND "PRO-NITRO A" (AUTOMATIC).

Digestion Block "Bloc-digest"

FEATURES

Minimal sample manipulation
Uniform heating.
Capacity to store 20 programs of 4 steps for temperature and time.
RS-232 port for temperature register and digestion programation from a PC.
Gas collection system that does not require special water jet pumps.
Supplied complete with:
1 metal heater block.
1 programmer for time and temperature
1 tube support rack
1 gas collector
Digestion tubes.

Complete unit with: Dry-block connected to a programmable process unit, (time and temperature) rack support for tubes and fume extractor.

MODELS - COMPLETE UNIT MACRO

MACRO	Part No.	No. of positions
Bloc Digest 6	4000629	6
Bloc Digest 12	4000630	12
Bloc Digest 20	4000631	20

MODELS - COMPLETE UNIT MICRO

MICRO	Part No.	No. of positions
Bloc Digest m 12	4001047	12
Bloc Digest m 24	4001048	24
Bloc Digest m 40	4001049	40

ACCESSORIES: EXTRACTION SYSTEM AND NEUTRALIZATION OF ACID VAPOURS

Digestion block. *"Scrubber"* *Re-circulating vacuum pump.*

Specially designed to absorb and neutralize vapours generated in the Kjedahl digestion processes.
Extraction system and neutralization of vapours.
Composed of a "Scrubber unit" that blocks the passage and neutralizes the condensed acids, and a re-circulating water pump that produces sufficient vacuum to aspirate the vapours.
It is essential to put the " Scrubber" unit together with the neutralizer solution between the digestion block and the re-circulating pump.

Reduces water consumption, no requirement for a constant connection for mains water.
Prevents emission of gas vapours and acidic water to waste.
Low noise level (<65dBA)
Re circulating pump made from chemically resistant materials

"Scrubber" unit

Part No.	Height / Width / Depth (exterior) cm			Weight Kg
4001611	32	31	16	2

It is supplied with 3 Kg. acid vapours neutralizer solution.
Spare part:
3 Kg. acid vapours neutralizer solution.
Part No. 4001610

Water recirculation vacuum pump

Part No.	Height / Width / Depth (exterior) cm			Vacuum level bar	Pump rate Litres/minute	Weight Kg
4001612	44	39	28	0.98	10	10

PARTS LIST AND ACCESSORIES

Heating blocks
To function correctly it is important to include in the purchase the controller unit for time and temperature RAT-2, The block should not be connected directly to the mains supply.

Models	Part No.	No. of positions	Ø tube mm	Height / Width / Depth (exterior) cm			Temperature °C	Power W	Weight Kg
MACRO	4000507	6	42	18	33	28	45 to 450	1500	18
MACRO	4000508	12	42	18	39	33	45 to 450	2100	25
MACRO	4000509	20	42	18	44	39	45 to 450	2500	31
MICRO	4001050	12	26	18	33	28	45 to 450	1500	16
MICRO	4001051	24	26	18	39	33	45 to 450	2100	22
MICRO	4001052	40	26	18	44	39	45 to 450	2500	27

Process programmer for time / temperature RAT-2.
Part No. 4001538

Features
Temperature range from 45 ºC to 450 ºC.
Memory for 20-4 steps programs.
Maximum time per step: 600 minutes.
Acoustic indication for digestion end of program.
Two selectable temperature gradients: kjeldahl/ D.Q.O.
Temperature sense breakage alarm.
Independent control of safety maximum temperature.
Bidirectional RS-232 serial connection. For temperature registration and digestion program edition with the RAT connected to a PC.
Software included.

Electronic controller RAT-2

Control Panel
The control panel and the RAT-2 display allow the creation and execution of the digestion program.
During the digestion, it shows the block temperature, the elapsed time in the program step.
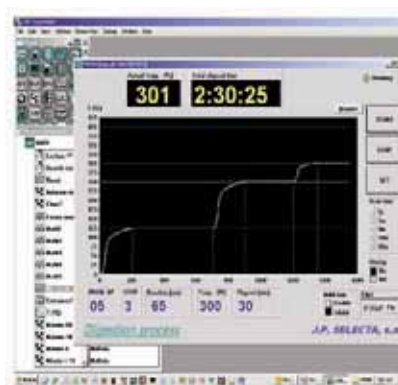
The software included makes easier the digestion program edition and the digester temperature register.

Tube support rack.
Made of chemically treated no corrosive Dural, with handles and side panel that prevents heat loss.

Fume extraction
Unit for collecting fumes supplied with a support rack. Made of borosilcate glass and stainless steel.

Models	Part No.	No. of places	Height / Width / Depth (exterior) cm		
MACRO	4005071	6	15	17.5	12.5
MACRO	4005081	12	15	23	18
MACRO	4005091	20	15	28.5	23.5
MICRO	4001053	12	15	17.5	12.5
MICRO	4001054	24	15	23	18
MICRO	4001055	40	15	28.5	23.5

Models	Part No.	No. of places	Height / Width / Depth (exterior) cm		
MACRO	4005072	6	15	18	12
MACRO	4005082	12	15	23	18
MACRO	4005092	20	15	29	23
MICRO	4001056	12	15	18	12
MICRO	4001057	24	15	23	18
MICRO	4001058	40	15	29	23

Digestion and distillation tube Series MACRO of 250 ml volume. Graduated to 100 ml 42 mm Ø x 300 mm high.
Part No. 4042300

Tube for digestion and distillation Series MICRO of 100 ml volume. 26 mm Ø x 300 mm high.
Part No. 4001045

Water jet pump for vacuum extraction. Made of PVC designed for the fume extraction of the 20 and 40 place models.
Part No. 4000633

Water Jet pump for vacuum extraction. Metallic, suitable for the extraction of fumes for the 6, 12 and 24 place models. Part No. 7000293

Steam distillation unit Kjeldahl "Pro-Nitro M"

DETERMINATION OF ORGANIC NITROGEN (KJELDAHL METHOD).
AUTOMATIC NaOH DOSAGE AND TEMPORIZE STOP.

Steam distillation Kjeldahl unit.
Simple secure systematic analysis suitable for small to Medium throughput of samples.

FEATURES
Steam distillation system.
Compact steam generator with safety over temperature thermostat and over pressure device.
Safety door, the system will not operate if the door is open.
"Tube in place" sensor: if the tube is not located, the dosing process of NaOH will not take place.
Universal adapter for digestion/distillation tubes MACRO (Ø 42 mm) and MICRO (Ø 26mm)
Small footprint, saves bench top space: The H₂O and NaOH reservoirs are placed within the unit.
Stainless steel case with reinforced ABS plastic front.
Automatic distillate titration kit. (See accessories).

SPECIFICATIONS
Measuring range: from 0.2 to 200 mg of Kjeldahl Nitrogen.
Programmable distillation time.
Nitrogen recovery >99.5%
Distillation speed: from 35-40ml/minute
Typical distillation time: from 7-10 minutes.
Water consumption rate: from 80-100 litres/ Hr.
Steam generator water consumption: 2,5 Litres/ Hr.
Water reservoir for steam generator: 6 litres
NaOH reservoir: 2 Litres.

ALARMS
Low water level for the steam generator.
Safety door open or no distillation/digestion tube in place.
Steam generator over temperature.

AUTOMATED SEQUENCES
Open and closure of cooling water to the cooling coil.
Automatic load of NaOH once the distillation has started.
Select NaOH volume.
Stop at the end of the pre-set programmed time.

ADDITIONAL REQUIREMENTS
To complete Kjeldahl Nitrogen analysis a digestion block is also required. (See Bloc Digest pages 246 and 247).

MODEL

Part No.	Height / Width / Depth			Power	Weight
		cm		W	Kg
4002627	75	50	50	1800	30

Supplied with a MACRO Ø 42mm tube, set of reagent containers and tubing.
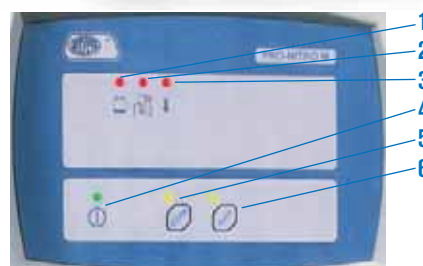
CONTROL PANEL
1. Low water indicator.
2. Door open or no tube presence indicator.
3. Over temperature indicator.
4. Mains on indicator.
5. Push button and indicator start/stop distillation.
6. NaOH volume selection.

ACCESSORIES

Digestion and distillation tube Series MACRO of 250 ml volume. Graduated to 100 ml 42 mm Ø x 300 mm high.
Part No. **4042300**

Tube for digestion and distillation Series MICRO of 100 ml volume.
26 mm Ø x 300 mm high.
Part No. **4001045**

Adapter kit for automatic determinations. Vessel with location positions for pH electrode, stirrer and reagents and distillate sample.
Part No. **4001724**

Steam distillation unit Kjeldahl Semi-Automatic "Pro-Nitro S"

DETERMINATION OF ORGANIC NITROGEN (KJELDAHL METHOD).
AUTOMATIC BORACIC AND NaOH DOSAGE, SAMPLE DRAINAGE AND TEMPORIZED STOP.

Semi-automatic steam distillation Kjeldahl unit. Simple secure systematic analysis suitable for medium to large throughput of samples.

FEATURES

Steam distillation system. Compact steam generator with safety over temperature thermostat and over pressure device. Safety door, the system will not operate if the door is open.
"Tube in place" sensor: if the tube is not located, the dosing process of NaOH will not take place.
Universal adapter for digestion/distillation tubes MACRO (Ø 42mm) and MICRO (Ø 26 mm).
Small footprint, saves bench top space: The H_2O, NaOH and H_3BO_3 reservoirs are placed within the unit.
Empty Digestion/Distillation tube system.
Stainless steel case with reinforced ABS plastic front.
Green LED 2 digit display.
Distillation program: (Add NaOH, Add Boric Acid, Distillation time, Empty tube.)
Automatic distillate titration kit. (See accessories).

SPECIFICATIONS

Measuring range: from 0.2 to 200 mg Nitrogen.
Programmable distillation time.
Nitrogen recovery >99.5%
Distillation speed : from 35-40ml/minute
Typical distillation time: from 7-10 minutes.
Water consumption rate: from 80-100 litres/Hr.
Steam generator water consumption: 2.5 Litres/ Hr.
Water reservoir for steam generator: 6 litres
NaOH reservoir: 2 Litres.
Boric Acid reservoir: 2 Litres

ALARMS

Low water level for the steam generator.
Safety door open or no distillation/digestion tube in place.
Steam generator over temperature.

AUTOMATIC

Single push button to start the distillation cycle:
- Boric acid dosing
- Start distillation.
- NaOH dosing
- Stop Distillation (Programmed time transpired.)
- Acoustic indicator at the end of the cycle.

ADDITIONAL REQUIREMENTS

To complete Kjeldahl Nitrogen analysis a digestion block is also required. (See Bloc Digest pages 246 and 247).

CONTROL PANEL

1. Illuminated indicator. Steam generator
2. Low water in the steam generator
3. Door open or no tube present indicator.
4. Over temperature indicator.
5. Push button and display to select parameters.
6. Mode push button, Manual or Automatic.
7. Push button, dose Boric Acid/ Push button START in automatic mode.
8. Dose NaOH push button.
9. Push button, start the distillation in manual mode.
10. Push Button, empty sample tube.

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
4002851	75	50	50	1800	32

Supplied complete with a MACRO Ø 42 mm tube, set of connection tubes, set of reservoirs.

ACCESSORIES

Digestion and distillation tube Series MACRO of 250 ml volume. Graduated to 100 ml 42 mm Ø x 300 mm high.
Part No. **4042300**

Tube for digestion and distillation Series MICRO of 100 ml volume.
26 mm Ø x 300 mm high.
Part No. **4001045**

Adapter kit for automatic determinations. Vessel with location positions for pH electrode, stirrer and reagents and distillate sample.
Part No. **4001724**

Automatic steam distillation unit Kjeldahl "Pro-Nitro A"

DETERMINATION OF ORGANIC NITROGEN (KJELDAHL METHOD)
FULLY AUTOMATIC OPERATION. FROM THE REAGENT DOSAGE TO THE TITRATION.

RS232

Steam distillation system Kjeldahl, complete with automated "ON-LINE" analysis (evaluation in real time). For systematic precise analysis, with minimum personnel intervention, simple and safe. Adequate for a laboratory with a medium to large throughput of samples.

The Kjeldahl steam distillation unit «PRO-NITRO A» evaluates the distillate at the same time as it is produced (evaluation «On-Line»), the evaluation and distillation are completed as one operation, reducing drastically the analysis time. This type of evaluation offers the following additional advantages: detects the point where the sample no longer produces Nitrogen, which means that, the distillation stops at the optimum maximum Nitrogen recovery and does not prolong the analysis longer than necessary.

The titration is a colorimetric method and is accepted by AOAC and does not require any periodic calibration.

FEATURES
Distillation by steam generation.
Automatic «On-line» colorimetric evaluation.
Steam generator with safety thermostat, over temperature and over pressure device.
Safety, door closed, that prevents distillation if open.
Detects that a digestion/distillation tube is present. This prevents the dosing of NaOH if there is no tube located.
Universal adapter for MACRO (Ø 42 mm) and MICRO (Ø 26 mm) distillation tubes.
Space saving in the laboratory: the reservoirs for the H2O, NaOH, Boric Acid and HCl are located inside the unit.
Empties the digestion/distillation tubes and the collector automatically.
Automatic stop when distillation is complete.
Large LCD display of 20 x 4 characters.
RS232 output to results printer.
Main system made from stainless steel with an ABS plastic front.

SPECIFICATIONS
Measuring range: 0.2 to 200 mg Nitrogen.
Nitrogen recovery:> 99.5%
Distillation speed: from 35 to 45 ml/minute
Coolant water consumption: 80 to 100 litres per hour.
Steam generator water consumption: 2.5 Litre/ Hr.
Steam generator water reservoir capacity: 6 litres.
NaOH reservoir capacity: 2 Litres.
Boric Acid reservoir capacity: 2 Litres.
Titrant reagent reservoir capacity: 2 Litres.
Evaluation precision: 1.5%
Minimum reagent dose 0.01ml.

ALARMS
Low water level for the steam generator.
Safety door open or no distillation/digestion tube in place.
Steam generator over temperature.

ADDITIONAL REQUIREMENTS
To complete Kjeldahl Nitrogen analysis a digestion block is also required.
(See Bloc Digest pages 246 and 247).

MODEL

Part No.	Height / Width / Depth			Power	Weight
	cm			W	Kg
4002430	75	50	50	1800	38

Supplied complete with a MACRO Ø 42 mm tube, set of connection tubes, set of reservoirs and 1 litre of Boric acid with indicator, 250 ml. of mixed indicator 4.8 and 100 gr. of sulphate ammonium.

AUTOMATION
Closing and opening of the condenser cooling water in line with the distillation process.
Dosing of Boric Acid.
Dosing of NaOH once the distillation has started.
Select NaOH and Boric Acid volume.
«On-line» evaluation of distillate.
Auto detection of the end of the distillation process.
Special functions to maximise performance.
Special functions for maintenance.

REAGENTS
All the reagents used in the «PRO-NITRO A» are easily located:
- Solution of 30-40% NaOH.
- Solution of Boric Acid at 1% concentration (approx.) with mixed indicators (Bromo-cresol green and methyl red).
- Reagent for titration: HCl or H2SO4 from 0.05N or 0.25N adjusted to 0.001 Normal.

CONTROL PANEL

1. Menu to configure the date, time and selectable parameters.
2. Print the analysis information using the optional printer 4120113, purchased as an accessory.
3. <<ESC>> to cancel changes and escape from the menu.
4. Increase values and navigation through the menu.
5. Decrease values and navigate through the menu.
6. <<ENTER>> to accept changes to parameters and navigation through the menu.
7. LCD display to visualise parameters and results

ADVANTAGES

Excellent precision on results.
Complete Nitrogen recovery from the sample.
Minimum operator intervention.
No calibration required.
Minimum analysis time.

RESULTS

The results can be downloaded to a printer (Optional), required for GLP, and includes the following data:
- Consecutive unrepeatable I.D. number of analysis.
- Date and time.
- Volume of NaOH.
- Volume of Boric acid.
- Reagent normality.
- Nitrogen detected.

```
15/10/05 12:16:08


Analysis Nr: 087598


NaOH:      75ml.

Boric:     25ml.

Normality: 0.1503


Results:

Reagent:   10.521ml

Nitrogen:  22.1382mg
```


QUALITY CONTROL INFORMATION

ALL OF THE KJELDAHL DISTILLATION UNITS 4002430 REQUIRE A PROTOCOL ASSAY FOR THE RECOVERY OF NITROGEN WHEN MANUFACTURED.

THESE RESULTS COME WITH THE EQUIPMENT AND ARE VALID FOR IQ AND OQ CLARIFICATION.

ACCESSORIES

Printer
Ink printer (not thermal paper), size (4/6/10 cm) suitable for use with the PRONITRO A.
Paper 2 1/4" (56 mm) wide.
Interface RS232.
Includes interface and mains cables.
Part No. **4120113**

Digestion and distillation tube. Series MACRO of 250 ml volume. Graduated to 100 ml 42 mm Ø x 300 mm high.
Part No. **4042300**

Tube for digestion and distillation. Series MICRO of 100 ml volume. 26 mm Ø x 300 mm high.
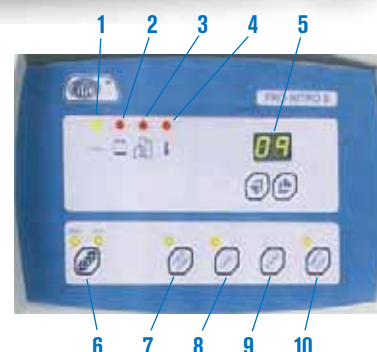Part No. **4001045**

Solvent recovery extractor for fats and oils "Det-gras N"

FOR THE DETERMINATION OF FATS BY SOXHLET METHOD.
SAFETY PROTECTION IP65.

Equipment for the extraction of fats and soluble substances that will dissolve in solvents. Based on the Soxhlet methods by Randall, the DET-GRAS-N extracts fats (and or other substances) from the sample by dissolving them in a solvent. If compared to the classic standard soxhlet method, a time saving of between 30-70% can be obtained due to a two stage extraction process and high speed in obtaining high temperatures.

APPLICATIONS

Practically all methods of classic soxhlet extraction can be substituted by the DET-GRAS N. Typical fat determinations are: in meat products, animal fodder, pre-prepared foods, fish etc. Also suitable for the extraction of soluble components in paper paste, textile fibres etc.

FEATURES

Heating by protected electric heater, distributed throughout the radiator surface that provides homogeneous heating throughout the samples.
Electrical safety according to IP65.
Robust temperature control by a durable thermocouple.
Safety over temperature device.
Outer case made of solvents resistant epoxy coated steel.
Extractions can be completed using glass or cellulose thimbles.
Compatible with most common solvents: Petroleum ether. Diethyl ether, hexane, acetone acetonitrile etc.
Supplied complete with 2 sets of seals, adapters for different solvent types.
Typical extraction time (food fats) 50 minutes.
Compatible with the hydrolysis unit HI-1427 part No 4001427 (see page 254).

SPECIFICATIONS

Cellulose extraction thimbles $Ø_{ext}$ 26 x 60 mm.
Reusable glass thimbles $Ø_{ext}$ 34 x 80 mm.
Working temperature of 90 to 240 °C.
Solvent recovery 60 to 80 %.
Solvent volume (by sample): up to 50 ml.
Program memories: 16.
Extraction time <<boiling>>: from 0 to 99 minutes.
Extraction time <<rinsing>>: from 0 to 99 minutes.
Time to recuperate solvents: from 0 to 99 minutes.

CONTROL PANEL

LCD display of 2 lines of 20 characters.
Keypad with 4 push buttons to select temperature, time and programs.

MODELS

Part No.	No. of places	Height / Width / Depth cm			Water consumption litres/minute	Power W	Weight Kg
4002841	2	70	45	40	1	200	19
4002842	6	70	75	40	2	600	25

Supplied with	model 6 places	model 2 places
Cellulose sample thimbles	25	25
Thimble rack	3	1
Support rack beakers	3	1
Aluminium tubes for thimble support	18	6
Extraction support for thimbles	18	6
Aluminium solvent beakers	18	6
Magnetic tongs for thimble manipulation	1	1
Tongs for manipulation of Aluminium beakers	1	1
Support rack	1	1
Transporting support handles	1	1
Butyl Joints	6	2
Vitron Joints	6	2

Accessories supplied with the 6 place model.

Extractor for the determination of cellulose and fibre "Dosi-fiber"

APPLICATIONS

Total Fibre (WEENDE,VAN SOEST or similar).Dietary fibre. Neutral detergent fibre. Acid detergent fibre. Other extraction processes which do not use acetic acid, acetic trichloric acid or nitric acid. Textile fibre. Wood and paper fibre.

EQUIPMENT DESCRIPTION

Integral extraction and filtration.
No sample transfer reduces the risk of sample loss, since the tubes,crucibles and filtre are transferred with the samples in place.
Excellent results due to reproducible operating conditions.
Easy sample handling due to the special crucible support stand.
Versatile and precise test procedure that allows the samples to be weighed at various stages in the extraction process.

FEATURES

Rugged external case with a "RILSAN" protective coating. All equipment components; condenser, valves, heater, compressed air valves and controls are all protected within the main case. Infrared heating elements.

CONTROL PANEL

Mains illuminated ON/OFF switch.
Switch for compressed air pump.
Heating element with electronic control.

TECHNICAL DATA

Sample size: 0.5 to 3 g (Normally 1 g).
Reproducibility: approximately ±1 % for fibre level between 5-30 %.
Measuring range: 0.1 to 100 %.
Cooling water consumption: 1 litre/minute.

EQUIPMENT

Comes complete with: crucible with a porosity P-2, Crucible support rack, heater lid and holder manipulator.

6 places extractor, part no. 4000623.

