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
AGIMICRO	7001638	Analogue	2	No	-	-	40 / 1700	ABS	12
AGIMATIC-S	7000270	Analogue	10	No	-	-	60 / 1600	INOX	14.5
AGIMATIC-N	7000271	Analogue	10	Yes	Electronic/Energy	...350	60 / 1600	INOX	14.5
AGIMATIC-E	7000273	Analogue	10	Yes	Electronic/Temperature	...350	60 / 1600	INOX	14.5
AGIMAN	7000272	Analogue	2	Yes	Electronic/Energy	...350	60 / 1600	For Heating	Mantle
AGIMATIC-ED	7000280	Digital	10	Yes	Electronic/Temperature	...350	60 / 1600	INOX	14.5
KIT AGIMATIC-ED	7001512	Digital	10	Yes	Electronic/Temperature	...350	60 / 1600	INOX	14.5
AGIMATIC-ED-C	7000281	Digital	10	Yes	Electronic/Temperature	...350	60 / 1600	CERAMIC	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-TFT	7000837	TFT touch screen	10	Yes	Electronic/Temperature	...350	100 / 1600	INOX	14.5
AGIMATIC REV-TFT-C	7000838	TFT touch screen	10	Yes	Electronic/Temperature	...350	100 / 1600	CERAMIC	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
VORTEX-VIB	7001725	-	No	2800	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 ºC	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 "1102", "2102", "D-1102" and "D-2102".

Ultrasonic homogeneizers "CY-500".

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 100 to 1600 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-TFT" or Pt100 temperature probe, model dependent. **Agimatic and Agiman exterior measures: Height 14.5, Width 19 and Depth 26 cm. Weight: 3,2 Kg.**
All hotplates have a safety over temperature cut out, set to the maximum working temperature.
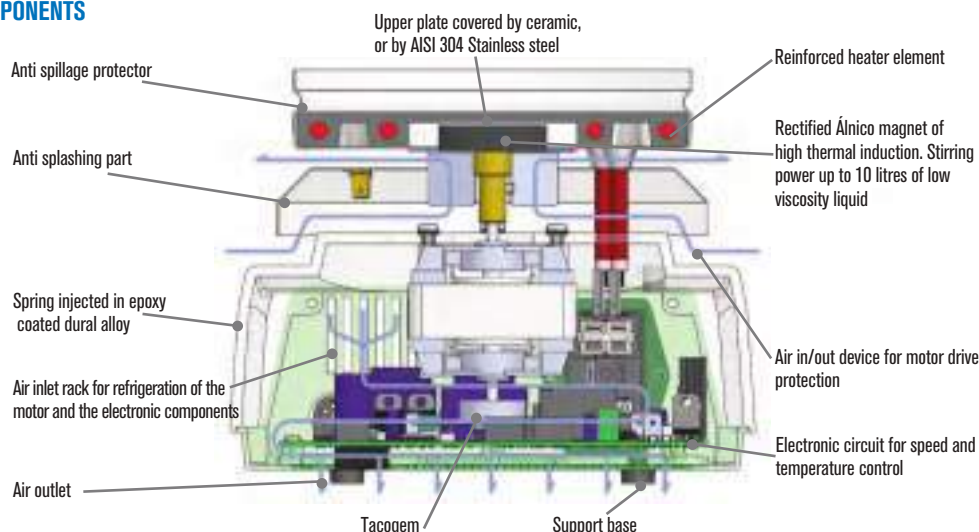
TECHNICAL SCHEMATICS OF DIFFERENT COMPONENTS

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

Electronic contact thermometer "Sensoterm II"

Temperature sensor Pt100

Anti spillage protector

Anti splashing part

Spring injected in epoxy coated dural alloy

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

Air outlet

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

Reinforced heater element

Rectified Álnico magnet of high thermal induction. Stirring power up to 10 litres of low viscosity liquid

Air in/out device for motor drive protection

Electronic circuit for speed and temperature control

Tacogem

Support base

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.

1   2

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-S	7000270	up to 10	14,5 19 26	90	3,5

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

"Agimatic-N" with heating
ELECTRONIC 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".

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-N	7000271	up to 10	14,5 19 26	550	3,5

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

"Agimatic-E" with heating
ELECTRONIC TEMPERATURE CONTROL OF SPEED AND POWER TO THE HEATER. FROM 50 °C TO 350 °C 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.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-E	7000273	up to 10	14,5 19 26	550	3,5

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

Magnetic stirrer "Agiman"
ELECTRONIC CONTROL OF SPEED AND POWER TO THE HEATER. 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".

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

Part No.	Capacity flask ml	Power W
3000447	250	130
3000448	500	270
3000449	1000	410
3000450	2000	530

Complements for Agimatic-S-N-E and Agiman. See accessories on page 31 and 32.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Weight Kg
AGIMAN	7000272	up to 2	14,5 19 26	3,5

Supplied with a PTFE coated stir bar of Ø 10 x 32 mm long.

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

FOR SPEEDS FROM 60 TO 1600 RPM.
FOR ADJUSTABLE TEMPERATURES FROM 50 °C TO 350 °C (200 °C WITH EXTERNAL PROBE). PRECISION ±2 °C.
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.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-ED	7000280	up to 10	14,5 19 26	550	3,5

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

"Agimatic-ED-C" with heating

ELECTRONIC TEMPERATURE CONTROL OF SPEED AND POWER TO THE HEATER.

SILUMIN UPPER PLATE WITH CERAMIC SURFACE.

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.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-ED-C	7000281	up to 10	14,5 19 26	550	3,5

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

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

Reversible magnetic Stirrers "Agimatic-Rev-TFT" and "Agimatic-Rev-TFT-C"

Forefront technology with TFT touch screen

FOR SPEEDS FROM 100 TO 1600 rpm.

FOR ADJUSTABLE TEMPERATURES FROM 30 °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.

MEMORY UP TO 10 WORKING PROGRAMS. AUTOMATIC CYCLES UP TO 6 SEGMENSTS WITH TEMPERATURE PROGRAMMING, RPM AND TIME.

Reversible period left from 10" to 30"

Reversible period right from 10" to 30"

Intervals
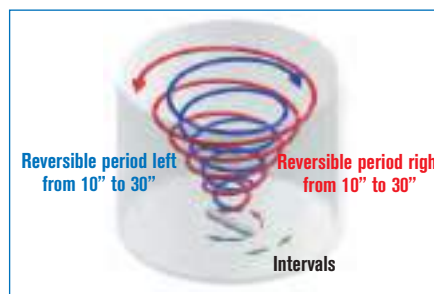
"Agimatic-Rev-TFT" with heating

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. Probe position indicator.
2. rpm, temperature and time reading.
3. Start up.
4. Stop.
5. Settings.
6. Backward.
7. Increase/decrease parameters value.
8. Cursor.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
Agimatic-Rev-TFT	7000837	up to 10	14,5 19 26	550	3,5

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

"Agimatic-Rev-TFT-C" with heating

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

SILUMIN UPPER PLATE WITH CERAMIC SURFACE.

CONTROL PANEL
1. Probe position indicator.
2. rpm, temperature and time reading.
3. Start up.
4. Stop.
5. Settings.
6. Backward.
7. Increase/decrease parameters value.
8. Cursor

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
Agimatic-Rev-TFT-C	7000838	up to 10	14,5 19 26	550	3,5

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

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

Complements for Agimatic-Rev-TFT and Rev-ED-C see accesories on pages 31 and 32.

Complete KIT stirrer Agimatic-ED with support rod and temperature sensor PT100. With heating

SUPPLIED COMPLETE WITH SUPPORT ROD, TEMPERATURE SENSOR PT100, CLAMP AND STIR BAR.
ELECTRONIC TEMPERATURE CONTROL OF SPEED AND POWER TO THE HEATER.

SILUMIN UPPER PLATE COVERED BY AISI 304 STAINLESS STEEL.

NEW

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.

1   2 3 4 5   6
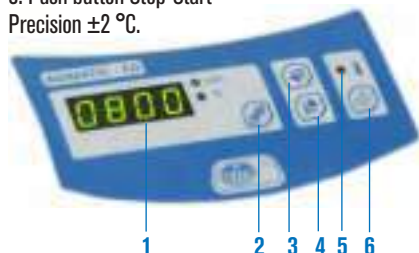
INCLUDED

Support rod with thread of 12 mm Ø x 500 mm high, stirrer dependent, attaches to the main body of the stirrer.

Temperature sensor Pt100. Controls the sample temperature in the digital hotplate stirrers. Immersion Probe: 4mm Ø x 130 mm long. Cable connector 150 cm long.

Clamp with bosshead , "AUTOMATIC" Chrome coated alloy with screw closure.
For Ø from 0 to 25mm.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm			Power W	Weight Kg
KIT	7001512	up to 10	14,5	19	26	550	3,5

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

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.

CONTROL PANEL

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

MODEL

Part No.	Height cm	Ø Plate cm	Power W	Weight Kg
7001638	5	12	3	0.5

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

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 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.

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.

ACCESSORIES

Transparent methacrylate bath.
Fits onto the non heating stir plate of the "Multimatic" 5-S y 9-S
The bath can withstand temperatures up to 60 °C.
See section immersion Thermostats (page 94).

Part No.	Capacity litres	Height / Width / Depth (exterior) cm			Weight Kg
1001007	14	16	30	55	4

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

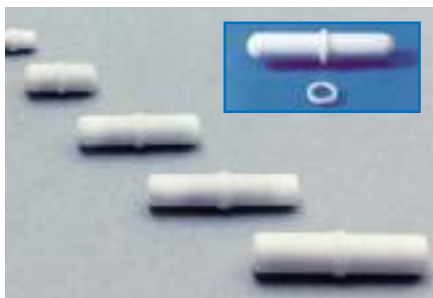**FOR 5 AND 9 POSITIONS, OVER TEMPERATURE SAFETY THERMOSTAT FITTED.**

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	200	Up to 1600	5 x 600	680	700	12
MULTIMATIC 9-N	7000954	16	28	35	25	25	200	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   10 Ø max. x 32 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**

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

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-TFT.

FEATURES:
P.I.D. digital temperature controller. User configurable microprocessor of function parameters.
Temperature measurement range: -150 °C to 1300 °C.
Temperature regulation: from ambient +5 °C to 1300 °C.
Sensor options: Pt100 or Thermo resistor K type probe. See page 293.

SPECIFICATION:
Stability: ±0.1 °C.
Resolution: ±0.1 °C Pt 100 /±1 °C K Type probe.
Operation: 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
Part No. **3000897**

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.
Immersion Probe: 4mm Ø x 130 mm long.
Cable connector 150 cm long.

Identification ICON

Part No. **1001610** for 7000280 and 7000281.
Part No. **1000893** for 7000837 and 7000838.

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"

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

Mixer shaker for tubes "Vortex-Vib"

SHAKE BY MIXER HEAD.

Strong and economic.

FEATURES

With stirring selector by pressure, or fixed in continuous. Starting switch, 4 interchangeable platforms for multiple tubes and 50 ml flasks. Base with 4 suction cups for full adherence.

MODEL

Part No.	Frequency r.p.m.	Height /Width /Depth (exterior) cm			Power W	Weight Kg
7001725	2800	18	12,5	18	50	4

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

Roller and tilt mixer "Movil-Rod II"
FIXED SPEED 36 RPM.

NEW

FEATURES
Roll and tilt mixer with 5 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
7001726	35	36	23	14	26	15,5	6	3

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.
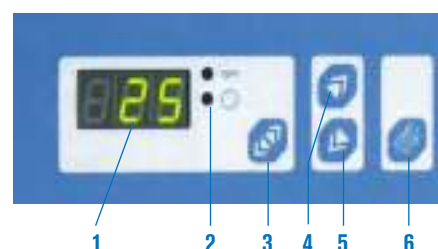Maximum load: 4 kg.

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

1   2   3   4 5   6

ACCESSORIES

2 in 1. Platform support for Erlenmeyer flasks.

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

Model Vibromatic with adapter platform.

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.

Orbital shaker "AG-200", "AG-200-A", "AG-200-B"

ELECTRONIC DIGITAL CONTROL OF SPEED AND RUN-TIME

ivymen OPTIC SYSTEM ®

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.
Power supply: 220V/50Hz
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**

Incubator for Petri capsules. See page: 153

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. **5312013** Adapter for 50 ml.
Platform capacity: 12 units
Part no. **5312014** Adapter for 100 ml.
Platform capacity: 8 units
Part no. **5312015** Adapter for 250 ml.
Platform capacity: 6 units
Part no. **5312016** Adapter for 500 ml.
Platform capacity: 4 units
Part no. **5312017** Adapter for 1000 ml.
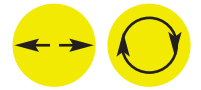Platform capacity: 2 units

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 or 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.
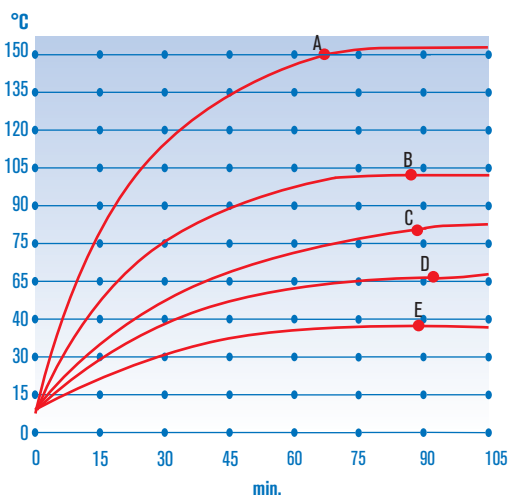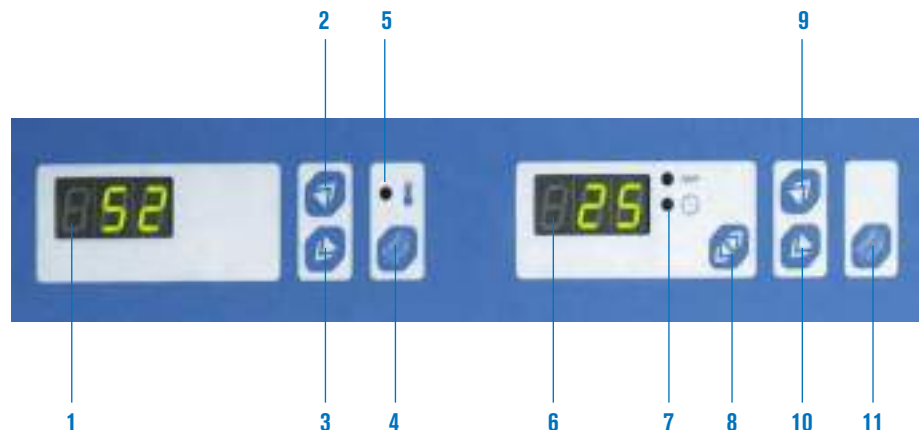
MODEL

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"

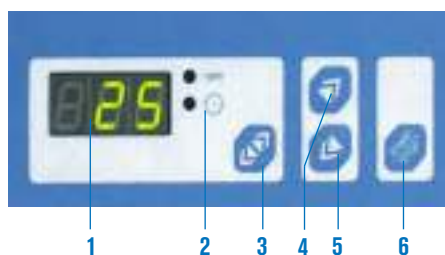**ELECTRONIC DIGITAL CONTROL OF SPEED AND RUN TIME.**

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.
Load capacity: till 30 Kg
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	70	35	7

MODEL

Part No.	Control oscillations p.m.	Height / Width / Depth (exterior) cm			Power W	Load capacity Kg	Weight Kg
3000974	20 - 230	20	42	43	80	30	13.5

This shaker can be coupled to the "Boxcult" incubation chamber with platform Part No. 3000975 (see page 38).

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

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	69	34	66	45	21	18	10	2,2

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.

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

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

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 129).

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.

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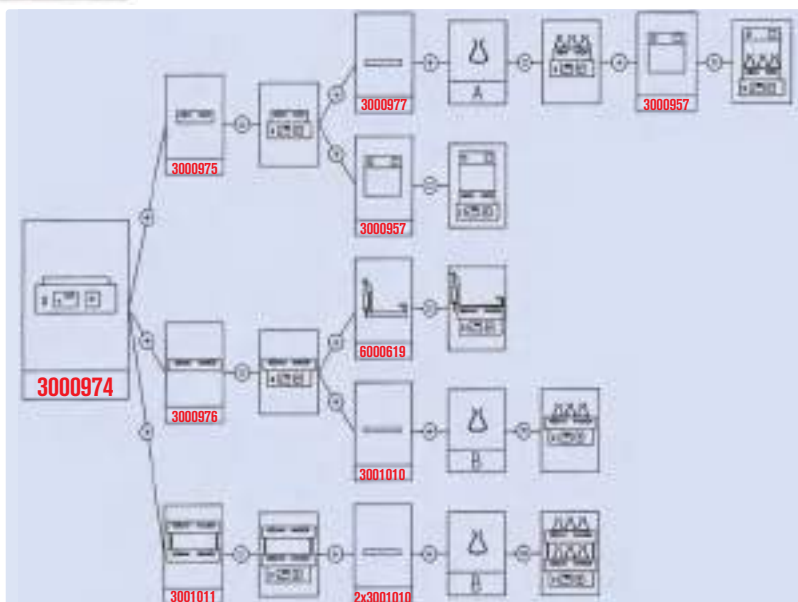Each platform has four silicon clamping bars.

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

Overhead stirrer "SE-100"

FOR BLENDS, HOMOGENIZATIONS, SUSPENSIONS, SOLUTIONS GASIFICATION AND SUBSTANCES RECIRCULATION. DESIGNED FOR CONTINUOUS WORK.
BRUSHLESS MOTORS FREE OF MAINTENANCE AND SPARKS.
PARTIALLY SEALED ENCAPSULATED CASES AGAINST SUBSTANCES AND AGRESSIVE VAPOURS.
THERMAL PROTECTION FOR OVERHEATING WITH AUTO POWER OFF AND LED INDICATOR.

FEATURES

Excellent blending results in an accurate and repeatable control.
Stirring by electronic control of speed, **from 60 to 2000 rpm.**
Specially designed for those samples in which its viscosity changes during the process.
Max stirring volume: **Up to 40 L** (in H2O)
Max stirring viscosity: **Up to 1.000.000 mPas.**
Speed digital reading and pre-selection (rpm).
Adaptable spindle to stirring rods up to 9.5 mmØ.

MODEL

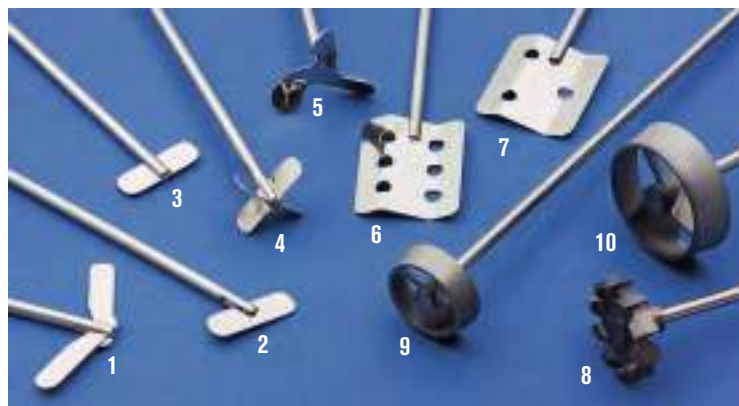| Part No.	Height/Width/Depth (external) cm	Power W	Weight Kg
7000385	17,5 7,5 13,5	**100**	**2,8**

Base and shaft not included.

COMPLEMENT

Automatic elevator for rod stirrers.
Specially designed to ease the use of the overhead stirrer, rising and descending to the height required by the user.

Part No.	Height / Width / Depth (exterior) cm	Lift max. cm	Weight Kg
6000412	74 41 42	**25,5**	**8**

OVERHEAD STIRRER ACCESSORIES

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**

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	46	400	**Radial turbine**
5050932	9	45	400	**Turbo helix 45 mm Ø**
5050933	10	66	400	**Turbo helix 66 mm Ø**

ADJUSTABLE HEIGHT SHAFT STIRRERS

Shafts made of AISI 304 stainless steel coated in PTFE and PTFE stirrer paddles. Shaft: 7 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			

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**

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**

400 mm

410 mm

High volume orbital shaker incubators

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

ivymen OPTIC SYSTEM ®

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

NEW DESIGN

Hinged door model with 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 "S100D" AND "S200D"

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

Orbital rotation adjustment

MODELS FRAMEWORK TYPE "S1102" AND "S2102"

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

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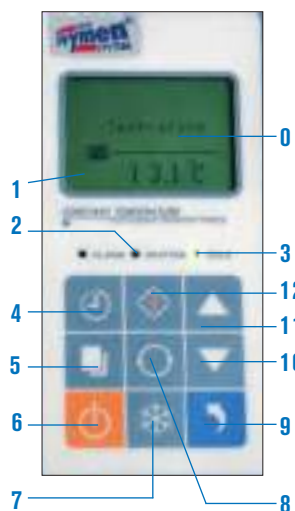
0. LCD Display.
1. Heater "ON" indicator.
2. Alarm indicator.
3. Refrigeration compressor "ON" indicator.(only refrigerated models)
4. Time function push button.
5. Modify and confirm push button.
6. Start / Stop Push button.
7. Adjust temperature push button. (only refrigerated models)
8. Speed push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

S100D serie.

S200D serie.

S1102 and S2102 series.

MODELS	S100D	S200D	S1102	S2102
Part No.	5312130	5312131	5312132	5312133
Rotation amplitude	Continuous adjustment from 0 to 50 mm orbital		25 mm	
Controllable speed range	from 30 to 400 r.p.m.	from 30 to 400 r.p.m.	from 40 to 300 r.p.m.	from 40 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	370 x 400 mm	420 x 380 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	610 x 610 x 510 mm	700 x 740 x 560 mm	1440 x 950 x 700 mm	1440 x 950 x 700 mm
Weight	72 Kg	100 Kg	200 Kg	235 Kg
Power	490 W	580 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 S100D and S200D, 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 **S100D**
Dimensions 400 x 370 x 80 mm
Part No. 5312134

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

For models S**1102** and S**2102**
Dimensions 780 x 480 x 80 mm
Part No. 5312136

Stackable high volume orbital shaker incubators

FAN AIR CIRCULATED, WITH OR WITHOUT REFRIGERATIONF
PROGRAMABLE TFT TOUCH SCREEN CONTROL OF SPEED, TEMPERATURE AND TIME. FOR LONG OPERATING PERIODS.

ivymen OPTIC SYSTEM®

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

GENERAL FEATURES

Metallic external case epoxy-coated and ABS frontal, **specially designed to be able to stack up to 3 incubators.**
TFT Touch screen.
8 programable segments, current and set reading of temperature, time and speed parameters.
Acoustic alarm and illuminated indicator at the end of the cycle and also to indicate temperature and / or time programs errors.
Automatic switch off mechanism when the shaker door is opened.
Motor over load protection, with automatic switch off activation.
Induction drive motor, where the drive mechanism has an anti vibration system.
Refrigerated models have a hermetically sealed compressor unit with a ventilated condenser.
Internal case made of stainless steel AISI 316 with polished finish and glazed door for a handy visibility of the samples process.
Interior platform with front extraction guides with multi-adapter positions for differing accessories, such as: conical flask adapters, microtitre plate holders and universal tray with adjustable tension springs for other non standard sized vessels.
The orbital rotation can be adjusted without disassembly from 50mm.
Amplitude of oscilation: 25 -50 mm.
Comes complete with print and USB output for the process registration.

NUEVO

Example of two stacked models

MODELS	ZHP-2012	ZGP-2012 Refrigerated
Part No.	5312137	5312138
Controllable speed range	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.
Controllable temperature range	from ambient +5 °C to 60 °C	from 4 °C to 60 °C
Controllable temperature in steps of	0.1 °C	0.1 °C
Chamber temperature uniformity	±1 °C	±1 °C
Timer	999 hours	999 hours
Usable platform dimensions	780 x 480 mm	780 x 480 mm
Platform number	1	1
Maximum conical flask capacity (see accessories)	12 X 2000 ml or 15 x 1000 ml, ó 28 x 500 ml, or 40 x 250 ml,	12 X 2000 ml or 15 x 1000 ml, ó 28 x 500 ml, or 40 x 250 ml,
Dimensions Height x Width x Depth	640 x 1150 x 780 mm	640 x 1150 x 780 mm
Weight	150 Kg	180 Kg
Power	760 W	1120 W

ACCESSORIES

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

Part No.	Adapter for	
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

Ultrasonic homogenizers "CY-500"

INTENSE CAVITY SHAKING.
FOR 10 TO 300ML VOLUMES.

OPERATION

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

APPLICATIONS

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

FEATURES

The equipment consists of a control and power unit and an ultrasonic transducer (homogenizer).
Control unit: Epoxy coated external metallic case and ABS front panel. It consists of a LCD display, cycle time programming push buttons, impulse intervals, maximum power and temperature with 10 programs configurable by the user. Probe and connector for the sample temperature control.
Ultrasonic transducer consists of a piezoelectric converter with a ¼ inches titanium alloy probe (5,6mmØ and 60mm height).
It is hold by means of a retort stand and an adjustable clamp, max. 44 cm height.

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**

Probe 1/8" for volumes of 0.5-50 ml.
Part No. **5059602**
Probe 3/8" for volumes of 50-600 ml.
Part No. **5059603**

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.

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.

COMECTA

V solid mixer homogeneizer "VS-5", "VS-8" and "VS-50"

CAPACITY: FROM 5 TO 50 KG. (INDUSTRIAL DESIGN)

ivymen OPTIC SYSTEM ®

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.

VS-50 Model

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
VS-50	5810102	50	20	15	130	150	50	750	250

SPARE PART

Silicone gasket for VS-5, VS-8 and VS-50
Part No. **5810110** (Unit).

ivymen OPTIC SYSTEM ®

COMECTA

Multifunctional grinding mill "TR-20"

FOR CRASHING AND SHEARING (INDUSTRIAL DESIGN)

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.
Only suitable for grinding samples with relative humidity below 20%.

Model	Part No.	Capacity Kg / h	Db	RPM	Voltage V	Measures (cm) Height./ Width. / Depth.			Power Kw	Weight Kg
TR-20	5810000	10 a 30	85	4200	380-50 Hz phase	70	40	80	2,2	85

ACCESSORIES

Sieves

Part no.	Sieve Ø mm.
5810007	1 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 AND PUMPS

EVAPORATORS

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

Rotatory evaporator "RS 3001-V Food"

FOR 1000 AND 2000 ML. FLASKS.

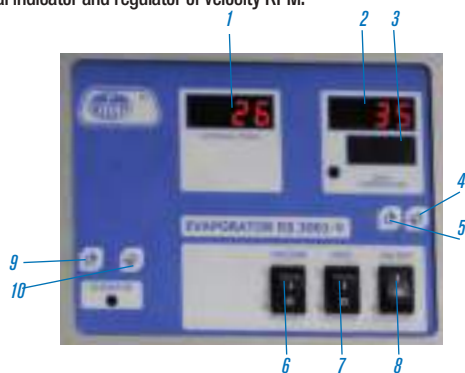## Electronic elevation. Quality and safety. Rotary speed and bath temperature regulation
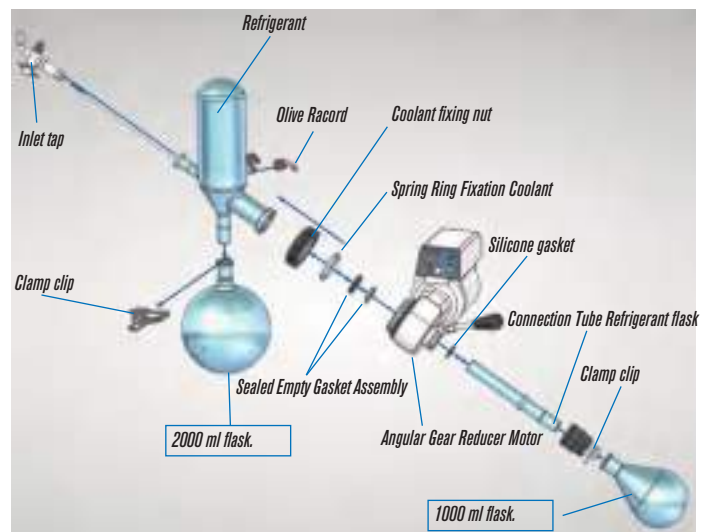
FEATURES

Compact rotatory evaporator composed of stainless steel AISI 304 case. Electronic 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 type K: up to 100 ºC.
maximum volume of the receiving flask and evaporator flask: 2000 ml.
Vacuum breaker with air inlet filter.

CONTROL PANEL

1. Digital reading indicator of external probe temperature.
2. Digital reading indicator of bath temperature.
3. Digital reading indicator of programmed temperature.
4 & 5. Bath temperature regulator.
6. Vacuum pump switch.
7. Heater bath switch.
8. ON/OFF switch.
9 & 10. Elevator.
11. Digital indicator and regulator of velocity RPM.

NEW DESIGN

MODEL

	Part no	Speed	Height / Width / Depth			Power	Weight
		Regulation t.p.m.	(exterior) cm			W	Kg
RS 3001-V	**6003001**	**0 to 120**	**26**	**46**	**45**	**1010**	**28**

It is completely supplied with a tap for solution, a Type K probe, a coolant, one 2000 ml flask, one 1000 ml. flask and its accessories.

ACCESSORY Silicone oil 4 liters. Temperature up to 300ºC. Viscosity 50 mm2/s at 25 ºC. Melting point 318 º C. Part No. **1000027**

GLASS AND ITS ACCESSORIES DIAGRAM
SPARE PARTS

Refrigerant
Olive Racord
Coolant fixing nut
Inlet tap
Spring Ring Fixation Coolant
Silicone gasket
Clamp clip
Connection Tube Refrigerant flask
Sealed Empty Gasket Assembly
Clamp clip
2000 ml flask.
Angular Gear Reducer Motor
1000 ml flask.

COMECTA
Peristaltic Pump "Percom S-Z BIG"

SPEED VARIABLE.
WITH MULTI-ADAPTER HEAD FOR 16 TO 20 MM Ø (EXT.) TUBES.
MAXIMUM WALL THICKNESS: 3,3 MM.
ADJUSTABLE FLOW FROM 220 TO 10000 ML/H.

NEW

FEATURES

High flow desktop model.
Easy-handling aluminum head.
Conveyor handle
Silent and vibration-free.
Selectable speed between 20 and 460 r.p.m.

CONTROL PANEL

Start-stop button.
Speed variator.

MODEL

Part No.	High/ Width /Depth			Flow in H2O	Power	Weight
	(exterior) cm			ml/hour	W	Kg
5910155	**23**	**21**	**40**	**220 to 10000**	**60**	**15,5**

ACCESSORY Standard silicone tube. Ø Inside: 13.1 mm. Ø outside: 19.5 mm.
Part No. **5910156**

Peristaltic pump "Percom N-M II"

**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 0 TO 1100 ml/min.**

FEATURES
Small footprint bench top model
Quiet with minimal vibrations.
Speed control 0,5 to 350 r.p.m (reversible).

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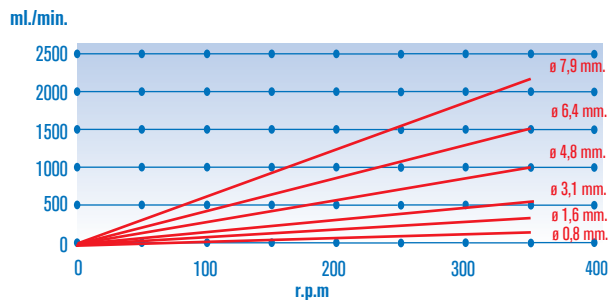Push button decrease speed control.

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/min	Power W	Weight Kg
3001301	**19 13 23**	**0 to 1100**	**48**	**4.4**

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.

Peristaltic dosing pump "Peristaltic PR-2004"

**ELECTRONIC SPEED CONTROL AND TOUCH SCREEN DISPLAY.
MULTI TUBE ADAPTER FROM 4 TO 12 mm Ø (ext.). MAXIMUM WALL THICKNESS 1,6mm.
ADJUSTABLE DOSING RATE PROGRAMMABLE FROM 0,1 ML TO 9999 LITRES.
MAXIMUM PUMP RATE 2280 ml / minute.**

FEATURES
Small tabletop model.
Silent and free from vibrations.
Clamp for holding the dosing tube.
Stainless steel nozzle. for precise dosing.
Dispense rate: The pump can dispense set volumes over a set time period.
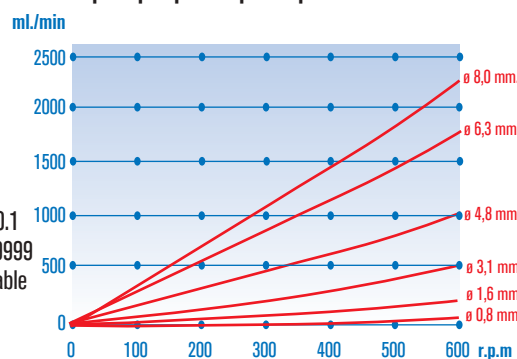Flow rate: The pump dispenses at a constant rate over a set time or continuous operation.

CONTROL PANEL
Touch screen.
Calibration memory.
Change pump direction, control from the panel.
Rotation direction indicator.
Foot switch connection for Start/Stop.

TECHNICAL SPECIFICATIONS
Speed (r.p.m.): 1600
Resolution (ml): . . . . 1 or 0.1
Dispensing range (ml): . . . . 0,1 - 9999
Pump rate . . . . See table
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.
RS 232 and RS-485 connection.
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/min	Power W	Weight Kg
4129051	**25 19 23**	**0,1 to 2280**	**50**	**4,8**

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	Min	Max
0,8	0,7	42
1,6	0,7	162
3,2	1	492
4,8	2	1020
6,3	3	1740
8	4	2280

ACCESSORIES FOR PERISTALTIC PUMPS "PERCOM N-M II" AND "PR-2004"

Standard silicon tubing. (see page: 50)
START STOP foot pedal controller. (PERCOM N-M II) Part No. **1001045**
START STOP foot pedal controller. (PR-2004) Part No. **1001046**

Pumps **47**

Membrane vacuum pumps "MV 50 and MV 100"

FOR AIR, GASES AND STEAM.

ivymen OPTIC SYSTEM ®

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.

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	Power supply	Weight Kg
MV 50	5910100	1,8	200	2	23,5	16	21	160	220V/50Hz	8
MV 100	5910101	3,6	200	2,75	23,5	16	30	160	220V/50Hz	9

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

ivymen OPTIC SYSTEM ®

COMECTA Vacuum pump

ROTARY VANE 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 5900621,
25 mm in model 5900622.
Analogue vacuum gauge.
High oil volume and forced lubrication.
Oil reservoir charge capacity:
250 ml in model 5900620, 550 ml in model 5900621 and 1150
 ml in model 5900622.
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   Part No. 5900622

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	23	27	12	1400	120	7,6
5900621	3,6	0,00	27	35	14	1400	180	11
5900622	7,2	0,0006	34	49	15	1400	370	21

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

COMECTA 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	-	-	-	Yes	Yes
For gasses and vapours slightly aggressive or corrosive	Yes	Yes	Yes	Yes	Yes
For liquid transfer and evacuation	Yes	Yes	Yes	Yes	
For liquid transfer, evacuation and as a compressor	Yes	Yes	-	-	-
Ideal for vacuum filtration	Yes	Yes	Yes	Yes	Yes
Ideal for vacuum filtration, evaporation, drying and gel drying	-	-	-	Yes	Yes

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 ll" and "PR-2003". See page 47

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.

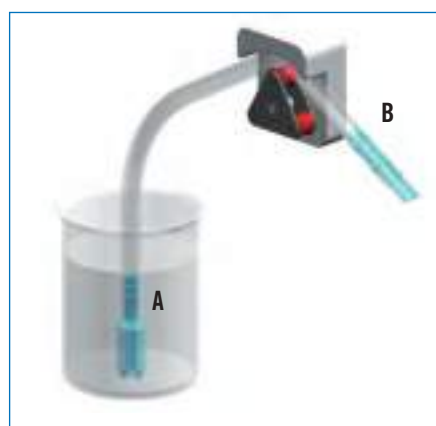**B. Spout "PECIPUMP"**
Surface olive is pushed onto the inside of the dispensing end of the tube, liquids can then be dispensed easily and accurately.
Part No. Tube size

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.

Centrifugal pumps "MP"

SEISUN

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	180	108	95	68
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**			

COMECTA
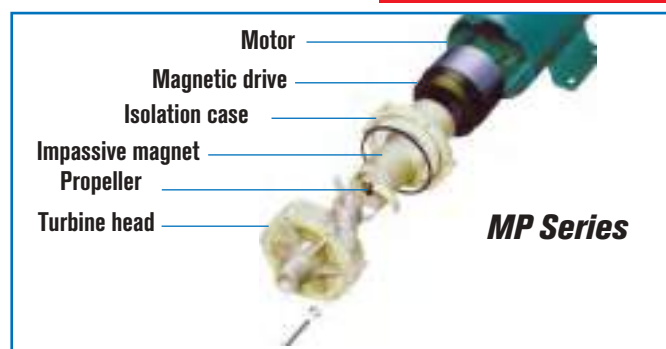
Liquid transfer pump, manual "RP-90P"
MADE FROM CHEMICALLY AND CORROSION RESISTANT POLYPROPYLENE. ROTARY MOVEMENT.

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

COMECTA

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**

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

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

THREE DIFFERENT CONTROL SYSTEMS:

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

MICROPROCESSOR CONTROL OF TEMPERATURE AND STERILIZATION CYCLE, ATMOSPHERIC AIR PURGE:
AUTESTER P 1,5 (mod. vertical)
PRESOCLAVE III 50 (mod. vertical)
PRESOCLAVE III 80 (mod. vertical)
PRESOCLAVE II 150 (mod. vertical)

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

AUTESTER ST DRY PV-III   25 (mod. horizontal)

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

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

PRESOCLAVE PLUS III 50 (mod. vertical)
PRESOCLAVE PLUS III 80 (mod. vertical)
PRESOCLAVE PLUS II 150 (mod. vertical)
AUTESTER ST DRY PV-III 50 (mod. vertical)
AUTESTER ST DRY PV-III 80 (mod. vertical)
AUTESTER ST DRY PV-III 150 (mod. vertical)
The printer can be built-in the autoclaves together with the control panel

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 III 50	4001758	NO	50	115 to 134	0.62	to 2	3600	Electronic controller	Atmospheric	Vertical
PRESOCLAVE III 80	4001759	NO	80	115 to 134	0.62	to 2	3600	Electronic controller	Atmospheric	Vertical
PRESOCLAVE PLUS III 50	4001770	NO	50	115 to 134	0.62	to 2	3600	Electronic controller	Atmospheric	Vertical
PRESOCLAVE PLUS III 80	4001771	NO	80	115 to 134	0.62	to 2	3600	Electronic controller	Atmospheric	Vertical
PRESOCLAVE PLUS II 150	4002172	NO	150	115 to 134	0.62	to 2	7500	Electronic controller	Atmospheric	Vertical
AUTESTER ST DRY PV-B 12	4001737	YES	12	121 and 134	1	and 2	1800	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-B 18	4001734	YES	18	121 and 134	1	and 2	1500	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-B 23	4001735	YES	23	121 y 134	1	and 2	1700	Microprocessor	Purged vacuum	Horizontal bench top
MED 40 CLT	4002000	NO	40	105 to 125	0	to 1	6000	Electronic controller	Atmospheric	Vertical
AUTESTER ST DRY PV-III 25	4002420	YES	25	105 to 134	0.21	to 2	2510	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-III 50	4002516	YES	50	105 to 134	0.21	to 2	3600	Microprocessor	Purged vacuum	Vertical
AUTESTER ST DRY PV-III 80	4002519	YES	80	105 to 134	0.21	to 2	3600	Microprocessor	Purged vacuum	Vertical
AUTESTER ST DRY PV-III 150	4002518	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).**
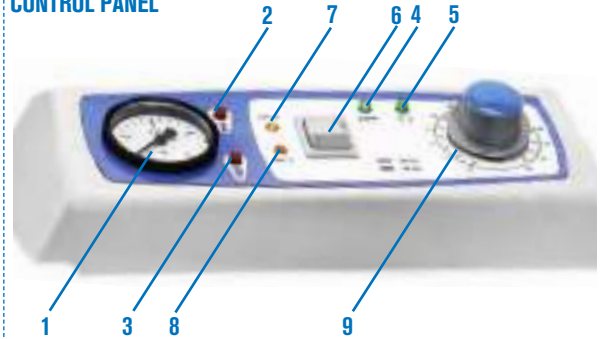Safety device to prevent lid opening.
Starting main switch.

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. Temperature selector 121ºC or 134ºC.
7. Light indicator at 121ºC.
8. Light indicator at 134ºC.
9. Timing from 0 to 60'.

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

SIDE PART
Drain outlet.
Steam and drainage selective valve.

Autoclave for sterilization "MICRO 8"

DESKTOP MODEL

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 56

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 56

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 23x17 cm Part No. 1004773

Autoclaves for sterilization "Presoclave" 50 and 80 litres

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 AND 150.

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.
RS-232 connection.
External lateral probe port.
Sterilization chamber and door made from stainless steel.
Automatic purge to atmosphere

CONTROL PANEL

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

MODELS	Part No.	Capacity litres	Ø (usables cm)	Height (usables cm)	Height / Width / Depth (exterior cm)			Power W	Weight Kg
PRESOCLAVE III 50	4001758	50	30	70	117	48	62	3600	75
PRESOCLAVE III 80	4001759	80	40	62	119	58	72	3600	100

Does not include baskets and drums, order separately.

ACCESSORIES: AISI 304 Stainless steel **wire baskets** and **drums**.
For **Presoclave III 50**, Part. no: 4001758.
Capacity, 3 baskets Ø 25 and 20 cm. height. Part No. **1000495**
For **Presoclave III 80**, Part. no: 4001759.
Capacity, 2 baskets Ø 44 and 22 cm height. Part No. **1000780**
Sterilization **drum** made from AISI 304 stainless steel.
For **Presoclave III 50**, Part. no: 4001758.
Capacity, 3 drum Ø 25 and 18 cm. height. Part No. **1002418**
For **Presoclave III 80**, Part. no: 4001759.
Capacity, 2 drum Ø 35 and 27 cm. height. Part No. **1002419**
Detergent Bio-Sel.
Water distillation unit especially for autoclaves.
Purge microfilter. Part No. **4001221**
Printer of continuous paper roll with print out of temperature, time and mode.
Part No. **4120113** (see page 64).

BACK VIEW:
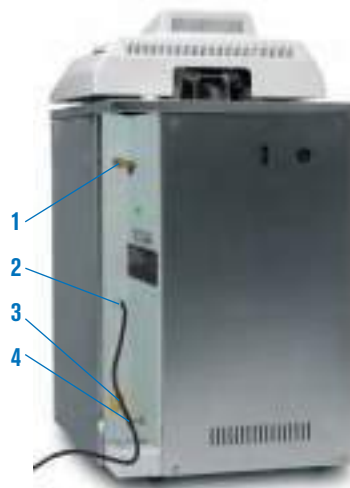
1. Safety valve.
2. Mains power.
3. Safety thermostat
4. Steam discharge and drainage outlet

COMPLEMENTS That needs to be factory installed:
Pt100 second sensor only temperature reader. Part No. **4001219** (see page 63).
Loading and unloading crane. Part No. **1002426** (see page 61).

Autoclaves for sterilization "Presoclave PLUS" 50, 80 and 150 litres.

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.
PROCESS REGISTRATION AND DOWNLOAD VIA USB. VERTICAL MODEL: 50, 80 AND 150 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 semi-automatic alternative

FEATURES

External case made from stainless steel.
INCOLOY stainless steel heater elements, hard waring, resistant to corrosion and high temperatures.
Process registration and download via usb.
External lateral probe port (only models 50 and 80 litres).
Sterilization chamber and door made from stainless steel.
Automatic purge to atmosphere.
10 programs configurable by the user.

CONTROL PANEL

1. TFT touch screen with virtual push buttons.
2. Pressure gauge.
3. Push button open lid.

MODELS	Part No.	Capacity litres	Ø (usables cm)	Height (usables cm)	Height / Width / Depth (exterior cm)			Power W	Weight Kg
PRESOCLAVE III 50	4001770	50	30	70	117	48	62	3600	75
PRESOCLAVE III 80	4001771	80	40	62	119	58	72	3600	100
PRESOCLAVE II 150	*4001772	150	50	70	118	80	95	7500	225

Does not include baskets and drums, order separately. Part No. 4001772 due to its consumption is manufactured for three-phase current at 230 V or 400 V to be specified.

ACCESSORIES: AISI 304 Stainless steel **wire baskets** and **drums.**
For **Presoclave III 50 Plus,** Part. no: 4001770.
Capacity, 3 baskets Ø 25 and 20 cm. height. Part No. 1000495
For **Presoclave III 80 Plus,** Part. no: 4001771.
Capacity, 2 baskets Ø 36 and 28 cm. height. Part No. 1000496
For **Presoclave II 150 Plus,** Part. no: 4001772.
Capacity, 2 baskets Ø 44 and 22 cm height. Part No. 1000780
Sterilization **drum** made from AISI 304 stainless steel.
For **Presoclave III 50 Plus,** Part. no: 4001770.
Capacity, 3 drum Ø 25 and 18 cm. height. Part No. 1002418
For **Presoclave III 80 Plus,** Part. no: 4001771.
Capacity, 2 drum Ø 35 and 27 cm. height. Part No. 1002419
Detergent Bio-Sel.
Water distillation unit especially for autoclaves.
Purge microfilter. Part No. 4001221
Loading and unloading crane. Part No. 1002426 (see page 61).

BACK VIEW:

1. Safety valve.
2. Mains power.
3. Safety thermostat
4. Steam empty valve and Drain selector valve.
5. USB connector.

COMPLEMENTS That needs to be factory installed:
Pt100 second sensor only temperature reader. Part No. 4001219 (see page 63).
Printer of continuous paper roll with print out of program, temperature, pressure, time and phase. Part No. 4002417

Autoclaves for sterilization "Autester ST DRY PV III"

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.
External steam generator (except 150 litres autoclave).
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.
USB output for PEN-DRIVE data logging.
Connection for a second temperature sensor.
10 customer set programs.
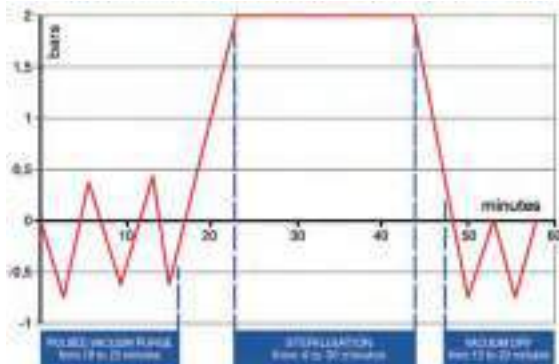Lateral external probe port (except 150 litres autoclave).

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 III

CONTROL PANEL

TFT touch screen with virtual pushbuttons.

1. Graphical representation of real time process
2. Start/Stop virtual pushbutton.
3. Running program.
4. Press indicator.
5. Temperature indicator.
6. Running program parameters.
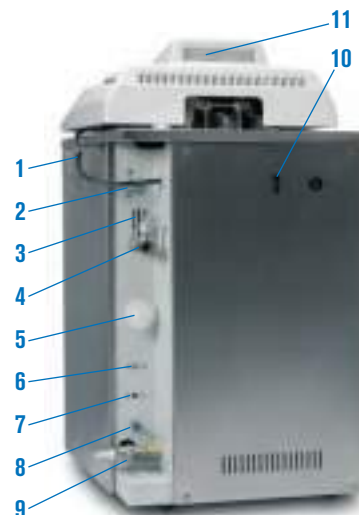
BACK VIEW

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. USB connector.

MICROPROCESSOR FEATURES

The microprocessor controls the performing of the air extraction process, sterilizing and drying, executing the selected procedures and commands by the user, adjusting the following parameters:

- Sterilization temperature from 105°C up to 134°C.
- Sterilization time from 3' to 59'.
- Drying time from 20' to 60'.
- Up to 10 user-configurable programs.
- Six operating modes:
- Solid 1 - Solid 2 fractions. - Solid 3 fractions - Drying - Liquids - Liquids 2 probes
- Verification test
- Vacuum - Bowie Dick.
- Settings:
- Units – languages (Spanish, English, French).
- Printer module On/Off. - Clock: date/time.

- External water: on/off.
- Password for configuration.
- Calibration (adjustment offset)
- Temperature probe 1 - Temperature probe 2
- Water dosing. - Pressure
- Audible and visual alarm for overtemperature and insufficient temperature.
- Network failures detection and memorization
- Safety therrmostat by software
- Sterilization cycles data logging with capacity for over 500 cycles.
- Internal cleaning program
- Graphical representation of real time process

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

MESSAGES:

1. E 2PROM	7. VACUUM	13. LEVEL 1
2. RTC FAULT	8. PRESSURE	14. LEVEL 2
3. SENSOR PRECISION	9. BOILER TEMPERATURE	15. DOOR
4. HEATER PROBE	10. TEMPERATURE LOW FAULT	16. PRINTER NO PAPER
5. CHAMBER PROBE	11. INPUT ERROR	17 PAPER JAM
6. OVER PRESSURE	12. STERILIZATION	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 III 50	4002516	Yes	50	30	63	117	48	62	105 to 134	10	3	3000	108
AUTESTER ST DRY PV III 80	4002519	Yes	80	40	60	119	58	72	105 to 134	10	2	4850	136
AUTESTER ST DRY PV III 150*	4002518	Yes	150	50	70	118	80	95	105 to 134	20	3	7500*	250

Comes without baskets and drums.* The part number 4002518 due to its power rating is only manufactured for three phase 230V or 400V. Specify preference when ordering.

COMPLEMENTS: Factory fitted options.

Printer of continuous paper roll with print out of program, temperature, pressure, time and phase. Part No. 4002417
Pt100 Sensor (See page 63).

COMPLEMENTS FOR "PRESOCLAVE III", "PRESOCLAVE PLUS" AND "AUTESTER ST DRY PV III"

Loading and unloading crane
Baskets elevator for loading and unloading of autoclaves of 50, 80 and 150L
With adapter for handling baskets without deforming.
Axial rotation for placing baskets to a trolley.
Total lift height: 2.35 m (autoclave assembled)
Bottom part made of epoxi coated steel and upper part made of stainless steel.
Maximum crane load: 40 Kg.
Power: 230V 300W
UP/DOWN pushbutton.
Part No: 1002426

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).

ACCESSORIES: AISI 304 Stainless steel **wire baskets** and **drums**.
For **Autester ST DRY PV-II 50,** Part No: 4002516.
Capacity, 3 baskets Ø 25,5 and 20 cm. height. Part No: 1000495
For **Autester ST DRY PV-II 80,** Part No: 4002519.
Capacity, 2 baskets Ø 36 and 28 cm. height. Part No: 1000496
For **Autester ST DRY PV-II 150,** Part No: 4002518.
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: 4002516.
Capacity, 3 drum Ø 25 and 18 cm. height. Part No. 1002418
For **Autester ST DRY PV-II 80,** Part No: 4002519.
Capacity, 2 drum Ø 35 and 27 cm. height. Part No. 1002419
Detergent Bio-Sel. (see page 63)
Water distillation unit especially for autoclaves. (see page 63).
Purge microfilter. Part No. 4001221

Culture media autoclave preparer "Med 40 CLT"

CONTROL OF PROCESSES BY MICROPROCESSOR.
FOR ADJUSTABLE TEMPERATURES FROM 105°C TO 125°C.
VERTICAL MODEL CAPACITY: 40 LITRES

NEW

STANDARD	
EN 61010-1	SAFETY REQUIREMENTS FOR LABORATORY USE EQUIPMENTS.
EN 61010-2-040	SAFETY REQUIREMENTS FOR LABORATORY USE EQUIPMENTS. STERILIZERS.
EN 61326	REQUIREMENTS FOR ELECTROMAGNETIC COMPATIBILITY OF LABORATORY EQUIPMENTS.

APPLICATIONS

Ideal for the operative workflow in microbiology and in tissue culture laboratories.
Preparation, sterilization and dispensing culture media is integrated in a single autoclave.
High efficiency system in heating, cooling and chamber agitation.

FEATURES

Stainless steel outer casing.
Tank and cover in stainless steel.
USB output for data recording in PEN-DRIVE.
50 programs totally configurable by the user.
Dosage per peristaltic pump.
Dosage control by a pedal.
Magnetic stirrer for internal stirring with PTFE rod.
Agitation speed adjustment (50-200 rpm).
Filler for dosage additive.
Temperature control by water probe and by product probe.

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.

CONTROL PANEL

TFT touch screen with virtual push buttons.

Available from July 2020

1. Graphical representation of processes in real time
2. Start/Stop button.
3. Program in execution.
4. Temperature indicator.
5. Parameters of the program in execution

MODEL

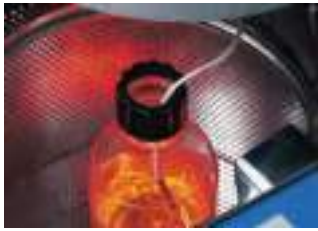| Part No.	Capacity litres	Ø (useful) cm	Height	Height /Width / Depth (exterior) cm			Power W	Weight Kg
4002000	**40**	**20**	**45**	**117**	**50**	**65**	**6000 III phase**	**95**

COMPLEMENTS that must be installed at the factory:
Printer on continuous paper with indication of temperature, time and mode. Part number **4002417** (See page 61)

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 III 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 must be selected in settings, whereby the real time temperature values detected by the probe, are displayed and printed.
For autoclaves PRESOCLAVE III and PRESOCLAVE PLUS 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	Height	Suitable for autoclaves	Number of
		cm	Part No.	baskets
1004771	22	14	4001745	1
1004772	22	24	4001756	1
1004773	23	17	4001757	2
1000495	27	20	4001758 – 4001770 – 4002516	3
1000496	36	28	4001759 – 4001771 – 4002519	2
1000780	44	22	4001772 – 4002518	3
1000490*	26	19	4001758 – 4001770 – 4002516	3
1000491*	36	26	4001759 – 4001771 – 4002519	2
1000492*	47	20	4001772 – 4002518	3

*AISI 304 stainless steel blind baskets.

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.

Código	Ø	Height	Suitable for autoclaves	Capacity
		cm	Part No.	Drums
1002418	25	18	4001758 – 4001770 – 4002516	3
1002419	35	27	4001759 – 4001771 – 4002519	2
1002420	28	18	**Not suitable for our autoclaves.**	

Water distiller, specially for autoclaves "DEST-4".
Distillation capacity: 1.2 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	1.2	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 III" 25

CAPACITY: 25 LITRES. SPACE FOR 12 BOTTLES OF 250 ML, 9 OF 500 ML, 3 OF 1000 ML AND 2 OF 2000 ML.
CONFORMS TO THE REGULATION - 2014/68/UE EQUIPMENT UNDER PRESSURE.