ACCESSORIES
Double hotplate for reagents.
Power consumption 1750 W.
Part No. **4000634**
Beaker for reagents.
Part No. **1000635**

MODELS

Part No.	No. of places	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4000599	4	56	43	32	1000	19
4000623	6	56	57	32	1500	25

SPARES
Support rack
4 crucibles.
Part No. **4000600**

Support rack
for 6 crucibles.
Part No. **4000624**

Crucibles
with a P - 2 porosity.
Part No. **4000601**

EQUIPMENT FOR THE DETERMINATION OF TOTAL DIETARY FIBRE, ENZYMATIC METHOD

THE DETERMINATION OF TOTAL DIETARY FIBRE BY THE ENZYMATIC METHOD (AOAC, AACC) IS VERY DIFFERENT TO THE WEENDE AND THE DE VAN SOEST METHODS. THE EQUIPMENT FOR THIS ANALYSIS DEPENDS ON THE ENZYME KIT THAT YOU ARE GOING TO USE. ONCE THE TYPE OF ENZYME KIT IS SELECTED THE KIT INSTRUCTIONS WILL INDICATE THE NECESSARY EQUIPMENT TO COMPLETE THE ANALYSIS. THE COLD EXTRACTION UNIT EF-1425 PART NO 4001425 AND THE RECIPROCAL BATH PART NO 6032011 ARE FREQUENTLY USED (SEE PAGE 85).

Cold extraction unit "EF-1425"

DESCRIPTION

Specifically designed unit for cold extraction of up to 6 samples simultaneously, using acetone or other solvents. Complements the Dosi-Fiber for the analysis of crude fibre.
Components: 1 litre receptacle for solvent recovery, suction tube and 6 adapters to hold the filtration crucibles Part No. 4000601.
A pump or jet pump will be required to connect to the suction tube.
Comes complete with: blank stoppers in the case that not all of the 6 crucible places are used and a 1 litre solvent recovery vessel.

FEATURES

Stainless steel AISI 304, extractor, modular construction, easy to use and fast removal for efficient cleaning. Support and crucible rack, made from hardened glass.

MODEL

Part No.	Height / Width / Depth (exterior) cm			Weight Kg
4001425	45	20	34	3

ACCESSORY
Jet pump.
Part No. **7000293**

Sample hydrolysis HI-1427
FOR THE HYDROLYSIS OF FAT SAMPLES.

APPLICATIONS
Fat sample preparation equipment for extraction and the determination of fat content.
Hydrolysis, filtration and washing of samples without manipulating or transferring. The hydrolysis of samples is required prior to determining the precise fat content of meat and dairy products.
Efficient method that speeds up the extraction process.

FUNCTION
Boil the sample with water and HCl 5N ("A"), filter and retain the fat in the extraction thimble and washing the remains of the fat and the acid ("B").
A classic hydrolysis using conventional techniques can produce errors due to transferring and the manipulation of the sample that results in sample loss. During the HCL process some of the acid evaporates, it is therefore necessary to extract the acid vapour.

FEATURES
Metallic construction, exterior coated with a Rislan polyamide. Capacity for 6 glass tubes. Enclosed, quartz tube, heater system. Manual process and procedure from hydrolysis to filtration and wash without having to manipulate the sample.

CONTROL PANEL
Illuminated ON/OFF mains switch
Heater control from 0 to 100 %.

MODEL

Part No.	No. of places	Height / Width / Depth (externo) cm			Power W	Water consumption litres/minute	Weight Kg
4001427	6	85	64	40	1000	2	41

Supplied with 6 tubes, 42 mm diameter x 300 mm long.

EQUIPMENT REQUIRED FOR HYDROLYSIS AND THE % DETERMINATION OF FAT

Weight → Hydrolysis → Dry → Extraction → Dry → Weight

Balance (pages 262 and 263) → HI-1427 → Oven DIGIT HEAT (page 137) → DET-GRAS-N (page 252) → Oven DIGIT HEAT (page 137) → Balance (pages 262 and 263)

A   B
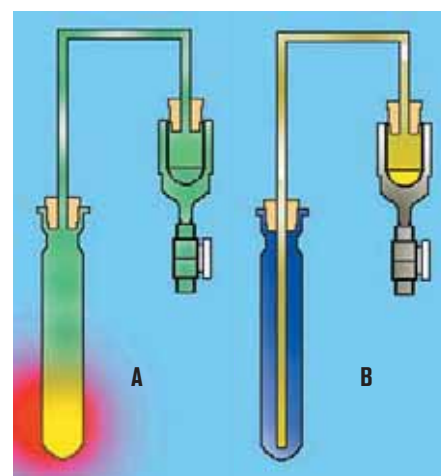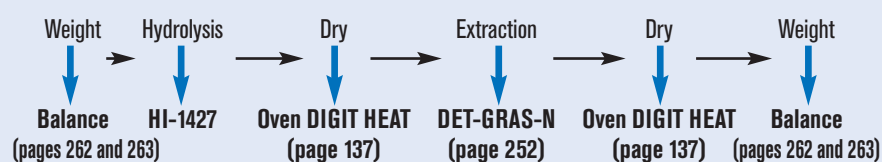
Sample hydrolysis: In position ''A'', the suction acts like a vapour extractor.
Filter and wash: In position ''B'', the suction acts like a filter.

Oenological Distillation unit "DE-1626"

APPARATUS TO OBTAIN THE DISTILLATION OF ALCOHOL FROM ALCOHOLIC BEVERAGES IN ACCORDANCE WITH CEE NO. 2676/90 (WINE ANALYSIS) AND CEE NO. 2870/2000 (ANALYSIS OF SPIRITS.)

APPLICATIONS
Degree of alcohol in wines, Degree of alcohol in spirits, Volatile acids and Sorbic acid.

FEATURES
Vapour distillation.
Designed especially to obtain the distillation of wines and spirits to determine the alcohol grade by volume, volatile acid, ascorbic acid and other components.
Distillation volume up to 400 ml.
Auto stop at the end of the distillation.
Simple operation with minimum service.
Vapour generator protection system.
- Tube Ø 42 mm for volatile acid samples.
- Tube Ø 52 mm for volatile acid samples and 100 ml proof alcohol.
- Tube Ø 80 mm for samples of 200 ml for proof alcohol.
- 200 ml Matrix flask to collect distillate.

TECHNICAL SPECIFICATIONS
Validated to the criteria of CEE No. 2676/90 and CEE No. 2870/2000
Distillation speed: 30-40 ml/min (Recover of 200 ml of distillate in 5/6 minutes).
Condenser coolant water rate: 80-100 l/hr.
Generator water consumption: 1 and 1.25 ml for each ml of distillate.
Vapour generator power: 2400 W.

CONTROL PANEL
Control Panel.
Electronic controller.
Mains switch.
START Push button.
STOP Push button.
ADD Push button.
By the use of the ADD button allows the distillate to set burette level, then, there is no need to fill up with water to a level of 200 ml.

VALIDATION
The oenological DE-1626 has been validated by the oenological laboratory INCAVI in Vilafranca del Penedés. This laboratory has completed analysis from the distillation unit DE-1626 for the determination of alcohol proof by volumetric analysis, following the criteria of CEE No 2676/90 and CEE 2870/2000. They have analysed samples of hydrated alcohol, different wines and spirits with a high alcohol content. The unit was successfully appraised by the laboratory.

Automatic termination of final distillation at 200 ml of distillate. By using the ADD function small quantities of distillate can be added to accurately fill the matrix flask to the mark without having to add water to the distillation.

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
4001626	90	30	30	2400	20

Supplied with tubes and flasks Ø 42, 52 and 80 mm and a 200 ml matrix flask.

ACCESSORIES

Glass tube adapters.

Part No.	Dimensions
4042300	Ø 42 x 300 mm
1001422	Ø 52 x 300 mm
1000646	Ø 80 x 300 mm

Support rack for 6 tubes,
made of stainless steel.

Part No.	Suitable tubes dimensions
4000648	Ø 42 mm
4001473	Ø 52 mm
4001613	Ø 80 mm

Matrix flask 200 ml.
Part No. **1001636**

Alcoholmeters, graduations
in 0.1 grade alcohol.

Part No.	Graduations
1001629	0 - 10
1001630	10 - 20
1001631	20 - 30
1001632	30 - 40
1001633	40 - 50
1001634	50 - 60
1001635	90 - 100

Alcoholmeters stand 6 places.
Part No. **1000015**

Oenological analyser photometer "M-3000"

SMALL BENCHTOP ANALYSER.
FOR COLOR MEASUREMENT, FOLIN-CIOCALTEAU INDEX AND FOR ENZYMATIC ANALYSIS.

NEW

RS232

APPLICATIONS

With the oenological application photometer, the follo-
wing determinations can be performed:
1. Wine colouring intensity (absorbances addition at:
420, 520 and 620 nm.)
2. Folin index (polyphenols).
3. Grapes phenolic colour and maturity by means of
Cromoenos® method.
4. Enzymatic analysis for grape juice, grape juice-wine
and wine. Acids: acetic, malic, gluconic and lactic, glu-
cose, fructose and glycerine.

FEATURES

Wavelength range: from 340 to 750 nm, with interfe-
rence filters with a 10 nm band pass.
Manual filter selection (12 positions filter disc).
Supplied with filters: 340, 420, 520, 620 and 750nm.
Other optional filters posible.
ABS, T% and concentration reading.
ABS reading range: from -0.3 to 3.5 OD.
T% reading range from 0 to 100%T.

Concentration range: from 0.001 to 9.999
Photometric accuracy: 1%.
Precision: ±1 %.
Photometric stability: better than 0.004 A/h.
Light source: halogen lamp 6V/12W.
Cell holder for 10 mm. path length cuvettes.
Internal calibration by software.

CONTROL PANEL

Filter change knob.
Numeric keypad and for functions.
Alphanumeric display with interactive messages.
RS-232 interface for connection to printer or computer.

MODEL

Part No.	Height / Width / Depth mm			Power W	Weight Kg
4120004	11	18	28	35	3

ACCESSORIES

Glass cuvettes 10 mm. path length. 2 units pack. Part No. **5100021**
Glass cuvettes 1 mm. path length. 2 units pack. Part No. **4120034**
Polystyrene cuvette, semi-micro, 10 mm. path length. 100 units box. Part No. **5100023**
Cuvettes adapter of 1 mm. Part No. **4120033**

SPARE
Halogen lamp 6 V 12 W.
Part No. **4313040**

Note: A visible ultraviolet range spectrophotometer UV-
2005 is needed for a total polyphenols index determina-
tion (absorbance 280 nm) and the *Cromoenos*® me-
thod exact and accurate measurement.
Part no. 4120020. Page: 235

Microcentrifuge "Cencom I"

FOR MICROTUBES OF 2,0 – 1,5 – 0,5 AND 0,2 ML.

NEW

APPLICATIONS

To guarantee an excellent reproducibility in the enzy-
matic analysis, it is recommended to centrifuge at
14.500 rpm with 1,5 to 2 ml. tubes, to remove interfe-
rences (yeast, bacteria and colouring matter).
The centrifuge is essential for the grape extract clea-
ning by means of *Cromoenos*® method.

FEATURES
see page 108.

CONTROL PANEL

Start switch.
Push button Start/Stop.
LCD display indicating time and speed.
Time selector push button.
Speed selector push button.
Push button ▲ increase different parameters.
Push button ▼ decrease different parameters.
Push button motor drive rotation for quick acceleration
Short/Spin.
Push button open lid when cycle has ended.

MODEL

Part No.	Tubes capacity	Height/ Width/ Depth (exterior) cm			Max. speed r.p.m.	R.c.f.(xg)	Power W	Time selected	Weight Kg
5059600	12	15	21	25	14500	14000	105	till 99' 99"	4

Comes complete with 12 adapters of
1,5-0,5 and 0,2ml.

Metallic thermostat dry block "Enobloc"

APPLICATIONS

To use the enzymatic reagents performing at full capacity, it
is recommended to incorporate the thermostat dry-block in-
cubator for tubes/cuvettes at a fixed temperature of 35 ºC.
Part No. **7001570**
Capacity: 15 cuvettes pathlength 10 mm, which can be ma-
cro or semi-micro of 1,5 ml..

MODEL

Part No.	Height / Width / Depth (exterior) cm			Stability ºC	Power W	Weight Kg
7001570	11	18	28	±0,5	10	2,4

Cromoenos® is a registered trademark by Bioenos S.L   *http://www.bioenos.com*   *(for analytical applications, please check out the website).*

APPARATUS FOR WATER ANALYSIS

Thermo reactor for determining COD Chemical Oxygen Demand of waste water plants

STANDARD TO C.E.E. AND UNE 77-004.
REFLUX METHOD.

FEATURES

Composed of a Hot block for 6,12 or 20 samples, process programmer and lifting racks. Uniform heating throughout the block to all samples. Automatic temperature and time control during digestion.
C.O.D. unit comprises of:
- 1 metallic hot block.
- 1 Processor for temperature and time.
- 1 Support rack for tubes.
- 1 Support rack for condensers.
- C.O.D. tubes with an aperture of 29/32.
- Condensers for C.O.D.

MODELS - EQUIPMENT DESCRIPTION

	Part No.	No. of places
DQO. - 6	4000638	6
DQO. - 12	4000639	12
DQO. - 20	4000640	20

INDIVIDUAL PARTS LIST AND SPARES

Hot block. This block cannot be used without the RAT controller of temperature and time.

Part No.	No. of places	Ø tube mm	Height / Width / Depth (exterior) cm	Temperature °C	Power W	Weight Kg
4000507	6	42	18 33 28	45 - 450	1500	18
4000508	12	42	18 39 33	45 - 450	2100	25
4000509	20	42	18 44 39	45 - 450	2500	31

System programmer for temperature/time RAT-2.
Part No. **4001538**

Condenser tube support.
Part No.
4000643 6 places.
4000644 12 places.
4000645 20 places.

Tube support rack.
Made of chemically treated dural sheet metal, with handles and removable panels that maintain the heat around the tubes and allow the user to examine the samples during the process.
Part No.
4005071 for C.O.D. 6 (block 4000507).
4005081 for C.O.D. 12 (block 4000508).
4005091 for C.O.D. 20 (block 4000509).

Features

Display of time, temperature and program. Selectable temperature from 45 to 450 °C. Memory capacity: 10 programs of 5 stages of each program. Maximum time per stage: 600 minutes. Type K temperature probe. Visual and acoustic alarm at the end of the cycle. Alarm if the temperature probe fails. Switch at the back of the unit for C.O.D. analysis.

Control Panel

Mains switch.
Temperature display.
Push button to select temperature.
Push button to increase value.
Push button to start.
Push button to stop.
Push button to decrease value.
Push button to select time.
Display time and program number
Push button to select program.

Tubes for C.O.D.
Part No. **1000641**

Condenser tubes for C.O.D. process.
Part No. **1000642**

Laboratory flocculator "Flocumatic"

FOR THE DETERMINATION OF THE NECESSARY AGENTS REQUIRED FOR SEDIMENTATION.
DIGITAL ELECTRONIC CONTROL OF SPEED AND TIME FUNCTIONS.

Maximum torque per stirring unit is 40 Ncm. Maximum viscosity 30.000 mPas.

APPLICATIONS

Optimization of coagulant additives and poly-electrolytes for surface and residual water treatment.
Evaluation of the efficiency of an absorbent in toxic agents.
Polyvalent. Without transmissions by belt. Due to its powerful torque it allows stirring and mixing high viscosity substances.

FEATURES

Stirring equipment for 4 or 6 places that accommodates beakers up to 1000 ml tall shape or 2000 ml short shape.
Stirring speed from 15 to 200 r.p.m.
Silent running.
Adjustable timer from 1 to 999 minutes or continuous operation.
Easily adjusted height over head stir, bars made of AISI 304 stainless steel are easily fixed in position.
Two vertical and horizontal adjustable illumination units can be placed in the unit. This adjustable accessory allows the light angle to be varied according to the samples being run. An original Selecta design. See accessories part numbers 3000834 and 3000915, 4 and 6 place models that obtain simultaneous front and back lighting. The main case of the unit is made of epoxy coated steel, with AISI 304 stainless steel supports with anti slip rubber feet.

Flocculator "Flocumatic" with horizontal and vertical illumination (6 places).

Flocculator "Flocumatic" with horizontal illumination (4 places).

CONTROL PANEL

1. Digital display showing speed and time in minutes.
2. Indicator of the parameter displayed.
3. Push button selector of speed or time functions.
4. Push button to increase parameter value.
5. Push button to decrease parameter's value.
6. Push button to start-stop.

MODELS

Part No.	No. of places	Speed r.p.m.	Height / Width / Depth (exterior) cm			Illumination power W	Power W	Weight Kg
3000833	4	15 - 200	52	70	23	40	160	24
3000914	6	15 - 200	52	99	23	50	170	36

ACCESSORIES

Illumination units, simultaneous lighting horizontal and vertical.

Part No.	Model part No.	
3000834	3000833	4 places.
3000915	3000914	6 places.

Portable flocculator "Jartest"

FOUR POSITIONS. WITH ILLUMINATION.

FEATURES

Mains voltage or portable connection to a cigarette lighter within a car (12 V DC), for achieving analysis for a site chemical dose measurements of waste water treatment plants.
Head stirrers made of AISI 304 stainless steel with variable height.
Suitable for vessels up to 1 litre capacity.

CONTROL PANEL

Illuminated power switch when the illumination element is on.
Speed selector of: 20, 40, 50, 100 and 200 r.p. m.
Timer from de 0 to 30 minutes or infinity.

MODEL

Part No.	Height / Width / Depth (exterior) cm			Power W	Power supply	Weight Kg
5100117	32	25	25	20	220-240 V / 50-60 Hz	4.8

ACCESSORY.

Carrying case.
Part No. **5111005**

Water distiller "Aquasel"

DISTILLATION CAPACITY: 4 AND 6 LITRES/HOUR.

> *Made from stainless steel and glass, easy disassembly for cleaning and storage.*

COMMON FEATURES

Easy to use, suitable for continuous distilled water requirements.
Boiler unit and heater element made of AISI 304 stainless steel, with lid and condenser made of orosilicate glass. The glassware pressure seal connection is an original Selecta design.
Safety system cuts off power to the heater element if there is not enough water. Distilled water produced is pyrogen free.

MODELS	Part No.	Distillation capacity l/h	Water consumption l/h	Conductivity at 20 °C	Ø / Height (ext.) cm		Power W	Weight Kg
Aquasel 4	4903004	4	50 to 60	3 µs/cm	18	43	2400	2.5
Aquasel 6	4903006	6	120 to 130	3 µs/cm	23	68	4800	4

Supplied complete with silicon seals.

Distillation still "L-3"

DISTILLATION CAPACITY: 3 LITRE PER HOUR.

FEATURES

Made entirely of borosilicate glass, with protective case support, designed for functionality, that permits easy access to the quartz heater elements.
Functions: automatic with continuous water production. Produces distilled water of a high purity, free of pyrogens and metal ions.
Equipped with quartz heater elements and protection device using a safety thermostat that is activated in the case of low water pressure to the condenser or boiler unit. The unit automatically reactivates when the water pressure is restored.
Suitable for wall mounting.

MODEL

Part No.	Distillation capacity l/h	Water consumption l/h	Conductivity at 20 °C	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4903000	3	60	3 µs/cm	34.5	56	19	2200	4.5

Water distiller, "AC-L4" and "AC-L8"

DISTILLATION CAPACITY: 3.5 AND 8 LITRES/HOUR.

FEATURES

Tank and heating element made from stainless steel.
External case made from epoxy covered steel.
Easily dismantled for cleaning and service. All seals made from silicon.
In the case of over temperature or low water supply, a safety thermostat cuts power to the heater.
Water supply tube Ø 10 to 11 mm.
Distilled water tube connection Ø 12 mm.
Voltage: 230 V / 50/60 Hz

CONTROL PANEL

Illuminated power switch.
Safety switch thermostat with rearm system.

MODELS	Part No.	Distillation capacity l/h	Water consumption l/h	Conductivity at 20 °C	Height / Width / Depth cm			Power W	Weight Kg
AC-L4	5903005	4	30	2,5 µs/cm	55	25	23	3000	12
AC-L8	5903008	8	70	2,5 µs/cm	61	26	26	6000	14

Water double distillation "L-4B"
DISTILLATION CAPACITY: 4 LITRES/HOUR.

FEATURES
Made completely from borosilicate glass with protective case that has easy access to the heater elements and glass parts.
Automatic function and continuous production.
Produces high quality double distilled water free from pyrogen and metallic ions.
It functions through a dual distillation process:
The distilled water from the first stage is collected by the heater reservoir of the second stage, that starts the double distiller function when when the water's level is optimum, thus providing double distilled process.
Complete with 4 quartz heater elements and three safety systems.
Over temperature protection with a safety thermostat is activated if there is insufficient cooling water. Reactivated automatically when the water supply is re-established.
Water flow stop if there is an electrical fault.
If it is required to store the distilled water and to prevent over filling, the system stops, switches off power and disconnects the water flow when is full.
Depending on the electrical installation, the user can configure the double distiller for the following power sources:
Voltage: 230 V / I, 50/60 Hz   = 26.8 A
Voltage: 230 V / III, 50/60 Hz   = 15.11 A
Voltage: 400 V / III+N, 50/60 Hz   = 8.67 A

MODEL

Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20 ºC	Height/Width/Depth cm			Power W	Weight Kg
5903001	4	1,3	1 µs/cm	46	66	50	6000	25

SPARES
Heater element, made of quartz 1.5 KW (equipment has 4 units. The Part No. is only for 1 unit). Part No **5903002**
Glass still, borosilicate glass (front –1). Part No. **5903007**
Glass still, borosilicate glass (interior-2). Part No **5903009**
Condenser, borosilicate glass (the equipment comes with 2 condensers. Price provided is for 1 spare condenser). Part No. **5903015**

Water distiller, specially for autoclaves "Dest-4"
DISTILLATION CAPACITY: 1.5 LITRES/HOUR. INTERNAL CAPACITY 4 LITRES.