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

FEATURES
Sterilization chamber and lid made from AISI 304 stainless steel.
External case epoxy coated.
Digital control of all autoclave operations.
TFT 3,5" touch screen .
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 or for printer.
USB output for PEN-DRIVE data logging.

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.

MICROPROCESSOR FUNCTIONS
Controlled parameters are:
• Sterilization temperature from 105°C up to 134°C.
• Sterilization time from 3' to 59'.
• Drying time from 20' to 60'.
• Up to 10 user-configurable programs.
• Six operating modes:
- Solid 1 - Solid 2 fractions. - Solid 3 fractions - Drying - Liquids - Liquids 2 probes
• Verification test
- Vacuum - Bowie Dick.
• Settings:
- Units – languages (Spanish, English, French). - Printer module On/Off. - Clock: date/time.
• Password for adjustment.
• Calibration.
- Temperature probe 1 - Temperature probe 2 - Water dosing - Presion.
• Audible and visual alarm for overtemperature and insufficient temperature.
• Network failures detection and memorization.
• Safety therrmostat by software.
• Sterilization cycles data logging with capacity for over 500 cycles.
• Internal cleaning program.
• Graphical representation of real time process.

CONTROL PANEL
TFT touch screen with virtual pushbuttons.

1. Graphical representation of real time process
2. Start/Stop pushbutton.
3. Running program.
4. Press indicator.
5. Temperature indicator.
6. Running program parameters.

MODEL	Part No.	Capacity litres	Ø/Depth (usables) cm		Height/Width/Depth (exterior) cm			Power W	Weight Kg
AUTESTER ST DRY PV III 25	4002420	25	30	35	58	46	59	2510	52

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

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).

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

ACCESSORIES
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 63).
Bag sealers (See page 68 and 69).
Special tray for bottles of 0.25, 0.5, 1 or 2 litres. Part No. 4002416

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.

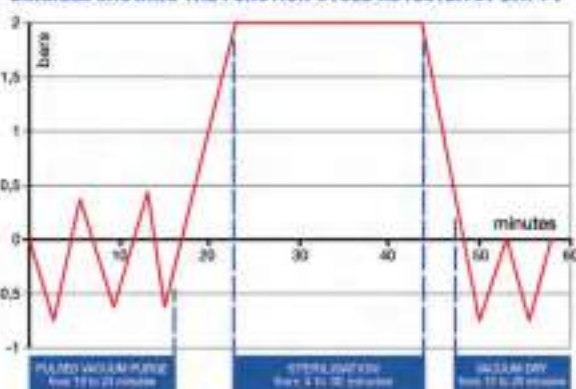| SAFETY:	
SAFETY VALVE:	PREVENTS THE PRESSURE EXCEEDING THE MAXIMUM SET LIMIT.
SAFETY THERMOSTAT:	DISCONNECTS THE HEATER AGAINST OVER TEMPERATURE OR LOW WATER IN THE RESERVOIR.
	THERMALLY INSULATED LID.

12 litres

18 and 23 litres

DIAGRAM SHOWING THE FUNCTION CYCLE AUTESTER ST DRY PV

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: 2014/68/UE *equipment under presure,3.3.*

### 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 .

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
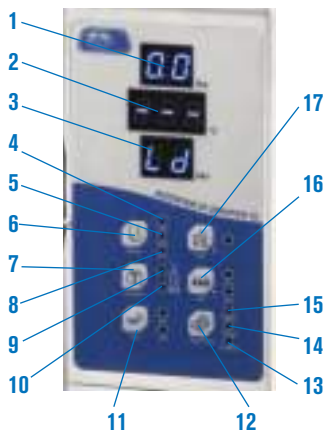
TEMPERATURE CONTROL AND AUTOMATIC MICROPROCESSOR CYCLE.

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

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 Height Width Depth	Trays dimensions cm Height Width Depth	Power W	Weight kg
AUTESTER ST DRY PV B 12	4001737	12	20 35	39,2 48,7 60	1,8 14 29,5	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

Thermal Printer.
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 63).
Bag sealers (See page 68 and 69).

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: 2014/68/UE equipment under presure,3.3.

FEATURES

Digital electronic control.
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.
Automatic or manual filling of the water tank.
Printer interface.
USB connection for parameters memorization (software included).

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.
Dirty water tank full alarm.

TEMPERATURE CONTROL AND AUTOMATIC MICROPROCESSOR CYCLE.

CONTROL PANEL

1. LCD screen.
2. Push button increase parameters.
3. Push button decrease parameters.
4. Push button menu.
5. Push button Start-Stop.

CYCLES	134 °C Emergency	134 °C Solid	134 °C Hollow	134 °C Sanguinary	121 °C Solid	121 °C Hollow	134 °C Glass	121 °C Tampon	134 °C Bowie Dick	134 °C Helix	134 °C User-defined	Test Vacuum
Sterilization Temperature	134 °C	134 °C	134 °C	134 °C	121 °C	121 °C	134 °C	121 °C	134 °C	134 °C	134 °C	-
Sterilization pressure	2,1 bar	2,1 bar	2,1 bar	2,1 bar	1,1 bar	1,1 bar	1,1 bar	1,1 bar	2,1 bar	2,1 bar	-	-
Vacuum purge number	1	1	4	3	1	3	1	3	3	3	3	-
Sterilization time	4 min.	4 min.	4 min.	18 min.	20 min.	20 min.	4 min.	30 min.	3,5 min.	3,5 min.	4 min.	-
Dry time	8 min.	4 min.	10 min.	10 min.	8 min.	10 min.	4 min.	18 min.	3min.	3 min.	3 min.	-

MODEL	Part No.	Capacity litres	Ø / depth cm		External dimensions cm Height Width Depth			Trays dimensions cm Height Width Depth			Power W	Weight kg
AUTESTER ST DRY PV 18	4001734	18	24,5	38	40	47	56	2	20,5	28	1500	46,6
AUTESTER ST DRY PV 23	4001735	23	24,5	48	40	47	67	2	20,5	38	1700	48

ACCESSORIES

Ink Printer (no thermal).
Paper size 2 1/4" (56 mm) wide.
Includes communications and power cable.
Power: DC 5V 3A
Part No: 4120124
Water distiller especially for Autoclaves. (See page 63).
Bag sealers (See page 68 and 69).

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

Bag sealer "S-400-B"

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

NEW DESIGN

FEATURES
Front part made of metal epoxy covered case.
Pressure sealer. Manual cut.

CONTROL PANEL
Illuminated mains switch.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4100047	12	300	17,5	47	35	100	4.8

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 2"

ACCORDING TO DIN 58953 SECTION 7 STANDARD. FOR POLYPROPYLENE-POLYESTER BAGS WITH PAPER BASE TO STERILIZE. CONTINUOUS SEALING. MANUAL OR AUTOMATIC ADVANCE.

Continuous Thermosealer

NEW DESIGN

FEATURES
Exterior in enamel protected steel.
Heating time: 4'.
Sealing width: 10 mm.
Sealing speed: 6 m / min.
Acoustic signal of cycle starting.
Electronic regulation and digital reading of temperature.

CONTROL PANEL
Start-up light switch.
Manual or automatic start switch.

MODEL

Part No.	Height / Width / Depth (sealer) cm			Power W	Weight Kg
4100044	16	48	26	720	13

Automatic bag sealer with printer "Seal-Com 3"

ACCORDING DIN 58953 SECTION 7 STANDARD. FOR SEALING STERILE PAPER, POLYPROPYLENE-POLYESTER BAGS. SPECIAL FOR A LARGE AMOUNT OF BAGS SEALING.

NEW

FEATURES
Exterior made from AISI 304 stainless steel, ideal for sealing plastic paper bags, solid plastic paper and only paper bags.
Heating time: 4 minutes.
Seal width: 12 mm.
Sealing speed: 10 m/min.
Acoustic sign of cycle starting.
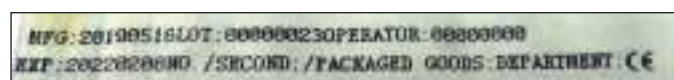Temperature touch control from 60 to 220ºC.

CONTROL PANEL
LCD touch screen 7" indicating:
- Setpoint temperature and actual temperature.
- Date and time (automatic date change).
- Print size.

PRINTING
Print sterilization date, expiration date, sterilization lot, name of the operator, name of the item and department.

MFG:20190516LOT:00000023OPERATOR:00000000
EXP:20220206NO./SECOND:/PACKAGED GOODS DEPARTMENT CE

MODEL

Part No.	Height / Width / Depth (sealer) cm			Power W	Weight Kg
4100049	22	56	26	500	20

ACCESSORIES
Roller table
Measures cm: 74.5 width x 28.6 depth x 5.2 height.
Part No. **4100053**

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 2022
VALID FOR 3 MONTHS.

OPTIONS: Ultrasonic cleaning baths for dentistry, "Ultrasons-Digit" (see page 94). **Dry sterilizer** "DRYTIME" poupinel oven (see page 136).

ACCESSORIES FOR AUTOCAVES

Mercury-free thermometer for recording autoclave's temperature.
It indicates the highest temperature reached by the autoclave to verify its correct operation.
AISI 304 stainless steel made body and glass lens resistant to humidity, pressure and high temperatures.
Range: -20/150°C. Accuracy: ± 2˚C.
Part number **1097101** Without calibration.
Part number **1097102** With individual calibration report at 121ºC.

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

LOW TEMPERATURE
Model selection table

Equipment type	Model	Forced Air	Regulation	CAPACITY			
Refrigerated Cabinets				105 litres			
+2 ... +8 °C	**Medilow XS**	**Yes**	**Analogical**	**2101286**			
Cabinets				180 litres	236 litres	544 litres	544 litres glass
+1 ... +40 °C	**Medilow-S-M-L-LG**	**Yes**	**Digital**	**2101270**	**2101271**	**2101272**	**2101273**
Storage refrigerators				236 litres	352 litres	330 litres	
+0 ... +15 °C	**Pharmalow-S-L**	**Yes**	**Analogical**	**2101274**	**2101275**	**-**	
+2 ... +8°C	**Pharmalow-M**	**Yes**	**Digital**	**-**	**-**	**2101287**	
Storage freezers				513 litres			
-14 ... -25 °C	**Templow-M**	**No**	**Digital**	**2101279**			
				257 litres			
-15 ... -32 °C	**Templow-S**	**No**	**Digital**	**2101278**			
				600 litres			
-10 ... -35 °C	**Templow-L**	**Yes**	**Digital**	**2101280**			
				289 litres (Two compartments)			
+2 ... -40 °C	**Templow-YC**	**Yes**	**Digital**	**2101288**			
Storage refrigerators				670 litres	670 litres Glass		
+1 ... +8 °C	**Stocklow LS**	**Yes**	**Digital**	**2101283**	**-**		
+1 ... +8 °C	**Stocklow GS**	**Yes**	**Digital**	**-**	**2101284**		
-17 ... -22 °C	**Stocklow LSC**	**Yes**	**Digital**	**2101289**			
Chest Freezers				206 litres	215 litres	343 litres	352 litres
-14 ... -28 °C	**Combatemp**	**No**	**Digital**	**2101040**	**-**	**2101041**	**-**
-10 ... -40 °C	**Combatemp**	**No**	**Digital**	**-**	**2101181**	**-**	**2101182**
Flake ice maker				Production 58 Kg	Production 89 Kg	Production 142 Kg	
	"COM"	**Compressor**	**-**	**5020104**	**5020105**	**5020106**	

Flake ice maker "COM-50", "COM-85" and "COM-150"

"COM-50" MODEL: PRODUCTION 45 kg-24 HOURS.
"COM-85" MODEL: PRODUCTION 85 kg-24 HOURS.
"COM-150" MODEL: PRODUCTION 150 kg-24 HOURS.

NEW DESIGN

MODELS	Part No.	24h.(kg) Production	Tank Capacity (Kg)	Height / Width /Depth cm			Power W	Weight Kg
EF-50	**5020104**	**58**	**20**	**79**	**47**	**60**	**470**	**58**
EF-85	**5020105**	**89**	**20**	**79**	**47**	**60**	**550**	**58**
EF-150	**5020106**	**142**	**60**	**136**	**51**	**55**	**900**	**75**

Features: See page. 190.

Refrigerated cabinet "Medilow-XS"

FOR TEMPERATURES FROM 2°C TO 8°C.
IDEAL FOR SMALL SPACES.

FEATURES

Epoxy covered external case.
Interior ABS molded, resistant to chemicals with LED light built-in.
Internal fan for temperature homogenization.
Supports for adjustable in height shelves.

CONTROL PANEL

Analog temperature controller.
On/Off switch internal light.
On/Off switch external light.

MODELO

Código	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior)cm			Power W	Power HP	Nº Shelves	Weight Kg
2101286	105	146,5	28	27	182,5	36	38,5	110	1/8	8	65

Supplied with 8 steel trays, PVC laminated. For additional tray. Part No. **1001861**

Refrigerated cabinets "Medilow" S, 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, 610 AND 544 LITRES.

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

Model 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

Exterior cabinet covered in epoxy and interior enclosure-molded in ABS, resistant and easy to clean.
Hermetic and vibration-free compressor group.
Air circulation turbine inside the enclosure.
Side hole for entry of connections, probes, etc.
Power socket outlets inside (power maximum 500W).
Level adjustable front foot supports.
Change of door opening direction.
Lockable door.
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	-	70	51	44	85	60	85	3	2	250	36
MEDILOW-L	2101301	610	-	145	60	56	164	75	95	3	2	330	73
MEDILOW-LG*	2101302	544	SI	145	60	56	164	75	95	4	2	330	82

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

SPARE PARTS Shelves

For Medilow S/L/LG Part No.	2101270	2101301	2101302
Shelves	1001813	1001986	1001987

Refrigerated cabinet "Pharmalow" L

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

APLICATIONS

Products that require a constant temperature below ambient, preservation of pharmaceuticals, medicines, microtubes, pharmaceuticals, medicines, microtubes, etc.

COMMON FEATURES

Exterior cabinet and door in light gray lacquered metal and interior enclosure in white sheet metal with non-toxic finish.
Metallic door and interior led light.
Hermetic compressor unit.
Air circulation turbine throughout the interior enclosure for greater homogeneity.

Automatic defrosting with water evaporation.
Level adjustable foot supports.
Door direction change.
Door with lock.

CONTROL PANEL

Temperature regulator thermostat inside.
Digital thermometer temperature reader.
Digital electronic temperature controller.

SPARE PARTS Shelves

For Pharmalow /L	
Shelves	**1001985**

NEW DESIGN

MODEL

	Part N	Capacity	Height / Width / Depht	Height / Width / Depht	Power	Number	Weight
		liters	(interior) cm	exterior (cm)	W	of shelves	KG
PharmalowL	**2101300**	327	145 47 44	169 60 65	180	4	58

Comes complete with 4 steel shelves, PVC laminated.

ACCESSORIES Need to be factory fitted.

OPTIONAL
Drawer with 3 compartments and 12 partitions.
Maxium quantity 8 drawers
Code **1001315**

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

DIGITAL ELECTRONIC TEMPERATURE CONTROL FROM +2 TO +8

MODEL

Part No.	Capacity	Height / Width / Depht	Alto / Ancho / Fondo	Power	Power	Number	Weight
	litres	(interior) cm	(exterior)cm	W	HP	of shelves	Kg
2101287	330	145 54 47	184,5 62 60	575	1/4	6	113

Comes complete with 6 shelves.

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.

SPARE PARTS
Part No.
1001860   Set 2 additional guides + shelf

Upright freezers "Templow" S, M,L and YC

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

Upright freezer "Templow" S
DIGITAL TEMPERATURE CONTROL,
FIXED TEMPERATURE: -15 °C, -18 °C, -21 °C, -25 °C AND -32 °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 -14 °C TO -25 °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 -35 °C.
COMES WITH 4 SHELVES.

FEATURES
External and internal case made completely of
AISI 304 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.

Refrigerated cabinet with double compressor "Templow" YC
UPPER CASE: TEMPERATURES FROM 2°C UP TO 8°C. CAPACITY: 189 LITRES.
LOWER CASE: TEMPERATURES FROM -10°C UP TO -40°C. CAPACITY: 100 LITRES.
3 SHELVES AND 1 DRAWER IN UPPER CASE AND 3 DRAWERS IN LOWER CASE.

CARACTERÍSTICAS
External case covered in epoxy.
Stainless steel internal easy for cleaning, with also stainless steel wire basket.
Double compressor that offers maximum stability and constancy of temperature.
Gradual adjustment of the trays for a versatile use of the interior.
Door with lock and key.
USB output for data recording.

CONTROL PANEL.
Digital electronic control.
Alarms of low and high temperature, door open and power failure.
Backup battery for alarms.
Upper case temperature indicator display.
Lower case temperature indicator display.
Parameters value increase/decrease.

MODELS	Part No.	Capacity litres	Range °C	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Weight Kg	
TEMPLOW S	2101278	257	-15 to -32	151	44	42	184	60	63	110	81	Comes with 8 drawers
TEMPLOW M	2101279	513	-14 to -25	151	61	56	186	75	75	345	109	*Comes with 14 baskets
TEMPLOW L	2101280	600	-10 to -35	155	51	65	215	70	83	600	130	*Comes with 4 shelve
TEMPLOW YC	2101288	289	**2 to -40	-	-	-	183	70	64	360	136	Comes with 3 shelves and 4 drawers

*Comes with steel PVC laminated shelves and baskets. **in different compartments

Storage refrigerators "Stocklow" LS, GS and LSC

WITH FAN ASSISTED CIRCULATION.
MODEL LS, WITH METAL DOOR. TEMPERATURE CONTROLLABLE FROM +1 °C TO +8 °C.
MODEL GS, WITH DOUBLE GLAZED ANTI MIST DOOR.TEMPERATURE CONTROLLABLE FROM +1 °C TO +8 °C.
MODEL LSC, WITH METAL DOOR. TEMPERATURE CONTROLLABLE FROM −17 °C TO −22 °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 (Models LS and GS).
Supplied with wheels (Model LSC).
The door can be hung to open left or right.
Door lock.

There are two versions:
Stocklow LS and LSC which is completely made of metal, both interior and exterior, AISI 304 stainless steel door.
Stocklow GS inside made of AISI 304 stainless steel and epoxy white external case with glazed door that enables internal view.

CONTROL PANEL

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

SPARE PARTS
Código **1001858**   Set 2 guides + additional tray

Model Stocklow LS and LSC, with metallic door.   *Model Stocklow GS, 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 LS	2101283	600	Metallic	154	61	63	213	73	84	3	250	120
STOCKLOW GS	2101284	600	Glass	154	61	63	213	73	84	3	250	125
STOCKLOW LSC	2101289	600	Metallic	154	61	63	213	73	84	3	500	125

Comes complete with steel shelves, PVC laminated.

Chest Freezers "Combatemp"

CONTROLLABLE TEMPERATURE RANGE FROM −14 °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. (all models except Combatemp S-30.)
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	206	28	−28	74	63	53	92	75	71	160	38
COMBATEMP L-30	2101041	343	38	−28	74	100	53	92	113	71	200	56
COMBATEMP S-40	2101181	215	30	−40	63	89	41	92	113	76	230	57
COMBATEMP L-40	2101182	352	40	−40	65	117	50	92	137	81	400	72

Note: Part No. 2101040 is supplied with 1 basket. Part No. 2101041 is supplied with 2 baskets. Part No. 2101181 is supplied with 3 baskets and Part No. 2101182 is supplied with 2 baskets.

SPARE PARTS Baskets			
For Combatemp. Part No.	2101040 / 2101041	2101181	2101182
Baskets	**1001810**	**1001811**	**1001812**

HAEMATOLOGY. Blood bank instrumentation

Horizontal shakers for platelet bags "APL-54" and "APL-108"

HORIZONTAL MOVEMENT AT A FIXED SPEED OF 66 R.P.M., LATERAL SHUFFLE OF 40 MM.
MODEL "APL-54": CAPACITY FOR 54 PLATELET BAGS.
MODEL "APL-108": CAPACITY FOR 108 PLATELET BAGS.

Platelet bags constant shaking for long periods of time.

FEATURES
Epoxy covered case with treated aluminium platform with AISI 304 stainless steel racks for bags.
Programable stirring automatic restart and pause device for bags handling (30 ± 90 seconds).
Acoustic alarm in case of power failure.
LCD display informing of the events log: it counts the number of power failures and their duration.
When power is restored, the device automatically restarts the stirring.

CONTROL PANEL
Single button to adjust:

-Date and time programmation.
-Shaking stop button for 30 seconds.
-Alarms reset.

-Moving to review the number of incidences.
-Shaker stop time programmation.

MODELS	Part No.	Nº of Shelves	Capacity bags	Height / Width / Depth Cm.			Power W	Voltage V	Weight Kg
APL-54	3000980	9	54	40	44	39	50	110 / 230 50/60 Hz	22
APL-108	3000981	18	108	40	84	38	50	110 / 230 50/60 Hz	35

Incubation chamber "PLX-IN"

FOR PLATELET BAGS "APL-54" SHAKING, CAPACITY 54 PLATELET BAGS.
FOR REGULABLE TEMPERATURES FROM 18 ºC UP TO 60 ºC.
RESOLUTION 0,1 ºC. STABILITY ±0,1 ºC. HOMOGENEITY ±0,5 ºC. SET ERROR ±0,3 ºC.

Peltier effect. No compressor group. Quiet, vibrations free, high accuracy and low consumption.

FEATURES
Made of transparent methacrylate with swinging door that allows an easy access to the working area and an inside chamber view during bags shaking.
AISI 304 stainless steel lower base.
Auto shut-off protective device in case of door opening and automatic restart in 30 seconds.

CONTROL PANEL
Start-up main switch with digital temperature regulation.

MODEL

Part No.	Height / Width / Depth (exterior) cm			Height / Width/ Depth (interior) cm			Power w	Weight Kg
3000958	44	63	65	33	60	50	360	38

It can be supplied for 110 V- 60 Hz on demand.

Note: For a correct bag preservation, it is recommended to keep a temperature between 20 and 24 ºC.

Incubation chamber "PLX-IN" Part No. 3000958 with "APL-54" shaker Part No. 3000980

Platelet bags incubated cabinets "Blood Bank" E and F

EXCLUSIVE DESIGN ADAPTED TO ACCOMODATE PLATELET BAGS STIRRERS "APL".
FORCED AIR CIRCULATION.
FIXED TEMPERATURE AT +20 °C. STABILITY ±1,5 °C. RESOLUTION 1 °C.
SEVEN DAYS GRAPHIC TEMPERATURE REGISTER.

NEW DESIGN

SAFETY:
LOW TEMPERATURE THERMOSTAT LIMITER.
VISUAL AND ACOUSTIC INDICATORS: EXCESSIVE LOW TEMPERATURE (+18 °C), EXCESSIVE HIGH TEMPERATURE (+24 °C), OPEN DOOR, MAINS FAILURE
TEMPERATURE GRAPHIC REGISTER. 7 DAYS RECORDER, AUTONOMY 6 MONTHS.
ACOUSTIC ALARM ON ALL FAIL CONDITIONS. ACOUSTIC INDICATOR.

Model E

Model F

Graphic recorder

APPLICATIONS

Storage cabinet specially designed for platelet bags preservation.

COMMON FEATURES

AISI 304 stainless steel external cabinet and internal lining.
Double glazed door, reversible lockable door, easy to change, with automatic feed-back mechanism and manual locking.
Hermetically sealed compressor mounted on antivibration settlement with forced type evaporator and ventilated type condenser.
Shelves and supports in steel PVC laminated.
2 power outlet base for model "Blood-Bank E" max. power 500 W
6 power outlet base for model "Blood-Bank F" max. power 500 W
Inner air circulation for a more temperature homogeneity.
Temperature sensors located in similar conditions to platelet bags.
Circular graphic register built-in.
Microprocessor temperature control that allows configuration and visualization of the following parameters by means of the display:
- **SET adjustment.**
- **Alarm adjustment.**
- **Calibration.**

OPTIONAL COMPLEMENTS

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

SPARE PARTS

For 2101511. Part No. **1001862**   Additional tray.
For 2101513. Part No. **1001863**   Set 2 trays + additional central guide

MODELS	Part No.	Capacity litres	Capacity stirrers	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Power W	Power HP	Number of shelves	Weight Kg
Blood Bank E	**2101511**	560	**2 x APL-54**	153	54	66	213	80	79	497	3/8	4	165
Blood Bank F	**2101513**	1240	**4xAPL-54 o 2xAPL-108**	153	124	68	213	139	79	1034	5/8	8	212

They are supplied with trays and wheels.

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

FORCED AIR CIRCULATION. FIXED TEMPERATURE +4 °C. STABILITY ±1.5 °C. RESOLUTION 1 °C.
SEVEN DAYS GRAPHIC TEMPERATURE REGISTER.
CAPACITIES FROM 80 TO 480 BLOOD BAGS.

SIN CFC · CFC FREE · SANS CFC

NEW DESIGN

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

Model A   *Model C*   *Model D*

Graphic recorder

APPLICATIONS
AISI 304 storage cabinets specifically designed and manufactured for blood bag storage.

COMMON FEATURES
Model A: interior furniture in painted aluminum and base in stainless steel AISI 304, exterior in white enameled steel.
Models C and D: 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.
Temperature sensors are located and calibrated to read simulated blood bag conditions.
Independently powered circular graphic register.
Microprocessor controlled temperature control via a display that can configure the following parameters:
- **Adjust SET.**
- **Adjust alarm.**
- **Calibration.**

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

SPARE PARTS
For 2101519. Part No. **1001864**   Additional tray.
For 2101512. Part No. **1001862**   Additional tray.
For 2101514. Part No. **1001863**   Set 2 trays + additional central guide

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	2101519	235	80	109	51	55	156	61	62	300	1/7	4	90
Blood Bank C	2101512	560	200	153	54	66	213	80	79	497	3/8	4	165
Blood Bank D	2101514	1240	480	153	124	68	213	139	79	1034	5/8	8	212

They are supplied with trays and wheels.

Model C

Detailed image of the drawers with dividers.

SPARE PARTS
Brackets and shelves

For Bloodbank code	2101499 / 2101500
Brackets - 4 units	**1001801**
Shelves	**1001806**

Each shelf requires 4 brackets.

COMECTA

Shaking monitor for blood collection "HEDO2"

FOR BAGS BLOOD COLLECTION PROCESSES. SWINGING PLATFORM.

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.
Power supply: 110-220V / 50-60 Hz.

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.

ACCESSORIES
Barcode reader Hedo-2. Part No. **5010003**
Alarm lamp pool Hedo-2. Part No. **5010004**

NEW

Plasma and HPC "PL-3" dry air defroster
EASY CLEANING WITH INCORPORATED STERILIZATION SYSTEM.
3 BAGS CAPACITY.
CONSTANT TEMPERATURE OF 37ºC. STABILITY ±1.

SAFETY:
SAFETY THERMOSTAT THAT DISCONNECTS THE BATH IN CASE OF OVERTEMPERATURE. PROTECTION DEVICE WITH AUTO DISCONNECTION IN CASE OF DOOR OPENING. VISUAL ALARM OF ELECTRICAL SUPPLY CUTTING.

Soft swing agitation

USB

FEATURES
ABS external case and AISI 304 stainless steel interior.
Swing agitation.
Temperature motorization with direct reading of the bags by infrared.
Temperature reading dual system.
No additional measuring equipment is required.
USB output for data logging.
Fast tempering function button.

CONTROL PANEL
3.5 inch TFT touch screen:
Start-up switch.
Quick temper button.
Time and temperature reading screen. Sterilization button.

MODEL	Part No.	Capacity bags	Height/Width/Depth (exterior) cm			Power W	Weight Kg
PL-3	3001252	3	30	41	54	5000	20

Blood bags tube automatic sealer "Sealcom-B"
FOR TUBES FROM Ø 3 TO 6MM.

FEATURES
Metal epoxy covered external case.
AISI 304 stainless steel sealing head.
A microprocessor provides an automatic sealing by dielectric heating when inserting part of the tube in the piston.
Sealing time from 1 to 2 seconds.

CONTROL PANEL
Main switch, with light indicator.
Light indicating operation, sealing and end of sealing.

MODEL
Part No.	Sealing width mm Ø	Height / Width / Depth (exterior) cm			Power sealing W	Weight Kg
5800060	3 to 6	15	16	34	400	7

Manual plasma extractor "PR-B"
EASY TO USE
MANUAL SYSTEM THAT ACCEPTS ALL KINDS OF PLASMA BAGS.
TRANSPARENT PLATFORM FOR VISUAL CONTROL OF THE PLASMA.
STAINLESS STEEL AISI 304 CABINET.

MODEL
Part No.	Height / Width / Depth (exterior) cm			Weight Kg
5800061	25	17	30	2,6

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

QUICK OVERVIEW **RS232**

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**	-	**6001120**	**6001121**	**6001122**	**6001123**	±0.1 °C	**No**
+5 ... 200 °C	**Precisdig**	**Digital μ**	**Yes**	-	**6001220**	**6001221**	**6001222**	**6001223**	±0.5 °C	**No**
+5 ... 80 °C	**Agibat-20**	**Digital μ**	**Yes**	-	-	-	**6032015**	-	±0.5 °C	**No**
				160 litres	**220 litres**					
+5 ... 99.9 °C	**Precisbig**	**Digital μ**	**Yes**	**6001240**	**6001241**				±2 °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.   **+5** indicates ambient temperature +5 °c.

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
3000864	30	20	50	30	900

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

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. 6000033

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 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 / Widht / 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.
1000100 up to 100 °C.
1095250 up to 250 °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 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.
1095100 up to 100 °C.
1095250 up to 250 °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 304 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-TFT" described under regulators and controllers (see page 293).

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

NEW DESIGN

Circulation pump "Ciragit"

FEATURES
The unit can be adjusted to fit most tanks or baths, can be submerged and held in position by an adjustable height support clamp.
Circulation pump allowing external circulation of liquids.
ON/ OFF illuminated power switch with light when on.

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**

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 304 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.

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.

SAFETY:
DIN 12877 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. See page 89.

Water and oil 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 STANDARD. THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPE-RATURE. 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

45 l

20 l

5 l

12 l

NEW DESIGN

20 l

45 l

12 l

FEATURES

Double skinned tank of AISI 304 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

General switch with signal lamp.
1. Heating indicators; open thermostat; failure.
2. Reading display (temperature or time).
3. Setpoint value display (temperature or time).
4. Visualization mode change.
5. Increase value.
6. Decrease value.
7. Start / stop button.

MAKROLON ® FOLDING LID PROPERTIES

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

MODELS

Part No.	Temperature maximum °C	Capacity litres	Height / Widht / Depth (usable) cm			Height / Widht / Depth (exterior) cm			Power W	Weight Kg
6001120	99,9	5	15	30	14	20	37	27	600	6
6001220	200	5	15	30	14	20	37	27	1100	6
6001121	99,9	12	15	30	30	20	40	42	1100	8
6001221	200	12	15	30	30	20	40	42	1400	8
6001122	99,9	20	15	48	30	20	58	42	1500	10
6001222	200	20	15	48	30	20	58	42	2100	10
6001123	99,9	45	15	62	50	20	69	62	2400	18
6001223	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
6001131	99,9	12	15	30	30	40	40	42	1100	8
6001132	99,9	20	15	48	30	40	58	42	1500	10
6001133	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 °C, WORKING TEMPERATURE PRECISION 0.1 °C.

SAFETY: DIN 12877 STANDARD. THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPE-
RATURE. A MANUAL RESET ADJUSTABLE TEMPERATURE SAFETY THERMOSTAT IS PLACED AT THE BACK OF THE UNIT.

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

FEATURES
Double skinned tank, inner case made of AISI 304 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 87.
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.

NEW DESIGN

Model with Makrolon® lid

Stirring detail by internal circulation pump.

MODELS

Part No.	Lid Makrolon®	Maximum Temp °C	Litres Capacity	Height/Width/Depth (usable) cm			Height/Width/Depth (exterior) cm			Power W	Weight Kg
6032015	Yes	80	20	15	48	30	40	58	52	2100	11
6032016	No	80	20	15	48	30	40	58	42	2100	12

ACCESSORIES.
See page 89.

All baths with heating shelf and drainage. Faucet included.

Big capacity water baths "Precisbig"

NEW

DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT +5 °C TO 99,9 °C. STABILITY: ±0,2 °C. HOMOGENEITY ±2 °C.

SAFETY: DIN 12877 STANDARD. THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPE-
RATURE. 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 304 stainless steel with an external case of AISI 304
stainless steel.
Heating elements embedded in INCOLOY heat and corrosion resistant stainless steel.

CONTROL PANEL
See page 89.

MODELS

Part No.	Temperature maximum °C	Capacity litres	Height / Widht / Depth (usable) cm			Height / Widht / Depth (exterior) cm			Power W	Weight Kg
6001240**	99,9	160	40	80	50	96	100	70	9000	130
6001241**	99,9	220	40	110	50	96	140	70	9000	160

All baths with heating shelf and drainage. Faucet included.
Due to their power consumption are manufactured for three phase 380 V. 4 wheels and gable lids included.

ACCESORIES
Gable lid for bath 6001240. Part No. **6000715**   **Gable lid** for bath 6001241. Part No. **6000716**
Silicone oil 4 liters. Temperature up to 300 °C. Viscosity 50 mm2/s at 25 ºC. Melting point 318 °C. Part No. **1000027**

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

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

Only for baths model "PRECISTERM"

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

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

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

Thermometer.
Part No.
1000120 up to 100 °C.
1000872 up to 120 °C, extra long, suitable for Gable lid.
1095250 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 - 6001120*- 6001220*		6000710	6003232 2 places	1001199
12		6000140 - 6000387 - 6001121*- 6001221*		6000711	6003234 4 places	1001200
20	6032012*6032013*	6000141 - 6000388 - 6001122*- 6001222*		6000712*	6003236 6 places	1001201
45		6000142*- 6000389*- 6001123*- 6001223*		6000714	6001603 12 places	1001205

* Comes complete with drain tap. ***** For all baths except those carrying Makrolon® lid.

Capacity litres	for PRECISDIG baths with Makrolon® lid	2 Lid with concentric reduction rings	3 Support frame
12	6001131	6003234 4 places	1001200
20	6001132	6003236 6 places	1001201
45	6001133	6001603 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 "circum" prevents flasks from floating when placed in a water bath. Suitable for all types of flasks, erlenmeyers, etc. See page. 176.

Silicone oil 4 liters. Temperature up to 300ºC. Viscosity 50 mm^2/s at 25 ºC. Melting point 318 ° C. Part No. **1000027**

Histology paraffin section mounting bath "Termofin"

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

P.T.F.E. coated

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 217).

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 304 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.
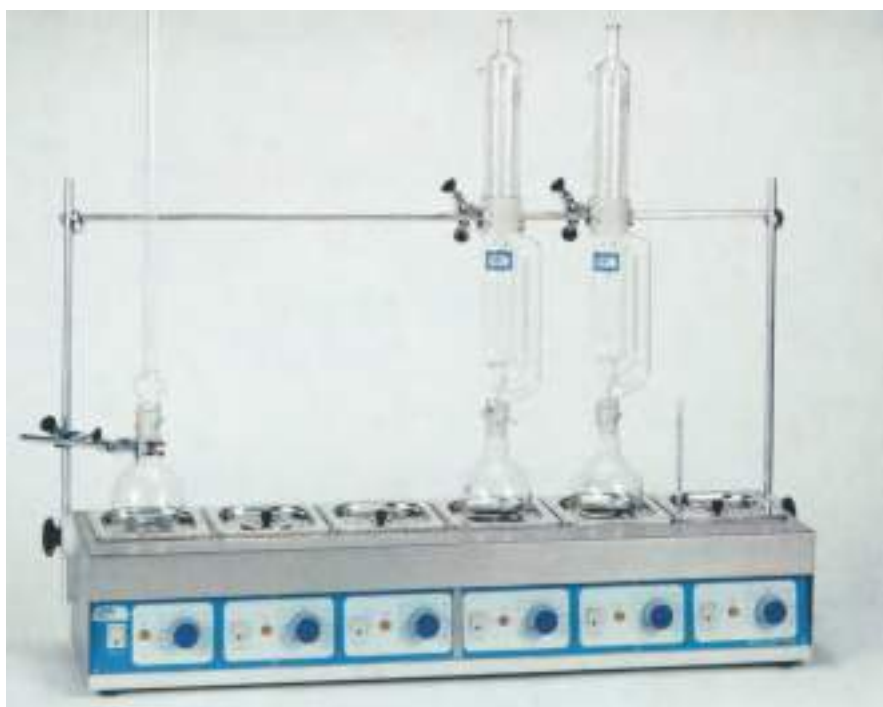Capacity: 2 litres per position.

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	4200	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**

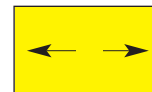**Thermometer** up to 220 °C. Part No. **1095250**

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

Silicone oil 4 liters. Temperature up to 300ºC. Viscosity 50 mm^2/s at 25 °C. Melting point 318 ° C. Part No. **1000027**

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:
DIN 12877 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.

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.

RS232

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 304 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.

1 7 6 5 4 3 2

"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

Support Platform for Erlenmeyer flasks.
Made of AISI 304 stainless steel with location holes for va-
rious 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 ±0.1 °C. HOMOGENEITY ±0.1 °C. RESOLUTION 0.1 °C.

SAFETY:
SAFETY THERMOSTAT CONFORMS TO
THE DIN 12876. 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 pla-
te 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 295).

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

3 *Part No. 3000513 Cap. 6L*

4 *Part No. 3000617 Cap. 9L*

8 *Part No.3001208 Cap. 4L*

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.

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.

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

Baskets

Lids are not compatible with baskets.

Lid with concentric reduction ring

ACCESSORIES
Baskets and Lids.
Made of AISI 304 stainless steel.

Cleaner model Part No.	BASKET 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	6003232	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	6003236	6	6005151

COMECTA
Ultrasonic Bath "Ultrasons-Digit"
5 CYCLES ELECTRONIC DIGITAL TIME CONTROL
CAPACITY 1.4 LITRES

ivymen OPTIC SYSTEM®

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 +5ºC TILL 80ºC**

Optimum cleaning efficiency

It comes complete with a universal basket, lid with handle and drain device.
Bath Part. No. 3000865 (5 Litres capacity) is also supplied with basket for small items.

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 99').
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
3000864	30	20	50	30	40	58	34	800	900	18

Heated Ultrasonic baths "Ultrasons-H"

AJUSTABLE TEMPERATURE FROM AMBIENT +5 °C HASTA 75 °C.

APPLICATIONS
For long pieces cleaning (especially for pipettes) .

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.

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: 92.

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

"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 BATHS AND IMMERSION THERMOSTATS
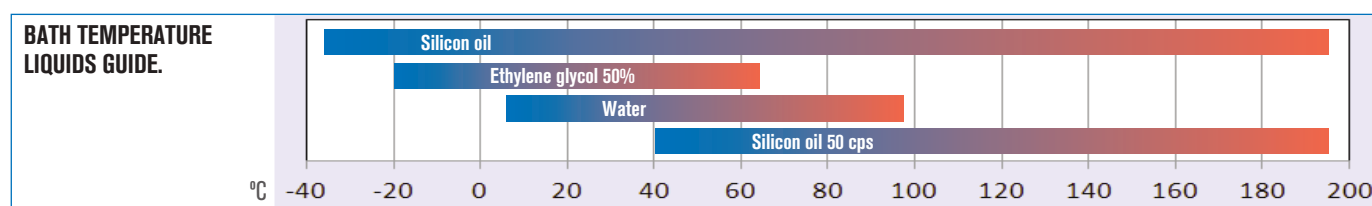## Summary table of the different models

EQUIPMENT FOR STABLE AND PRECISE TEMPERATURE CONTROL.

QUICK OVERVIEW RS232

Range	Model	Part No.	Control	Volume máx. litres	Stability °C	Set error °C	RS-232/USB
+5 ... 100 °C	Termotronic 100	3000540	Digital μ	20	±0,2	–	No
+5 ... 150 °C	Digiterm-S-150	3000543	Digital μ	20	±0,1	±1	No
+5 ... 200 °C	Digiterm-TFT-200	3000544	TFT Touch screen μ	20	±0,1 / ±0,1	±2	Yes
0 ... 100 °C	Digit-Cool	3001373	Digital μ	20	±0,1 / ±0,1	±1	RS-232
+5 ... 150 °C	Digiterm-S-150-20	3000548	Digital μ	20	±0,1	–	No
+5 ... 150 °C	Digiterm-S-150-27	3000549	Digital μ	27	±0,1	–	No
+5 ... 200 °C	Digiterm-TFT-200 20	3000550	TFT Touch screen μ	20	±0,1	±2	Yes
+5 ... 200 °C	Digiterm-TFT-200 27	3000551	TFT Touch screen μ	27	±0,1	±2	Yes
+5 ... 200 °C	Ultraterm-TFT-200	3000545	TFT Touch screen μ	8	to 100 °C ±0,1 / to 200 °C ±0,1	±1 / ±2	Yes
–10 ... 100 °C	Frigiterm-TFT-10	3000546	TFT Touch screen μ	8	to 100 °C ±0,1 / to 0 °C ±0,1 / to -10 °C ±0,1	±1	Yes
–30 ... 100 °C	Frigiterm-TFT-30	3000547	TFT Touch screen μ	8	to 100 °C ±0,1 / to 0 °C ±0,1 / to -10 °C ±0,2	±1	Yes
+5 ... up to 90 °C	Interheater	6001491	Digital	20 l/min.	–	±1	No
Refrigerated coils							
–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.
+5 ... 100 °C	Bio-bath 2	-	7001562	-	-	±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

The most precise solution for maintaining constant liquid temperatures

SAFETY:
STANDARD DIN 12876.
ADJUSTABLE OVER TEMPERATURE SAFETY THERMOSTAT WITH MANUAL RESET AND LOW LIQUID LEVEL FLOAT SENSOR. (EXCEPT TERMOTRONIC 100)

COMMON FEATURES

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 metal case in AISI 304 stainless steel.

NEW DESIGN

PARTS THAT ARE IN CONTACT WITH LIQUID

-Safety over temperature thermostat.
-Liquid level float.
-Cooling coil.
-Heating element made of stainless steel INCOLOY that can withstand high temperatures and is corrosion resistant.
-Circulation pump.
-Pump outlet for external circulation.
-Circulating pump outlet.

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.

TWO DIFERENT CONTROL SYSTEMS:

A Digital display and **B** TFT touch screen.

DIGITERM-S-150, TERMOTRONIC-100

Specific functions of models with digital screen:
- Real time temperature reading.
- Display resolution 0.1 °.
- Permanent view of set temperature.
- Timer from 1 min to 99 h 59 min. (only model DIGITERM S-150)
- Heating indicator.
- Monitoring temperature: high limit / low limit.
- Automatic calibration of a point.
- Connection for external probe PT-100 (only DIGITERM S-150 model)

DIGITERM TFT-200, ULTRATERM-TFT-200, FRIGITERM-TFT-10, FRIGITERM-TFT-30

Specific functions of models with touch screen:
- Acoustic and visual alarm.
- Clock and calendar.
- Single or cyclic On / Off programming.
- Up to 10 work programs.
- Up to 6 segments per program.
- Stability time in each segment (from 1 min to 99h).
- Alarms and events storage.
- Probe error detection.
- Self Diagnostics.
- Network failure detection and saving.
- Over temperature and low temperature alarms and memorization (date, start time, end time and temperature).
- Connection device for external temperature Pt100 pro-
be (see page 104).
- Safety thermostat (TS) by software.
- Mechanic safety thermostat (TS).
- USB and RS -232 output.
- Configurable parameters: Date / time, temperature correction , data collection interval, language (English, Spanish and French) , °C / °F selection , over temperature and low temperature limit.
- Circulation pump speed control (between 0% and 100%).

Immersion thermostat with digital control "Termotronic-100"

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

High precision temperature control

SAFETY:
STANDARD DIN 12876. 1. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET

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.

CONTROL PANEL

1. Set temperature display indicator.
2. Bath temperature/time display indicator.
3. "SET" button.
4. Set value decrease/increase button.
5. Start/Stop button.
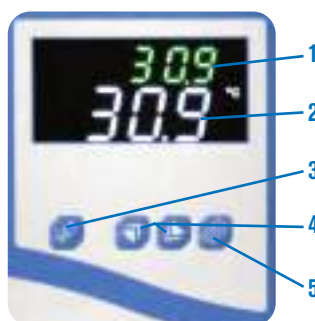
MODELS	Part No.	Control range °C	Stability °C	Height / Width / Depth (exterior) cm			Pump Pressure / Flowrate H₂0	Power W	Weight Kg
TERMOTRONIC 100	3000540	Amb +5 to 100	±0,1	28	18	19	150 mbar-12 l/min.	2000	3,9

Accessories (See page. 104).

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.

Metal baths. Manufactured with a double external AISI 304 stainless steel skin and an AISI 304 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 thermostat with digital control "Digiterm S-150"

ADJUSTABLE TEMPERATURE FROM AMBIENT +5°C TO 150°C.

High precision temperature control

SAFETY:
STANDARD DIN 12876. 1. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET 2. LOW LIQUID LEVEL FLOAT

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.
Rear connection for additional OT100 probe. Automatic selection.
Cooling coil.

CONTROL PANEL
1. Set temperature display indicator.
2. Bath temperature/time display indicator.
3. "SET" button.
4. Set value decrease/increase button.
5. Start/Stop button.
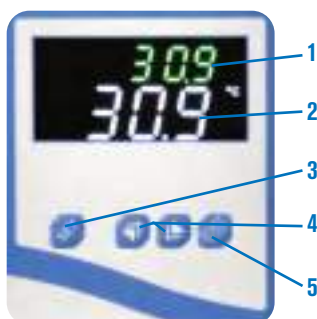
NEW DESIGN

MODELS	Part No.	Control range °C	Stability °C	Height / Width / Depth (exterior) cm			Pump Pressure / Flowrate H$_2$O	Power W	Weight Kg
DIGITERM S-150	3000543	Amb +5 to 150	±0,1	28	18	19	150 mbar-12 l/min.	2000	3,9

Accessories (See page. 104).

Immersion thermostat with TFT touch screen "Digiterm TFT-200"

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

High precision temperature control

SAFETY:
STANDARD DIN 12876. 1. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET
2. OVER TEMPERATURE ALARM - 3. LOW LIQUID LEVEL FLOAT

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.
RS-232, USB and Ethernet output.
Cooling coil.

CONTROL PANEL
1. Set/ current temperature indicator.
2. Pump flow indicator (%).
3. Stop button.
4. Start button.
5. Push up parameter.
6. Push down parameter.
7. Set / current time indicator in hours / minuts.
8. Return button.

NEW DESIGN

RS232

MODELS	Part No.	Control range °C	Stability °C	Height / Width / Depth (exterior) cm			Pump Pressure / Flowrate H$_2$O	Power W	Weight Kg
DIGITERM TFT-200	3000544	amb.+5 to 200	200 °C ±0,1	28	18	19	150 mbar-12 l/min.	2060	4,5

Accessories (See page. 104).

Recirculation thermostat "Ultraterm-TFT-200"

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

SAFETY:
STANDARD DIN 12876. 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 304 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 H$_2$0	Power W	Weight Kg
3000545	8	From amb. +5 to 200 °C With external refrigeration from -20 to 200	to 100 °C ±0.1 to 200 °C ±0.1	15	20	14	36	28	36	150 mbar-12 l/min	2060	9.5

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

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

SAFETY:
STANDARD DIN 12876. 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 304 stainless steel.
Complete with a pump for internal and external liquid circulation with inlet and outlet
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 H$_2$0	Power W	Compresser power H.P.	Weight Kg
FRIGITERM-10	3000546	8	-10 + 100	12	20	14	36	66	44	150 mbar-12 l/min	1150	1/8	28
FRIGITERM-30	3000547	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
"Digiterm-S-150" and "Digiterm-TFT-200"

**CONTROLLABLE TEMPERATURES FROM AMBIENT +5 °C TO 150 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 304 stainless steel internal tank with an AISI 304 stainless steel external, for convenience, handles at the side and drain tap are provided as standard. A detachable immersion thermostat for controlling stirring and temperature 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)
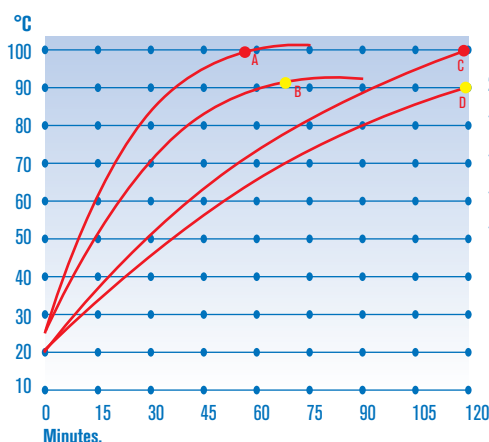
Graph of temperature and time for the Tectron Bio 100 and Digiterm-S-100 and Digiterm-TFT-200, units with capacity of 20 litres.
Tests completed with water up to 100°C:
A. Digiterm-TFT-200 with lid at 100 °C.
B. Digiterm-TFT-200 no lid at 90 °C.
C. Digiterm-S-100 with lid at 100 °C.
D. Digiterm-S-100 with no lid at 90 °C.
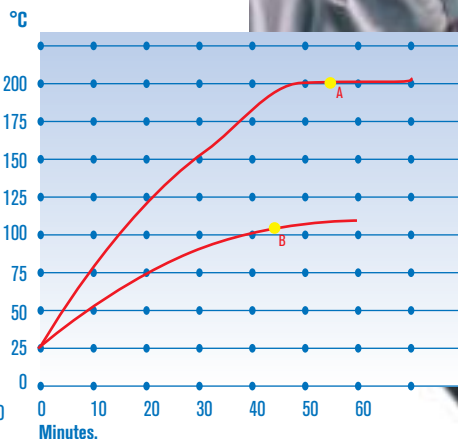
Graph of temperature and time for the Digiterm 100 and 200, units with capacity of 20 litres.
Tests completed with Silicon oil up to 200°C:
A. Digiterm-TFT-200 with lid at 200 °C.
B. Digiterm-TFT-200 with lid at 100 °C.
27 litres capacity baths take 20% more time to reach the same temperature.

Bath circulators "Digiterm-S-150"

CUVETTES SET OF 20 AND 27 L. CAPACITY, WITH THERMOSTATIC EQUIPMENT INCLUDED.
FORT TEMPERATURES FROM AMB+5 TO 150 °C.
STABILITY: ±0,1 °C. RESOLUTION: 0.1 °C.

> **SAFETY:**
> SAFETY STANDARD DIN 12876.
> SAFETY ADJUSTABLE OVER TEMPERATURE CUT OFF WITH MANUAL RESET.
> LOW LIQUID LEVEL CUT OFF.

CONTROL PANEL
Display temperature indicator of the bath.
Set temperature indicator display.
Heater function light indicator.
Start/Stop button.
"SET" button (temperature/time).

Push button to decrease set value.
Push button to increase set value.
PT 100 external probe connection.

MODELS	Part No.	Temperature Range °C	Cuvettes Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Pump		Power W	Weight Kg
										Pressure mbar	Pump rate l/min		
DIGITERM-S-150-20	3000548	150	20	15	30	29	36	55	35	150	12	2000	9.2
DIGITERM-S-150-27	3000549	150	27	20	30	29	41	55	35	150	12	2000	10.8

Bath circulators "Digiterm-TFT-200"

WITH IMMERSION THERMOSTAT DIGITERM-TFT-200.
CUVETTES SET OF 20 AND 27 L.
FROM AMBIENT +5 °C TO 200 °C. STABILITY ±0.1 °C. SET ERROR ±2 °C. RESOLUTION 0.1 °C.

SAFETY: CONFORMS TO THE DIN 12876. STANDARD. ADJUSTABLE OVER TEMPERATURE SAFETY CUT OFF WITH ADJUSTABLE MANUAL RESET. LOW LIQUID LEVEL CUT OFF. ELECTRICAL FAULT ALARM.

RS232

USB

FEATURES

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 page104).
External metal case made of AISI 304 stainless steel.
Handles at the side and drain tap.

MODELS	Part No.	Temperatura Range °C	Cuvettes Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Pump Pressure mbar	Pump Pump rate l/min	Power W	Weight Kg
TFT-200 20	3000550	200	20	15	30	29	36	55	35	150	12	2060	10
TFT-200 27	3000551	200	27	20	30	29	41	55	35	150	12	2060	12

ACCESSORIES see page 104.

ACCESSORIES for the DIGITERM-S-150 and DIGITERM-TFT-200. Made of AISI 304 stainless steel.

3
1
2

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

SIN CFC • CFC FREE • SANS CFC

Immersion thermostat for baths "Digit-Cool"

DIGITAL SELECTOR AND TEMPERATURE CONTROL ADJUSTABLE FROM 0 °C TO 100 °C.
STABILITY: 100 °C ±0.1 °C, AND AT 0 °C ±0,1 °C. SET ERROR: ±0.1 °C. RESOLUTION: 0.1 °C.

RS232

SAFETY: STANDARD DIN 12876. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET. LOW LIQUID LEVEL SENSOR PROTECTION.

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.

CONTROL PANEL

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

Autonomous unit with cooling system

Compressor unit built-in

Digitcool thermostat with bath and 4 place ring set lid.

MODEL

Part No.	Control Range °C	Height / Width / Depth (exterior) cm			Pump Pressure / Flow H₂0	Power W	Power H.P.	Weight Kg
3001373	0 +100	45	21	51	150 mbar / 12 l/min	1460	1 / 5	22

ACCESSORIES See page 104.

ACCESSORIES for thermostatic unit digit-cool.

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

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

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

Ring set lid 105, 80, 60 and 37 mm Ø reduction rings and a check thermometer 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**

Silicone oil 4 liters. Temperature up to 300ºC. Viscosity 50 mm^2/s at 25 ºC. Melting point 318 ° C. Part No. **1000027**

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. **6001094**

Example showing the support bridge. Part No. 6001094.

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

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**

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

Thermometer.

Suitable for "Tectron-Bio" immersion thermostat. Scale -10 to 100 °C. See page 296
Part No. **1001257**

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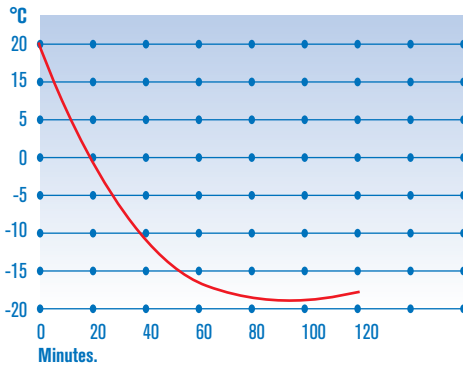
COMMON FEATURES
The unit is bench mountable and contains within the epoxy coated case a CFC free hermetically sealed compressor with condenser and evaporator, the cooling coil is made of AISI 304 stainless steel.

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

MODEL FRIGEDOR 3000778
No temperature controller incorporated. Continually operates the compressor.

CONTROL PANEL
Mains switch with "ON" indicator lamp.

MODEL FRIGEDOR REG 3001214
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.

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	Fix -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 104).

Water recirculators "Interheater"

FROM AMBIENT +5°C TO 90°C .