FEATURES
Case made from thermo resistant plastic. Internal stainless steel. Cooling by forced air though a condenser. Without glass heater elements, Easy to use. Safety cut out if over temperature due to insufficient water.
Supplied complete with a 4 litres plastic bottle and three dispenser tap with filter.
Note: for daily use it is recommended to change the filter every 3 months.

No external additional water required.

MODEL

Part No.	Distillation capacity l/h	Conductivity µs/cm	Ø cm	Height cm	Power W	Weight Kg
4001729	1.5	5	29	39	750	3.5

SPARE. Dispensing filter tip. Part No. **4001730**

Descaler "C-3"

APPLICATIONS
Pre-treated water that contains large quantities of CaCO3 (lime). For general laboratory use.
Recommended for use with distillation units where water hardness is above 25° french.

TECHNICAL SPECIFICATIONS
Metal container of AISI 304 stainless steel with regeneration of salt by using a two way reverse valve system.
Resin capacity: 12 litres. Regeneration salt: 2 Kg.
Regeneration cycle: 1200 litres to 60° french / 4800 litres to 35° french.
Regeneration cycle for distillation of: 300 to 800 litres.
Maximum mains water pressure: 4.5 Kg/cm^2.
Maximum supplied admissible hardness: 60° french.
Out put hardness: 1° french.
External measurement: 62 cm high x 19 cm Ø.
Weight: 20 Kg.
Part No. **0703052**

Comes complete with in and out 3/4" tubing.

50 Litre distilled water reservoir

FEATURES
Recommended for the storage of distilled water. Made of high density polyethylene. 50 litre capacity, with handles and dispenser tap. 15cm Ø top lid with stopper.
Dimensions: 62 cm high x 38 cm Ø.
Part No. **0106006**

ACCESSORY
Water reservoir trolley.
Robust steel trolley with epoxy coating. Lockable wheels, Inner section for holding jars and carboys etc.
Fits containers 38 cm Ø.
Height 48 cm.
Part No **5903049**

0106006

5903049
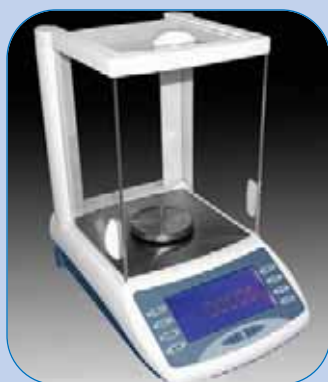
PRECISE BALANCES

PRECISION WEIGHTS

ANTIVIBRATION BALANCE TABLE

MICROSCOPES

LIGHT SOURCE

ABBE REFRACTOMETERS

POLARIMETER

MELTING POINT APPARATUS

REFRACTOMETERS

BALANCES, MICROSCOPES, AND MELTING POINT

"One researcher shines for his questions, not for his answers."
Duque de Levis

COMECTA Precise analytical balance "FA-2204B"

FEATURES
Digital 7 segment screen.
Time to stability: 8 seconds.
Adjustable time and sensitivity control.
ON/OFF automatic zero adjustment.
Automatic internal 200g calibration.
Tare range by subtraction up to the maximum capacity.
Piece counting function.
Density measurement in the base of the unit.
Units of measurement in g, ct, and oz.
Level adjustment (bubble).
Data interface: RS-232 for connection to a printer.
Operable ambient temperature 5 to 40 °C
Voltage: 220 VAC-50-60Hz.
Supplied complete with cover.
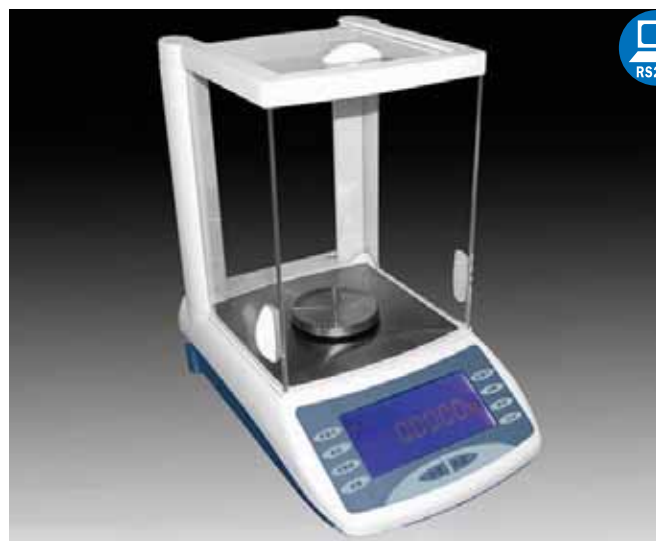
MODELS	Part No.	Maximum weight capacity g	Precision ±g	Linearity ±g	Height / Width / Depth (exterior) cm			Height / Width / Depth (Draft shield) cm			Ø plate cm	Weight Kg
FA-2204B	5830039	200	0.0001	0.0002	35	21	34	24	19	17.5	8	8.5

COMECTA Electronic Balance "Laborcom"

COMMON FEATURES
Easy to read seven segments display.
Stabilization time: 3 seconds.
ON/OFF. Automatic Zero adjustment
External automatic calibration.

Tare range by subtraction up to maximum capacity.
Piece couting function. Overload indicator.
Operating temperature: from 5 to 35 °C.
Voltage: 220 V ±10 V / 50 Hz.

NEW DESIGN

MODELS	Part No.	Maximum weight capacity g	Precision ±g	Height / Width / Depth (exterior) cm			Ø plate cm	Weight Kg
LABORCOM 110-L	5830025	110	0.01	7	17.5	24	12.5	1.6
LABORCOM 210-L	5830026	210	0.02	7	17.5	24	12.5	1.6
LABORCOM 600-L	5830031	600	0.1	7	17.5	24	12.5	1.6
LABORCOM 1100-L	5830032	1100	0.1	7	17.5	24	12.5	1.6
LABORCOM 2100-L	5830033	2100	0.1	7	17.5	24	12.5	1.6
LABORCOM 11000-L	5830027	11000	1	7	17.5	24	16.5 x 16.5	1.8

COMECTA Shaking monitor for blood collection "HEDO2"
FOR BLOOD COLLECTION PROCESSES IN BAGS

NUEVO

FEATURES
HEDO2 is a digital blood collection monitor, created to control and monitoring blood collection processes. It has been designed to perform simple, precise and accurate operations.
It is composed of:
Easily removable tray.
Wired or wireless interface networking.
Automatic clamp closing at the end of the donation.
Automatic tare calculation.
Real time monitoring of the donation showed on the digital display.
Stand alone mode (operating with rechargeable battery). 8 hours life.
Sensor to detect the tube presence.

MODEL

Part No.	Max weight Capacity g	Precision g	Resolution g	Height / Width / Depth (external) cm			Power W	Weight Kg
5010000	999	± 3	1	19	32	32	60	5

It is supplied with a transport suitcase.

WEIGHING DISHES "ACCU-WEIGH"
Anti static. Reproducible tare weighing.
Contamination free. Large selection of sizes.
Common features:
Made from high density polystyrene with flat base, round edge, contamination free surface and hydrophilic. Flexible in form for easy manipulation of the sample either liquid or solid.
Manufactured in two forms:
- Diamond form, colours white and black.
- Square form, colour white.

Part No.	Form	Capacity	Height / Width / Depth			Weight	Colour
5726004	Diamond	5	3.8	31	54	0.25	White
5726005	Diamond	5	3.8	31	54	0.25	Black
5726006	Diamond	30	13.5	55	85	1.00	White
5726007	Diamond	30	13.5	55	85	1.00	Black
5726008	Diamond	100	20	92	132	2.6	White
5726009	Diamond	100	20	92	132	2.6	Black
5726010	Square	7	8.5	44	44	0.65	White
5726011	Square	100	24	80	80	2.2	White
5726012	Square	250	24	134	134	6.1	White

Comes in packets of 100 units.

ALUMINIUM WEIGHING BOATS
Static free, pressed dishes with rolled edge.
Withstands temperatures up to 450 °C.
Due to their form the dishes can be used one on top of another to protect samples.
Suitable for testing, solid samples and mixtures of emulsions for moisture content, by differential weight loss method.
Useful for weighing, comparing, freezing or evaporation.
Consumable, single use.

Part No.	Thickness mm	Height / Ø (usable) mm		Comes in
5726000	0.2	5	42	packets of 112 units
5726001	0.2	10	57	packets of 110 units

ANTIVIBRATION BALANCE TABLE
Formica covered metal table with central polished granite plate to support the balance, mounted on silent blocks.
Adjustable shock device. Maximum weight 40 Kg.

Part No.	Height / Width / Depth (exterior) cm			Height / Depth (balance support) cm		Weight Kg
5838101	80	90	70	45	39	70

Tare to zero before immersion.

The screen shows tenfold density.

BALANCE DENSITY MEASUREMENT "PR-SE" (PATENTED)
Applications: System for reading the density of liquids using the immersion of a glass sinker of known volume. Can be used for opaque and viscous liquids for all classes of liquid.
Features: Made of borosilicate glass of low dilatation coefficient and a constant volume.
Mode of operation:
- Locate the tube with liquid on an electronic balance.
- Push the TARE to achieve a zero stable reading
- Introduce and submerse the measuring suspended sinker centrally without tilting the tube, keep suspended.
At this moment the screen will indicate the DIFFERENTIAL WEIGHT, that is exactly the same as the density of the liquids multiplied by 10.
To obtain a density value in mS, it is necessary to have a balance with a minimum resolution of 0.01 g.

Part No.	Density interval g/ml	Maximum tolerance error g/ml	Temperature assay/reference °C
5600000	0.600 - 2.000	±0.0005	20 / 20

Calibrated precision weights class E2 and F1.
Certification W.E.C.C. (Western European Calibration Co-operation)

COMMON FEATURES

In the manufacturing of these weights the meteorological requirements are applied to conform with the OIML verification for accuracy, raw material, geometric form, identification and conservation. To guarantee their accuracy, the individual weights are supplied in a partitioned wooden case with a clasp lid and a small tray housing for locating the mg weights. The wooden boxes are lined with velvet for the g and Kg weights.

Weight material

From 1 to 5 mg = aluminium, density approx. 2.7 g/cm³.
From 10 to 500 mg = alpaca, density 8.6 g/cm³.
From g and Kg = antimagnetic polished stainless steel, density approx. 8.0 g/cm³, Without adjustable chamber E2 and with adjustable chamber F1. The calibration certificate is expedited by DKD (member of the W.E.C.C.), which contains the determination and deviation between the nominal mass values, the actual measured value and the tolerance measurement.

Weight	Part No. Weight Class E2	Part No. Certificate E2	Tolerance Max. error ± mg	Part No. Weight Class F1	Part No. Certificate F1	Tolerance Max. error ± mg
1 mg	5838102	5838124	0.006	5838146	5838169	0.020
2 mg	5838103	5838125	0.006	5838147	5838170	0.020
5 mg	5838104	5838126	0.006	5838148	5838171	0.020
10 mg	5838105	5838127	0.008	5838150	5838172	0.025
20 mg	5838106	5838128	0.010	5838151	5838173	0.03
50 mg	5838107	5838129	0.012	5838152	5838174	0.04
100 mg	5838108	5838130	0.015	5838153	5838175	0.05
200 mg	5838109	5838131	0.020	5838154	5838176	0.06
500 mg	5838110	5838132	0.025	5838155	5838177	0.08
1 g	5838111	5838133	0.030	5838156	5838178	0.10
2 g	5838112	5838134	0.040	5838157	5838179	0.12
5 g	5838113	5838135	0.050	5838158	5838180	0.15
10 g	5838114	5838136	0.060	5838159	5838181	0.20
20 g	5838115	5838137	0.080	5838160	5838182	0.25
50 g	5838116	5838138	0.10	5838161	5838183	0.30
100 g	5838117	5838139	0.15	5838162	5838184	0.5
200 g	5838118	5838140	0.30	5838163	5838185	1
500 g	5838119	5838141	0.75	5838164	5838186	2.5
1 Kg	5838120	5838142	1.5	5838165	5838187	5
2 Kg	5838121	5838143	3.0	5838166	5838188	10
5 Kg	5838122	5838144	7.5	5838167	5838189	25
10 Kg	5838123	5838145	15	5838168	5838190	50

SET OF STANDARD WEIGHTS WITH BOX AND MATCHING CERTIFICATE

Set of weights E2 of **1 mg** to **500 mg**   Part No. **5831822**
Set of weights F1 of **1 mg** to **500 mg**   Part No. **5832822**
Certificate for set of weights **E2** of **1 mg** to **500 mg**   Part No. **5862350**
Certificate for set of weights **F1** of **1 mg** to **500 mg**   Part No. **5862450**
Material: Wooden box (E2), or resin box (F1), with clasp, tweezers and a small brush.
Weight details: 1 mg, 2 mg, 2 mg, 5 mg, 10 mg, 20 mg, 20 mg, 50 mg, 100 mg, 200 mg, 200 mg and 500 mg. **Total 12 weights = 1.11 g**

Set of weights E2 of **1 mg** to **50 g**   Part No. **5831302**
Set of weights F1 of **1 mg** to **50 g**   Part No. **5832302**
Certificate for set of weights **E2** of **1 mg** to **50 g**   Part No. **5862301**
Certificate for set of weights **F1** of **1 mg** to **50 g**   Part No. **5862401**
Material: Wooden box with clasp, lined with velvet, a special glove, housing for extractable fractional weights, tweezers and a small brush.
Weight details: 1 mg, 2 mg, 2 mg, 5 mg, 10 mg, 20 mg, 20 mg, 50 mg, 100 mg, 200 mg, 200 mg, 500 mg, 1 g, 2 g, 2 g, 5 g, 10 g, 20 g, 20 g y 50 g
Total 20 weights = 111.11 g

Set of weights E2 of **1 mg** to **100 g**   Part No. **5831303**
Set of weights F1 of **1 mg** to **100 g**   Part No. **5832303**
Certificate for set of weights **E2** of **1 mg** to **100 g**   Part No. **5862302**
Certificate for set of weights **F1** of **1 mg** to **100 g**   Part No. **5862402**
Material: Wooden box with clasp, lined with velvet, a special glove, housing for extractable fractional weights, tweezers and a small brush.
Weight details: 1 mg, 2 mg, 2 mg, 5 mg, 10 mg, 20 mg, 20 mg, 50 mg, 100 mg, 200 mg, 200 mg, 500 mg, 1 g, 2 g, 2 g, 5g , 10 g, 20 g, 20 g, 50 g and 100 g
Total 21 weights = 211.11 g

Set of weights E2 of **1 mg** to **200 g**   Part No. **5831304**
Set of weights F1 of **1 mg** to **200 g**   Part No. **5832304**
Certificate for set of weights **E2** of **1 mg** to **200 g**   Part No. **5862303**
Certificate for set of weights **F1** of **1 mg** to **200 g**   Part No. **5862403**
Material: Wooden box with clasp, lined with velvet, a special glove, housing for extractable fractional weights, tweezers and a small brush.
Weight details: 1 mg, 2 mg, 2 mg, 5 mg, 10 mg, 20 mg, 20 mg, 50 mg, 100 mg, 200 mg, 200 mg, 500 mg, 1 g, 2 g, 2 g, 5 g, 10 g, 20 g, 20 g, 50 g, 100 g, 200 g y 200 g
Total 23 weights = 611.11 g

Model XTX-3C.

Model ZTX-20.

APPLICATIONS

By design and quality optics, these microscopes are recommended especially for long duration work. Ideally suited for biology, botany, archaeology, geology, teaching and electronics.

COMMON FEATURES

Three dimensional optical resolution, wide field of view without side aberrations, excellent crisp contrast and true colour.

Binocular head inclined at 45° with adjustable interpupillary distance from 55 to 75 mm.

Rotating head of 360° with easy access for large items.

Dioptric correction in the left eyepiece of ±5dp.

Ocular head held with secure fixing screws.

Rubber eyecups.

Pair of eyepieces, wide field of view WF 10x (23 mm Ø) in the model XTX-3C.

Pair or eyepieces, wide field of view WF 20x (20 mm Ø) in the model ZTX-20.

Objectives of 2 x and 4 x, located in a double objectives support turret with rotation in both directions.

Double focus: by means of a vertical slip clutch of the head up and down a column, with fine adjustment using a bilateral macrometer with rack and pinion tension and control.

Solid base consisting of a platform with double contrast (black and white) circular plate and translucent etched light diffuser, with fixing screw and holding clips.

Model XTX-3C: System with double illumination of low voltage 12 V/10 W, with incident light (episcopic) in the head and transmitted (diascopic) in the circular platform.

Model ZTX-20: system with triple illumination of low voltage, with incident light (episcopic) in the head and transmitted (diascopic) in the circular platform, Activated individually or simultaneously, with controllable intensity. Also the incident light incorporates a condenser lens with an extractable blue filter.

Dimensions: XTX-3C: 270 high x 117 wide x 190 mm deep.
Dimensions: ZTX-20: 350 high x 320 wide x 190 mm deep.

Stereomicroscope model XTX-3C.	Part No. **5313103**
Stereomicroscope model ZTX-20.	Part No. **5313080**

ACCESSORIES

Eyepiece with wide field of view WF 5x (single).	Part No. **5313032**
Eyepiece with wide field of view WF 10x (single).	Part No. **5313100**
Eyepiece with wide field of view WF 15x (single).	Part No. **5313033**
Eyepiece with wide field of view WF 20x (single).	Part No. **5313102**
Wooden box with handle and lock.	Part No. **5313022**

SPARES

Tungsten lamp 12 V / 10 W (for XTX-3C).	Part No. **5313025**
Halogen lamp 6 V / 12 W transmitted (for ZTX-20).	Part No. **5313040**
Halogen lamp 6 V / 15 W incident (for ZTX-20).	Part No. **5313043**

MODELS	Part No.	Objectives	Eyepieces	Magnification	Ø Field of view mm	Working Distance mm	Illumination	Weight kg
XTX-3C	**5313103**	2x	**WF–10x**	20x	10.0	57	**Transmitted or incident**	2.8
		4x		40x	5.0			
ZTX-20	**5313080**	2x	**WF–20x**	40x	6.5	80	**Transmitted or incident** **independent or simultaneous**	3.6
		4x		80x	3.2			

Comes complete with key for tightening the axis tension, spare lamp and plastic dust cover.
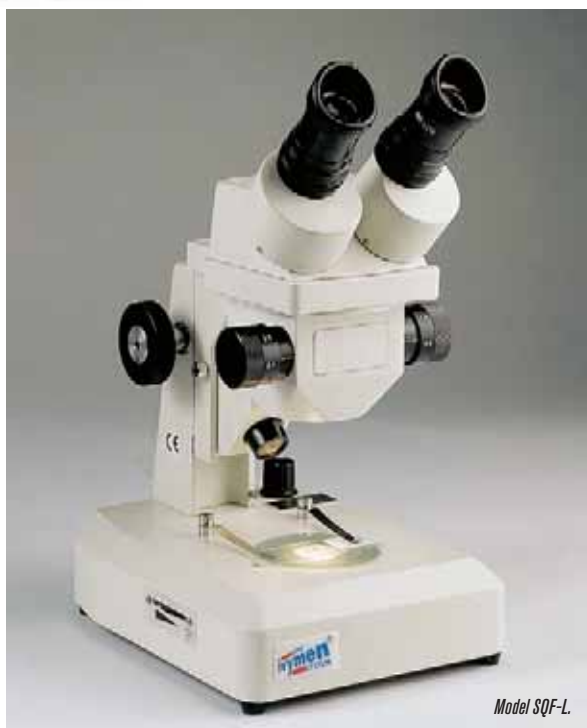
Model SQF-L.

Model SQF-D with Supplementary objective 2x.

APPLICATIONS

By design and quality optics, these microscopes are recommended especially for long duration work. Ideally suited for biology, botany, archaeology, geology, teaching and electronics.

COMMON FEATURES

Variable magnification using a continuous zoom control, with control knobs on either side to enable parfocal centralised focus.
Three dimensional optical resolution, wide field of view without side aberrations, excellent crisp contrast and true colour.
Optics are protected against knocks.
Binocular or Trinocular head (Model dependent), inclined at 45°.
Adjustable interpupillary distance from 55 to 75 mm.
Rotating head of 360° with easy access for large items.
Dioptric correction of ±5 dp in both eyepieces.
Ocular head fixed with secure screws.
Rubber eyecups.
Pair of eyepieces wide field of view **WF20x** (20 Ø) or **WF10x** (23 Ø) model dependent.
Macrometric focus: by means of a vertical slip clutch with a fine adjustment using rack and pinion tension control.
Solid base consisting of a platform with double contrast (black and white) circular plates and translucent etched light diffuser, with fixing screw and holding clips.
Triple illumination system, low voltage with incident light (episcopic) in the head and transmitted (diascopic) in the circular platform: activated individually or simultaneously, with controllable intensity. Also the incident light incorporates a condenser lens with an extractable blue filter.

Model SQF-E trinocular

Same characteristics to the SQF-D model, except that the head is trinocular and it is supplied with a photography adapter and eyepiece WF 10x with an adjustable focus visor (adaptable to a mount T2 PK suitable for supporting ''Pentax'' camera or similar). The photographic eyepiece and camera with support T2 PK and trigger cable have to be ordered as accessories.

ACCESSORIES

Supplementary objective 0.5x	Part No. **5313203**
Supplementary objective 1.5x	Part No. **5313205**
Supplementary objective 2x	Part No. **5313213**
Eyepiece with wide field of view WF 10x (single).	Part No. **5313100**
Eyepiece with wide field of view WF 15x (single).	Part No. **5313033**
Eyepiece with wide field of view WF 20x (single).	Part No. **5313102**
Eyepiece Photographic 2.5x.	Part No. **5313214**
Eyepiece Photographic 5x.	Part No. **5313215**
Digital reflex photographic kit	Part No. **5313222**
Adapter CCD of 0.5x suitable for a video camera.	Part No. **5313218**
Dark field + gem tweezers.	Part No. **5313050**
Wooden case with handle and lock.	Part No. **5313016**

SPARES

Halogen lamp 6 V / 12 W transmitted.	Part No. **5313040**
Halogen lamp 6 V / 15 W incident.	Part No. **5313043**

Technical table with the different magnifications, working distance and Ø of the field of view resulting in the configuration of the diverse eyepieces and supplementary objectives available.

MODELS	Part No.	Head	Zoom Range	Eyepieces	Standard magnification	Ø Field of view mm	Working distance mm	Illumination system	Weight kg
SQF-L	5313211	Binocular	0.75x - 3.4x	10x	7.5x - 34x	26 - 5.8	90	Transmitted	5.5
SQF-D	5313209	Binocular	0.7x - 4.5x	20x	14x - 90x	16.4 - 2.6	93	or incident or both	6.1
SQF-E	5313208	Triocular	0.7x - 4.5x	20x	14x - 90x	16.4 - 2.6	93	simultaneously	6.4

Comes with a dust cover and 2 spare lamps.

Microscope Monocular "M-100 FL"

APPLICATIONS

Directed at the requirements of higher education, universities and suitable for: veterinary, dentistry, biology, industry, etc.

FEATURES

Monocular head inclined angle 45° and rotatable through 360°.
Eyepiece, with wide field of view WF 15x (18 Ø) fixed in position using secure screw.
Objectives, parfocal DIN 45 mm **achromatic brightfield** of **4x** (A.N. 0.10), 10x (A.N. 0.25)and 40x retractable (A.N. 0.65).
Total magnification: 60x, 150x and 600x.
Revolving triple objectives turret, rotation in either direction with a fixed axis stop locator.
Focus, vertical slip clutch, bilateral **micrometer** adjustment of 0.002 mm, separate **macrometer** with adjustable tension. Safety fixing screw for tension adjustment and end of focus limit stop.
Stage with spring clip slide holder of 115 x 120 mm.
Condenser, fixed lens and aperture (A.N. 0.65), with diaphragm disk of 5 apertures.
Illumination, transmitted light (diascopic), tungsten 20W/220-240V, with collimator lens and blue filter for chromatic corrections.
Robust construction, with power switch and illuminator built into the base.
Dimensions: 360 height x 130 width x 175 mm depth.
Weight 2.8 kg.

Supplied complete with key to adjust the tension of the slip clutch and cover.
Microscope monocular M-100 FL (600x).
Part No. **5313109**

ACCESSORIES

Eyepiece, Huyghens H-5x. Part No. **5313005**
Eyepiece, Huyghens H-10x. Part No. **5313006**
Eyepiece Widefield WF-10x with cross hairs (Pointer).
Part No. **5313007**
Eyepiece Widefield WF-10x with reticule.
Part No. **5313035**
Objetive Achromatic Extra DIN 100x oil immersion, retractable (requires condenser Abbe 1.25 A.N.).
Part No. **5313008**
Condenser ABBE 1.25 A.N. with filter and iris diaphragm.
Part No. **5313003**
Graduated mechanical stage. Part No. **5313009**
Video Micro-camera, system PAL, resolution 350.000 pixels:
- with direct TV monitor connection.
Part No. **5435033**
- with connection USB for direct connection to a PC, including software.
Part No. **5435034**
Wooden case with carry handle and lock.
Part No. **5313022**

SPARE
Tungsten lamp 20 W / 220-240 V.
Part No. **5313001**

ACCESSORY
Set of polarisers with circular graduated base and filter. Part No. **5902015**
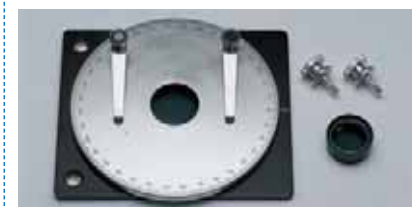
Microscope Monocular "Zoom NK-101B"

APPLICATIONS

University studies, medicine, biology, geology and industrial electronics.

FEATURES

Monocular head inclined at 45° and rotatable through 360°.
Eyepiece DIN, wide field of view WF10x (18Ø).
Continuous Zoom Magnification system accommodated in the achromatic objective range 5x to 30x. Working distance: 8 mm.
Total magnification: 300x.
Stage 125 x 120 mm, height adjustable by bilateral **macrometer** and **micrometer** with separate slip clutch and tension screw.
Mechanical stage with longitudinal adjustable (x-y) of 30 mm and transversal adjustment of 60 mm.
Condenser Abbe 1.25A.N. with iris diaphragm and changeable filter.
Illumination, transmitted (diascopic) using a fluorescent lamp of 7W/220V.

ACCESSORIES
Eyepiece Plan P-5x. Part No. **5313030**
Eyepiece Plan P-15x. Part No. **5313031**
Video Micro-camera, system Pal, resolution 350,000 pixels:
- with direct TV monitor connection.
Part No. **5435033**
- with connection USB for direct connection to a PC, inclusive of software. Part No. **5435034**

Microscope + video-camera

SPARE
Fluorescent lamp 7 W / 220 V.
Part No. **5313024**

MODEL	Part No.	Height / Width / Depth mm			Weight Kg
NK-101B	5313106	370	140	200	3

COMECTA

Microscopes "3000-A, 3000-B and 3000-C"

EXCELLENT RESOLUTION PLANACHROMATIC OPTICS. HIGH SPECIFICATION OPTICAL MICROSCOPES. MAXIMUM VERSATILITY WITH A WIDE RANGE OF CONFIGURATIONS, MODELS SHOWN ARE BINOCULAR AND TRINOCULAR WITH PHASE CONTRAST, BRIGHT AND DARK FIELD OPTICS, THIS INSTRUMENT IS IDEAL FOR A WIDE RANGE OF APPLICATIONS.

Optics Anti mould / Anti fungal

Model ''3000-B''. Part No. 5901992.

APPLICATIONS

Biology, bacteriology, cytology, immunology, diagnostics, pathology, agriculture,industry and university laboratories.

MODELS 3000-A (BINOCULAR) AND 3000-B (TRIOCULAR).

FEATURES

Head, binocular or trinocular (model dependant), inclined 30° with 360° rotation.
Interpupillary distance adjustable from 53 to 75 mm.
Dioptric adjustment of ±5 dp in the left eyepiece, to compensate any visual differences.
Pair of DIN eyepieces wide field of view **WF 10x** (20 mm Ø).
DIN objectives, planachromatic bright field of **4x** (A.N. 0.10), **10x** (A.N. 0.25), 40x (A.N. 0.65) retractable and 100x (A.N. 1.25) oil immersion retractable, colour coded for rapid identification.
The planachromatic objectives provide an excellent image to the edge of the optical field of view.
Quadruple revolving objectives turret, rotates in both directions with spring ball stop locator when it is in the correct position.
Large substage of **210x140 mm**, rack and pinion adjustable height. Coaxial focus using controls located on both sides, graduated **micrometer** in steps of 0.002 mm and **macrometer** (with adjustable tension of up to 30 mm).
Safety stop with present adjustment.
Adjustable slide holder with a graduated scale of 0.1 mm, made up of a smooth (X-Y) rack and pinion mechanism, **longitudinal** and **transversal** movement of **50 mm** and **75 mm** respectively.
Abbe condenser of 1.25 A.N. precentred, with double lens, iris diaphragm and retractable from the front. Adjustable height using a rack and pinion mechanism.
The Abbe condenser can be easily replaced for special applications with a phase contrast condenser or a darkfield condenser (see accessories).
Illumination, diascopic Kölher that is formed with a condenser lens, viewing diaphragm removable filters and a precentred, low voltage, adjustable intensity, halogen lamp (6V/20W).
Robust stable structure that includes the illumination system in the base, adjustable intensity potentiometer and On/Off switch.
Dimensions: 410 Height x 200 Width x 310 mm Depth.

Microscope Binocular Part No. 3000-A. Part No. **5901991**
Microscope Triocular Part No. 3000-B. Part No. **5901992**

MODEL 3000-C PLAN PHASE CONTRAST - BINOCULAR.

FEATURES

Similar characteristics to the model 3000-A except for a special configuration of **Plan Phase Contrast objectives**:
The objectives, **DIN quality, are planachromatic with positive phase contrast of 10x** (A.N. 0.25), 25x (A.N. 0.4) 40x (A.N. 0.65) retractable and 100x (A.N. 1.25) retractable and oil immersion.
The condenser is a phase turret A.N. 1.25, with central telescope and a set of white, blue and green filters. With sharp detail for examination of transparent thin sections that can differentiate the refraction index that the human eye cannot differentiate. Excellent for applications in biology, medicine, crystallography, agriculture, industrial plastics and rubber etc.
Microscope Binocular model 3000-C. Part No. **5901993**

MODELS	Part No.	Head	Eyepieces	Objectives	Technique	Illumination	Weight kg
3000-A	5901991	Binocular	**WF 10x** (20 Ø)	Planachromatic (PL) 4x - 10x - 40x - 100x	Brightfield	Transmitted 6 V / 20 W halogen	8.4
3000-B	5901992	Triocular					8.7
3000-C	5901993	Binocular		Planachromatic (PL) phase contrast 4x - 25x - 40x - 100x	Phase contrast		8.4

Supplied complete with a set of blue, green and white filters, bottle of immersion oil ηD 1.515, spare lamp, fuse and a dust cover.

ACCESSORIES

Trinocular fluorescence microscope "3001-F"

EXCELLENT RESOLUTION. POLYVALENT, CAN WORK IN EPIFLUORESCENT OR TRANSMITTED LIGHT MODE. WITH TRINOCULAR ADAPTER FOR CAMERA AND VIDEO CAMERA. PHASE CONTRAST AND DARK FIELD MODES AS ACCESSORIES.

ivymen OPTIC SYSTEM

OPTICS ANTI MOULD / ANTI FUNGAL

NEW

APPLICATIONS

Biology, cytology, oncology, genetics, scientific investigation, clinical diagnostics, epidemic prevention and embryology.

FEATURES

Trinocular head, inclined 45° and rotatable through 360°.

Interpupillary distance adjustable from 53 to 75 mm.

Dioptric adjustment of ±5 dp in the left eyepiece, to compensate for any visual differences.

Pair of wide field DIN eyepieces WF 10x (20 Ø).

Bright field planachromatic DIN objectives of 4x (A.N. 0.10), **10x** (A.N. 0.25), **40x** (A.N. 0.65)and an oil immersion retractable **100x** (A.N. 1.25) they are colour codified for a quick identification.

Planachromatic objectives provide an excellent image to the edge of the optical field of view.

Quadruple revolving objective turret, with both sides rotation and with a roller baring and a notch stop.

Large sub stage of **210x140 mm**, **rack and pinion** height adjustable, by coaxial focus bilateral controls, graduated micrometer in steps of 0,002 mm and macrometer with adjustable tension (30 mm path). With transmitted light lock plate and **UV** radiation protection screen.

Safety stop with preset adjustable safety level.

Mechanical slide holder (moveable), with graduated scale of 0,1 mm, made up of a smooth movement mechanism (x-y), by a 50mm longitudinal and a 75mm transversal rack and pinion movement.

Abbe condenser of 1.25 A.N., precentred, with double lens, iris diaphragm and retractable **frontal lens**. Rack and pinion height, adjustable.

Abbe condenser can be easily replaced by a phase turret condenser (for contrast) or dark field condenser, for special observation conditions (see accessories).

Transmitted illumination (diascopic), according to Kölher, that consists of a condenser lens, a field diaphragm, removable filters and low voltage halogen precentred lamp of 6V/20W with adjustable intensity.

Robust stable structure that includes the illumination system, the intensity potentiometer and the On/Off switch on its base.

FLUORESCENCE UNIT

Mercury lamp of 100 W/DC

Lamp power supply connected to 110 V/220 V with intensity, voltage and power adjustable by a knob.

Illumination module for reflected fluorescence (UV.V.B. and G system).

The unit includes diaphragm, selectable attenuation filter and 5 positions filter disk: ultraviolet, violet, blue and green filters, and a empty position for transmitted light.

MODEL	Part no.	Eyepieces	Objectives	Technique	Illumination	Weight kg
30001-F	5901994	WF 10x (20 Ø)	Planachromatics (PL) 4x- 10x- 40x-100x	Epifluorescent	Transmitted 6v / 20w & Mercury fluorescence 100w / DC	10,5

Supplied complete with a set of blue, green and white filters, bottle of immersion oil ηD 1.515, mercury lamp 100 w, spare fuse and dust cover.

SPARE PARTS   **halogen lamp** 6 V / 20 W. Part No. **5313023.**   **Mercury lamp** 100 W DC. Part No. **5313055**

Fluorescense omega filters:

U V. Part No. **5313056**   Violet. Part No. **5313057**   Blue. Part No. **5313058**   Green. Part No. **5313059**

ACCESSORIES
See pag: 270

ACCESSORIES

Eyepiece with wide angle lens WF-5x (single). Part No. **5313034**
Eyepiece with wide angle lens WF-15x (single). Part No. **5313004**
Eyepiece with wide angle lens WF-16x (single). Part No. **5902010**
Eyepiece with wide angle lens WF-10x with reticule (single). Part No. **5313035**
Eyepiece with wide angle lens WF-10x with pointer (single). Part No. **5313007**
Contrast phase kit: Objectives DIN, planachromatic positive phase contrast of 10x (A.N. 0.25), 25x (A.N. 0.4), 40x (A.N.0.65) retractable and 100x (A.N.1.25) retractable oil immersion and phase condenser turret, A.N. 1.25, with central telescope and a set of filters (Blue, White and Green). Part No. **5902005**
Dark Field condenser: Permits the observation of low contrast particles dispersed in a homogenous substrate, that appear luminous in a dark field.
- Dark field condenser: A.N. 0.77~0.91 dry (low magnification).
  Part No. **5902006**
- Dark field condenser: A.N. 1.25~1.40 oil immersion (high magnification).
  Part No. **5902007**
Micrograph Kit, camera mechanism WF 10x with a visor for focus correction and a photographic objective of 4x. (Adaptable for **Digital reflex photographic kit**).
Part No. **5902008**
Digital reflex photographic kit Composed of a mount, a shutter and a SD memory card of 2Gb.
Part No. **55313222**
Adapter for a CCD video camera: attachment. Part No. **5902009**
Wooden case. Part No. **5313016**

5313222
5902008 *5902006* *5902007*
5902005

SPARE. **Halogen lamp** 6 V / 20 W. Part No. **5313023**

Microscope Binocular "701"

FEATURES
Binocular head with 45° tilt and full 360° rotation.
Interpupillary distance: 52 to 72 mm.
Dioptric adjustment of ±5 dp in both eyepieces, sharpness compensation for visual differences.
Pair of eyepieces DIN standard **WF10x** (18 mm Ø) and **WF16x**(11mm Ø).
Objectives DIN standard, achromatic, brightfield of 4x (A.N. 0.1), **10x** (A.N. 0.25), **40x** (A.N. 0.65) retractable and 100x (A.N. 1.25) immersion oil and retractable. Colour coded objectives for easy identification.
Total magnification: 1600x.
Four position objectives turret rotating in both directions with stop locator when it is in the correct position.
Large sub stage **135x145** mm, variable height with a rack and pinion mechanism with bilateral coaxial control. **Micrometer** adjustable stage graduated to 0.002 mm and **macrometer** adjustment tension, Movement up to 30 mm.
Safety stop with pre-set adjustable safety level.
Adjustable slide holder, with 0.1 mm scale with a smooth X-Y **40 mm longitudinal** and **80 mm** traversal movement.

Condenser Abbe of 1.25 A.N. with diaphragm iris and exchangeable filters. Rack and pinion height, adjustable.
Illumination transmitted (diascopic), with removable condenser lens and pre-centred halogen lamp of 6V/20W, with variable intensity control. Suitable for use with an external light source using a plan or concave reflector mirror.
Robust construction that incorporates the illumination source and mains switch in the base.
Size: height 370 x width 200 x depth 225 mm.
Weight 6 Kg.
Supplied complete with blue, yellow and green filters, spare lamp, fuse, oil, dust cover and wooden carrying case with handle and lock.

Microscope Binocular 701. Part No. **5313101**

ACCESSORIES
Eyepiece with wide angle lens WF-5x (single). Part No. **5313034**
Eyepiece with wide angle lens WF-15x (single). Part No. **5313004**
Eyepiece with wide angle WF-10x with reticule (single). Part No. **5313035**
Eyepiece with wide angle WF-10x with pointer (single). Part No. **5313007**

SPARE
Halogen lamp 6 V / 20 W. Part No. **5313023**

Polarising Binocular Microscope 206

APPLICATIONS

Wide range of applications, includes bright-field, dark-field, polarization and phase contrast. Ideal for universities, clinics, biology, bacteriology, agriculture and industry.

FEATURES

Binocular head inclined 30° rotatable through 360°.
Adjustable interpupillary distance of 55 to 75 mm.
Diopter adjustment of ±5dp. in the right eyepiece, compensation for any differences in sharpness.
Paired eyepieces DIN, wide field of view **WF10x** (18Ø) and a pair of **WF16x** (Ø).
Objectives DIN, achromatic brightfield of **4x** (A.N. 0.10), **10x** (A.N. 0.25), **40x** (A.N. 0.65) retractable and **100x** (A.N.1.25) oil immersion retractable; colour coded for rapid identification.
Total magnification: 1600x
Quadruple revolving objectives turret, rotates in both directions with notched location positions.
Large stage of **160 x 140 mm**, height adjustable by mechanical rack and pinion bilateral coaxial focus; 0.002 mm graduated **micrometer** and **macrometer** with adjustable tension (distance 30 mm).
Pre-adjusted, Safety stop limit.
Mechanical stage, (slide holder), graduated scale of 0.1 mm, adjustable in both (x-y) using a smooth rack and pinion movement of **50 mm longitudinal** and **70 mm** transversal.
Condenser Abbe of 1.25 A.N. with iris diaphragm and replaceable filters.
Adjustable height by rack and pinion.
Illumination: transmitted (diascopic), with removable condenser lens and adjustable, pre-centred, low voltage halogen 6V/20W lamp.
Strong and robust, illuminator incorporated into the base.
Set of simple polarisers: controllable analysis polariser.

Set of simple polarisers.

Comes complete with a set of blue, green and yellow filters, set of simple polarisers, lamp, 2 spare fuses, bottle of immersion oil and plastic cover

MODEL	Part No.	Height / Width / Depth mm			Power supply	Weight Kg
206	5313105	425	245	335	220 V / 50 Hz	7.5

SPARE
Halogen lamp 6 V / 20 W. Part No. **5313023**

ACCESSORIES

Eyepiece with wide angle lens WF-5x	(single)	Part No.	5313034
Eyepiece with wide angle lens WF-15x	(single)	Part No.	5313004
Eyepiece with wide angle lens WF-10x with reticle	(single)	Part No.	5313035
Eyepiece with wide angle lens WF-10x with pointer	(single)	Part No.	5313007

Complete kit for phase contrast, made of: Objectives DIN plan negative phase contrast: 10x (A.N. 0.25), 40x (A.N. 0.65) and 100x (A.N. 1.25) retractable oil immersion, condenser turret phase A.N. 1.25, central telescope and blue filter.
Part No. **5313017**

Darkfield condenser: Permits the observation of low contrast and small size, dispersed in a homogeneous substrate samples which they appear luminescent under a uniform darkfield.
Darkfield condenser A.N. 0.83 - 0.91 dry (operable under low magnification).
Part No. **5313018**
Darkfield condenser A.N. 1.25 - 1.36 oil immersion (operable under high magnification).
Part No. **5313019**

Video Microcamera, system PAL, resolution 350,000 pixels:
- with video plug for direct connection to a TV monitor.
Part No. **5435033**
- with a USB connection for direct connection to a PC, includes software.
Part No. **5435034**

5313017

5313018

5313019

5435033 or 5435034

Microscope biological inverted, trinocular "XDS-1B"

APPLICATIONS

Optical microscope with many benefits, specially designed for biomedicine, biology and for culture analysis in matrix flasks and in microtitre plates, flasks, culture vessels, tubes etc. through the use of its objectives and long working distance condenser, technique uses brightfield or phase contrast.

FEATURES

Robust stable design with lateral arm wrist supports for maximum comfort and easy manipulation.

Trinocular head, inclined 45°.
Interpupillary distance adjustable from 55 to 77 mm.
Diopter correction of ±5dp in the left eyepiece, used to correct differences in sharpness.

Pair of DIN wide field **WF 10x** (20 Ø), pair of WF **16x** (14 Ø), plan eyepiece PF **10x** (17.4 Ø). **Reticule** with 0.1 mm/div, telescopic central eyepiece phase contrast DZ11x DZ11x and trinocular photography eyepiece **S 5x** (9.5 Ø).

Objectives DIN planachromatic brightfield,long working distance LWD PL of 10x (A.N. 0.25/working distance W.D.=7.9 mm), **25x** (A.N. 0.40/W.D.=5 mm), **40x** (A.N. 0.40/W.D.=3 mm) and on **negative phase contrast LWD PL ph of 25x** (A.N. 0.25/W.D.=5 mm), colour coded for rapid identification.
Maximum thickness acceptable for receptacle bases 1.5 mm.

Quadruple objectives turret with rotation in both directions with a roller baring and notch stop. Rack and pinion height adjustment mechanism with bilateral coaxial focus controls: **micrometer** of 0.2 mm rotation graduated at 0.002 mm increments and **macrometer** with adjustable tension.
Total working distance 12 mm.

Condenser with long working distance (55.2 mm) LWD 0.3 A.N., brightfield and phase contrast. Precentred, with iris diaphragm and flip out phase contrast. **Including a phase ring of 25x**. Rack and pinions mechanism for height regulation or lateral removal for more height receptacles of up to 145 mm.

Large stage: dimensions 180x155 mm. Includes 2 holding clips for tubes and slides and 4 insert disks of varying size for optimum accommodation of differing sample vessels: plates and or culture flasks, microtitre plates, etc.