SAFETY: STANDARD DIN 12876. OVER TEMPERATURE SAFETY ADJUSTABLE THERMOSTAT WITH MANUAL RESET.

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.

FEATURES
Digital electronic temperature regulation.
Circulation flow: 20 L/min.
Case equipped with wheels.

Hose connectors Ø 12mm internal.
230V single phase.
INTERHERATER Heating power 2 or 4 KW control panel selectable.

CONTROL PANEL
Mains switch.
Digital temperature control.
Pressure gauge.
Water level in the reservoir.

MODEL

Part No.	Height / Width / Depth (exterior) cm			Regulation range °C	Power W	Weight Kg
6001491	70	43	56	Amb + 5 to 90	4100	22

ACCESSORY
Roll of 25 m of reinforced silicone hose.
Part number **1001540**

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.
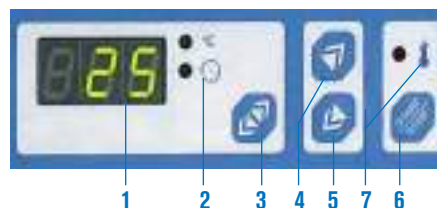
Easy to use digital temperature and time control with a digital display (3 Digits).
Built in temperature sensor Pt 100.
Interchangeable blocks made of anodised DURAL alloy to accommodate a variety of tube diameters.
(Customer specific sizes also available.)
External case made of epoxy covered steel with 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 2"

CLINIC-BLOC: FIXED TEMPERATURE OF 37 °C WITH CHECK THERMOMETER.
BIO-BATH 2: TEMPERATURE RANGE: FROM AMBIENT +5 TO 100 ° C.

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

"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 2"
Capacity 8 tubes (5x4) of 75x13 mm VAC.
Adjustable temperature and time.

MODEL

Part No.	Height / Width /Depth (exterior) cm			Stability °C	Power W	Weight Kg
7001562	11	11,3	14,5	±0,3	5	0,5

For VAC tubes (75x13)
Part No. 7001569

For cuvettes (10x10)
Part No. 7001570

NEW DESIGN

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.

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.

Cover inner plate with heating system.

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.

ivymen OPTIC SYSTEM ®

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.
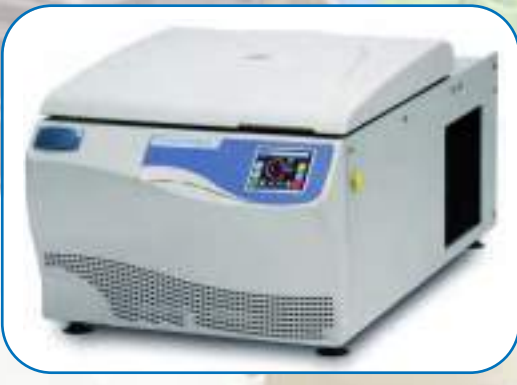with polypropylene lid.
Part No. **5109104**

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**

Thermocycler for thermal cycles "B960" See page 238.

"Inspiration exists, but you can only find it by working for it"
Pablo Picasso

Centrifuge comparison by model and tube capacity

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 13 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	Hemolisis / Tube RIA	Glass / Tapval
Manual	7000014	30	15	1500	360					
	7000015	60	15	1500	360					
	7000016	2 x butyrometer	–	1500	370					
Cencom II	7002240	90	15	4000	1760					
Centro 4-BL	7002560	20	5	5000	2907				4	
Centro 8-BL	7002356	120	15	4500	2515				8	8
Centrolit II-BL	7002357	40,5	2,2	12000	14103	24	18	18		
Centromix-BLT	7002556	150	25	12000	14200				10	4
Mixtasel-BLT	7002576	400	100	4200	2901				24 16	24
Centronic-BLT	7001768	400	100	13500	19048	24	40	30	24 16	24
Centrofriger-BLT	7001769	400	100	15300	23550	24	40	30	24 16	24
Meditronic-BLT	7001476	800	200	11000	12619			30 48	48 28	48
Medifriger-BLT	7001477			15000	23470					
Macrotronic-BLT	7001485	2000	500	10000	12296			80	80 48	96
Macrofriger-BLT	7001486			12000	17706					
Megafriger-BLT-Blood	7001488	4000	1000	4600	5370					96
Macrofriger-BLT-Blood	7001490	9600	1600	4070	5430					144

See page 132 for tubes and accessories. Tubes supplied as an accessory unless stated.

Plastic with cap	Glass	Glass	Plastic with cap	Glass	Falcon	Glass	Bottle	Glass	Bottle	Bottle	Butyrometer	ASTM
10 ml	15 ml	25 ml	30 ml	50 ml	50 ml	100 ml	200 ml	250 ml	500 ml	1000 ml		
Ø 16.1 x 81.1 mm	Ø 16 x 100 mm	Ø 24 x 100 mm	Ø 25.3 x 92 mm	Ø 34 x 100 mm	Ø 29.5/35 x 117 mm	Ø 44/45 x 100 mm	Ø 56.5 x 104 mm	Ø 56 x 147 mm	Ø 69 x 159 mm	Ø 98/100 x 160–175 mm		Ø 58 x 158 mm
Tapval or VAC tube	**Falcon**				**Plastic with cap**				**Blood bag**	**Microtiter**		**ASTM**
10 ml	15 ml				80/85 ml				500/600 ml	6x96		100 ml
Ø 16 x 100 mm	Ø 16/23 x 120 mm				Ø 38 x 112 mm					Ø 85 x 130 mm		Ø 37 x 200 mm

Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12	Col13
	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
	68	36		16		8	4		4	4		4
	102	54		24		12	6		6 12	6		

ALL THE ROTORS, BUCKETS AND ADAPTERS COME WITH LASER ETCHED IDENTIFICATION.

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 NOT AUTOCLAVABLE
Head for two butyrometers.
Part No. 7000018

Microcentrifuge "Cencom III"

FOR MICROTUBES OF 2,2/1,5, 0,5 AND 0,2 ML.
DIGITAL ELECTRONIC CONTROL OF SPEED AND TIME. ADJUSTABLE SPEED UP TO 14500 r.p.m.

COMECTA

ivymen OPTIC SYSTEM ®

NEW DESIGN

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.

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
5022010	12	15	21	25	14500	14000	105	till 99' 99"	4

Comes complete with 12 adapters of 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	1790	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 13 Ø x 75 mm VAC tubes.
Rotor capacity, 6 adapters.
Part No. 1001556

Digital microprocessor controlled Centrifuges, Series BL and BLT

INDUCTION DRIVE, MAINTENANCE FREE (NO CARBON BRUSHES).
-SPEED CONTROL BY VARIATOR 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.

TWO DIFERENT CONTROL SYSTEMS: **A** Digital display and   **B** TFT touch screen

CENTROLIT II-BL - CENTRO 4-BL - CENTRO 8-BL

A

Specific functions of models with digital screen:
-Electronic control of speed.
-Electronic control of time.

CENTROMIX BLT - MIXTASEL BLT - CENTRONIC BLT - CENTROFRIGER BLT - MEDITRONIC BLT - MEDIFRIGER BLT - MACROTRONIC BLT - MACROFRIGER BLT - MACROFRIGER BLT-BLOOD

B

Specific functions of models with touch screen:
- Acoustic and visual alarm
- 10 working programs with 4 parameters for each program: acceleration, braking, rpm, time.
- Network failure detection and storage.
- Safety thermostat (refrigerated models only).
- Temperature correction (refrigerated models only).

- Languages: Spanish, English and French.
- Overtemperature and Low temperature alarm.
- Rotors list available on screen.
- Door open alarm.
- Rotor and motor running hours log.

CENTRIFUGES ELECTRONIC DIGITAL CONTROL
"Centrolit II-BL", "Centro-4-BL", "Centro-8-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.
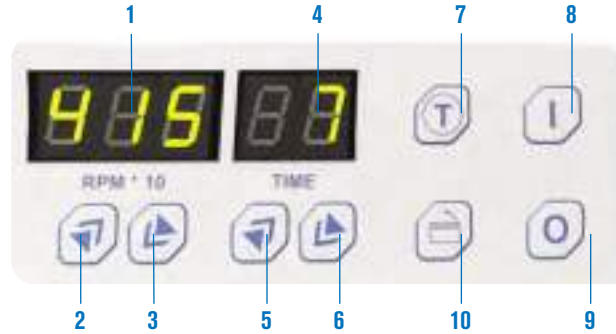Suction base supports that adhere to the work bench surface.
Quiet operation, insulated interior that absorbs noise and vibrations.
In the case of mains failure, manual open override aperture.
Noise level 50-60dBA.
Rotors and buckets with laser identification.
Autoclavable.

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.

7001704

7001703

7001702

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	**66.6**	**18 x 1.5 / 2.2 ml**	**20**	**28**	**34**	**200**	**6.5**

SPARES. Tubes (see page 132).

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	**Angle+lid**	**Micro-haematocrit**	**24 x 1.4 mm Ø**	**12000**	**13143**
7001703	**Angle+lid**	**40.5 ml**	**18 x 0.25/0.5 ml**	**12000**	**14103**
			+ 18 x 1.5/2.2 ml	**12000**	**11515**
7001702	**Angle PCR**	**6,4 ml**	**32 x 0.2 mm Ø**	**12000**	**9395**

Angle rotors supplied without tubes.
Micro-haematocrit rotor supplied with one box of 100 tubes.
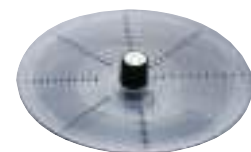
Micro-haematocrit reader.
Suitable for micro-haematocrit rotor 7001704.
Part No. **7000929**

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 113).
Centrifuge kit for separating plasma rich platelets from whole blood.

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	2600	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 113).

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	4500	2015	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**
NOT AUTOCLAVABLE

SPARES. Tubes (see page 132).

MICROPROCESSOR CONTROLLED CENTRIFUGES
"Centromix BLT", "Mixtasel BLT", "Centronic BLT" and "Centrofriger BLT"

COMMON FEATURES

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.

Rotor identification head (only models "Centronic BLT" and "Centrofriger BLT") 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.

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.

Induction drive maintenance free motor.

Low noise level 50-60 dBa.

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).

CONTROL PANEL
TFT Touch screen
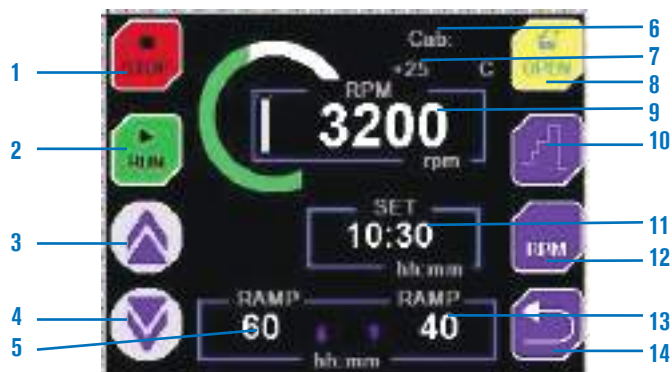
1. Stop process key.
2. Start process key.
3. Increase value key.
4. Decrease value key.
5. Scheduled acceleration ramp.
6. Rotor model in use.
7. Reading the real time temperature. (refrigerated models only).
8. Door opening key.
9. RPM or RCF real-time reading.
10. Sequential operation.
11. Time set-up in process.
12. Key to change RPM / RCF.
13. Braking ramp programmed.
14. Return key..

Centrifuge "Centromix BLT"
WITH A CHOICE OF ROTORS AND INTERCHANGEABLE ADAPTERS.
FREE MAINTENANCE INDUCTION DRIVE MOTOR.

HEAD AND BUCKET REDUCERS
Reducers for bucket. Part No. **7001066:**
7001813 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001814 For 1 tube 10 ml (16 Ø x 80 mm).
7001815 For 1 tube 7 ml (12 Ø x 100 mm).
7001816 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for bucket. Part No. **7001067:**
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7000555:**
7000700 For 1 tube 7 ml (12 Ø x 100 mm) Sheath NOT AUTOCLAVABLE.
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depht (exterior) cm			Power W	Weight Kg
7002556	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)
7000555	**Angle**	–	150 ml	10 x 15 ml	16.5 x 100	4400	1850
	Swing out	**7001066**	100 ml	1 x 25 ml	24 x 100	4400	2705
	Swing out	**7001067**	60 ml	1 x 15 ml	16.5 x 100	4400	2705
7001065	**Swing out**	**7001068**	28 ml	1 x 7 ml	12 x 100	4400	2705
	Swing out	**7001573**	40 ml	2 x 5 ml VAC	13 x 75	4400	2335
	Swing out	**7001070**	60 ml	VAC	16 x 100	4400	2790
	Swing out	**7001072**	–	undrilled	–	4400	2705

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

7000555   7001065

7001066   7001067   7001068   7001573   7001070   7001072

Centrifuge "Mixtasel-BLT"

MAINTENANCE FREE INDUCTION DRIVE MOTOR.

Polyvalent with rotors and interchangeable adapters

Control panel features (see page 116).

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
7002576	**400**	**4 x 100 ml**	**34**	**41**	**54**	**210**	**22**

ACCESSORIES

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Swing out rotor

Open bucket

Adapters

7009079   *7000731*   *7000734*   *7000735*   *7000736*   *7001647*   *7000737*   *7000738*   *7001648*   *7000739*   *7000740*   *7000612*

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**	**7000734**	**200 ml**	**1 x 50 ml**	**34**	**x 100**	**4200**	**4137**
	Swing out	**7000731**	**7000732**	**7000735**	**200 ml**	**2 x 25 ml**	**24**	**x 100**	**4200**	**4137**
	Swing out	**7000731**	**7000732**	**7000736**	**420 ml**	**7 x 15 ml and VAC***	**16.5**	**x 100**	**4200**	**4137**
7009079	**Swing out**	**7000731**	**7000732**	**7001647**	**240 ml**	**6 x 10 ml**	**17**	**x 110**	**4200**	**4137**
	Swing out	**7000731**	**7000732**	**7000737**	**336 ml**	**12 x 7 ml**	**12**	**x 100**	**4200**	**4137**
	Swing out	**7000731**	**7000732**	**7000738**	**240 ml**	**12 x 5 ml**	**12.5**	**x 75**	**4200**	**4137**
	Swing out	**7000731**	**7000732**	**7001648**	**140 ml**	**7 x 5 ml and VAC***	**13**	**x 75**	**4200**	**4137**
	Swing out	**7000731**	**7000732**	**7000739**	**144 ml**	**12 x 3 ml**	**11**	**x 100**	**4200**	**4137**
	Swing out	**7000731**	**7000732**	**7000740**	**–**	**undrilled**	**-**		**4200**	**4137**
7000612	**Swing out**	**–**	**–**	**–**	**–**	**4 x 96 microtiter**	**-**		**4200**	**1719**

*VAC: Blood tube with stopper.
** Bucket Part No. 7000731 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 132 for tubes and accessories.

ACCESSORIES

Interchangeable angle rotors with lids, made of hardened anodised aluminium. Rotors come with identification system. Autoclavable rotors and buckets.
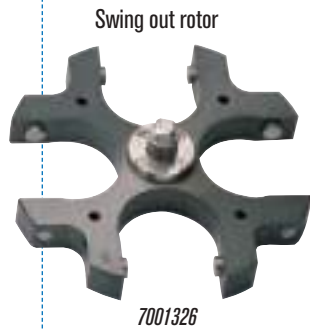
Part No. head	Rotor type	Max. volume	Tube capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
7001705	Angle+lid	270 ml	18 x 15 ml	16.5 x 100	4200	1893
7001711	Angle+lid	400 ml	8 x 50 ml	34 x 100	4200	1921
7001342	Angle+lid	360 ml	24 x 15 ml	16,5 x 100	4200	1893

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

7001705 *7001711* *7001342*

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*

ADAPTERS

Sealed bucket with hermetically sealed lid.

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	3030
	Swing out	7000793	–	–	200 ml	1 x 50 ml	34 x 100	4200	3030
	Swing out	7000794	–	–	100 ml	1 x 25 ml	24 x 100	4200	3030
	Swing out	7000795	–	–	240 ml	4 x 15 ml	16.5 x 100	4200	3030
	Swing out	7000796	–	–	140 ml	5 x 7 ml	12 x 100	4200	3030
	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	3030
7001326	Swing out	7001074	–	–	16 VAC	4 VAC*	13 x 75	4200	2441
	Swing out	7000798	–	–	undrilled	–	–	4200	3030
	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 132 for tubes and accessories.

HEAD AND BUCKET REDUCERS

Reducers for head. Part No. **7001711:**
7001707 For 1 tube 50 ml (29 Ø x 103 mm).
7001708 For 1 tube 25 ml (24 Ø x 100 mm).
7001709 For 1 tube 30 ml (25 Ø x 92 mm).
7001710 For 1 tube 15 ml (16,5 Ø x 100 mm).

7001780 For 1 tube 10 ml (16 Ø x 80 mm).
7001781 For 4 tubes 7 ml (12 Ø x 100 mm).
7001782 For 4 tubes 5 ml (12,5 Ø x 75 mm).
Reducers for bucket. Part No. **7001700:**
7001779 for 1 tube 85 ml (38 Ø x 112 mm).

High speed centrifuges with microprocessor control
"Centronic BLT" and "Centrofriger BLT"

Versatile. Large range of rotors and adapters. Maintenance free induction motor drive.

Control panel features (see page 116).
External case of DUR-AL alloy with ABS plastic coated front AISI 304 stainless steel bowl.

Model "Centronic BLT"

Model "Centrofriger BLT" refrigerated, temperature range -12 °C to 40 °C.

MODEL

Part No.	Max. Volume ml	Max. number of tubes	Height / Width / Depht (exterior) cm			Power W	Weight Kg
7001768	**400**	**4 x 100 ml**	**34**	**41**	**54**	**440**	**22**

MODEL

Part No.	Max. Volume ml	Max. number of tubes	Height / Width / Depht (exterior) cm			Power W	Weight Kg
7001769	**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.

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 BLT		CENTROFRIGER BLT	
					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**	**1893**	**4200**	**1893**
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**	**6000**	**3920**	**6000**	**24204**
7001324	**Angle+lid**	**180 ml**	**6 x 30 ml**	**25 x 92**	**13500**	**16900**	**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**	**16250**	**15000**	**20100**
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 132 for tubes and accessories.

ACCESSORIES
Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Swing out rotor

BUCKETS

| 7001700 | 7000793 | 7000794 | 7000795 | 7000796 | 7000797 | 7000930 | 7000931 | 7001073 | 7001074 | 7000798 |

7001407

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 132 for tubes and accessories.

HEAD AND BUCKET REDUCERS

Reducers for head. Part No. **7001706:**
7001707 For 1 tube 50 ml (29 Ø x 103 mm).
7001708 For 1 tube 25 ml (24 Ø x 100 mm).
7001709 For 1 tube 30 ml (25 Ø x 92 mm).
7001710 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001780 For 1 tube 10 ml (16 Ø x 80 mm).
7001781 For 4 tube 7 ml (12 Ø x 100 mm).
7001782 For 4 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001325:**

7001791 For 1 tube 25 ml (24 Ø x 100 mm).
7001792 For 1 tube 30 ml (25 Ø x 92 mm).
7001793 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001794 For 1 tube 10 ml (16 Ø x 80 mm).
7001795 For 2 tubes 7 ml (12 Ø x 100 mm).
7001796 For 2 tubes 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001324:**
7001797 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001798 For 1 tube 10 ml (16 Ø x 80 mm).

7001799 For 1 tube 7 ml (12 Ø x 100 mm).
7001800 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001670:**
7000700 For 1 tube 7 ml (12 Ø x 100 mm).
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001323:**
7001801 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for bucket. Part No. **7001700:**
7001779 For 1 tube 85 ml (38 Ø x 112 mm).

ACCESSORIES

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Swing out rotor	Open bucket					Adapters						
7009079	7000731	7000734	7000735	7000736	7001647	7000737	7000738	7001648	7000739	7000740	7000613

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	7000734	200 ml	1 x 50 ml	34 x 100	5000	4200
	Swing out	7000731	7000732	7000735	200 ml	2 x 25 ml	24 x 100	5000	4200
	Swing out	7000731	7000732	7000736	420 ml	7 x 15 ml and VAC*	16.5 x 100	5000	4200
7009079	Swing out	7000731	7000732	7001647	240 ml	6 x 10 ml	17 x 110	5000	4200
	Swing out	7000731	7000732	7000737	336 ml	12 x 7 ml	12 x 100	5000	4200
	Swing out	7000731	7000732	7000738	240 ml	12 x 5 ml	12.5 x 75	5000	4200
	Swing out	7000731	7000732	7001648	140 ml	7 x 5 ml and VAC*	13 x 75	5000	4200
	Swing out	7000731	7000732	7000739	144 ml	12 x 3 ml	11 x 100	5000	4200
	Swing out	7000731	7000732	7000740	–	undrilled	-	5000	4200
7000613	Swing out	–	–	–	–	4 x 96 microtiter	-	4200	1719

*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 132 for tubes and accessories.

Microprocessor controlled centrifuges "Meditronic BLT", "Medifriger BLT", "Macrotronic BLT" and "Macrofriger BLT"

COMMON FEATURES

Induction drive maintenance free motor.
Low noise level 50-60dBa.
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, 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
Touch screen

1. Stop process key.
2. Start process key.
3. Increase value key.
4. Decrease value key.
5. Scheduled acceleration ramp.
6. Rotor model in use.
7. Reading the real time temperature. (refrigerated models only).
8. Door opening key.
9. RPM or RCF real-time reading.
10. Sequential operation.
11. Time set-up in process.
12. Key to change RPM / RCF.
13. Braking ramp programmed.
14. Return key..

High speed centrifuges with microprocessor control "Meditronic-BLT" and "Medifriger-BLT"

Capacity up to 800 ml. Maintenance free induction motor drive.

Control panel features (see page 121).
External case made of DUR-AL alloy with an AISI 304 stainless steel bowl.

Model "Meditronic-BLT"

Model "Medifriger-BLT" refrigerated, temperature range -12 °C to 40 °C.

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001476	**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
7001477	**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 BLT		MEDIFRIGER BLT	
									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**	**12000**	**15997**
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 132 for tubes and accessories.

ACCESSORIES

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   *7001340*   *7000756*

Adapters

7001387   *7001657*   *7000747*   *7001658*   *7000748*   *7000939*   *7001659*   *7001660*   *7000749*   *7000750*

7000938   *7001661*   *7001662*   *7000751*   *7000752*   *7000753*   *7000754*   *7000755*   *7000613*

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	4312
	Swing out	7000746	7000756	7001657	500 ml	1 x 125 ml	51 x 115	5000	4312
	Swing out	7000746	7000756	7000747	400 ml	1 x 100 ml	44 x 104	5000	4312
	Swing out	7000746	7000756	7001658	320 ml	1 x 80 / 85 ml	38 x 105	5000	4312
	Swing out	7000746	7000756	7000748	400 ml	2 x 50 ml	34 x 100	5000	4312
	Swing out	7000746	7000756	7000939	400 ml	2 x 50 ml Falcon	30 x 117	5000	4312
	Swing out	7000746	7000756	7001659	400 ml	2 x 50 ml	29 x 103	5000	4312
	Swing out	7000746	7000756	7001660	600 ml	5 x 30 ml	25 x 92	5000	4312
	Swing out	7000746	7000756	7000749	500 ml	5 x 25 ml	24 x 100	5000	4312
7001340	Swing out	7000746	7000756	7000750	720 ml	12 x 15 ml	16.5 x 100	5000	4312
	Swing out	7000746	7000756	7000750	720 ml	12 VAC*	16.5 x 100	5000	4312
	Swing out	7000746	7000756	7000938	240 ml	4 x 15 ml Falcon	16.5 x 120	5000	4312
	Swing out	7000746	7000756	7001661	-	12 VAC*	13 x 75	5000	4312
	Swing out	7000746	7000756	7001662	480 ml	12 x 10 ml	16.8 x 85	5000	4312
	Swing out	7000746	7000756	7000751	560 ml	20 x 7 ml	12 x 100	5000	4312
	Swing out	7000746	7000756	7000752	400 ml	20 x 5 ml	12.5 x 75	5000	4312
	Swing out	7000746	7000756	7000753	240 ml	20 x 3 ml	11 x 100	5000	4312
	Swing out	7000746	7000756	7000754	120 ml	20 de 1.5 / 2.2 ml	-	5000	4312
	Swing out	7000746	7000756	7000755	undrilled	–	-	5000	4312
7000613	Swing out	-	-	-	-	4 x 96 microtiter	-	4200	2702

*VAC: Blood tube with stopper. Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

HEAD REDUCERS

Reducers for head. Part No. **7000741:**
7001770 For 1 tube 85 ml (38 Ø x 105 mm).
7001771 For 1 tube 50 ml (34 Ø x 100 mm).
7001772 For 1 tube 50 ml (29 Ø x 103 mm).
7001773 For 1 tube 25 ml (24 Ø x 100 mm).
7001774 For 1 tube 30 ml (25 Ø x 100 mm).
7001775 For 3 tubes 15 ml (16,5 Ø x 100 mm).
7001776 For 3 tubes 10 ml (16 Ø x 80 mm).
7001777 For 7 tubes 7 ml (12 Ø x 100 mm).
7001778 For 7 tubes 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7000742:**
7001707 For 1 tube 50 ml (29 Ø x 103 mm).
7001708 For 1 tube 25 ml (24 Ø x 100 mm).
7001709 For 1 tube 30 ml (25 Ø x 92 mm).
7001710 For 1 tube 15 ml (16,5 Ø x 100 mm).

7001780 For 1 tube 10 ml (16 Ø x 80 mm).
7001781 For 4 tubes 7 ml (12 Ø x 100 mm).
7001782 For 4 tubes 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001449:**
7001783 For 1 tube 50 ml (34 Ø x 100 mm).
7001784 For 1 tube 50 ml (29 Ø x 103 mm).
7001785 For 1 tube 25 ml (24 Ø x 100 mm).
7001786 For 1 tube 30 ml (25 Ø x 92 mm).
7001787 For 2 tubes 15 ml (16,5 Ø x 100 mm).
7001788 For 2 tubes 10 ml (16 Ø x 100 mm).
7001789 For 5 tubes 7 ml (12 Ø x 100 mm).
7001790 For 5 tubes 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001448:**
7001791 For 1 tube 25 ml (24 Ø x 100 mm).
7001792 For 1 tube 30 ml (25 Ø x 100 mm).

7001793 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001794 For 1 tube 10 ml (16 Ø x 80 mm).
7001795 For 2 tubes 7 ml (12 Ø x 100 mm).
7001796 For 2 tubes 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001447:**
7001797 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001798 For 1 tube 10 ml (16 Ø x 80 mm).
7001799 For 1 tube 7 ml (12 Ø x 100 mm).
7001800 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001445/7001446:**
7001801 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7000743:**
7000700 For 1 tube 7 ml (12 Ø x 100 mm).
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).

Microprocessor controlled Centrifuge
"Macrotronic-BLT" and "Macrofriger-BLT"

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 121).
External case made of DUR-AL alloy with an AISI 304
stainless steel bowl.

Model "Macrotronic-BLT"

Model "Macrofriger-BLT" refrigerated, temperature range -12 °C to 40 °C.

MODEL

Part No.	Max. volume ml	Max. No. of bags	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001485	**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
7001486	**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 BLT		MACROFRIGER BLT	
					Max. R.p.m	Max. R.c.f. (xg)	Max. R.p.m	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 132 for tubes and accessories.