Mechanical sub-stage with graduated scale of 1 mm and vernier of 0.1 mm, made up of a smooth mechanism (x-y) rack and pinion drive with 50 mm longitudinal and 75 mm transversal.

Illumination system, diascopic transmitted light by a halogen lamp of 6 V / 20W, precentred by external knobs and controllable intensity.
The unit includes a field diaphragm with filter carousel of green, yellow, blue and grey.

MODEL	Part No.	Height / Width / Depth exterior cm			Weight Kg
XDS-1B	5901998	50	28	30	15

Comes complete with 2 flasks, 2 culture plates, wooden holder for eyepieces, objectives and accessories, 2 lamps, 2 spare fuses and a protective cover.

ACCESSORIES

Objectives planachromatic long working distance
Negative phase contrast:
Objective LWD PL ph 10x
(A.N. 0.25 160/1.5 W.D.=7.9 mm)
Part No. **5313190**
Objective LWD PL ph 40x
(A.N. 0.60 160/1.5 W.D.=3 mm)
Part No. **5313192**
Phase contrast ring 10x.
Part No. **5313191**
Phase contrast ring 40x.
Part No. **5313193**
CCD video camera eyepiece
SO.65x.
Part No. **5313220**
Adapter thread C
for video camera CCD.
Part No. **5313219**
Video camera CCD.
Part No. **5435038**

Digital reflex photographic kit, composed of a mount, a shutter and a SD memory card of 2Gb.
Part No. **5313222**

Photographic eyepiece S6.3x.
Part No. **5313221**

5313190   *5313192*

5313191   *5313193*

5313219   *5435038*

SPARES
Halogen lamp 6 V / 20 W.   Part No. **5313023**   *5313222*

Microscope metallographical inverted "17A" and "17AT"
EXCELLENT RESOLUTION. PLANACHROMATIC OPTICS.

APPLICATIONS

Microscope with high capabilities.

Made for large sample observations. Samples are placed on top of an open obstruction free stage.

Binocular or Trinocular configuration with a range of accessories, that convert the instrument into an versatile microscope ideal for the identification and analysis of different materials and alloys. Suitable for a wide range of scientific research applications in metallurgy, physical properties of metals, heat treatments and quality control.

FEATURES

Head, binocular or trinocular (model dependent), 30° inclined angle.

Adjustable interpupillary distance from 55 to 77 mm.

Dioptric adjustment of ±5 dp in the left eyepiece, compensating for any visual differences.

Paired eyepieces, DIN quality. Wide field of view **WF 10x** (16 mm Ø).

Objectives DIN grade, planachromatic brightfield of **10x** (A.N. 0.25), **25x** (A.N. 0.40), **40x** (A.N. 0.65), retractable, and **100x** (A.N. 1.25), retractable, using immersion oil. Colour coded for easy and rapid identification.

Magnification range: 100x, 250x, 400x and 1000x.

The planachromatic objectives provide an excellent image, free from aberrations at the edge of the field of view.

Quadruple rotating objectives turret, rotates in both directions with stop locator when in the correct position.

Large sub stage of **150x200 mm,** rack and pinion adjustable height, with bilateral coaxial focus. Micrometer graduated in 0.002 mm steps and **macrometer,** with adjustable tension up to 19 mm.

Safety stop with a pre-set safety level.

Slide holder with scale of 0.1 mm, with a smooth X and Y rack and pinion movement of 15 mm **longitudinal** and 15 mm **traversal** movement.

Illumination: incidental (episcopic), Kölher, that consists of a condenser lens, condenser Abbe of 1.25 A.N., pre-centred with an iris diaphragm,

Model triocular 17AT.

filters and a pre-centred halogen 6 V / 20 W low voltage controllable light source.

Structure, robust with an illumination system in the base, intensity potentiometer and illumination switch.

Dimensions: 41 height x 20 Width x 31 cm depth.

Weight Model 17A: 10.5 Kg. Model 17 AT: 11 Kg.

Comes complete with a set of filters: blue, yellow and green, bottle of immersion oil, lamp, spare fuse dust cover and a wooden case.

Microscope Binocular Part No. 17A. Part No. **5901999**

Microscope Triocular Part No. 17AT. Part No. **5902000**

SPARE

Halogen lamp 6 V / 20 W. Part No. **5313023**

ACCESSORIES

5313222

Digital reflex photographic kit composed of a mount, a shutter and a SD memory card of 2Gb. CMOS sensor higher than 10 megapixels. Speed up to 3 pictures per second. LCD display of 2,5 inches. Processed with total image control. Large area viewfinder and high luminosity.

Part No. **5313222**

Screw on adapter C for a video CCD camera.Part No. **5902009**

Eyepiece with wide field, of view WF-16x (single).
Part No. **5902010**

Eyepiece with wide field, of view WF-20x (single).
Part No. **5902011**

Eyepiece plan view, 10x micrometric 0.1 mm/div. (single).
Part No. **5902012**

Eyepiece plan view, 12.5x (single).
Part No. **5902013**

Micrograph Kit comprising of:
Photographic adapter mechanism with eyepiece WF-10x with focus adjustment visor and objective of 4x (adaptable to **Digital reflex photographic kit**).
Part No. **5902014**

5902014

Microcameras "R-350" and monitor

FEATURES

Revolutionary for its small size. Quality image, digital technology. Can be directly used with a monitor or TV via an a euro connector. Can be input to a video for recording images. (Suitable for a PC with a PCI card for image processing and storage on diskettes or a hard drive). Designed for different applications, especially for diagnostics of dermatological illnesses of the skin scalp or capillary fibre. Other magnifications available: 10x, 100x and 200x.

Sensor	CCD 1/3inches
Resolution lines	400
Pixels (H x V)	320000
System	PAL/NTSC
Minimum illumination	1 LUX
S/R better than	46 db
Horizontal line frequency	15625 Hz
Vertical line frequency	50 Hz
Light source for model	R-350x 0.2 W
Power consumption	2W
Voltage	6V (220-50Hz)
Dimensions: Model R-350-350x	115 x 55 Ø mm
Dimensions: Model R-350-2x	110 x 32 Ø mm
Weight	0.3 Kg

MODELS

14" Monitor. Part No. **5435031**

R-350-2x. 2 magnification, with euro connector.
Part No. **5435038** System PAL
Part No. **5435032** System NTSC
Suitable for microscopes:
3000C Part No. **5901993** **3001F** Part No. **5901994**
SQF-E Part No. **5313208** **17AT** Part No. **5902000**
XDS-1B Part No. **5901998**
R-350-350x. 350 magnification, with euro connector, suitable for monitor or TV monitor.
Part No. **5435035** System PAL
Part No. **5435036** System NTSC

Microcamera model R-350 2x, suitable for microscopes.

Microcamera model R-350-350x, with euro-connector suitable for a monitor or TV.

Eyepiece video camera

ADAPTS DIRECTLY ONTO THE EYEPIECE OF THE MICROSCOPE.

Micro video camera, PAL system, resolution 350.000 pixels
- **with video** output connection direct to a TV monitor. Part No. **5435033**
- **with a USB connection**, direct to a PC, includes software. Part No. **5435034**

Light source, cold source, fibre optic "Z-150"

CONSTANT COLOR

APPLICATIONS

Microscopy illumination for small samples free from colour alteration.
Especially recommended for microphotography of live biological samples, cultures, micro-organisms, process control, electronic components, dental studies, etc.

FEATURES

Halogen lamp 150 W. Adjustable illumination intensity control. Forced air circulation. Heat absorption filter. Safety transformer fitted. Primary fuse protection.

CONTROL PANEL

Mains switch. Potentiometer controlled light intensity.

MODEL

Part No.	Height / Width / Depth exterior cm	Power W	Weight Kg
5901016	15 19 25	150	4

SPARE Lamp 150 W.
Part No. **5901017**

Supplied with double flexible arm 50 cm long.

Microscope accessories and consumables

GLASS SLIDES

Glass slides (smooth): 26 x 76 x 1.5 mm.
Part No. **5600400** Box of 72.
Glass slides (matt end for notes): 26 x 76 x 1.5 mm.
Part No. **5600399** Box of 72.
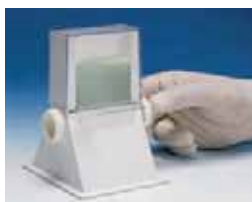Cover slip: 18 x 18 mm.
Part No. **5600396** Box of 100.
Cover slip: 22 x 22 mm.
Part No. **5600397** Box of 100.
Cover slip: 24 x 24 mm.
Part No. **5600398** Box of 100.

SLIDE DISPENSER

Base made of ABS with a transparent Polycarbonate lid, with rotating manual dispenser of individual slides. Capacity 50 slides of 76 x 26 mm.
Part No. **1001366**

CLEANING KIT

Suitable for optical microscopes.
Part No. **5313000**

WOODEN MICROSCOPE BOX

Solid wood, microscope box, of 3 mm thickness, treated with varnish, fitted with a metallic door, clasp lock and a carry handle.
Microscope Box suitable for Model M-100FL, XTX-3C and ZTX-20.
420 high x 255 wide x 285 mm deep. Part No. **5313022**
Microscope Box suitable for Model SQF-L, SQF-E, 2000-A, 2000-B and 2000-C.
Internal dimensions: 420 high x 265 wide x 317 mm deep.
Part No. **5313016**

Refractometer ABBE "2WAJ"

LCD DIGITAL THERMOMETER BUILT-IN.

APPLICATIONS

Ideal for measuring the refractive index ηD of liquids, solids and sugar concentrations (0 - 95% = ηD 1.333-1.531).

Indispensable instrument for industrial chemistry, petroleum, pharmaceutical, food oils and fats, sugars, universities etc.

FEATURES

Telescopic system X2 magnification.
Eyepiece with dioptric correction.
Connection for external water bath.
Thermometer 0-70 °C. To see the sample temperature.
Robust metallic construction.
Weight: 2.6 Kg.
Measurements: 240 mm high x 100 mm wide x 200 mm depth.

Measuring range:
Refraction index ηD: 1300 - 1700.
Brix: 0 - 95%.

Measuring definition:
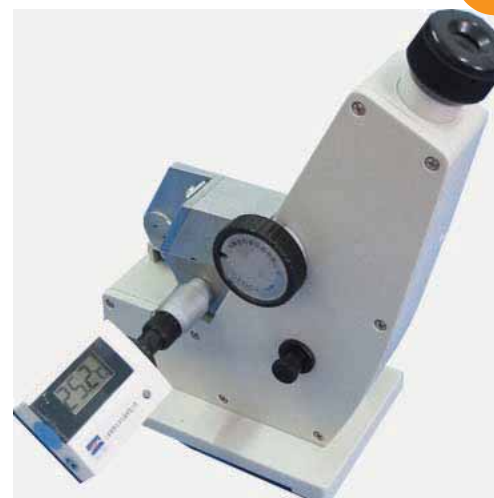Refraction index ηD: 0.0005.
Precision ηD: ±0.0002.
Brix: 0.25%. Precision: ±0.1%.

Part No. **5901008**
Supplied complete with
- Aluminium carry case,
- 1 bottle of Naphthalene Bromide,
- 1 calibration standard,
- 1 screwdriver and dust cover.

Digital ABBE refractometer "WYA-2S"

Optimum precision

APPLICATIONS

Ideal for measuring the refractive index of liquids, solids and sugar concentrations (° Brix), industry: chemical, petroleum, food, pharmaceutical, universities and research etc.

FEATURES

Apparatus equipped with an optical system made of a telescope with dispersion correction, used to define the division line between dark and bright areas.

Precise optics with automatic temperature compensation displayed as °Brix and sample temperature.

Stabilized temperature connection for a water bath.
RS-232 output with software included.

Measuring range:
Refraction index ηD: 1.3000 - 1.7000
Brix Bx - TC: 0 - 95%
Brix Bx: 0 - 95%

Measurement scale definition:
Refraction index ηD: ± 0.0002
Brix Bx - TC: ± 0.1%
Brix Bx: ± 0.1%

Temperature:
Working range: 0 - 50 °C.
Correction range of Bx, in respect to temperature: 15 - 45 °C.

Supplied complete with dust cover
and maintenance box that includes:
- 1 bottle of Naphthalene Bromide,
- 1 calibration standard,
- 1 Hex key,
- 3 lamps 6.3V, 0.25 A.
- 3 fuses 1 A.

MODEL

Part No.	Height / Width / Depth (exterior) cm			Power supply	Weight Kg
5901007	38	18	33	220V ±20V 50Hz	10

CONTROL PANEL

1
2
3
4
5
6
7
8
12
11
10
9
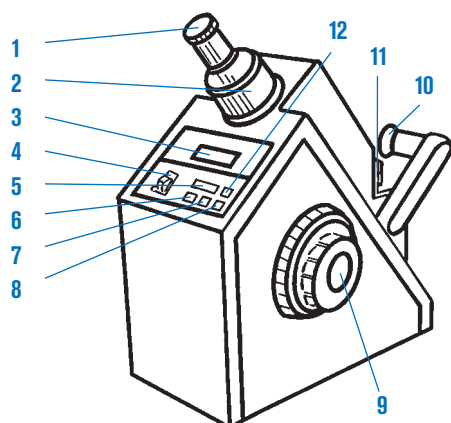
Technical description

1. **Monocular system.**
2. **Telescope adjustment.**
3. **Digital display.**
4. **Mains switch "POWER".**
5. **Push button "READ".**
6. **Push button for Brix with temperature correction "Bx - TC".**
7. **Push button for the refractive index "ηD".**
8. **Push button for Brix without temperature correction "Bx".**
9. **Optical control.**
10. **Light intensity unit.**
11. **Refractometer prism.**
12. **Push button for temperature indicating. "TEMP".**

COMECTA | **Refractometers**

COMMON FEATURES
Robust metal construction.
Excellent optical quality.
Eyepiece with adjustable dioptric ring to compensate any visual sharpness.
Easy to use, with direct easy to read scales.
Adjustable calibration screw.
Supplied complete with pouch, Pasteur pipette and screwdriver.

REFRACTOMETER FOR SALINITY ‰ AND DENSITY "C-1"
APPLICATIONS
For the investigation in clinical laboratories (solutions and dissolutions). Industry, food provisions (vegetables, fruit, fish and shell fish).

TECHNICAL SPECIFICATION
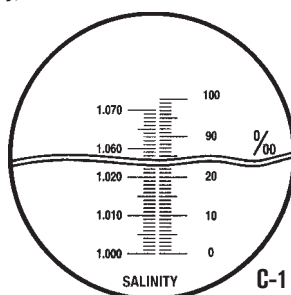Automatic compensation
Temperature: . . . . 10 - 30 °C.
Salinity range: . . . . 0 to 100 ‰.
Division Scale: . . . . 1 ‰.
Density: . . . . 1000 - 1070.
Division scale: . . . . .0.001.
Part No. **5901001**

REFRACTOMETER BRIX% INDEX "C-2", "C-3", "C-4" AND "C-5"
APPLICATIONS
Concentrates of sugar in fruit, juices, gaseous drinks, milk, wine, industrial oils etc.

TECHNICAL SPECIFICATION
"C-2" Range Brix: . . . . .0 - 32 %.
"C-3" Rango Brix: . . . . .28 - 62 %.
Division scale: . . . . .0.2 %.
Precision . . . .±0.2 %.

"C-4" Rango Brix . . . . .0 - 10 %.
"C-5" Rango Brix . . . . .0 - 18 %.
Division scale: . . . . .0.1 %.
Precision: . . . .±0.1 %.
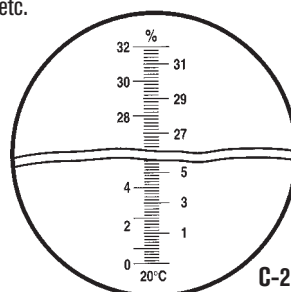
Part No.
5901002 Model C-2
5901020 Model C-2 with temperature compensation
5901003 Model C-3
5901021 Model C-3 with temperature compensation
5901022 Model C-4
5901023 Model C-4 with temperature compensation
5901024 Model C-5
5901025 Model C-5 with temperature compensation
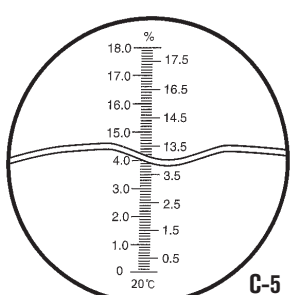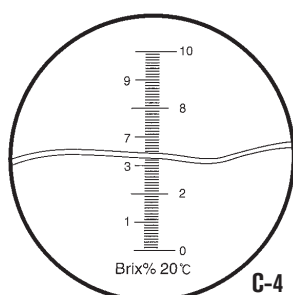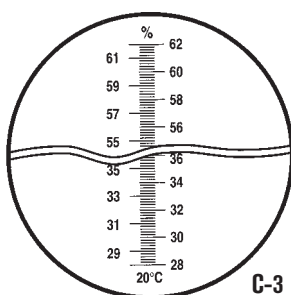
CLINICAL REFRACTOMETER 2 SCALES "C-6"
APPLICATIONS
Suitable for the determination of proteins, serum and specific gravity (density) of urine.

TECHNICAL SPECIFICATION
Proteins in serum: . . . . .1 - 12 g/100 ml.
Division scale: . . . . .0.2 g/100 ml.
Urine density: . . . . .1000 - 1040.
Division scale: . . . . .0.002.
Part No. **5901006**

Digital portable refractometers "NR-101" and "NR-151"

ivymen OPTIC SYSTEM ®
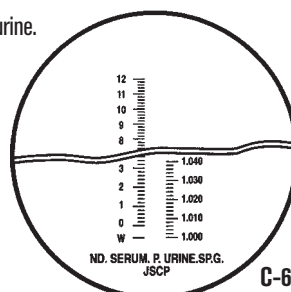
APPLICATIONS

Model NR-151. Measurement of % Brix and refractive index ηD.
Ideal for concentrations of sugars in % Brix and the measurement of refractive index ηD. For fruit, juices, drinks, milk, wine, edible oils, food industry, chemicals, pharmaceutical, science, petrochemical, oils, lubricants etc.

Model NR-101. % Brix, refractive index ηD and % salinity.
Ideal for concentrations of sugar % Brix, measuring refractive index ηD and NaCl in % of salinity.
Ideal for fruit, juices, drinks, milk, wine, edible oils, food industry, chemicals, pharmaceutical, science, petrochemical, oils, lubricants etc.

COMMON FEATURES

Portable and easy to use.
Alphanumeric display.
Determinations using a high precision photo cell integrated to a CCD camera and digital image processor.
Chamber prism of anti corrosive stainless steel and lid.
Automatic temperature compensation (ATC) to 20 °C, with a sample temperature range from 5 to 40 °C.
Temperature selection °C or °F.
Calibration using distilled water.
Function selection limits and tolerable alarms.
Microprocessor with instant response.
Disconnects automatically if inoperable for 3 minutes.
Low voltage alarm.
Power supply 9V battery.
Operating temperature from 0 to 40 °C at up to 90% relative humidity and a maximum height of 2000 m above sea level.

Model NR-151

Model NR-101

MODELS	Part No.	Reading and Measurement	Measurement range	Measurement Resolution	Measurement Precision	Temperature Range	Temperature Resolution	Temperature Precision	Height/Width/Depth cm			Weight Kg
NR-151	5901012	Brix %	0.0 - 95.0%	0.1%	±0.1%	0 +40 °C 32 +140 °F	0.1 °C 0.2 °F	±1 °C ±2 °F	6	18	10	0.9
		Refraction index ηD	1.3330 - 1.5318 ηD	0.0001 ηD	±0.0002 ηD							
NR-101	5901013	Brix %	0.0 - 60.0%	0.1%	±0.1%							
		Refraction index ηD	1.3330 - 1.4419 ηD	0.0001 ηD	±0.0002 ηD							
		Salinity %	0.0 - 28.0 %	0.1 %	±0.1 %							

Comes complete with protective carry case, dosing burette, bottle of distilled water and a 9V battery.

COMECTA

Disk polarimeter "polar-2010"

LAURENT TYPE MODEL
SODIUM LAMP ILLUMINATION

ivymen OPTIC SYSTEM ®

NEW

APPLICATIONS

Designed for colleges and universities, chemical laboratories, pharmaceutical, clinics, cosmetics and food industry.

FEATURES

Vernier reading definition. Angle ± 0,05 º.
Measuring range of optical rotation: ± 180 º.
Rotation scale division: 1º.
Measuring lens 4x.
Ocular with dioptres adjustment.
Slide rack compartment length: for tubes up to 220 mm.
Monochromatic lamp wave length: 589,3 nm.

MODEL

Part No	External measurements cm. Height / Width / Depth			Consumption W	Weight Kg
5120210	32	43	14	20	5

Automatic Melting Point Apparatus "WRS-2A"

AUTOMATIC DETERMINATION NO VISUAL CONTROL REQUIRED.

COMECTA

A different conception.
Totally automatic, without the need to visually
determine the melting point process

APPLICATIONS
Research laboratories, quality control. Test and control of purity after synthesis in pharmaceutical laboratories.

AUTOMATIC MELTING POINT WRS-1B
Single sample analysis
LCD display, simple alphanumeric keypad.
Melting point determination by photoelectric detection.
Automatic functions. Reads and registers the starting point, fusion point and end point.
Part No. **5609401**
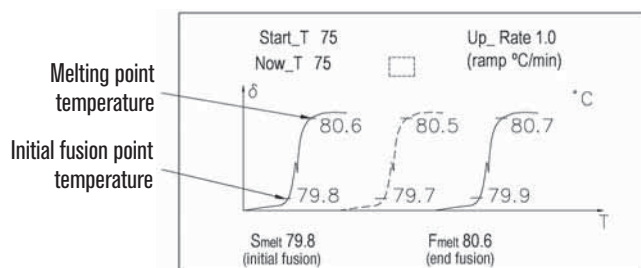
AUTOMATIC MELTING POINT WRS-2A
Simultaneous analysis, three samples.
LCD graphic display and 16 keys numeric keypad.
Melting point determination detector photoelectric.
Automatic functions. Reads and registers the starting point fusion point, end point, melting point curve and average value determination.
Part No. **5609402**

Model WRS-1B

Model WRS-2A

Melting point temperature

Initial fusion point temperature

| Start_T 75 | Up_ Rate 1.0 |
| Now_T 75 | (ramp ºC/min) |

80.6 80.5 80.7

79.8 79.7 79.9

Smelt 79.8 (initial fusion)   Fmelt 80.6 (end fusion)

Details of graphic display, calculated average of melting point curves.

MODELS		WRS-1B	WRS-2A
Part No.		**5609401**	**5609402**
Digital LCD screen		**Numeric**	**Numeric and graphical**
Maximum capillary tube capacity, 1.4 mm Ø ext.		**1**	**3**
Temperature range		**from 50 °C to 300 °C**	
Readable temperature resolution		**0.1°C**	
Melting point measurement precision		**Upto 200 °C ±0.5 °C and from 200 °C to 300 °C ±0.8 °C**	
Selectable ramp rate in ºC/minute		**0.2 - 0.5 - 1 - 1.5 - 2 - 3 - 4 and 5 ºC/min.**	
Repeatability		**0.4 ºC**	**0.3 °C ramp rate of 1 ºC/min.**
		ramp rate of 1 ºC/min	**0.2 °C ramp rate of 0.2 ºC/min.**
Decending time to reach the start temperature	increasing	**from 50 °C of 300 °C 3 minutes**	
	decreasing	**from 300 °C of 50 °C 5 minutes**	
Sample holder		**for capillary tubes of 1.4 mm Ø ext. / 1 mm Ø int.**	
Sample fill height		**3 mm**	
Output interface RS-232		**9600 baudrate, 1 bit stop and 8 data bits**	
Power		**110 W**	
Weight		**9.5 Kg**	**12.5 Kg**
Weight / Dimensions, height x width x depth in mm		**380 x 315 x 200**	**398 x 278 x 210**

Supplied complete with 1000 capillary tubes of 1.4 mm Ø ext set of maintenance tools comprising of star and flat screwdrivers, drill bit of 1.5 mm Ø, allen key 3 mm, lamp and fuse, software and protective cover.

ACCESSORY Capillary tubes of 1.4 mm Ø ext. 1.0 mm Ø int. Box of 5000 tubes Part No. **5609404**

SPARE Lamp 6.5 V 0.3 A. Part No. **5609405**

ROTARY VISCOMETERS

FLOW CUPS

GLASS VISCOMETERS

MONITOR AND CONTROL

GLASS THERMOMETERS

REACTORS

ANALYTICAL CONSUMABLES

"True knowledge is rigorous and hard on itself. At the same time is amiable and tolerant."
Plutarco

Rotary Viscometers

Rotary viscosimeters "ST-2020"

INTRODUCTION

Rheology is the study of the effects experimented in a substance when a mechanical force is applied on a it (flow and deformation) under different external conditions. It is used to describe the consistency of different products and is normally defined by the components: **viscosity and elasticity.**

Measuring viscosity is determined by the tangible force required to displace the materials particles with a specific deformation-flow i.e. velocity. The relationship between the tangible force and the deformation flow obtains the viscosity result. Ambient conditions such as temperature and pressure also have an effect on viscosity.

The measurement of viscosity is not just limited to the research laboratory, it has progressively entered the field of industrial quality control.

PRINCIPLES OF VISCOSITY

These instruments operate by means of a cylinder or disk (spindle) that is submerged into the material to be analysed and by measuring the resistance of the substance at a selected known speed. This resistance results is the measurement of the viscosity according to the flow characteristics of the reference spindle; the instrument calculates the result and directly displays the viscosity that is reported in **cP** (**CGS**) or **mPa-s** (**SI**).

A wide range of viscosity can be measured using viscometers that are equipped with different types of spindles and speed ranges. The design of the spindles and the principals of measurement principles are regulated by **ISO 2555** and **ISO 1652** standards. All spindles are made of AISI 316 stainless steel. Each spindle can be identified by a letter and a number.

SELECTION TABLE

Standard measuring range of the viscometers, without additional accessories		
Part no	1001616	1001617
Model	ST-2020 L	ST-2020 R
Units	centiPoise (cP)	centiPoise (cP)
Standard spindle	L1 to L4	R2 to R7
Speed range r.p.m.	1 to 60	0,1 to 100
Measuring range	20 to 600.000 cP	20 to 40.000.000 cP
Temperature range °C	0,0 a 100,0	0,0 a 100,0
Power requirement	115/230V to 12VDC 1.2A	115/230V to 12VDC 1.2A
Power	15 W	15 W
Weight	5 Kg	5 Kg

NEW DESIGN

RS232

Model ST2020L

FEATURES

L.C.D. display of parameters and results:
- Selected speed . . . . .r.p.m.
- Selected spindle. . . . . .S.P.
- Viscosity result . . . . cP (mPa-s) or cSt.
- Base scale percentage . . . .%.
- Sample temperature: . . . .°C or ° F.

Auto alarm in the case of any fault being detected.
Off scale detection and indication by an audible and visual signal.
Step controlled speed to prevent spindle vibrations.
Velocity from 0,1 to 100 r.p.m.
Mains power surge protection.
RS 232 unidirectional interface, download to a computer.

DIGITAL THERMOMETER SPECIFICATIONS

Temperature range:- from 0.0 °C to + 100.0 °C
(+ 32.0 °F to + 212.0 °F).
- Resolution: 0.1 °C (0.1722 °F).
- Precision: ± 0.1 °C.

TECHNICAL DATA

Direct results in cP(mPa-s) or cSt.: models ST-2010 L & R.
Direct results in Poise (Pa-s) or St.: model ST-2010 H.
Precision: ±1% base scale.
Measuring range: See table
Repeatability: 0.2%.
Supplied complete with:
- Anti shock carry case.
- Main unit.
- Support base.
- Spindle protector.
- Spindle support.
- Set of spindles (model dependant)
- Temperature prove

Rack of standard spindles L1, L2, L3,L4 : Suitable for models L.

Rack of standard spindles R2, R3, R4, R5, R6 and R7: Suitable for model R.

Small sample volume adapters.
Suitable for models ST-2020L and ST-2020R.
Suitable for sample volumes from 10 to 20 ml.
With water jacket. If constant temperature is required, this adapter has a water jacket that can be connected to an external re-circulation equipment suitable for temperatures from 0 °C to +100 °C.
Part No. **1000996** Small sample adapter with water jacket.(Special spindles included).

Part No. 1000996

Low viscosity adapters.
Required to improve low viscosity measurements.
Newtonians and no Newtonians.
Reproducible results and measurements of viscosity from 1 cP.
Suitable for models L and R for viscometers ST-2020.
Sample volume: 25 to 30 ml.
Includes special spindle.
Without water jacket.
Part No. **1000997** Adapter without water jacket.

ACCESSORIES

Spindle R1 suitable for low viscosity samples.
Fits model R.
Part No. **1000995**.

Spindle R1

Part No. 1000997

Wide range rotary viscosimeters "STS-2011"

MODEL WITH TEMPERATURE READOUT AND SHEAR RATE MEASUREMENT.

NEW

USB

FEATURES

10 different options of language.
L.C.D. display of parameters and results.
Parameters display:
- Selected speed . . . . .r.p.m.
- Selected spindle
- Viscosity result . . . . cP (mPa-s) or cSt.
- Base scale percentage . . . .%.
- Sample temperature: . . . .°C or ° F.
- Deformation ratio (with special spindle)
- Torsion force (with special spindles)
- Density
(input by the user) . . . . .g/cm³.
This instrument determines both relative and absolute viscosity.
Data can be changed between S.I. and C.G.S.
Automatically checks for correct operation point by scanning at different speeds.
Auto alarm in the case of any fault being detected.
Off scale detection and indication by an audible and visual signal.
Step controlled speed to prevent spindle vibrations.
Calibration by the user himself.
18 preselected speeds from 0.3 a 100 r.p.m.
The operator can select any speed within this range.
USB port.

Mains power surge protection.
10 memoirs of working programs.

TECHNICAL DATA

Temperature range:- from 0.0 °C to + 100.0 °C
(+ 32.0 °F to + 212.0 °F).
- Resolution °C: 0.1 °C (0.1722 °F).
- Precision °C: ± 0.1 °C.
- Probe type: Pt 100.
Direct results in cP(mPa-s) or cSt.: models STS-2011 L & R.
Direct results in Poise (Pa-s) or St.: model STS-2011 H.
Precision: ±1% base scale.
Supplied complete with:
- Anti shock carry case.
- Main unit.
- Support base.
- Spindle protector.
- Spindle support.
- Set of spindles (model dependant) (see table).

MODELS	Part No.	Measuring range	Standard spindles	Power requirement	Power W	Weight Kg
STS-2011 L	1001611	20 to 2.000.000 cP	L1, L2, L3, L4	100-240 V 50/60 Hz	15	5
STS-2011 R	1001612	100 to 13.000.000 cP	R2, R3, R4, R5, R6, R7	100-240 V 50/60 Hz	15	5
STS-2011 H	1001613	200 to 106.000.000 cP	R2, R3, R4, R5, R6, R7	100-240 V 50/60 Hz	15	5

ACCESSORIES

Spindle R 1 suitable for low viscosity samples.
Fits models R and H. Part No. 1000990.

Small sample volume adapters (APM).
Suitable for sample volumes from 8 to 13 ml.
Requires the "TL" or "TR" set of spindles.
Unit suitable for temperatures from 0 °C to +100 °C.
Part No. 1000986 Small sample adapter APM with water jacket.
Part No. 1001623 Temperature sensor suitable for APM.

Special Spindles
Part No. 1001224 set of spindles TL5 – TL6- TL7 for models L.
Part No. 1001225 set of spindles TR8 - TR9 - TR10 - TR11 for models R and H.

Low viscosity adapters. (LCP).
Required if low viscosity measurements are necessary.
Reproducible results and measurements of viscosity from 1 cP.
Suitable for models L and R.
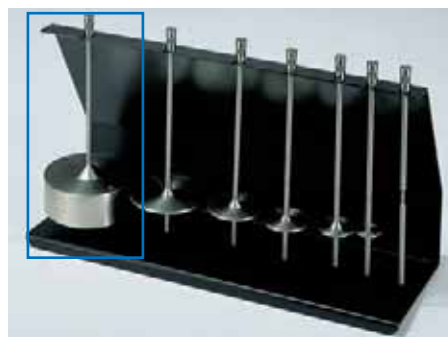Sample volume: 16 to 18 ml.
Includes special spindle LCP.
Part No. 1000985. Adapter LCP with water jacket.
Part No. 1001624 Temperature sensor suitable for LCP.

Displacement spiral helix adapter.
Required for low fluidity samples.
Part No. 1000988

Spindle R1. Part No. 1000990

Part No. 1000985   Part No. 1000986   Part No. 1000988

Temperature control equipment for viscosity measurements for viscometers "ST-2020" and "STS-2011"

The influence of temperature while measuring viscosity is considerable, lower temperatures increase viscosity. Therefore it is indispensable to control temperature when precise viscosity measurements are required. The control of temperature by using a thermostatically controlled bath is the most efficient, because of the re-circulation of liquid produces a rapid and stable temperature.
We recommend our range of immersion thermostats for this application.

TEMPERATURE CONTROL AND CONFIGURATION
FOR VISCOSITY MEASUREMENTS:
FRIGITERM-10 Part No **6000382**, **FRIGTERM-30** Part No. **6001091** or **DIGIT – COOL** Part No **3001373**, suitable for below ambient working environments (see page 97 to 99 for specifications).

For temperatures above ambient see the **DIGITERM-100** Part No. **3000542**, or **DIGITEM-200** Part No. **3000613** complete with 12 litre tank Part No **6000391**, (see pages 96 and 97 for specifications).

An adapter kit for the thermostat bath is required Part no. **1001625**.
This kit adjusts the bath measuring height to enable samples to be placed inside.
Part No **1001625**, Adapter for thermostat bath comprising of an extension spindle and 4 leg adjusters for the bath. (Kit can be fitted by the user.)
Part No. **1001627**. Support for 2 500 ml beakers, to be placed inside the bath.
Part No. **1001628** Support base for the **DIGITERM** immersion thermostats. This accessory is recommended to close the bath and maintain a constant temperature.

CONSTANT TEMPERATURE CONTROL ACCESSORY FOR SMALL SAMPLE VOLUME ADAPTERS. USE WITH THE RE-CIRCULATING JACKET ACCESSORIES. PART NO. 1000996
To work below ambient temperatures, we recommend the use of the **FRIGITERM-10** Part No. **6000382**, or **FRIGITERM-30** Part No. **6001091** (see page 97 for specifications.)
It is necessary to configure the immersion thermostats for "external re-circulation." The Bath adapter kit is not required.

For temperatures above ambient see the **DIGITERM-100** Part No. **3000542**, or **DIGITERM-200** Part No. **3000613** complete with 12 litre tank Part No. **6000391**, (see pages 96 and 97 for specifications).

OIL STANDARDS
Certified known viscosity standards, suitable for calibrating rotary viscometers. Comes complete with official certificate.

*Frigiterm thermostat bath with adapter kit
Part No. 1001625, fitted with a rotary viscometer.*

Spindle
Support base 1001628
Support for 2 beakers 1001627

Digiterm thermostat bath with support base Part No. 1001628. 12 litre bath Part No.6000391 and adapter kit Part No. 1001625. To be used with a rotary viscometer and beaker support Part No 1001627.

Immersion thermostat Digiterm controlling temperature of viscometer.

Rotary Viscometer "NDJ-1"

APPLICATIONS
The instrument operates by rotating a disk or cylinder, (spindle), that is submerged in the liquid or fluid to be analysed. A pre-selected speed is set, the unit measures the absolute resistance from viscosity of the fluid being analysed. Suitable for samples such as: foods, cosmetics, fats and oils, pharmaceutical products, paints and plastics, etc.

FEATURES
The asynchronous motor is connected to a graduated disk with 4 different speeds that propel the spindle via a spiral and die.
Supplied complete with a set of 4 spindles in a box, numbered 1 to 4 with spindle stand.
The viscometer includes a level and adjustable screw feet support base and protective case.

MODEL	Part No.	Measuring range	Tolerance	Spindle Speed r.p.m. for 1 to 4	Power W	Weight Kg
NDJ-1	5120230	10-100.000 mPaS	±5% Liquid Newtons	6 - 12 - 30 - 60	15	6

Flow cups for measuring liquid viscosity

CUP Nº 4 STANDARD DIN 53211.
CUPS STANDARD ISO 2431.
CUP FORD STANDARD ASTM D-1200.

FEATURES

Suitable for measuring kinematic viscosities from 5 to 700 cSt, model dependent.
Metallic cups, chrome finished and calibrated.

Flow cups with handle.
Models DIN 53211 Nº 4
and Ford ASTM D-1200.

Flow cups. Standard models.

Heated cups with threaded base, can be connected to a water bath or to a
temperature regulator Electemp.

MODELS

Part No.	Standard	Bore Ø mm	Format	Range cSt	Admisable fall times
1000123	**DIN 53211**	4	**Standard**	**90 to 700**	**25" to 100"**
7001239	**DIN 53211**	4	**Heated**	**90 to 700**	**25" to 100"**
1000347	**DIN 53211**	4	**With handle**	**90 to 700**	**25" to 100"**
1001013	**ISO 2431**	3	**Standard**	**5 to 42**	**30" to 100"**
7001017	**ISO 2431**	3	**Heated**	**5 to 42**	**30" to 100"**
1001014	**ISO 2431**	4	**Standard**	**35 to 135**	**30" to 100"**
7001018	**ISO 2431**	4	**Heated**	**35 to 135**	**30" to 100"**
1001015	**ISO 2431**	5	**Standard**	**100 to 350**	**30" to 100"**
7001019	**ISO 2431**	5	**Heated**	**100 to 350**	**30" to 100"**
1001016	**ISO 2431**	6	**Standard**	**190 to 680**	**30" to 100"**
7001020	**ISO 2431**	6	**Heated**	**190 to 680**	**30" to 100"**
1000705	**ASTM D-1200**	2.53	**Standard**	**25 to 120**	**20" to 100"**
		3.40		**40 to 220**	**20" to 100"**
		4.12		**70 to 370**	**20" to 100"**
7000706	**ASTM D-1200**	2.53	**Heated**	**25 to 120**	**20" to 100"**
		3.40		**40 to 220**	**20" to 100"**
		4.12		**70 to 370**	**20" to 100"**
1000707	**ASTM D-1200**	2.53	**With handle**	**25 to 120**	**20" to 100"**
		3.40		**40 to 220**	**20" to 100"**
		4.12		**70 to 370**	**20" to 100"**

Comes with a calibration certificate with results traceable to know standards and equipment

Ford cup thermostat for viscosity measurement "TV-1452"

CUP MODELS THAT CONFORM TO THE FOLLOWING STANDARDS: DIN 53211, ISO 2431 AND ASTM 1200.
ELECTRONIC DIGITAL CONTROL FROM 10ºC TO 110ºC.

Heating and cooling by Peltier effect

APPLICATIONS

Thermostat Ford cups for viscosity measurement need to be maintained at a precise temperature of 10 and 60 °C.

FEATURES

Made up of an independent Peltier thermostat control system that heats and cools. Made from AISI 304 stainless steel, with adjustable levelling feet supports, and central orifice for locating the cup.

CONTROL PANEL

Illuminate ON/OFF switch
Digital temperature display
Key pad to select readout and temperature.

MODEL

Part No.	Temperature °C	Stability °C	Homogeneity °C	Read error	Resolution	Height / Width / Depth cm			Power W	Weight Kg
3001452	**10 to 60 °C**	±0.1	±0.2	±0.5	0.1	23	34	30	130	5

See the different standards, models and cups (see page 283.)

Viscometer Precision Bath "VB-1423"

FOR CONTROLLABLE TEMPERATURES FROM AMB.+5 °C TO 100 °C.
STABILITY ±0.05 °C. HOMOGENEITY ±0.05 °C. READING ERROR ±0.09 °C. RESOLUTION 0.1 °C.

SAFETY:
STANDARD DIN 12879.2 CONTROLLABLE SAFETY THERMOSTAT WITH MANUAL RESET.

Used for measurements with glass viscometers

Made for the calibration of viscometers according to the following standards UNE 400313, ISO 3105, ASTMD 445 and 2515

FEATURES

Temperature sensor Pt100 thermo-resistor, stainless steel AISI 304 lid with three viscometer locations ports, three independent lids and an additional location port for the control thermometer. The main body of the bath is made of a 20 litre borosilicate glass tank. A white plate is located at the back to help optimise and read the viscometers.

CONTROL PANEL

1. Mains power iluminated switch.
2. Temperature regulator:
    3. Real time temperature display.
    4. Push button to increase value.
    5. Push button to decrease value.
    6. Push button to configure operation.
7. Safety thermostat safety lamp.

MODEL

Part No.	Control range °C	Capacity litres	Height / Ø (tank) cm		Height / Ø (total) cm		Power W	Weight Kg
3001423	**amb.+5 up to 100**	20	32	30	47	30	1000	8

ACCESSORIES

Universal viscometer support made from PTFE with stainless steel AISI 304 support.
Suitable for the following viscometers :

- Cannon-Fenske for transparent liquids.
- Cannon-Fenske for opaque liquids.
- Ubbelohde.
- Ostwald.
- BS U Tube.
- Cannon-Manning semi-micro.
- Ubbelohde type BS/IP/SL, BS/IP/SL(S) & type BS/IP/MSL.
- DIN Ubbelohde.
Part No. **1001453**

Calibration Chronometers (see page 288).

Thermometers for viscometer baths.
Part No.
1001454 Thermometer ASTM 120C at 38.6 to 41.4°C divisions 0.05 °C.
1001455 Thermometer ASTM 121C at 98.6 to 101.4 °C divisions 0.05 °C.
1001456 Thermometer ASTM 91C at 20.0 to 50.0 °C divisions 0.1 °C.
1001457 Thermometer ASTM 92C at 40.0 to 70.0 °C divisions 0.1 °C.
1001458 Thermometer ASTM 93C at 60.0 to 90.0 °C divisions 0.1 °C.
1001459 Thermometer ASTM 94C at 80.0 to 110.0 °C divisions 0.1 °C.

Glass Viscometers

VISCOMETER "UBBELOHDE"
ASTM D445 - ASTM D446 - ISO 3104 - ISO 3105.
Suitable for transparent liquids.
Complete with calibration certificate.
Total length 283 mm.
Permanent amber markings.

ACCESSORY

Viscometers support rack.
Part No. **1025812**
Capacity:
6 viscometers.

Ubbelohde

Part No.	Type	Nominal constant	Viscosity range in cSt		
5600001	0	0.001	0.3	to	1
5600002	0C	0.003	0.6	to	3
5600003	0B	0.005	1	to	5
5600004	1	0.01	2	to	10
5600005	1C	0.03	6	to	30
5600006	1B	0.05	10	to	50
5600007	2	0.1	20	to	100
5600008	2C	0.3	60	to	300
5600009	2B	0.5	100	to	500
5600010	3	1.0	200	to	1000
5600011	3C	3.0	600	to	3000
5600012	3B	5.0	1000	to	5000
5600013	4	10.0	2000	to	10000
5600014	4C	30.0	6000	to	30000

VISCOMETERS "CANNON-FENSKE" TRANSPARENT
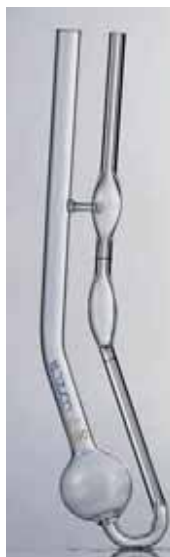ASTM D445 - ASTM D446 - ISO 3104 - ISO 3105 - IP 71.
Suitable for transparent liquids.
Complete with calibration certificate.
Constant at 40 °C to 100 °C.
Total length 250 mm.
Permanent amber markings.