Swing out rotor

Open bucket
1 blood bag

Adapters

7001450

7001451   7001395   7001655   7001396   7001397

7001398   7001399   7001400   7001401

7001656

Bucket for
3 x 96 well plates

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

Buckets

200 Height x36 mm Ø
for buckets Part No. 7001075

158 Height x 58 mm Ø max.
for buckets Part No. 7000764

ASTM buckets
for testing
sediments in oil and
petroleum

7000552   7000763   7001075   7000764   7001088   7000767

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	3720	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 132 for tubes and accessories.

HEAD REDUCERS
Reducers for head. Part No. **7001650:**
7001803 For 1 tube 100 ml (44 Ø x 104 mm).
7001804 For 1 tube 85 ml (38 Ø x 105 mm).
7001805 For 1 tube 50 ml (34 Ø x 100 mm).
7001806 For 2 tubes 50 ml (29 Ø x 103 mm).
7001807 For 1 tube 50 ml (30 Ø x 117 mm).
7001808 For 3 tubes 30 ml (25 Ø x 92 mm).
7001809 For 7 tubes 15 ml (16,5 Ø x 100 mm).
7001810 For 7 tubes 10 ml (16 Ø x 100 mm).
7001811 For 12 tubes 7 ml (12 Ø x 100 mm).
7001812 For 12 tubes 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. **7001651:**
7001783 For 1 tube 50 ml (34 Ø x 100 mm).
7001784 For 1 tube 50 ml (29 Ø x 103 mm).
7001785 For 1 tube 25 ml (24 Ø x 100 mm).
7001786 For 1 tube 30 ml (25 Ø x 92 mm).
7001787 For 2 tubes 15 ml (16,5 Ø x 100 mm).
7001788 For 2 tubes 10 ml (16 Ø x 100 mm).
7001789 For 5 tubes 7 ml (12 Ø x 100 mm).
7001790 For 5 tubes 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001652:**
7001791 For 1 tube 25 ml (24 Ø x 100 mm).
7001792 For 1 tube 30 ml (25 Ø x 100 mm).

7001793 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001794 For 1 tube 10 ml (16 Ø x 80 mm).
7001795 For 2 tubes 7 ml (12 Ø x 100 mm).
7001796 For 2 tubes 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7001653:**
7001797 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001798 For 1 tube 10 ml (16 Ø x 80 mm).
7001799 For 1 tube 7 ml (12 Ø x 100 mm).
7001800 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7000560:**
7000700 For 1 tube 7 ml (12 Ø x 100 mm).
NOT AUTOCLAVABLE
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).

Refrigerated high capacity microprocessor controlled centrifuge suitable for tubes, flasks and blood bags "Megafriger-BLT-Blood" and "Macrofriger-BLT-Blood"

Original J.P. Selecta design. With maintenance free induction drive motor

SAFETY:
SAFETY, CONFORMS TO UNE-EN 61010-2-020.
PROTECTIVE INTERNAL CYLINDER BETWEEN THE CASE AND BOWL.
THE LID CANNOT BE OPENED WHILE THE ROTOR IS SPINNING.
THE MOTOR CANNOT SPIN WHILE THE LID IS OPEN.

IMBALANCE DETECTOR, AUTOMATICALLY STOPS IF THERE IS ANY IMBALANCE.
DOUBLE ELECTROMAGNETIC LID LOCK.
IF THERE IS A POWER FAILURE, A FAIL SAFE SYSTEM CAN BE USED TO OPEN THE LID.
EMERGENCY STOP BUTTON.

COMMON FEATURES

7" TFT touch screen.
Furniture: aluminum structure in Megafriger model and in steel tube with Dur-Al sides in Macrofriger model.
Internal Stainless steel bowl .
Aluminium windbreak cover.
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, 10 program memory, rotor identification, operation fault alarm.
Digital indicator of the rotor and blood bag buckets operating hours.

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.

WHOLE BLOOD → Plasma rich platelets / Red blood cells / Plasma low in platelets
Plasma rich platelets → Plasma low in platelets → Platelets concentrate
Plasma low in platelets → Fast freezing Slow thawing → Plasma whitout Cryo-precipitates / Cryo-precipitates rich in Factor VIII

CONTROL PANEL

Touch screen

1. Stop process key.
2. Start process key.
3. Increase value key.
4. Decrease value key.
5. Scheduled acceleration ramp.
6. Rotor model in use.
7. Reading the real time temperature. (refrigerated models only).
8. Door opening key.
9. RPM or RCF real-time reading.
10. Sequential operation.
11. Time set-up in process.
12. Key to change RPM / RCF.
13. Braking ramp programmed.
14. Return key..

Windbreak cover

Cross-section of the motor, rotor drive mechanism, showing the windbreak protector with lid that reduces the air resistance and maintains a regulated temperature.

Refrigerated high capacity microprocessor controlled centrifuge suitable for tubes, flasks and blood bags "Megafriger-BLT-Blood"

ADJUSTABLE WORKING TEMPERATURES FROM -10 TO 40 ° C. (TEMPERATURE AT STANDSTILL -20 ° C). CAPACITY UP TO 1000 ML BOTTLES AND SPECIAL FOR BLOOD BAGS OF 500 TO 800 ML. MAXIMUM CAPACITY 4 BAGS.

Swing out rotor 4 places detail

Features and control panel (see page 129).

TECHNICAL SPECIFICATION

Maximum volume: . . . . .4000 ml
Maximum bucket volume: . . . . .1000 ml
Speed 7001488.: . . . . .from 300 to 4600 r.p.m.
Accuracy: . . . .± 5 r.p.m.
Resolution r.p.m: . . . . .10 r.p.m.
R.C.F.: . . . . .from 24 to 5700
Imbalance: . . . .± 5 g
Accuracy: . . . . .4 g
Temperature range: . . . . .from -10 °C to 40 °C
Temperature stability: . . . .±4 °C
Resolution: . . . . .1 °C
Temperature range: . . . . .99 min. 59 sec.
Centrifuge radius: . . . . .241 mm
Acceleration profile: 5
Brake profile: . . . . .9 linear 6 quadratic
Voltage: . . . . .230.
Power: . . . . .1700 VA

MODEL

Part No.	Max. Volume ml	Max. Capacity	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001488	4000	4 bags x 1000 ml	97	70	72	1700	190

Swing out rotor 4 places, treated steel.

Interchangeable buckets and reducers with identification sign. Autoclavable.

Single bucket.
Bags of 500 to
800 ml.
Part No.**7001344**

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. **7001343**

Adapters for single bucket Part No. 7001393.

Bottle

| 1001394 | 7001395 | 7001396 | 7001397 | 7001398 | 7001399 | 7001400 | 7001401 |

Single Bucket	Part No. adapter	Total max. Volume (4 adapters)	Capacity: bags, tubes by adapter		Ø x Length mm	R.p.m. Min./Max.	R.c.f. (xg) Min./Max.
7001344	–	3200 ml	2 bag 500 or 800 ml		–	300/4600	24/5520
7001393 **Capacity** **without adapter:** **1 bag of** **500 to 800 ml** **or 1x bottle** **1000 ml**	**Bottle 1000 ml 1001394**	4000 ml	1 bottle 1000 ml or 1 bag		98 x 175	300/4600	24/5520
	7001395	2000 ml	1 bottle	500 ml	70 x 165	300/4600	24/5520
	7001396	800 ml	1 bottle	200 ml	56.6 x 104	300/4600	24/5520
	7001397	800 ml	2 tubes	100 ml	44 x 104	300/4600	24/5520
	7001398	800 ml	4 tubes	50 ml	34 x 100	300/4600	24/5520
	7001399	900 ml	9 tubes	25 ml	24 x 100	300/4600	24/5520
	7001400	1020 ml	17 tubes	15 ml	16.5 x 100	300/4600	24/5520
	7001401	672 ml	24 tubes	7 ml	12 x 100	300/4600	24/5520

Note: All buckets and adapters come without tubes, see page 132 for tubes and accessories.
Other adapters can be manufactured as per customers specification.

COMPLEMENTS

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

FORCED AIR CIRCULATION.
FIXED TEMPERATURE +4 °C. STABILITY ±1.5 °C. RESOLUTION 1 °C.
SEVEN DAYS GRAPHIC TEMPERATURE REGISTER.
CAPACITIES FROM 80 TO 480 BLOOD BAGS.

FEATURES
See page. 79

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	2101519	235	80	109	51	55	156	61	62	300	1/7	4	90
Blood Bank C	2101512	560	200	153	54	66	213	80	79	497	3/8	4	165
Blood Bank D	2101514	1240	480	153	124	68	213	139	79	1034	5/8	8	212

They are supplied with trays.

Refrigerated high capacity microprocessor controlled centrifuge suitable for tubes, flasks and blood bags "Macrofriger-BLT-Blood"

ADJUSTABLE WORKING TEMPERATURES FROM 0 TO 40 ° C. (TEMPERATURE AT STANDSTILL -20 ° C).
CAPACITY UP TO 1000 ML BOTTLES AND SPECIAL FOR TRIPLE AND QUADRUPLE BLOOD BAGS OF 500 TO 800 ML.
MAXIMUM CAPACITY 12 BAGS.

Image showing the rotor and double buckets for quad and triple blood bags of 500 and 800 ml.

Features and control panel (see page 129).

TECHNICAL SPECIFICATION

Maximum volume: . . . . .9600 ml
Maximum bucket volume: . . . . .1600 ml
Speed 7001490.: . . . . .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 5430
Imbalance: . . . .± 5 g
Accuracy: . . . . .4 g
Temperature range: . . . . .from -20 °C to 40 °C
Temperature stability: . . . .±4 °C
Resolution: . . . . .1 °C
Temperature range: . . . . .99 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
7001490	**9600**	**12 bags x 800 ml**	**105**	**96**	**96**	**5500**	**420**

Swing out rotor 6 places, treated steel.

Interchangeable buckets and reducers with identification sign. Autoclavable.

Bags holder set for double cup 7001392
Part No. **0928292**

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	29/5450
–		Bottle 1000 ml 1001394	6000 ml	1 bottle 1000 ml or 1 bag	98 x 175	300/4070	29/5430
–	7001393	7001395	3000 ml	1 bottle 500 ml	70 x 165	300/4070	29/5430
–	Capacity	7001396	1200 ml	1 bottle 200 ml	56.6 x 104	300/4070	29/5430
–	without adapter:	7001397	1200 ml	2 tubes 100 ml	44 x 104	300/4070	29/5430
–	1 bag of	7001398	1200 ml	4 tubes 50 ml	34 x 100	300/4070	29/5430
–	500 to 800 ml	7001399	1350 ml	9 tubes 25 ml	24 x 100	300/4070	29/5430
–	or 1x bottle	7001400	1530 ml	17 tubes 15 ml	16.5 x 100	300/4070	29/5430
–	1000 ml	7001401	1008 ml	24 tubes 7 ml	12 x 100	300/4070	29/5430

Note: All buckets and adapters come without tubes, see page 132 for tubes and accessories.
Other adapters can be manufactured as per customers specification.

Swing out rotor 4 places, treated steel.

Biological single bucket safety with screw cap for 2 bags of 450 ml blood or 1 bag of 1200 ml.

Part No. **7001394**

Part No. **7001330**

7001331 *7001332* *7001333*

Double Bucket	Single Bucket	Part No. adapter	Total max. Volume (4 adapters)	Capacity: bags, tubes by adapter	Ø x Length mm	R.p.m. Min./Max.	R.c.f. (xg) Min./Max.
–	7001330	–	4800 ml	2 bags of 450 or 1 of 1200 ml	–	300/4070	32/5944
–	Capacity	7001331	1600 ml	8 x 50 ml falcon tubes	34 x 120	300/4070	27/4944
–	without adapter: 2 bags	7001332	2100 ml	35 x 15 ml VAC tubes	15,5 x 100	300/4070	25/4722
–	of 450 ml or 1 of 1200 ml	7001333	700 ml	35 x 5 ml VAC tubes	12,5 x 75	300/4070	24/4444

Centrifuges **131**

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 plastic	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 BLT Part No. 7002556	Rotor 7000550			
Meditronic BLT Part No. 7001476	Rotor 7000743		Rotor 7000742	Rotor 7000741
Medifriger BLT Part No. 7001477	Rotor 7000743		Rotor 7000742	Rotor 7000741
Macrotronic BLT Part No. 7001485	Rotor 7000560		Rotor 7000561	
Macrofriger BLT Part No. 7001486	Rotor 7000560		Rotor 7000561	

ALL THE ROTORS, BUCKETS AND ADAPTERS COME WITH LASER ETCHED IDENTIFICATION.

ACCESSORIES for cytology

Description	Part No,
1. Slide clip fastener	5004050
2. Sample container	5004051
3. Two samples container	5004052
4. Filter	5004053
5. Cyto slide of 1 circle	5004054
6. Cyto slide of 2 circles	5004055
7. Disposable container 1 sample	5004056
8. Disposable container 2 samples	5004057

"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 ºC and 180 ºC 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.

QUICK OVERVIEW

MODEL RANGE	MODELS	CONTROL	CAPACITY					Safety	RS-232	USB
STERILIZERS POUPINEL			1.5 litres	19 litres						
50 ... 220 °C	**DRYTIME II**	**ANALOGUE**	2000912	-				**YES**	-	-
60 ... 250 °C	**DRYTERM**	**ANALOGUE**	-	2000787				**YES**	-	-
GLASS DRYING			126 litres							
40 ... 170 °C	**DRYGLASS**	**ANALOGUE**	2000381					**YES**	-	-
CONVECTION NATURAL			19 litres	36 litres	52 litres	80 litres	150 litres			
40 ... 250 °C	**CONTERM**	**Digital LED µ**	2000250	2000251	2000252	2000253	2000254	**YES**		-
Ambient+5 ... 250 °C	**DIGITHEAT-TFT**	**TFT Touch screen µ**	2001251	2001252	2001253	2001254	2001255	**YES**	**YES**	**YES**
FORCED AIR, FAN CONVECTION BENCH TOP				33 litres	47 litres	76 litres	145 litres			
Ambient+5 ... 250 °C	**DIGITRONIC-TFT**	**TFT Touch screen µ**		2005163	2005165	2005167	2005169	**YES**	**YES**	**YES**
Ambient+5 ... 250 °C	**DIGITRONIC-TFT glass door**	**TFT Touch screenµ**		2005164	2005166	2005168	2005170	**YES**	**YES**	**YES**
FORCED AIR, FAN CONVECTION FLOOR STANDING			216 litres	288 litres	400 litres	720 litres	4200 litres			
Ambient+5 ... 250 °C	**DRYBIG 230/400V III PHASES**	**DIGITAL µ**	2002961	2002971	2003721	2003741	2003743	**YES**	**YES**	-
Ambient+5 ... 250 °C	**DRYBIG 230V I PHASE**	**DIGITAL µ**	2002962	2002972	-	-		**YES**	**YES**	-
HIGH TEMPERATURE			80 litres							
60 ... 400 °C	**HIGHTEMP 230/400V III PHASES**	**DIGITAL µ**	2001406					**YES**	-	-
VACUUM OVEN			3 litres	47 litres						
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							
			1001403					-	-	-
INCUBATION CHAMBER			110 litres							
Ambient+5 ... 57 °C	**BOXCULT**	**DIGITAL**	3000957					**YES**	-	-
INCUBATORS BENCH TOP			19 litres	36 litres	52 litres	80 litres	150 litres			
Ambient+5 ... 80 °C	**INCUBAT**	**Digital LED µ**	2000260	2000261	2000262	2000263	2000264	**YES**	-	-
Ambient+5 ... 80 °C	**INCUDIGIT-TFT**	**TFT Touch screen µ**	2001261	2001262	2001263	2001264	2001265	**YES**	**YES**	**YES**
INCUBATORS LARGE AND FLOOR STANDING			288 litres	400 litres	720 litres					
Ambient+5 ... 80 °C	**INCUBIG-TFT**	**TFT Touch screen µ**	2000238	2000239	2000240			**YES**	**YES**	**YES**
LOW TEMPERATURE CABINETS			36 litres	80 litres	150 litres					
5 ... 60 °C	**PREBATEM-TFT**	**TFT Touch screen µ**	2000963	2000964	2000965			**YES**	**YES**	**YES**
CO₂ INCUBATOR					150 litres					
Ambient+5 ... 50 °C	**INCUBATOR CO₂**	**DIGITAL µ**			4002628			**YES**	**YES**	**YES**
WITH REFRIGERATION			160 litres	600 litres	670 litres					
+5 ... 65 °C	**HOTCOLD S**	**DIGITAL µ**	2101518					**YES**	-	-
-10 ... 60 °C	**HOTCOLD UC**	**TFT Touch screen µ**			2101515			**YES**	-	**YES**
6 ... 20 °C (with humidity)	**HOTCOLD F**	**TFT Touch screen µ**		2101517				**YES**	-	-
6 ... 20 °C (with humidity)	**HOTCOLD J**	**TFT Touch screen µ**		2101518				**YES**	-	-
MUFFLE FURNACE			3 litres	3.6 litres	8 litres	9 litres				
Up to ... 1150 °C	**SELECT-HORN-TFT**	**TFT Touch screen µ**	-	2000376	-	2000377		**YES**	-	**YES**
Up to ... 1100 °C	**R**	**TFT Touch screen µ**	2000368	-	2000369	-		**YES**	-	**YES**

µ: with microprocessor.

Poupinel dry heat sterilizer "Drytime II"

ADJUSTABLE TEMPERATURES FROM 50 °C UP TO 200 °C.
STABILITY: ±6 °C.

APPLICATIONS

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

FEATURES

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

SAFETY

Over temperature cut out incorporated. EN.61010 Standard.

CONTROL PANEL

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

MODEL

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
2000912	1,5	6,5	25	12	15	31	20	300	4

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
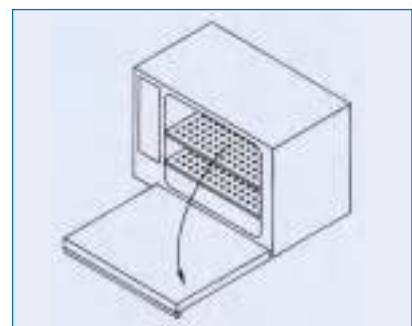
Glass drying oven "Dryglass"

FAN ASSISTED AIR CIRCULATION.
ADJUSTABLE TEMPERATURE FROM 40 °C TO 170 °C.

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

FEATURES

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

STANDARD EQUIPMENT

2 shelves and 4 shelf guides.

CONTROL PANEL

Dual heating power selector switch.
Mains indicator lamp.
Hydraulic thermostat for temperature control.
Locking system of thermostat 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.

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 PREMIER RANGE
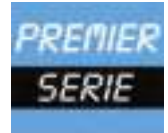
MODELS:
- NATURAL AIR CONVECTION, DRYING AND STERILIZATION.
- FAN ASSISTED CIRCULATION, UNIVERSAL APPLICATIONS.
- NATURAL AIR CONVECTION, BACTERIOLOGY AND INCUBATION.

CONTROL: DIGITAL MICROPROCESSOR CONTROL OF TEMPERATURE AND TIME, MODEL DEPENDENT.
COMPLIES WITH THE STANDARDS: DIN 50011 - DIN 58945. REQUIRED FOR HEATING, STABILITY AND HOMOGENEITY.

PREMIER SERIE

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

Leading edge technology
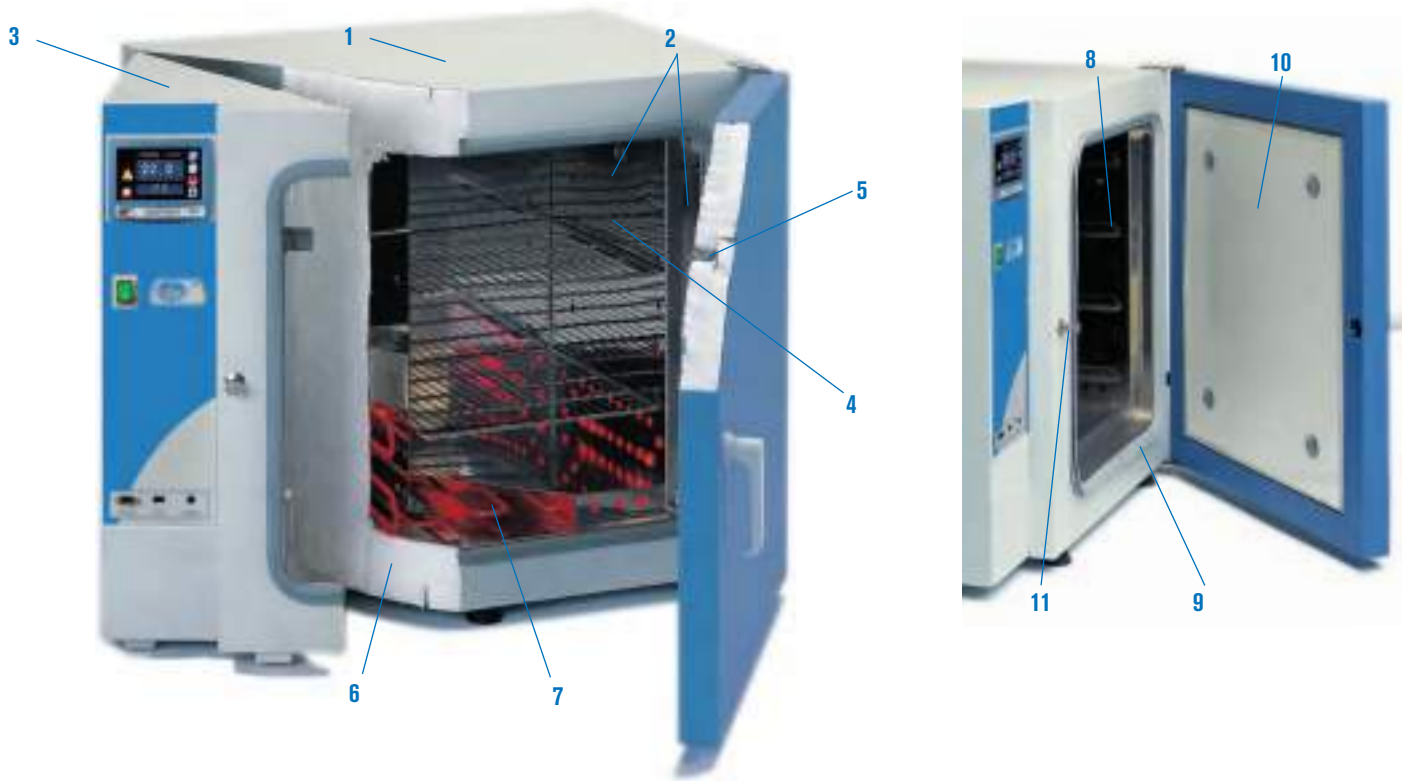
Detailed longitudinal cross section.

COMMON FEATURES

Construction.

1. External case treated with a corrosive resistant epoxy coating.

2. Internal part: Easy to clean AISI 304 stainless steel double chamber, self adjusting door seal and adjustable shelves and guides.

3. Control panel: independent insulated control panel to facilitate all types of instruments, controls and regulators.

4. Adjustable air inlet.

Technical Properties.

5. Excellent thermal qualities of the insulation has the optimum performance according to heater capacity and power consumption, with minimal external temperature loss.

6. Independent heating chamber for the heating elements to obtain an even heat distribution and rapid temperature equilibrium and stabilization.

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

Technology from J. P. Selecta:

7. Adjustable guide and shelf positions.

8. Double seal around the chamber to provide a gentle but effective seal.

9. Floating spring door that adjusts the pressure and absorbs the thermal expansion.

10. Adjustable door pressure system closure. **Internal tempered glass door.**

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

CONTROL PANELS

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

2
1
3

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

2
1
3
4
5

MODEL SUMMARY TABLE

Models	CONTERM	DIGITHEAT	DIGITRONIC	DRYBIG	INCUBAT	INCUDIGIT	INCUBIG
TYPE	**Drying Oven**	**Drying Oven**	**Universal**	**Universal**	**Bacteriological**	**Bacteriological**	**Bacteriological**
CONTROL DISPLAY	**Digital LED**	**TFT Touch screen**	**TFT Touch screen**	**Digital LCD**	**Digital LED**	**TFT Touch screen**	**TFT Touch screen**
AIR CIRCULATION	**Convection natural**	**Convection natural**	**Fan assisted**	**Fan assisted**	**Convection natural**	**Convection natural**	**Convection natural**

ACCESSORIES

2000009 24 hour programmer with continuous on/off cycling up to every 15 minutes. Suitable for **CONTERM** and I**NCUBAT.**

DRYING AND STERILIZATION OVENS

Drying and sterilization ovens "Conterm"

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

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

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

Models Conterm, Part No. 2000250, 2000251 and 2000253.

Model Conterm type Poupinel, Part No. 2000252 and 2000254.

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
2000250	**19**	30	25	25	50	60	44	**5**	**580**	**27**
2000251	**36**	40	30	30	60	65	49	**7**	**870**	**35**
2000252	**52**	33	47	33	53	82	52	**5**	**980**	**44**
2000253	**80**	50	40	40	70	74	59	**8**	**1150**	**54**
2000254	**150**	50	60	50	70	95	68	**8**	**1900**	**76**

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.
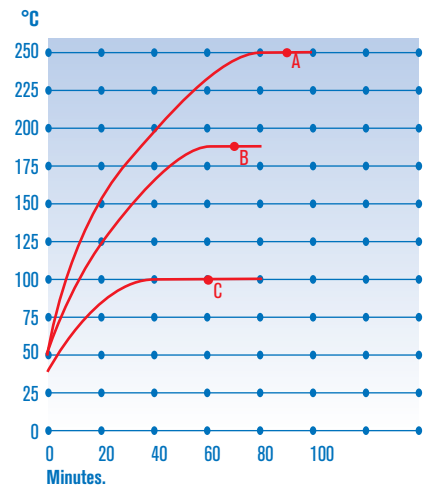
ACCESSORIES
Accessorie must be installed in the factory.

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

SPARES
Shelves and guides.

Oven Part No.	2000250	2000251	2000252	2000253	2000254
Guides set (2 units)	**2000011**	**2000012**	**2000012**	**2000013**	**2000015**
Shelves	**2000021**	**2000022**	**2000024**	**2000023**	**2000025**

Each shelf requires two guides (one set).

Drying and sterilization ovens "Digitheat-TFT"

NATURAL CONVECTION.
MICROPROCESSOR CONTROL WITH TFT TOUCH SCREEN.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C UP TO 250 °C.
STABILITY: ±0.3 °C, UP TO 150 °C. HOMOGENEITY: ±1 °C, UP TO 150 °C.
SET ERROR: ±2 % OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C.

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

Reaches working temperature with minimum delay

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

Model Digitheat type Poupinel,
Part No. 2001253 and 2001255.

Model Digitheat, Part No. 2001251, 2001252 and 2001254.

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
2001251	19	30	25	25	50	60	44	5	600	24
2001252	36	40	30	30	60	65	49	7	900	35
2001253	52	33	47	33	53	82	52	5	1000	44
2001254	80	50	40	40	70	74	59	8	1200	59
2001255	150	50	60	50	70	95	68	8	2100	73
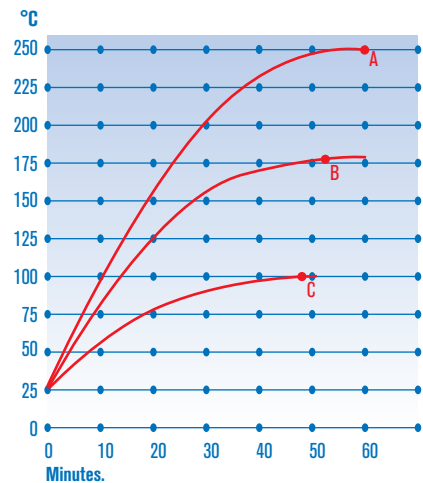
Performance graph of temperature and time.
A. Set at 250 °C: 60'.
B. Set at 180 °C: 54'.
C. Set at 100 °C: 48'.