Transparent

Part No.	Serie	Nominal constant	Viscosity range in cSt		
5600050	25	0,002	0,4	a	1,6
5600051	50	0,004	0,8	a	3,2
5600052	75	0,008	1,6	a	6,4
5600053	100	0,015	3	a	15
5600054	150	0,035	7	a	35
5600055	200	0,1	20	a	100
5600056	300	0,25	50	a	200
5600057	350	0,5	100	a	500
5600058	400	1,2	240	a	1200
5600059	450	2,5	500	a	2500
5600060	500	8	1600	a	8000
5600061	600	20	4000	a	20000

VISCOMETERS "CANNON-FENSKE" OPAQUE
ASTM D445 - ASTM D446 - ISO 3104 - ISO 3105.
Suitable for opaque and transparent liquids.
Complete with calibration certificate.
Constant at 40 °C and 100 °C.
Total length 295 mm.
Permanent amber markings.

Opaque

Part No.	Serie	Nominal constant	Viscosity range in cSt		
5600065	25	0,002	0,4	a	1,6
5600066	50	0,004	0,8	a	3,2
5600067	75	0,008	1,6	a	6,4
5600068	100	0,015	3	a	15
5600069	150	0,035	7	a	35
5600070	200	0,1	20	a	100
5600071	300	0,25	50	a	200
5600072	350	0,5	100	a	500
5600073	400	1,2	240	a	1200
5600074	450	2,5	500	a	2500
5600075	500	8	1600	a	8000
5600076	600	20	4000	a	20000

Monitor and Control Apparatus

Electronic controller "Electemp"

FEATURES
Digital temperature controller with a user configurable microprocessor.
For AUTOTUNNING and automatic adjustment to the material being measured. (solid, liquid, air).
Temperature range: -150 °C to 1300 °C. (Temperature probe dependent.).
Precision ±0.1 °C.
Resolution ±0.1 °C with Pt 100 probe.
±1 °C with a K type probe.
Functions: ON/OFF P.I.D. control.

CONTROL PANEL
Main On/Off switch.
"On" Indicator lamp.
Indicator lamp of "external device connected".
Real time digital temperature display.
Set temperature display.
Push button to "increase value".
Push button to "decrease value".
Push button to P.I.D hysteresis.
Push button control in °C or °F, temperature limits.

BACK PANEL
Power output (SCHUKO plug) 3100 W at 230 V.
Protection fuse.
Pt100 probe connection.
K type probe connection.
Data output.

APPLICATIONS
Digital thermometer.
To control and display temperature in any equipment with temperature control system, that uses a contact thermometer, such as: Baths, Immersion thermostats, Hotplates and Hotplate stirrers, Mantles, etc.
Can also be used by a immersion thermostat controlling a heater element. (maximum power 3100 W).
As a regulator or temperature reader in equipment that are labelled with.

MODEL

Part No.	Height / Width / Depth cm (exterior)			Max. power W (at 230 V)	Weight Kg
3000887	10.5	13.5	21	3100	1.250

ACCESSORIES
Pt 100 probe. Immersion dimensions: 4 mm Ø, 130 mm length. Cable: 150 cm length.
Part No. 1000893
Type K probe. Immersion dimensions: 2 mm Ø, 150 mm length. Cable: 150 cm length.
Part No. 1000895

Electronic contact thermometer "Sensoterm II"

DIGITAL DISPLAY, PT 1000 PROBE, AISI 304 STAINLESS STEEL.
STABILITY ±1 °C, ±1 DIGIT. RESOLUTION ±1 °C.

NEW

ONLY SUITABLE FOR INSTRUMENTS THAT CAN USE AN ELECTRICAL CONTACT THERMOMETER.

FEATURES
Advantages include a separate temperature probe that maintain the main body away from steam and other vapours. Safer than a glass contact thermometer, eliminating the risk of broken it and a mercury spillage. Main body made of ABS plastic.

TECHNICAL DATA
Temperature range: from -50 °C to 300 °C.
Temperature probe: 3.5 mm Ø x 250 mm immersion.
Temperature Display: 8 mm high LCD display.
Ambient working range: 0 to 60 °C and a relative humidity of 80 %.

MODEL

Part No.	Height / Width / Depth cm (exterior)			Weight Kg
1001009	13	7	2.4	0.250

Instruments labelled with that can use the electronic controller "Electemp" and the electronic contact thermometer "Sensoterm".

Sand Bath
"Combiplac-Sand"
Parts No. 6000708 and 6000709.

Hotplate - Rectangular
"Combiplac"
Parts No. 3000156 and 3000718.

Hotplate - Circular
"Combiplac"
Parts No. 3002301 and 3002302.

Magnetic Stirrers "Agimatic"
Parts No. 7000243, 7002431,
7000446, 7001511, 7001609,
7001610 and 7000836.

NOTE: Any equipment that can be connected to an electrical contact thermometer can also be used with an "Electemp" or "Sensoterm" unit.

Electronic energy controller "Enertron"

FEATURES
Regulates the power to the heating element by pulsing electronic circuit, free of noise and interferences

CONTROL PANEL
Main ON/OFF switch.
Mains "ON" indicator lamp.
"ON" indicator power out.
Controllable from 4% to 100 %.

BACK OF CONTROLLER
Output of power (Schuko plug system).
Protection fuse.
Connection for a contact thermometer.

APPLICATIONS
Regulates the power of a heating element in ovens baths, radiators, hotplates, etc.

MODEL

Part No.	Height / Width / Depth cm (exterior)			Max. power W (at 230 V)	Weight Kg
3000886	10.5	13.5	21	2500	1.2

"Enertron" application to a hotplate, showing the unit connected with an electronic contact thermometer.

Digital thermometer "TC-9226-A"

FEATURES
Main body made of PVC with anti-slide for better stability.
Temperature range from -200 °C to 1370 °C (-328 to 2498 °F).
Reads °C or °F, reading within 1 second.
Memorizes the last 10 temperature readings. Displays the reading for 3 seconds. It is posibles to hold the reading on the screen.
Switches off automatically after 1 hour (if it is in a continuous mode).
LCD with back light illumination.
Low battery power indicator.
Powered by 3 x 1.5V "AAA" batteries".
Compatible with most Type K sensors.
Operating conditions: from –10 to 50 °C.
Dimensions: (height x width x depth): 17 x 7 x 3 cm. Weight 150g.

MODEL	Part No.	Temp. range °C	Resolution °C	Precision °C
CT-9226-A	5903030	-200 to 1370	0.1	from -200 to -50: ±2 from -50 to 740: ±1 from 740 to 1370: ±2

The precision figures supplied are based on a measurement range from 18 to 28 °C (does not include the sensor error).

Supplied complete with a Type K sensor and cable of 1.40 mm Ø x 100 cm long.

ACCESSORY
Sensor type K of 8 mm Ø x 30 cm length. Part No. **5903025**

Digital Humidity meter with Thermometer "RH-600"

FEATURES
Temperature range from 0 °C to 60 °C.
Humidity range from 10% to 95% RH.
Digital Display °C or in °F Fast response: 0.4".
Power: battery 9 V.
Dimensions: (height x width x depth): 3.2 x 7 x 15.5 cm.
Weight: 370 g.

Part No. **5903023**
Supplied complete with humidity / temperature sensor, protective cover and carry case.

MODEL	Part No.	Temp. range °C	Resolution °C	Precision °C	Humidity range %	Humidity resolution %	Humidity precision %
RH-600	5903023	from 0 to 60	0.1	±0.8	from 10 to 95	0.1	> 70%: ±3% +1% < 70%: ±3%

Ink Printer "Microprinter"

APPLICATIONS

Small ribbon printer (not thermal) with paper roll 2 1/4'' (56 mm) wide.
Interface connection: RS232.
Applications: Measuring equipment, pH meters, conductivity meters, spectrophotometers, etc.
Includes interface cable and power transformer 5V - 3A and cable.

MODEL

Part No.	Height / Width / Depth cm			Power supply	Weight Kg
4120113	4	16	10	DC 5V 3A	1

Automatic programmer "Promat" 24 H

Connects and disconnects electrical power by a pre-programmed timer switch.
Adjustable timer: Cycles up to 24 hours, with controllable connection disconnection up to every 15 minutes.
Manual interrupt setting to disconnect the program, luminous indicator shows when power is being applied.
Maximum current: 16 Amp.
Part No. **1000500**

Timer alarm "Relavis"

Audible sound when the program time has lapsed.
Time setting from 0 to 60 minutes in 1 minute intervals.
Part No. **5900499**

Digital alarm timer "Count Down-Up"

Maximum count time 99 min. 59 sec. Timer: count-down and count-up.
Portable: table top with magnetic holder or clip if used on a pocket or overall.
Audible alarm fitted.
Part No. **5900500**

Digital Chronometer "Diamond"

Maximum timer: 23 hr 59 min 59 sec. Division 1/100 seconds. Control: LAP/SPLIT (timer: split time and accumulative time).
Date incorporated.
Audible Alarm (duration 60 seconds).
Audible Alarm "snooze" function (once pressed the stop alarm goes off every 5 minutes until it is completely shut off).
Part No. **5900501**

Thermometer reader "Micro-Temp"

SUITABLE FOR MEASURING TEMPERATURE FROM -50 °C TO +300 °C OR FROM -58 °F TO +527 °F.

Applications: process control, laboratories, pharmacies, food processes and agriculture in general.
Digital screen readout in °C or °F.
Stainless steel penetration probe of 3.5 mm Ø x 120 mm long.
Retention memory of minimum and maximum data readout.
Disconnects automatically after 1 hour.
Powered by a 5V - 3A battery.

MODEL

Part No.	Precision	Resolution
5903029	±1 °C / 1 °F	0.1 °C / 0.1 °F

Comes complete with protective cover and support clip.

GLASS THERMOMETERS

COMMON FEATURES

All thermometers are made of glass rod or with an opal scale, with a reinforced bulb.
A wide selection of scales and temperature ranges is available.
Scales etched in acid and graduated with indelible ink.
Resistant to most chemical agents.
All thermometers are supplied with a protective plastic cover.

Solid stem Themometers

Yellow backed, mercury filled.

Part No.	Range °C	Division scale °C	Total length cm
1090060	-10 +50	1/1	30
1090100	-10 +100	1/1	30
1090150	-10 +150	1/1	30
1090250	-10 +250	1/1	30
1090360	-10 +360	1/1	30
1091050	-10 +50	0.5	30
1093100	-10 +100	0.5	30
1092050*	0 +50	0.1	45

* White back.

White back, with red liquid content.
Suitable for measuring samples where mercury is not permitted.
E.g. food products, drinks, etc.

Part No.	Range °C	Division scale °C	Total length cm
1001257	-10 +100	1/1	30

Yellow backed with suspension ring, mercury filled.

Part No.	Range °C	Division scale °C	Immersion length cm	Total length cm
1001299	0 +200	1/1	5	25
3009100	-20 +100	0.5	15	34
3009200	0 +200	1/1	15	34
1009100	0 +60	0.5	15	30

Enclosed scale thermometers

With prismatic capillary, with easy to read scale. Contains mercury.

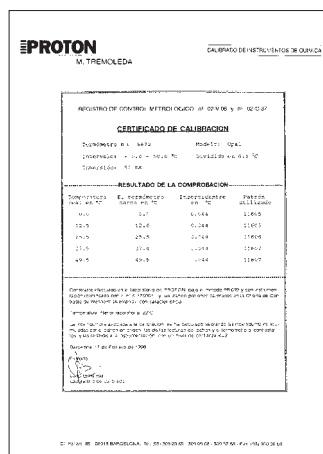| Part No.	Range °C	Division scale °C	Immersion length cm	Total length cm
1095060	-10 +50	1/1	3	30
1095100	-10 +100	1/1	3	30
1095150	-10 +150	1/1	3	30
1095250	-10 +250	1/1	3	30
1095360	-10 +360	1/1	3	30
1096050	-10 +50	0.5	3	30
1096100	-10 +100	0.5	3	30
1097050	-10 +50	0.1	3	45
1000120	-10 +120	1/1	10	25
1000200	-10 +210	1/1	10	30
1000100	-10 +100	1/1	13	25
1000872	-10 +120	1/1	15	33
1000873	0 +220	1/1	15	33
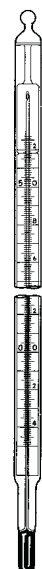
Precision thermometers

Mercury thermometers.

Complete with **calibration certificate** PROTON registration control no. 02-C.37 and 02-V.06 (Meteorological control).

Traceable certificate indicating the proof of continued quality of workmanship against different temperatures, with method and conditions of measurement against known traceable standards.

Part No.	Range °C	Division scale °C	Type	Total length cm
1001258	−10 +100	1/1	solid stem	30
1001259	−10 +250	1/1	solid stem	30
1001260	−10 +50	0.5	solid stem	30
1001261	−10 +100	0.5	solid stem	30
1001262	0 +50	0.1	solid stem	45
1001263	−10 +100	1/1	enclosed scale	30
1001264	−10 +250	1/1	enclosed scale	30
1001265	−10 +50	0.5	enclosed scale	30
1001266	−10 +100	0.5	enclosed scale	30
1001267	−10 +50	0.1	enclosed scale	45

Case with 7 glass rod mercury thermometers, white back, scale in 0.1 °C.

Range °C*	Total length
-30 +20	45 cm
0 +50	45 cm
+50 +100	45 cm
+100 +150	45 cm
+150 +200	45 cm
+200 +250	45 cm
+250 +300	45 cm

*One thermometer per range.
Part No.
1001268 with **calibration certificate** PROTON.
1001298 without **calibration certificate**.

Electric contact thermometers

Adjustable temperature setting with the use of a dial on the top of the thermometer. To provide better mercury flow, the capillary interior is filled with an inert gas. Supplied complete with a 100 cm cable with the appropriate connection on the end.

Part No.	Range °C	Division scale °C	Immersion length cm	Total length cm
3521015	0 +100	1/1	15	39
3522015	0 +200	2/1	15	39
3523015	0 +300	5/1	15	39
3352604	0 +60	1/1	4	28
3352104	0 +100	1/1	4	28
3352204	0 +200	2/1	4	28

Universal reactor for laboratory "RV-12"

ADAPTABLE TO ALL THE STANDARDIZED GLASS ELEMENTS WITH A MOUTH OF 100 MM Ø.
REACTOR CAPACITY: 12 LITRES.

APPLICATIONS
Universal reactor suitable for all laboratory and pilot plant's operations.

FEATURES
Standard mouth for connection to DN100 glass reactor's covers.
Reactor in stainless steel AISI 316, with a capacity of 12 litres and with a drain tap.

STANDARD EQUIPMENT
1. Standard support. Part No. 1001748
2. Clamp with support ring for the reactor. Part No. 1001747
3. Reactor in stainless steel AISI 316, capacity 12 litres with drain tap. External sizes: Height 38 cm. x 25 cm. Ø. Weight: 4,5 Kg Part No. 1001746

Glass cover for reactor.
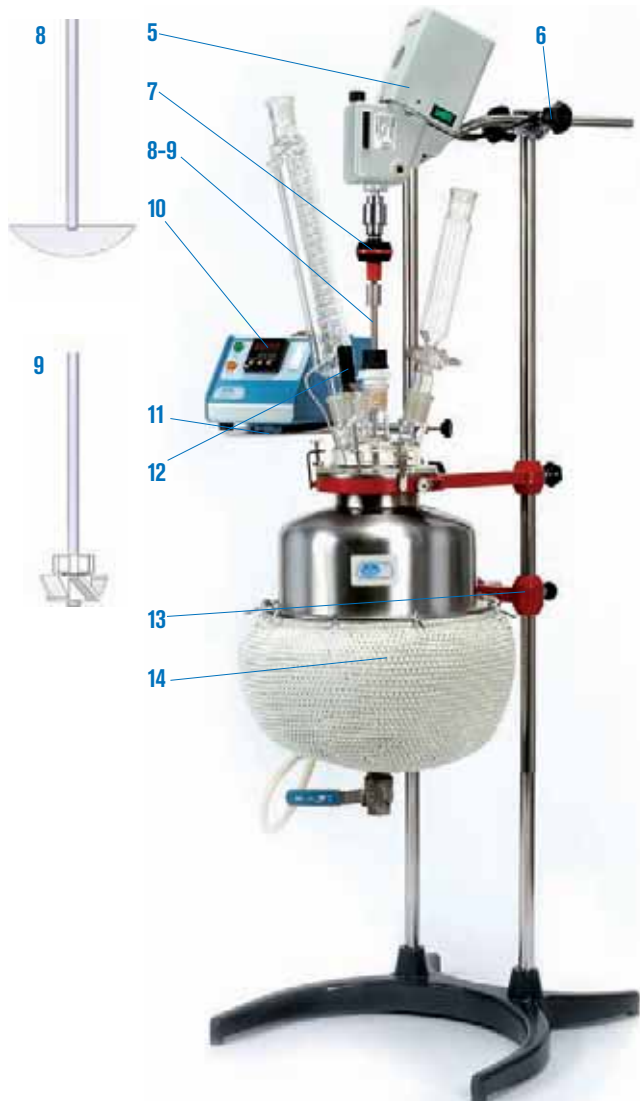
COMPLEMENTS
4. Clasp for fastening normalized flat gaskets for reactor "RV-12" or any glass reactor with normalized mouth of 100 mm. Ø. Part No. 1001758
5. Stirrer RZR-1 with adjustable speed. Part No. 5050111
6. Double bosshead MAXIM. Part No. 7000408
7. Flexible shaft holder for 8 mm. Ø stirring shaft. Part No. 5050903
8. Half-moon shape stirring shaft, 8 mm. Ø stainless steel AISI 304 (length 90 x shovel width 12 cm). Part No. 1001754
9. Helix shape stirring shaft, 8 mm. Ø stainless steel AISI 304 and PTFE shovel (length 90 x shovel width 4 cm). Part No. 1001757
10. Electronic controller ELECTEMP. Part No. 3000887 with connector for inner temperature control, if the heating mantle is used.
11. Support plate with bosshead for Electemp regulator. Part No. 1001750
12. Pt100 probe Part No. 1001749 200 mm length x 4 mm. Ø, with connection cable to Electemp regulator.
13. Ring holder with double bosshead for heating mantle. Part No. 1001751
14. Heating mantle with doble heating elements for temperatures up to 400 °C. Power consumption 1400W. Part No. 3001752

Note: It is supplied without glass elements.
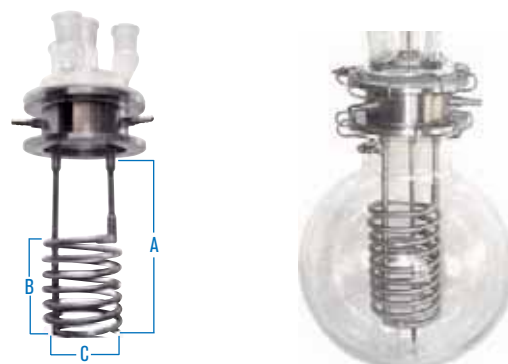
OPTIONAL
Aisi 316 stainless steel device, with standard double mouth and coll for liquid heating or refrigeration inside the reactor.
This device can be connected to the universal reactor part no. 1001746 or to glass reactors with a 10 l. capacity and with DN-100 standard mouth.
Coil measurement: A: 21 cm. B: 15 cm. C: 10 cm. Part No. 1001755
For reactors higher than 40 cm., it must be manufactured according to drawing.

Note: Several tests have been made in the laboratory with the silicone oil "47V50"and with the **Ultraterm-200 thermostat**. Part No. 6000383 (See page 96), reaching temperatures up to 170 ºC in 35' inside the reactor properly isolated with "durablanket120". With methanol fluid transmitter liquid and with **Frigiterm-30 thermostat.** Part No. 6001091 (see page 97), reaching temperatures up to -21 ºC in 57' inside the reactor properly isolated with "durablanket120".

Reactor for pilot plant "R-620"

CAPACITY UP TO 20 LITRES

Drip inlet valve
Cooling cycle water inlet
External feed inlet
Drip bottle feeding inlet
Flask for drip liquid medium
Drip control valve
Vacuum gauge
Drip inlet valve
Air release valve
Reflux control valve
Cooling and heating circulation liquid inlet
Liquid collection flask
Double layer glass flask
Outlet valve
Anchor blade for stirring
Drainage devide
Cooling and heating circulation liquid outlet

Digital thermometer "TC-9226-A"
Temperature range: -200 ºC. to 1370 ºC.
Part No: **5903030**

PTFE faucet and bellows for liquids/solids suspensions evacuation.
Part No: **1001752**

Over elevation support base about 65 cm. height for bottles filling up to 20L capacity.
Part No: **1001744**

APPLICATIONS

This equipment is designed for reflux and distillation operations with a stirring element, for all laboratory's pilot plant operations and small productions.

FEATURES

Reactor module built-in, made of glazed steel in epoxy, composed of an engine group stirring and a reaction borosilicate glass GGA container, graduated for a volume from 4 to 20 litres and with double layer for tempering.
Stirring anchor blade and elements in contact with the liquid or reaction steam, composed of borosilicate glass and PTFE.

CONTROL PANEL

Main switch ON / OFF.
Regulator knob for stirring speed from 0 to 800 rpm, and with digital reading.

Recirculation thermostat "Ultraterm-200".

For adjustable temperatures from ambient +5 ºC. to 200 ºC.
Part no. **6000383** (See pag: 96).

Recirculation cryothermostat "Frigiterm-30".

For adjustable temperatures from -30 ºC. to 100 ºC.
Part no. **6001091** (See pag: 97).

MODELS

Part no.	Total dimensions Height / Width / Depth			Reactor capacity	Operating temperature	Power W	Weight Kg
1001745	180	62	50	20	**-30 ºC to 200 ºC**	250	68

AQUISEL

MEDICAL DEVICES
PRODUCTOS SANITARIOS

MEDICAL DEVICES MANUFACTURER FOR DISPOSABLE IN VITRO DIAGNOSTIC.

FABRICANTE DE PRODUCTOS SANITARIOS PARA DIAGNÓSTICO IN VITRO. UN SOLO USO.
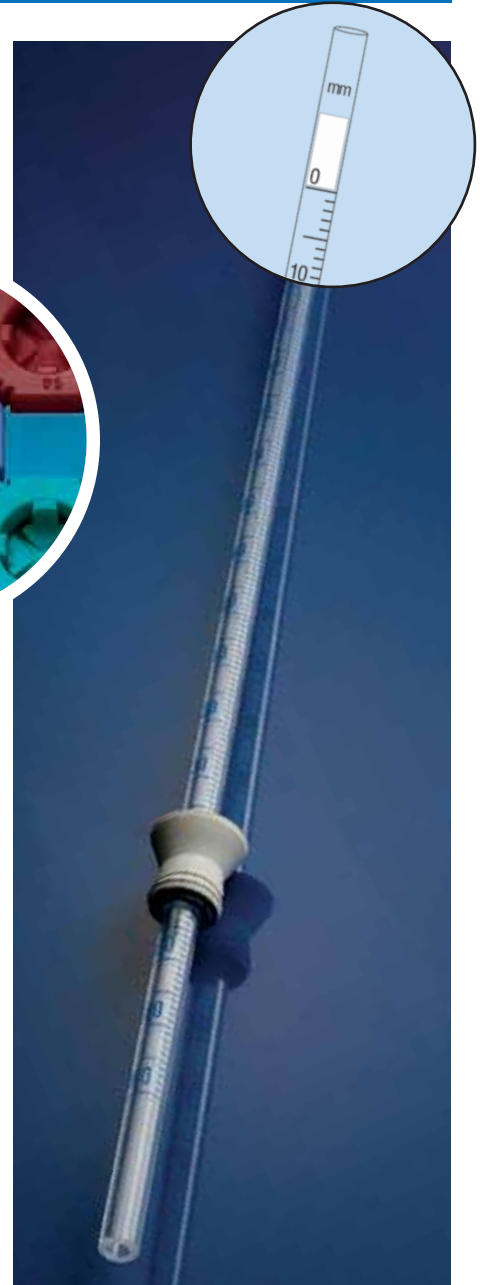
SELECTA GROUP

Eliminate unnecessary risks with the AQUISEL Valve-Stopper system.
Evite riesgos innecesarios con el sistema Tapón-Válvula AQUISEL.

Container with AQUISEL Valve-Stopper.
Contenedor con Tapón-Válvula AQUISEL.

Pipettes for E.S.R. with zero levelling and automatic closure system for conventional tubes or AQUISEL Valve-Stopper.
Pipetas VSG de enrase a cero. Con émbolo de presión para tubos convencionales o con Tapón-Válvula AQUISEL.

ICO-0011-0/02-2009

EN-ISO-9001 QUALITY MANAGEMENT SYSTEMS / EN-ISO-13485 MEDICAL DEVICES
EN-ISO-9001 SISTEMAS DE GESTIÓN DE LA CALIDAD / EN-ISO-13485 PRODUCTOS SANITARIOS

IVD CE

® AQUISEL VALVE-STOPPER

System available for sample manipulation without the need of uncorking the tube, maintaining it hermetically sealed and avoiding the risk of contamination.

TAPÓN- VÁLVULA AQUISEL

Sistema que permite su manipulación sin necesidad de destaponar, permaneciendo hermético y evitando el riesgo de contaminación.

The AQUISEL system consist of a tube, valve-stopper and an appropriate reagent for specific use.

The AQUISEL tube is made of a high resistance transparent polypropylene. The valve-stopper is a very elastic material and **has a special cross-cut design which allows an automatic recover to its initial closed position, after insertion or extraction of the sample.**

The tube's reagent contents is offered through different possibilities identified by colours in accordance with International Standards.

It can be used by most of the current analytical procedures, even if they are manual, semi-automatic or automatic procedures.

It allows inter-hospital road and postal transport thanks to its hermetic seal and high resistance to uncorking due to vibrations, hits, cold, heat, etc.

USE AND APPLICATIONS
1. Inserting (blood) samples with syringe (without needle).
2. Extraction and dosage with semi-automatic pipette.
3. Capillary blood extraction.
4. Capillary filling for microhematocrite.
5. Automatic sampling for haematology in primary tubes.
6. Sample road transport.
7. Centrifuge heads adaptable.

El sistema AQUISEL se compone de tubo, tapón-válvula y del reactivo apropiado para su uso específico.

El tubo del sistema AQUISEL está fabricado en polipropileno de alta resistencia y de gran transparencia. El tapón-válvula es de material muy elástico y **posee unos cortes que por su diseño especial recuperan automáticamente su hermeticidad, después de la introducción o extracción de la muestra.**

Su contenido en reactivo ofrece diferentes posibilidades que se distinguen por su color según Normas Internacionales.

Puede ser utilizado con la mayoría de los procedimientos analíticos actuales, ya sean manuales, semiautomáticos o automáticos.

Permite el transporte neumático intrahospitalario e incluso por correo por su hermeticidad y gran resistencia a destaponarse con movimientos, golpes, frío, calor, etc

USO Y APLICACIONES
1. Introducción de muestra con jeringuilla (sin aguja).
2. Extracción y dosificación con pipeta semiautomática.
3. Recogida de sangre capilar.
4. Llenado de capilar para microhematocrito.
5. Toma de muestras automática para hematología en tubos primarios.
6. Transporte neumático de muestras.
7. Adaptable a cabezales de centrífuga.
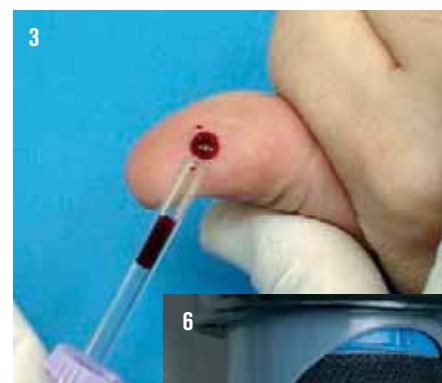
Tubes with AQUISEL Valve-Stopper
Tubos con Tapón-Válvula AQUISEL

There are different size and volume tubes with additives:
anticoagulant, antiglicolytics, clotting accelerators or empty tubes.

Diferentes formatos y volúmenes de tubos con aditivos:
anticoagulantes, antiglicólicos, aceleradores de la coagulación o vacíos.

Tubes for small blood volume, size 55x12
Tubos para pequeños volúmenes de sangre de 55x12.

Suitable for paediatrics or small sample volumes.

Indicados para pediatría, o para pequeños volúmenes de muestra.

Product presentation
Presentación del producto

The tubes are presented in polystyrene racks of 100 units.
Every 50 units are covered with a transparent lid for protection.

Los tubos van colocados en gradillas de poliestireno de 100 unidades.
Cada 50 unidades se cubren con una tapa transparente de protección.

Accesory: CAP-GALET
Accesorio: CAP-GALET

Funnel adapter which can be used together with the primary AQUISEL tubes and allows sample blood transfer to secondary tubes, useful for capillary blood extractions in paediatrics, for low blood volumes, can be used in all auto-analysers for primary tube sampling, etc. All these procedures could be completed without uncorking the primary AQUISEL tubes. Once the CAP-GALET is removed, the tube remains sealed again for conservation or disposal.

Adaptador en forma de embudo que juntamente con los tubos primarios AQUISEL permite trasvasar las muestras a tubos secundarios, realizar extracciones de sangre capilar en pediatría, útil para bajos volúmenes de sangre, ser utilizado en todos los autoanalizadores con toma-muestra de tubo primario, etc.Todos los procesos se realizan sin necesidad de destaponar los tubos primarios AQUISEL. Una vez extraído el CAP-GALET, el tubo permanece de nuevo cerrado para su conservación o desecho.

Product table - Cuadro de productos

AQUISEL TUBES WITH VALVE-STOPPERS - TUBOS AQUISEL CON TAPÓN-VÁLVULA

TUBES QUANTITY IN THE SHIPPING BOX (100 UNITS RACKS) / Nº DE TUBOS EN LAS CAJAS DE EXPEDICIÓN (GRADILLAS DE 100 UNIDADES)			600		800		1.000		800		800		1.000	
Nominal size of the tube: length x diameter in mm. / Tamaño nominal del tubo: long x diámetro en mm.			100 x16		75 x16		55 x16 FLAT BOTTOM CON FALDON		80 x13		70 x12		55 x12 CAP	
CONTENT / REAGENTS CONTENIDO / REACTIVO	DOSAGE TYPE TIPO DE DOSIFICACION	STOPPER COLOUR COLOR DEL TAPON	Code Código	ml blood sangre	Code Código	ml blood sangre	Code Código	ml blood sangre	Code Código	ml blood sangre	Code Código	ml blood sangre	Code Código	ml blood sangre
K3E — EDTA 3K	LIQUID LIQUIDO	MAUVE MALVA					1501103	4	1581104	4	1581105	3	1501106	2
							1501113	2	1581114	2,5			1501116	1
K3E — EDTA 3K	LIQUID LIQUIDO	MAUVE MALVA					1501123	4*	1581124	4*			1501126	0,5
							1501133	2*	1581134	2,5*			1501136	0,25
4 NC — CITRATE 3 Na - CITRATO 3 Na 0,106 M ~ 3,8% 1:4 VSG / ESR	LIQUID LIQUIDO	BLACK NEGRO					1501223	2	1581204	1,6	1581205	1,2	1501206	1
									1581209	1			1501226	0,32
9 NC — CITRATE 3 Na - CITRATO 3 Na 0,106 M ~ 3,8% 1:9 CLOTTING FACTORS FACTORES DE COAGULACION	LIQUID LIQUIDO	LIGHT BLUE AZUL CLARO							1581304	4	1581305	2	1501306	1
													1501326	0,5
LH — Li HEPARIN - HEPARINA Li	LIQUID LIQUIDO	GREEN VERDE	1561401	10					1581404	4	1581405	2	1501406	1
LH — LI HEPARIN WITH SEPARATOR GEL HEPARINA Li CON GEL SEPARADOR	LIQUID AND GEL LIQUIDO Y GEL	GREEN VERDE											1501416	1
LH — Li HEPARIN + MONOIODO ACETATE Li HEPARINA Li + MONOIODO ACETATO Li	LIQUID LIQUIDO	GREEN VERDE							1581604	4			1501606	1
MONOIODO ACETATE Li + CLOTTING GRANULES MONOIODO ACETATO Li + GRANULOS ACTIVADOR	GRANULES GRANULOS	LIGHT GREY GRIS CLARO	1561521	8					1581524	4	1581525	2		
FX — FLUORIDE Na + OXALATE K FLUORURO Na + OXALATO K	LIQUID LIQUIDO	DARK GREY GRIS OSCURO							1581704	4	1581705	2	1501706	1
Z — EMPTY AND UNLABELLED VACIO SIN ETIQUETA		WHITE BLANCO	1561961	10	1581962	7	1501963	5	1581964	5	1581965	3	1501966	2
Z — EMPTY WITH BLANKLABEL FOR SERUM VACIOS CON ETIQUETA EN BLANCO PARA SUERO	POWDER PULVERIZADO	WHITE BLANCO	1561971	10					1581974	5	1581975	3	1501976	2
Z — SEPARATOR GEL FOR SERUM GEL SEPARADOR PARA SUERO	GEL	WHITE BLANCO	1561981	9					1581984	4			1501986	1,5
Z — PS GRANULES FOR SERUM GRANULOS PS PARA SUERO	GRANULES GRANULOS	WHITE BLANCO	1561951	9	1581952	6			1581954	4			1501956	1,5
Z — CLOTTING ACCELERATOR ACTIVADOR DE LA COAGULACION	LIQUID LIQUIDO	RED ROJO											1501806	2
Z — CLOTTING ACCELERATOR SEPARATOR GEL ACTIVADOR DE LA COAGULACION Y GEL SEPARADOR	LIQUID AND GEL LIQUIDO Y GEL	RED ROJO	1561811	9					1581814	4			1501816	1,5
Z — CLOTTING ACCELERATOR PS GRANULES FOR SERUM ACTIVADOR DE LA COAGULACION Y GRANULOS PS PARA SUERO	GRANULES GRANULOS	RED ROJO	1561941	9	1581942	6			1581944	4	1581945	3	1501946	1,5

Shipping boxe size / Medidas Caja Expedición						
Long Largo (cm)	47	47	47	39	36	36
Width Ancho (cm)	23	23	23	22	21	21
High Alto (cm)	34	34	34	36	34	34
Weight Peso (Kg)	4,3	4,3	4,0	3,5	3	3,5

*Special for Haematology automatic machines (special cut 5 mm)
*Especial para máquinas automáticas de hematología (corte especial del tapón 5 mm)

▷ 75x13 size tube for AQUISEL P-2 pipette. Tubo 75x13 para pipeta AQUISEL P-2.
△ Special tube for AQUISEL P-3 pipette. Tubo especial para pipeta AQUISEL P-3.
○ Special tube for AQUISEL P-4 MICRO pipette. Tubo especial para pipeta AQUISEL P-4 MICRO.

ACCESORY: CAP-GALET - ACCESORIO: CAP-GALET
Code **1650000**. Supplied in bags of 500 units.
Código **1650000**. Se suministra en bolsas de 500 unidades.

**AQUISEL TUBES WITH NON-CUT STOPPER - TUBOS AQUISEL CON TAPÓN SIN CORTES**

CONTENT/REAGENTS CONTENIDO/REACTIVO	DOSAGE TYPE TIPO DOSIFICACION	STOPPER COLOUR COLOR TAPON	Nº TUBES PER BOX Nº TUBOS POR CAJA	Code Código	ml blood ml sangre	LENGTH x Ø Tube mm LONG. x Ø Tube mm.	Width / Depth / Height Box cm Ancho / Fondo / Alto Caja cm			Weight Peso Kg
K3E — EDTA 3K	LIQUID LIQUIDO	MAUVE MALVA	800	1681154	3	80 x 13	39	22	36	3

AQUISEL PIPETTE

PIPETTES FOR ERYTHROCYTE SEDIMENTATION READ E.S.R. WESTERGREN METHOD.

Pipettes made in polystyrene with similar properties as glass ones.
The ZERO-CLOSURE system allows the pipette filling, preventing that the blood exceeds the zero point and also avoiding total or partial loss. Automatic sealing makes it a disposable product.
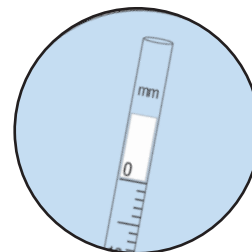
PIPETA AQUISEL

PIPETAS PARA LA DETERMINACIÓN DE LA VELOCIDAD DE SEDIMENTACIÓN GLOBULAR V.S.G. MÉTODO WESTERGREN.

Pipetas fabricadas en poliestireno con un comportamiento equivalente al vidrio.
El sistema de CIERRE-CERO permite el llenado de la pipeta impidiendo que la sangre supere el punto cero y evitando el vaciado total o parcial. Al quedar automáticamente sellado se convierte en un artículo de un solo uso.

AQUISEL Pipette A-2 without rubber.
For any kind of tube use, even with AQUISEL or with a conventional stopper.
Suitable for mechanical or manual aspiration.

Pipeta AQUISEL A-2 sin émbolo.
Para cualquier tipo de tubo, con tapon AQUISEL o convencional.
Llenado por aspiración mecánica o manual.

AQUISEL Pipette P-2 with rubber.
For 75x13 tubes with AQUISEL or with a conventional stopper.
Pipette filling by pressure till the bottom of the tube.

Pipeta AQUISEL P-2 con émbolo.
Para tubos de 75x13 con tapon AQUISEL o convencional.
Llenado de la pipeta por presión hasta el fondo del tubo.

AQUISEL Pipette P-3 and P-4 MICRO systems
Set of AQUISEL pipettes and tubes. Tubes come with the valve-stopper which allows the pipette insertion without the need of uncorking.
Pipette filling by pressure.

Sistemas Pipeta AQUISEL P-3 y P-4 MICRO
Conjuntos formados por pipetas y tubos AQUISEL. Los tubos llevan incorporado el TAPÓN-VALVULA lo que permite la introducción de la pipeta sin necesidad de destaponar.
Llenado por presión.

PRODUCT PRESENTATION - PRESENTACIÓN DEL PRODUCTO

AQUISEL Pipettes A-2
Expanded polystyrene packaging of 500 units.

Pipetas AQUISEL A-2
Envase de P.S. expandido.
De 500 pipetas de capacidad.

AQUISEL Pipettes P-2
200 units cardboard package. Supplied in 800 units boxes.

Pipetas AQUISEL P-2
Envase de cartón de 200 unidades. Se suministran en cajas de 800 unidades.

Set P-3. AQUISEL Pipette and tube
200 units cardboard package and 100 tubes rack made of expanded polystyrene, supplied in 600 sets boxes.

Conjunto P-3. Pipeta con tubo AQUISEL
Envase de cartón de 200 pipetas y de P.S. expandido de 100 tubos. Se suministra en cajas de 600 conjuntos.

Set P-4 Micro. AQUISEL Pipette and tube
100 pipettes cardboard package and 100 tubes rack made of expanded polystyrene, supplied in 400 sets box.

Conjunto P-4 Micro. Pipeta con tubo AQUISEL
Envase de cartón de 100 pipetas y de P.S. expandido de 100 tubos. Se suministra en cajas de 400 conjuntos.

MODEL / MODELO	CODE / CÓDIGO	UNITS / BOX / Nº UNIDADES CAJA	BOX WEIGHT Kg / PESO CAJA Kg	BOX DIMENSIONS cm - MEDIDAS CAJA cm		
				Width Ancho	Depth Fondo	Height Alto
A-2	1750224	500	1,5	27	14	11
P-2	1780225	800	4	55	27	26
Set P-3 / Conjunto P-3	1760200	600 pipettes + 600 tubes / 600 pipetas + 600 tubos	6	47	43	26
Set P-4 Micro / Conjunto P-4 Micro	1740100	400 pipettes + 400 tubes / 400 pipetas + 400 tubos	3,6	20	40	37

COMPLEMENTS - COMPLEMENTOS

Methacrylate rack
10 place rack. For P-3 / P-4 set.
Code
1770003 For tube Ø 13 mm - set P-3
1770004 For tube Ø 12 mm - set P-4 Micro

Gradilla en metacrilato
10 plazas numeradas. Para conjunto P-3 / P-4.
Código
1770003 Para tubo Ø 13 mm - conjunto P-3
1770004 Para tubo Ø 12 mm - conjunto P-4 Micro

Metallic Westergren stand
10 place autoclavable stand.
For any kind of AQUISEL pipettes with Ø 13 mm tubes and A-2 pipettes with Ø 16 mm tubes.
Easy and functional system that allows the total set disposal.
Code
1770001 For Ø 13 mm tubes
1770002 For Ø 16 mm tubes
Loose tubes for pipettes:
1581209 for AQUISEL P-3 (800 units/box)
1501226 for AQUISEL P-4 Micro (1000 units/box)

Soporte Westergren metálico
10 plazas numeradas. Autoclavable.
Para todo tipo de pipetas AQUISEL con tubos de Ø 13 mm y para pipetas A-2 con tubos de Ø 16 mm.
Sistema simple y funcional que permite el vertido total del conjunto.
Código
1770001 Para tubo Ø 13 mm
1770002 Para tubo Ø 16 mm
Tubos sueltos para pipetas:
1581209 para AQUISEL P-3 (800 uds/caja)
1501226 para AQUISEL P-4 Micro (1000 uds/caja)

AQUISEL URINE CONTAINER

CONTAINER FOR URINE SAMPLES COLLECTION WITH AQUISEL VALVE-STOPPER.

The AQUISEL VALVE-STOPPER allows the urine manipulation without uncorking, eliminating the contamination risks, samples loss, spillage, odours, etc.
All the AQUISEL urine container presentations will be supplied with the GALLET accessory, which makes easy the sample dosage to a tube for sedimentation analysis, or the urine test strip insertion.

CONTENEDOR PARA ORINA AQUISEL

CONTENEDOR PARA LA RECOGIDA DE MUESTRAS DE ORINA CON TAPÓN-VÁLVULA AQUISEL.

El TAPÓN-VÁLVULA AQUISEL permite la manipulación de la orina sin destaponar. Evita los riesgos de contaminación, pérdidas de muestra, derrames, malos olores, etc. Todas las presentaciones del contenedor de orina AQUISEL incorporan el accesorio GALET que facilita la dosificación de la muestra a un tubo para el análisis de sedimentación, o la introducción de la tira reactiva.

Insertion of the GALET in the AQUISEL VALVE-STOPPER.

Introducción del GALET en el TAPÓN-VÁLVULA AQUISEL.

Urine sample extraction through the GALET.

Extracción de la muestra de orina a través del GALET.

Urine test strip insertion.

Introducción de la tira reactiva.

Dosage through automatic or conventional pipette.

Dosificación por medio de pipeta automática o convencional.

CODE CÓDIGO	BAG BOLSA	ASSAMBLED MONTADO	UNITS BOX UDS. CAJA	WEIGHT Kg PESO Kg	DIMENSIONS cm - MEDIDAS cm		
					Width Ancho	Depth Fondo	Height Alto
1660223	NO NO	NO NO	600	12	60	40	43
1640234	NO NO	YES SI	400	8	60	45	43
1630233	YES SI	YES SI	300	7	60	45	43

Code 1600230 GALET CONTAINER (1000 units package).

Código 1600230 GALET CONTENEDOR (paquetes de 1000 unidades).

NOTES

A-2 highway, Km 585,1
08630 ABRERA (Barcelona) SPAIN
Tel. +34 93 770 08 77* (6 lines)   Fax. +34 93 770 23 62
www.jpselecta.es   selecta@jpselecta.es

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