SPARES
Shelves and guides.

Oven Part No.	2001251	2001252	2001253	2001254	2001255
Guides set (2 units)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

Each shelf requires two guides (one set).

Ovens, Incubators and Furnaces **141**

Universal precision ovens "Digitronic-TFT"

FAN ASSISTED CIRCULATION.
BACTERIOLOGICAL ASSAYS, DRYING PROCESSES AND STERILIZATION.
MICROPROCESSOR CONTROL WITH TFT TOUCH SCREEN.
ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C UP TO 250 °C.
STABILITY: ±0.3 °C, UP TO 100 °C. HOMOGENEITY: ±1 °C, UP TO 100 °C. GLASS DOOR ±2 UP TO 100 °C.
SET ERROR: ±2% OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C.
UP TO 6 PROGRAMMABLE TEMPERATURE STEPS

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

Multipurpose oven. Fast response and recuperation of temperature.

FEATURES

1. TFT touch screen.
2. Inner chamber made of AISI 304 stainless steel.
3. Pre-mixing chamber made of AISI 304 stainless steel.
4. Homogeneously distributed shielded heating elements with complete air circulation throughout.
5. Low external temperature due to excellent thermal insulation.
6. Flexible silicon door gasket around the entrance of the chamber.
7. Excellent door seal due to the floating inner door that adjusts and absorbs the thermal expansion.
8. Turbo fan made of AISI 304 stainless steel that makes to circulate the air at the working temperature.
9. Diagram showing the air flow from the pre-mixing chamber around the heating elements prior to entry to the oven's chamber.
10. Independent insulated control box.
11. Epoxy coated outer case.
12. Ventilator with adjustable outlet (access at the back of the unit).
13. Adjustable height positions for guides and shelves.
14. Shelves made of AISI 304 stainless steel.
15. 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 138 and 139).

Oven's diagram seen from the upper side.
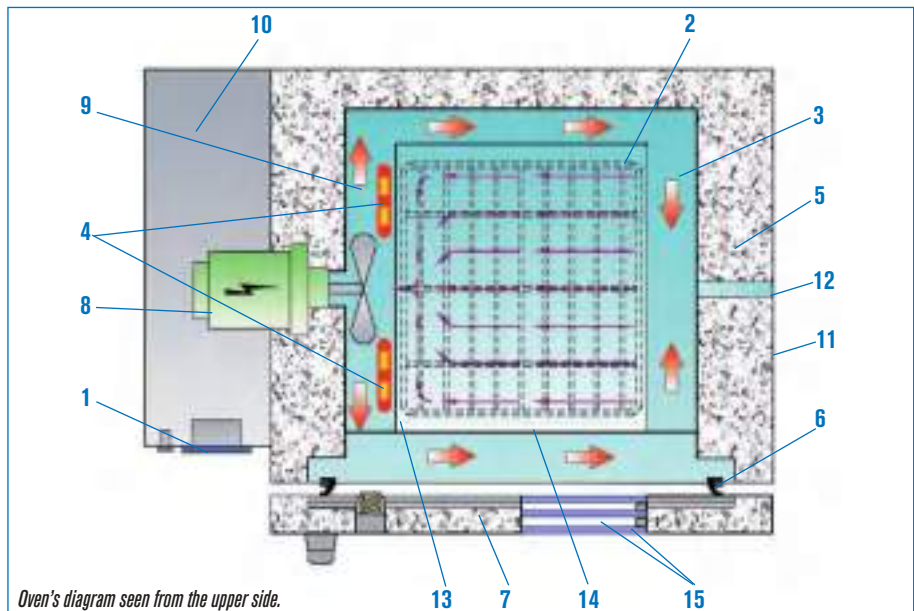
Temperature steps graphic.

Model Digitronic with solid metal door. Part No. 2005163 and 2005167.
(With toughened glass window door. Part No. 2005164 and 2005168).

Model Digitronic type Poupinel, door with toughened double glass window Part No. 2005166 and 2005170.

Model Digitronic type Poupinel, Part No. 2005165 and 2005169.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Door Type	Heating rate to 100 ºC 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
2005163	33	metal	15	7	16	40	28	30	60	65	55	7	1200	38
2005164	33	glass	15	7	16	40	28	30	60	65	55	7	1200	40
2005165	47	metal	16	7	16	33	45	32	53	81	58	5	1200	46
2005166	47	glass	16	7	16	33	45	32	53	81	58	5	1200	50
2005167	76	metal	17	9	14	50	38	40	70	75	65	8	1600	58
2005168	76	glass	17	9	14	50	38	40	70	75	65	8	1600	64
2005169	145	metal	17	10	12	50	58	50	70	95	72	9	2000	74
2005170	145	glass	17	10	12	50	58	50	70	95	72	9	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'.
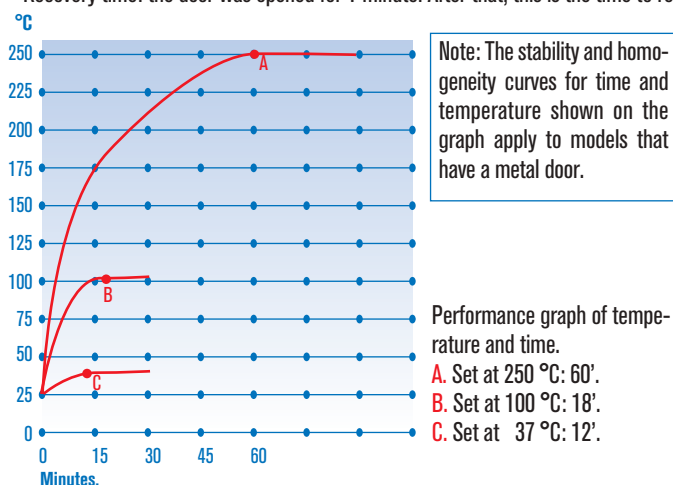
SPARES
Shelves and guides.

Oven Part No.	2005163 2005164	2005165 2005166	2005167 2005168	2005169 2005170
Guides (2) (Set)	2000012	2000033	2000013	2000015
Shelves	2000072	2000073	2000074	2000075

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

ACCESSORIES

Preparation of furnaces for drying moisture saturated samples. (Arids, muds, sands ...) When adding turbine, the number of renewals of the air inside the furnace per hour multiplies by 10.
Must be factory installed
Part No. 2000095

Drying and sterilization ovens "Dry-Big"

FAN ASSISTED CIRCULATION.
DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME
ADJUSTABLE TEMPERATURES FROM 40 °C UP TO 250 °C
STABILITY: ±0.4 °C, UP TO 100 °C. HOMOGENEITY: ±2 °C, UP TO 100 °C
SET ERROR : ±2.5% OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C

RS232

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

Fast working and recovery temperature

FEATURES

1. Microprocessor controlled with digital display of temperature and time, pre-programmable time start and run time once the set temperature has been achieved through the Pt100 temperature sensor.
2. Inner chamber made of AISI 304 stainless steel.
3. 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.
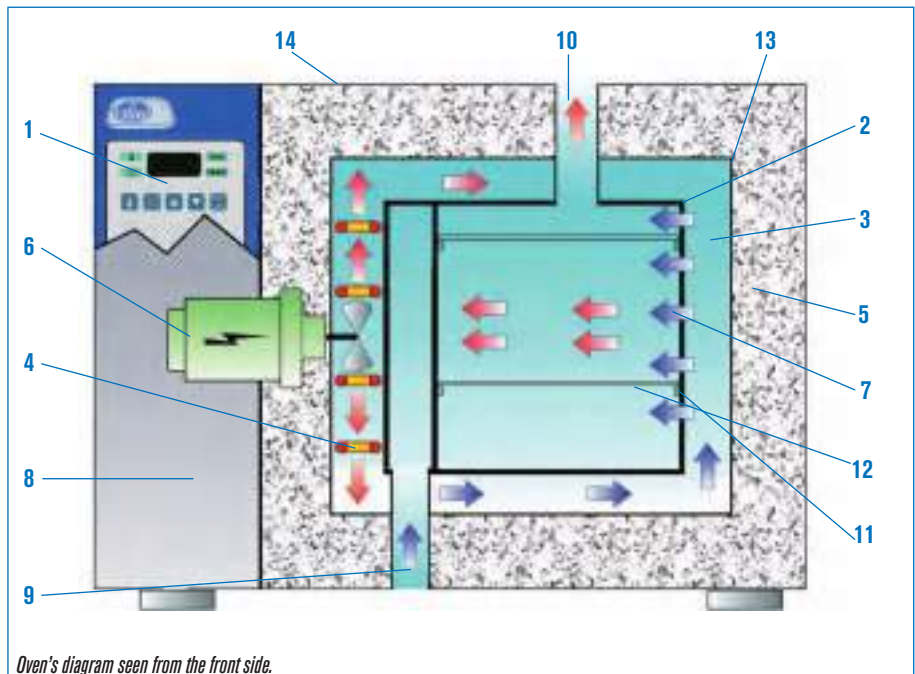
CONTROL PANEL

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 or for printer.
16. Adjustable safety thermostat that overrides the microprocessor in case of failure, with manual reset and indicator lamp.

Oven's diagram seen from the front side.

216 litres model. Part No. 2002961

720 litres model. Part No. 2003741

Part No. 2003743

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
2003743	380 / 400 three phase	4200	30	13	6	180	175	135	216	231	178	10	11000	1200

Energy saving, three phase units are recommended.
*Recovery time, the door was opened for 60 seconds, time taken to recover to the set temperature of 100 °C.
Upon request, large capacity equipment can be manufactured.
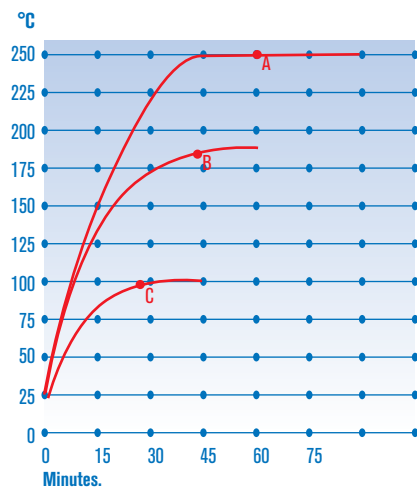
Performance graph of temperature and time.
A. Set at 250 °C: 1 h 6'.
B. Set at 180 °C: 42'.
C. Set at 100 °C: 24'.

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

SPARES
Shelves.

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: ±1,5 °C, UP TO 300 °C. HOMOGENEITY: ±3 °C, UP TO 300 °C
SET ERROR : ±2 % OF THE WORKING TEMPERATURE.

SAFETY:
STANDARD DIN 12880. 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).
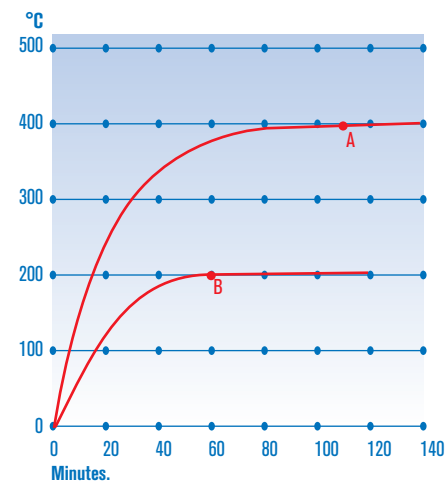
Performance graph of temperature and time.
A. Set at 400 ºc: 1h 50'.
B. Set at 200 ºc: 1h.

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	158

ACCESSORIES

Accessories that must be installed in factory.

Part No.

2000002 **Timer switch** 0-120 minutes.

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 ±3 °C, UP TO 100 °C. SET ERROR ±2 °C. RESOLUTION 1 °C.

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

FEATURE

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

CONTROL PANEL

1. RS232 interface.
2. Air inlet.
3. Air inlet valve.
5. Vacuum pressure indicator lamp.
6. Air inlet valve indicator lamp, end of cycle.
7. Running indicator lamp.
8. Under vacuum indicator lamp.
9. Digital vacuum display in mbar.
10. Push button to select vacuum.
11. Push button to select electronic valve at the end of the cycle.
12. Push button to increase 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.

SPARE PARTS
Shelves. (2)
Part No. **2000030**

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.

RS232

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

FEATURE

Digital electronic control of temperature and pre-selected programmable timer.

Running time range: from 1 minute to 9hrs 59 min. or 99.9 hrs.

Pre-program start time, (wait time range): 1 hr to 24 hrs

Temperature sensor Pt100

Heating element placed evenly around the chamber.

Chamber made from AISI 304 stainless steel.

Trays made from anodised aluminium.

Door with hardened glass window, which sits on to a silicon gasket that absorbs any contractions and expansions that may occur.

Vacuum port with bleed valve

Air valve at the front

Vacuum pump connection at the back.

Epoxy covered outer case.

RS-232 Interface output of parameters for a computer or printer.

CONTROL PANEL

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

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

MODEL

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.

SPARE PARTS
Shelves. (2)
Part No. **2000030**

Vacuum pump "VACUM-10 Pa"

ROTARY VEIN PUMP WITH ANTI RETURN VALVE PREVENTS OIL FLOW BACK, SUITABLE FOR GENERAL LABORATORY APPLICATIONS. OVER TEMPERATURE MOTOR PROTECTION CUT-OUT AND MAIN ON/OFF SWITCH. RECOMMENDED FOR THE "VACIOTEM T AND TV" AND THE DESICCATOR "VACUO-TEMP".

COMECTA

ivymen OPTIC SYSTEM ®

FEATURE

Heat resistant veins and internal joints
Aspiration inlet flange: 16 mm Ø.
High oil volume and forced lubrication.
Exhaust filter and ballast.

Shock absorber mounted.
Free from vibrations
Low noise level (62db).
Maximum working temperature 40 °C.
Portable, with lifting handle included.

MODEL

Part No.	Pump rate m³/h	Vacuum limit mbar	Height / Width / Depth (exterior) cm			r.p.m.	Power W	Weight Kg
5900621	3,6	0.06	27	35	14	1400	180	11

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: ±2 °C. RESOLUTION: 1 °C.
TIME FROM 1' TO 999', OR CONTINUOUS.

FEATURES

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

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

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**

Ovens, Incubators and Furnaces **149**

BACTERIOLOGICAL INCUBATORS

Bacteriological incubators "Incubat"

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

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

PREMIER SERIE

NEW DESIGN

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

Horizontal model. Part No. 2001615
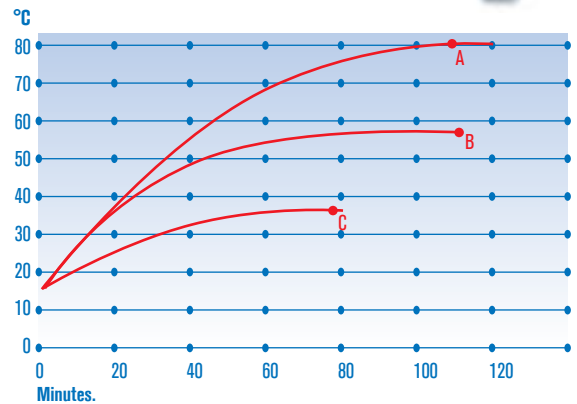
Performance graph of temperature and time.
A. Set at 80 °C: 1 h 54'.
B. Set at 56 °C: 1 h 46'.
C. Set at 37 °C: 1 h 18'.

STANDARD EQUIPMENT
2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelves positions	Power W	Weight Kg
2000260	19	30	25	25	51	57	49	5	165	26
2000261	36	40	30	30	60	62	54	7	245	36
2000262	52	33	47	33	53	79	57	5	275	46
2000263	80	50	40	40	70	72	64	8	325	54
2000264	150	50	60	50	70	92	74	8	545	78

SPARES
Shelves and guides.

Oven Part No.	2000260	2000261	2000262	2000263	2000264
Set guides (2 units)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

Each shelve requires two guides (one set).

ACCESSORIES
Accessorie must be factory installed.

Part No.
2000009 24 hour programmer with continuous on/off cycling up to every 15 minutes.

Digital bacteriological incubators "Incudigit-TFT"

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

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

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

Horizontal model. Part No. 2001263
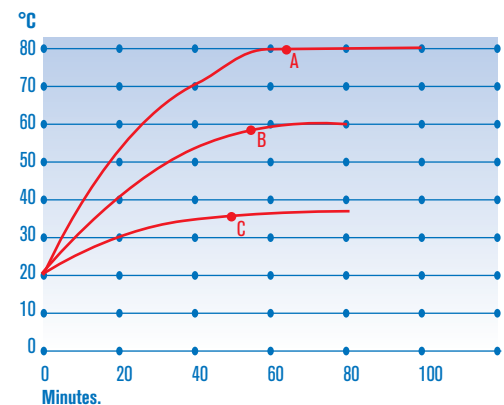
Performance graph of temperature and time.
A. Set at 80 °C: 1 h 12'.
B. Set at 56 °C: 54'.
C. Set at 37 °C: 48'.

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
2001261	19	30	25	25	51	57	49	5	170	26
2001262	36	40	30	30	60	62	54	5	225	36
2001263	52	33	47	33	53	79	57	5	275	46
2001264	80	50	40	40	70	72	64	8	300	54
2001265	150	50	60	50	70	92	74	8	525	75

SPARES
Shelves and guides.

Oven Part No.	2001261	2001262	2001263	2001264	2001265
Guides (2) (Set)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

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

Incubators for bacteriology and cell culture "Incubig-TFT"

NATURAL CONVECTION.
MICROPROCESSOR CONTROL AND DIGITAL DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C TO 80 °C.
STABILITY: ±0.2 °C, UP TO 37 °C. HOMOGENEITY: ±0.7 °C, UP TO 37 °C.
SET ERROR: ±2% OF THE WORKING TEMPERATURE, RESOLUTION 0.1 °C
INTERNAL TEMPERED GLASS DOOR.

SAFETY:
STANDARD EN.61010 OVER TEMPERATURE CUT OUT FITTED.
STANDARD DIN 12880. ADJUSTABLE SAFETY THERMOSTAT FITTED.

Capacities up to 720 litres

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

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

Model Part No. 2000238.
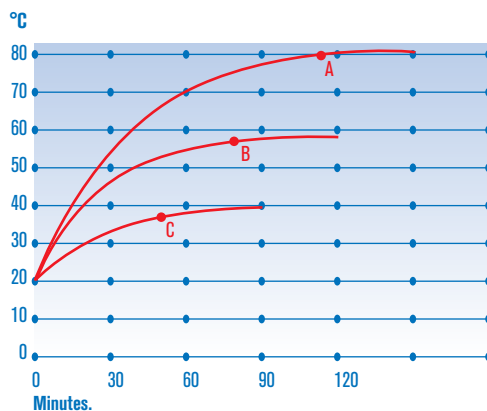
Performance graph of temperature and time.
A. Set at 80 °C: 1 h 45'.
B. Set at 56 °C: 1 h 10'.
C. Set at 37 °C: 54'.

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

Models Part No. 2000239 and 2000240.

CONTROL PANEL

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

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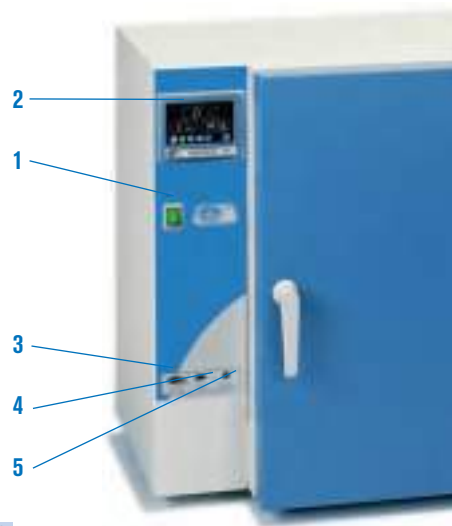
MODELS

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

SPARES
Shelves and guides.

Oven Part No.	2000238	2000239	2000240
Shelves	**2002372**	**2000063**	**2000064**
Guides (2) (Set)	**2002371**	-	-

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

Incubator for Petri capsules

NATURAL CONVECTION.
MICROPROCESSOR REGULATION AND TEMPERATURE DIGITAL CONTROL.
FOR ADJUSTABLE TEMPERATURES FROM AMBIENT +5°C TO 60°C.
STABILITY: ±0,1°C TO 37°C. HOMOGENEITY: ±0,1°C TO 37 °C. SETPOINT ERROR: ±0,1°C. RESOLUTION: 0,1°C.

Small size. Culture visual control. Transportable.

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

FEATURES
Culture surface 320 x 220 mm (Inner height: 20mm)
Culture visual monitoring.
Transparent cover.
Easy access to samples.
Approximate capacity: (single level) (mm)
15 Petri capsules of Ø55.
10 Petri capsules of Ø80.
7 Petri capsules of Ø90.
6 Petri capsules of Ø100.
3 Petri capsules of 120x120.
2 Petri capsules of Ø140.

MODEL

Part No.	Margin Tª ºC	Height / Width / Depth (Exterior) cm			Height / Width / Depth (interior) cm			Power W.	Weight Kg
4002629	Amb +5 to 60	9	45	24	2	32	22	200	3.5

Cooled low temperature incubator "Prebatem-TFT"

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

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

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, feeding, new techniques for protein crystallization.

PERFORMANCE	Specification	
	at 10 °C	at 37 °C
Stability	±0.1 °C	±0.1 °C
Homogeneity	±0.3 °C	±0.2 °C
Set error	±0.4 °C	±0.2 °C

FEATURE

1 .**4.3 inches TFT touch screen.**
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.

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

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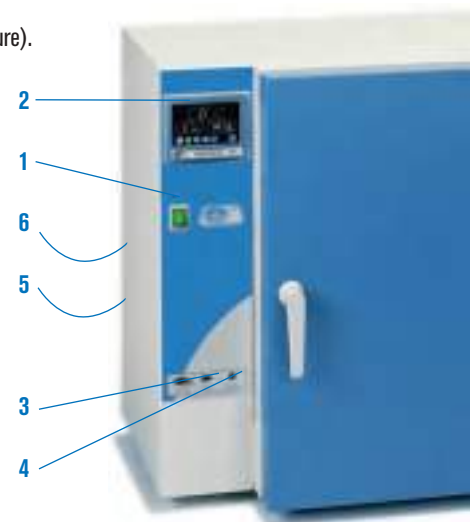
CONTROL PANEL

Main switch.
Mains indicator lamp.
4.3" Color TFT touch screen.
Adjustable safety thermostat.

Graph of temperature profiles

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. at 5 °C	at 40 °C	Power W	Weight Kg
2000963	36	40	30	30	60	65	49	7	70	50	310	54
2000964	80	50	40	40	70	75	59	8	75	55	310	73
2000965	150	50	60	50	70	95	68	8	90	60	310	94

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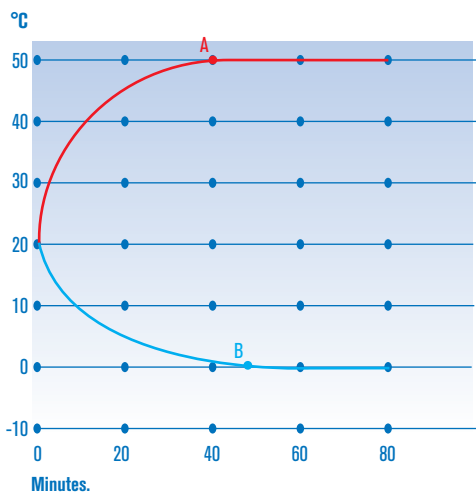
Performance graph of temperature and time.
A. Set at 50 °C: 40'.
B. Set at 0 °C: 48'.

SPARES

Shelves and guides.

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

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

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

Ovens, Incubators and Furnaces **155**

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.

Incubation chamber "Boxcult" Part No. 3000957 with base Part No.3001172 and support rack with two shelves Part No. 1000973. Supplied as accessories.

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.

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

Orbital & shaker stirrer "Rotabit" part number 3000974 with incubation chamber "Boxcult"

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**

CO₂ Incubators for anaerobic cell and tissue cultures "Incubator CO₂"

MICROPROCESSOR CONTROL WITH DIGITAL DISPLAY OF TEMPERATURE AND CO_2.
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.
CO_2 RANGE: FROM 0 TO 20%. STABILITY: ±0.3%. RESOLUTION: 0.1%

RS232

SAFETY:
STANDARD DIN 12880. DOUBLE INDEPENDENT OVER TEMPERATURE SAFETY THERMOSTAT.
CO_2 DEVIATION FROM SET VALUE. OPEN DOOR INDICATOR, ELECTRICAL FAULT INDICATOR. LOW CO_2 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 CO_2 input is by a metal tube of 6 mm Ø x 4 mm at the back of the unit.
RS-232 Interface output for a computer or printer.

CONTROL SYSTEM

Digital electronic control of temperature and CO_2, 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**	**1100***	**110**

Comes with two shelves.
* 2025 W In sterilization mode.

ACCESSORIES

Printer: temperature, CO₂, time and status.
(Needs to be factory fitted.)
Part No. **4001676**

Fyrite CO₂ analyser.
Monitor for checking the CO_2 % concentration. The unit has a graduated scale of 0 to 20 %. Reagent valid for 300 analysis. Should not be used with explosive gasses.
Part No. **4000632**

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

ADDITIONAL Shelves stainless steel. Part No. **1001675**

PRECISE COOLED INCUBATORS HOTCOLD

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

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

APPLICATIONS

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

Refrigerated cabinet "Hotcold S"

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

FEATURES

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.
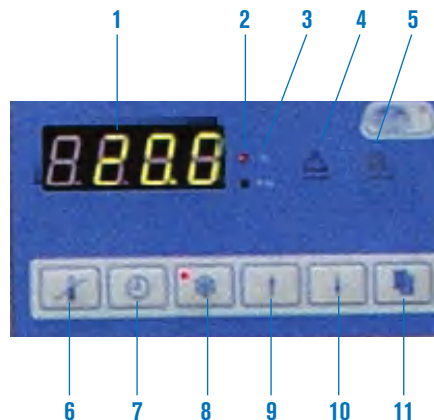
SPARES
Part No.
1001619   **Guides (2) (Set).**
1001620   **Shelves.**

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 cabinet "Hotcold UC"

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

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

PRECISION TABLE
STABILITY . . . . ±0.5 °C, UP TO 20 °C
HOMOGENEITY . . . . ±1 °C, UP TO 20 °C
SET ERROR . . . . ±1 °C
RESOLUTION . . . . 0.1 °C

FEATURES

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

CONTROL PANEL

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

MODELS

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

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

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

SPARES
Tray + 2 guides. Part No. 1001858

Refrigerated ovens with fixed humidity Hotcold Humidity F & J

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

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

ACCURACY – TEMPERATURE TABLE:
STABILITY:. ±0,5 °C
HOMOGENEITY: . . . . ±1 °C
SETPOINT ERROR: . . . . ±1 °C
RESOLUTION . . . . 0,1 °C

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

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

NEW

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

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

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

6.0°C

6,0 º C

35 %H

MODEL

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

SPARES
Tray + 2 guides.
Part No. 1001858

Supplied with 3 steel trays, PVC laminated.

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

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

Muffle Furnaces

Electric Muffle Furnaces "Select-Horn-TFT"

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

USB

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.
USB output.

CONTROL PANEL

General
Main switch.
TFT touch screen 4.3''.
Clock calendar.
Two working modes, normal or programming.
SPA – FRE – ENG menu.
Self-test on starting.
Temperature control auto-tuning.
ºC/ºF selection.
Type K probe.
Normal mode
Set point temperature selection
Up ramp.
Stability time from 1 min to 99h or continuous.
Programming mode
10 profiles capacity.
6 segments per profile.
Stability time in each segment from 1 min to 99h (or continuous in the last segment)
Up ramps between segments.
Daily - weekly On / Off programming.

Temperature ramps graph

Alarms
Network failure detection alarm.
Probe error detection alarm.
Over temperature and low temperature alarms.
Visual audible warning alarms.
Up to 100 alarms storage (date, start time, end time and alarm type).
Datalogging
Datalogging memory up to 15000 data.
Logging interval from 5 seconds to 30 min.
Data download via USB.

Image of the flap door system in operation.

SPARES

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

MODELS

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

Supplied complete with support tray, made from annealed steel.

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

Exterior exhaust tube.
Located at the furnace back with a ventilator motor to extract gases and vapours.
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

COMPLEMENTS

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

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

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

Electric muffle furnaces "R-3 L" and "R-8 L" 1100 °C

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

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

CONTROL PANEL
General
Main switch.
TFT touch screen 4.3''.
Clock calendar.
Two working modes, normal or programming.
SPA – FRE – ENG menu.
Self-test on starting.
Temperature control auto-tuning.
ºC/ºF selection.
Type K probe.
Normal mode
Set point temperature selection
Up ramp.
Stability time from 1 min to 99h or continuous.
Programming mode
10 profiles capacity.
6 segments per profile.
Stability time in each segment from 1 min to 99h (or
continuous in the last segment)
Up ramps between segments.
Daily - weekly On / Off programming.

Alarms
Network failure detection alarm.
Probe error detection alarm.
Over temperature and low temperature alarms.
Visual audible warning alarms.
Up to 100 alarms storage (date, start time, end time
and alarm type).
Datalogging
Datalogging memory up to 15000 data.
Logging interval from 5 seconds to 30 min.
Data download via USB.

Temperature ramps graph

ACCESSORIES
Must be factory installed.
Exterior extractor tube.
Located at the furnace back with a ven-
tilator motor to extract gases and va-
pours.
Gases and Vapours can be extracted
outside through the connecting tube.
Power: 20 W.
Part No. 2000370

MODEL	Part No.	Capacity litres	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Weight Kg
N-3	2000368	3	11.5	12.5	20	43	34	47	1700	18
N-8	2000369	8	13	20	30	51	44	56	1800	28

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

Electric muffle furnace "N-30 L", "N-40 L" and "N-80 L" 1100 to 1300 °C

ivymen SYSTEM OPTIC ®

TEMPERATURE ADJUSTABLE UP TO 1300 °C FOR MODEL "N-30 L", 1200 °C FOR MODEL "N-40 L" AND 1100 °C FOR MODEL N-80 L.
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 N-80 L

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	29	20	44	87	64	84	4600	230	120
N-40 L	2200857	40	29	29	42	87,5	65	83,5	3400	230	105
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.

Electric muffle furnaces "N-3 L", "N-8 L", "N-13 L", "N-22 L", "N-39 L' 1100 °C

ivymen SYSTEM OPTIC ®

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

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

CONTROL PANEL
Illuminated mains On/Off switch.
Temperature control with digital display
of both the set and actual temperature.
Programmable in steps of 1 °C.
Fitted with a type K probe.
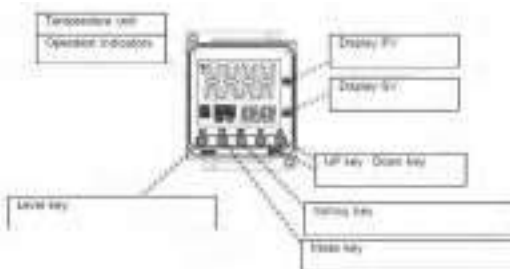
ACCESSORIES
Must be factory installed.
Exterior extractor tube.
Located at the furnace back with a ventilator motor to extract gases and vapours. Gases and Vapours can be extracted outside through the connecting tube. Power: 20 W. Código 2200858

MODELO	Part No.	Capacity litres	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Voltage V	Weight Kg
N-3 L	2200850	3	11,5	12,5	20⁰	43	34	47	1700	230	18
N-8 L	2200851	8,2	14	20	30	50	44	53	1800	220	33
N-13 L	2200852	13	18	22,5	36	55	50	70	1800	230	38
N-22 L	2200854	22	15,5	27,5	50	61	60	89	3000	230	58
N-39 L	2200856	39	24	31,5	49,5	74	65	90	6000	400 / 3 N	75

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 "MEDI"
For Ø from 5 to 20 mm.
Part No. 1001461   Chrome plated.
Part No. 1001462   Anodised black.

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
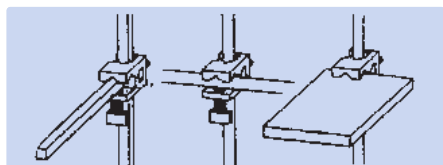
BOSSHEAD "PASS"
Original Phywe.
For joining and clamping multipurpose, round or rectangular rods up to 12 mm across.
For cross T and parallel arrangements.
Part No. 7204055

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

J.P Selecta

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.

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

THERMOMETER CLAMP

Swivel bosshead and press lock, made of AISI 304 stainless steel.
For Ø from 6-15 mm.
Part No. 6000036

THERMOMETER CLAMP

Hook at one end for a thermometer.
Chrome plated.
Part No. 1000037

Model burette stand Part no. 6000117 and double burette part no. 7000181

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
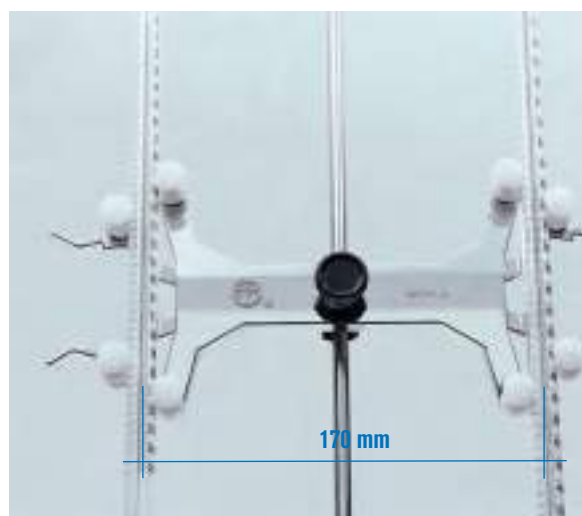
DOUBLE BURETTE CLAMP "DUPLEX"

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
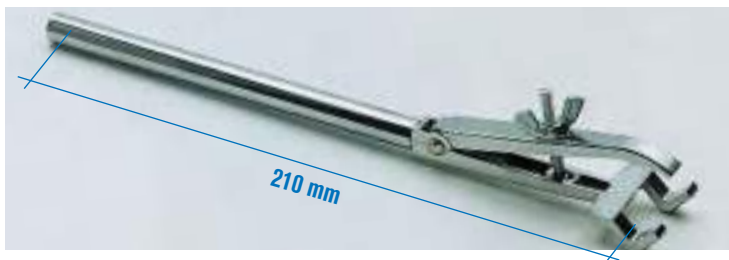
BURETTE CLAMP "TRIPS"

Made of chrome plated metal for Ø from 4 to 20 mm.
Part No. 7000521
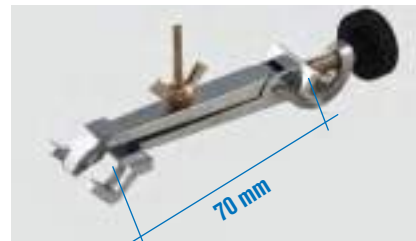
BOSSHEAD BURETTE AND TUBE CLAMP "TRIPS"

Made of chrome plated metal for Ø from 4 to 20 mm.
Part No. 7005211
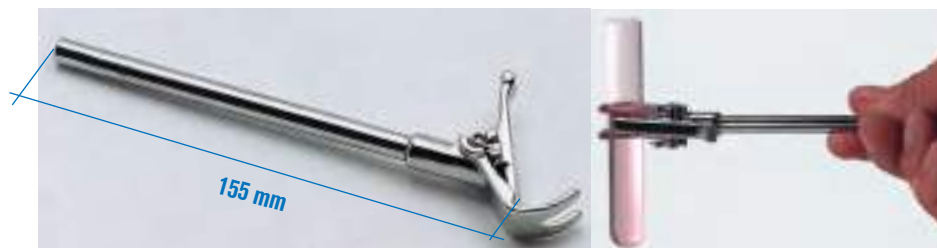
SPRING CLAMP FOR BURETTES AND THERMOMETERS "AUTOMATIC"

Made of chrome plated metal with spring clamp jaw. For Ø from 0 to 25 mm.
Designed for test tubes.
Part No. 7000025

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

210 mm

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

75 mm
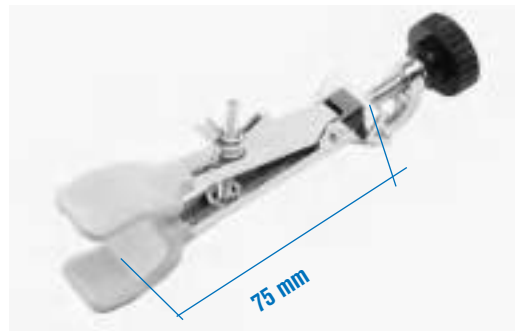
BOSSHEAD WITH BURETTE AND TUBE CLAMP
Made of chrome plated metal with PVC coated double prong jaws.
For Ø from 7 to 25 mm.
Part No. 7000140

210 mm

CLAMP FOR BURETTES AND CONDENSERS
Made of chrome plated metal with PVC coated jaws.
For Ø from 12 to 45 mm.
Part No. 7000131

110 mm

SWIVEL CLAMP BOSSHEAD FOR CONDENSERS
Swivel clamp with double PVC lined jaws For Ø from 12 to 45 mm.
Part No. 7000141

205 mm

CLAMP "TRIPLEX"
Three pronged PVC coated clamp made of chrome plated metal.
For Ø from 0 to 35 mm.
Part No. 7000160

230 mm

CLAMP "TRIPLEX"
Three pronged PVC coated clamp made of chrome plated metal.
For Ø from 0 to 60 mm.
Part No. 7000161

210 mm
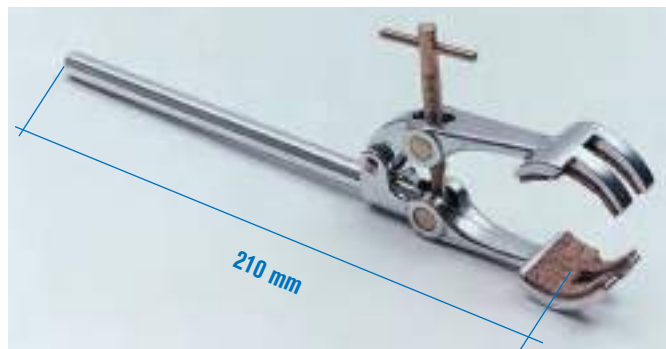
UNIVERSAL CLAMP "MINIMAX"
Made of Dur-aluminium with cork lined jaws.
For Ø from 0 to 80 mm.
Part No. 7000403

110 mm
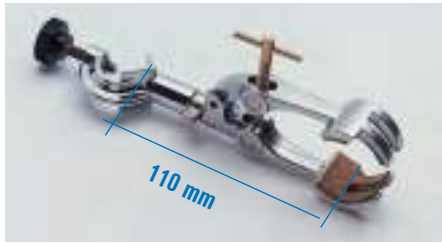
SWIVEL UNIVERSAL CLAMP "MINIMAX"
For Ø from 0 to 80 mm.
Part No. **7000404**

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
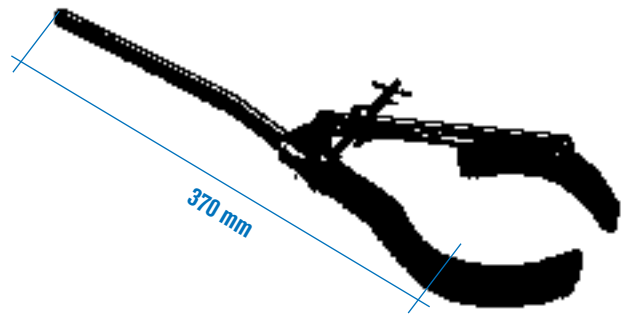
BEAKER CLAMP "MAXIM"
Made of chrome plated metal with clamp end covered with stabilized glass fibre.
For Ø from 80 to 180 mm.
Part No. **7000406**

200 mm
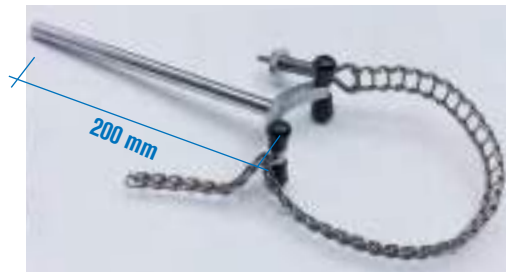
CLAMP "MEDIMAX"
With chain and spring clamp made of AISI 304 stainless steel.
For Ø from 90 to 145 mm.
Part No. **7000405**

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**
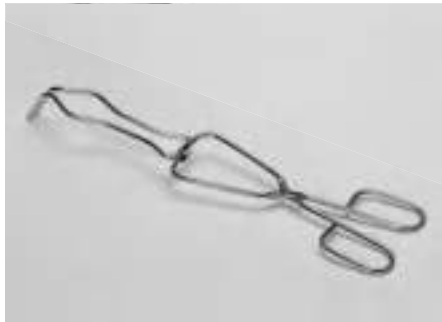
CRUCIBLE TONGS
Original "J.P.Selecta" design with opposite equilibrium.
Made of Electro-bright finished AISI 304 stainless steel.
Part No. **1001330**   Total length 400 mm.

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.
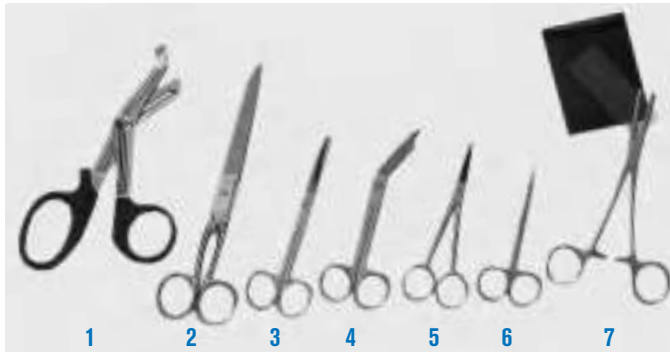
LABORATORY SCISSORS
AISI 410 stainless steel.

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.
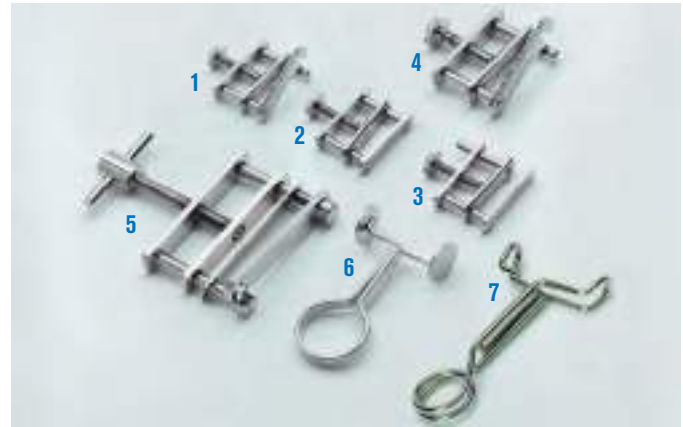
HOFFMAN CLAMPS / MOHR CLAMPS

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**

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 curved fine tips,made of AISI 304 stainless steel.
Part No. **1001190**   Total length 160 mm.

6 Sprung straight forceps with fine tips, made of AISI 304 stainless steel.
Part No. **1001189**   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.

HEAT AND SPILLS PROTECTION PAD GLOVE
Made of flexible silicon that fits all hand sizes.
Part No. **1001255**

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**

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.

J.P Selecta

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
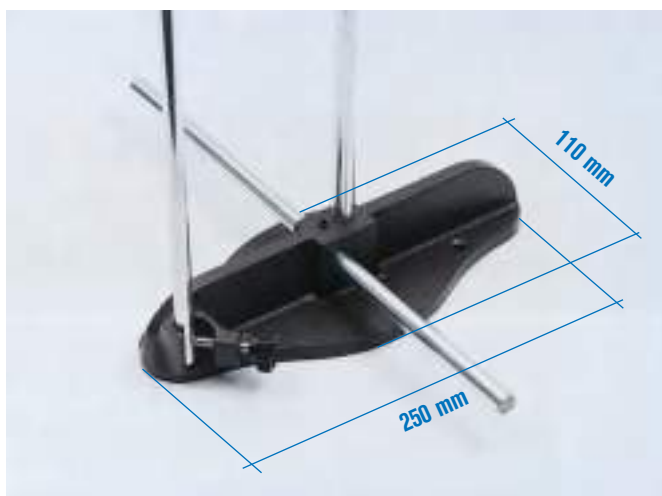
UNIVERSAL MOUNTING BASE
Bench top multiple rod support.
Suitable for mounting and supporting vertical and horizontal bars.
Part No. **1000050**

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
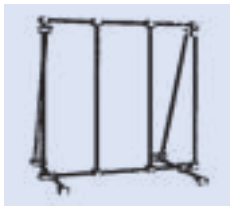
700 high x 700 mm long.
Made up of:
8 rods 700 mm long.
2 rods 350 mm long.
16 "P" type bossheads.
4 foot supports.
1 Allen key.
Part No. **6000090** Dur-aluminium
Part No. **6000190** AISI 304 stainless steel
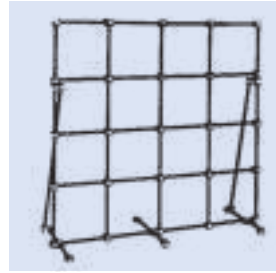
1000 high x 1000 mm long.
Made up of:
10 rods of 1000mm long.
2 rods 700 mm long.
3 rods 350 mm long.
34 "P" type bossheads.
6 foot supports.
1 Allen key.
Part No. **6000902** Dur-aluminium
Part No. **6001902** AISI 304 stainless steel
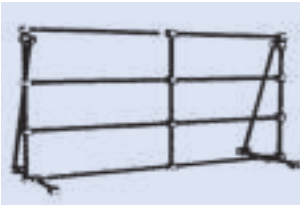
700 high x 1000 mm long.
Made up of:
4 rods 1000 mm long.
5 rods 750 mm long.
2 rods 350 mm long.
20 "P" type bossheads.
4 foot supports.
1 Allen key.

Part No. **6000901** Dur-aluminium
Part No. **6001901** AISI 304 stainless steel
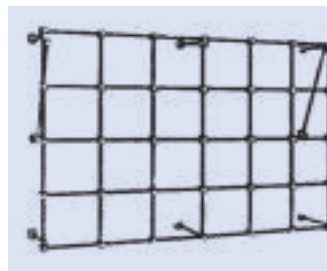
1000 high x 2000 mm long.
Made up of:
5 rods 2000 mm long.
7 rods 1000 mm long.
8 rods 200 mm long.
2 rods 350 mm long.
45 "P" type bossheads.
8 foot supports.
1 Allen key.
Part No. **6000903** Dur-aluminium
Part No. **6001903** AISI 304 stainless steel

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**

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**

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**
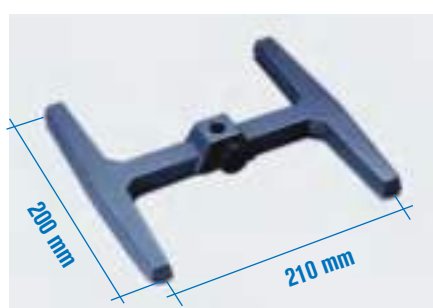
DOUBLE BASE SUPPORT T "MINI"
Small foot support with screw clamp for removable rods from 8 to 12 mm Ø.
Weight: 1.2 Kg.
Part No. **6001103**

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

telescopic elevation from 725 to 1025 mm

290 mm
400 mm

400 mm
410 mm

420 mm
425 mm

U SHAPED STAND
AISI 304 stainless steel of
20 Ø x 800 mm high.
Very stable.
Weight: 7 Kg.
Part No. **6000411**

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**

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 165).
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 elec-
trodes.
Very stable heavy base.
Ideal for working at varying heights.
Part No. **1001552**

RETORT STAND

Rods made of AISI 304 stainless steel

Part No.	Rod Ø x height	Plate size length x width	Weight Kg
6022614	10 x 600 mm.	215 x 130 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
6007714	10 x 600 mm.	215 x 130 mm.	2.7
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			Nickel plated steel		
Part No.	Ø ext. ring	Total height	Part No.	Ø ext. ring	Total height
6002868	80 mm.	210 mm.	1000818	80 mm.	210 mm.
6028610	100 mm.	210 mm.	1008110	100 mm.	210 mm.
6028612	120 mm.	210 mm.	1008112	120 mm.	210 mm.
6028614	140 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.
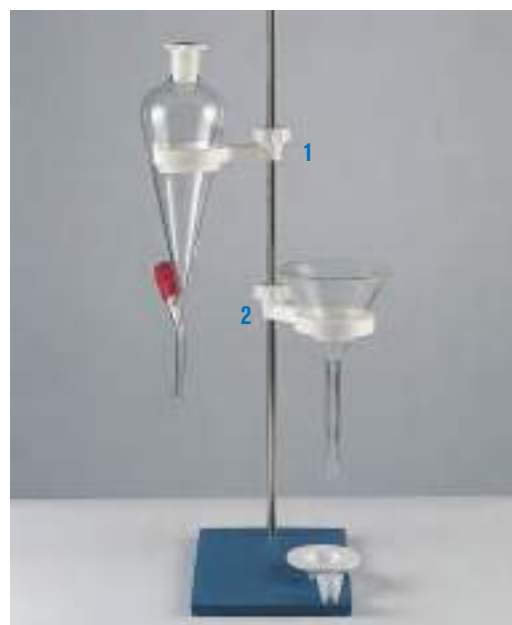
1. DECANTING FLASK SUPPORT
Made of polypropylene. With support flasks up to 12 cm Ø.
Part No. 1001346

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
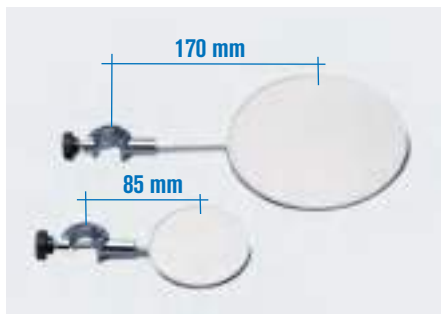
CIRCULAR SUPPORT PLATFORMS WITH BOSSHEAD

To support flat bottom vessels and instruments. Chrome plated bosshead.

Part No.	Plate Ø
6000879	80 mm.
6000880	150 mm.
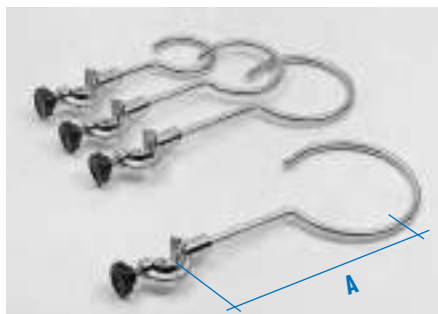
OPEN RING BOSSHEAD SUPPORTS

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.
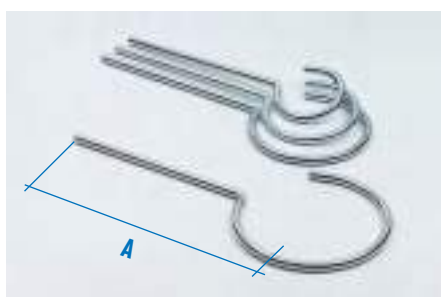
OPEN RING RETORT SUPPORTS

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.
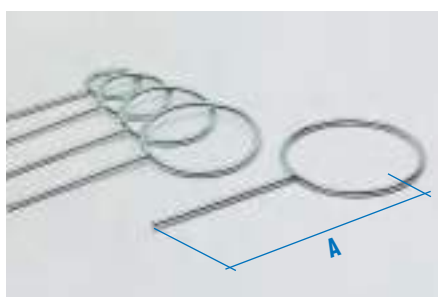
CLOSED RING RETORT SUPPORTS

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.
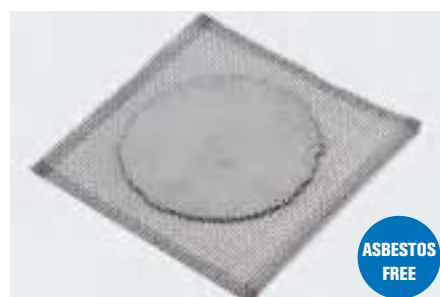
GAUZE IRON WIRE WITH CERAMIC FIBRE

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
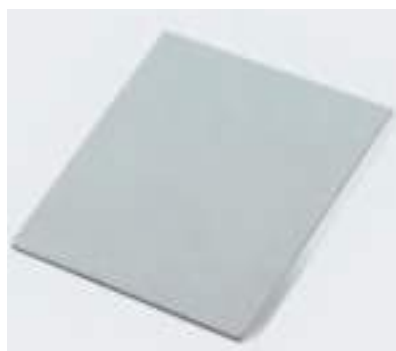
CERAMIC PLATES "NEOCERAM"

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
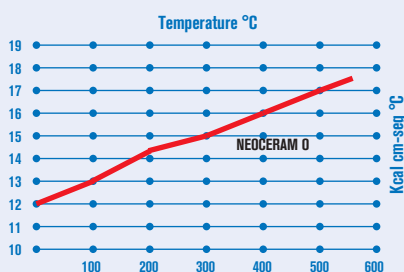
Resistant to temperatures from -200 °C to 700 °C.
Excellent heat conductor.
20% better heat transfer compared to a conventional gauze ceramic.
High chemical resistance to aggressive compounds.
Easy to clean and long lasting.

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: 115 x 140 mm.
Elevated height: 260 mm.
Maximum support weight: 1 kg.

Part No. **7000295**   Top plate: 200 x 200 mm.
Maximum elevated height: 260 mm.
Max. support weight: 1.7 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.

Models:

"LAB-STEEL" MINI
Part No. **1001104**   Platform Dims.: 145 x 145 mm. Elevation height
55 to 155 mm. Maximum support weight: 1.3 Kg.

"LAB-STEEL" MEDI
Part No. **1001161**   Platform Dims.: 200 x 200 mm. Elevation height
65 to 270 mm. Maximum support weight: 2 Kg.

"LAB-STEEL" MAXI
Part No. **1001105**   Platform Dims.: 250 x 250 mm. Elevation height
65 to 270 mm. Maximum support weight: 3 Kg.
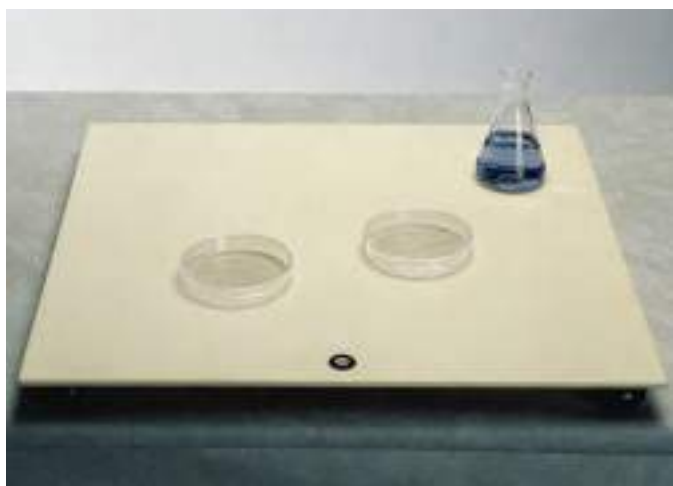
TABLE TOP "ALMANDINE"
Made of polyester mineral resin.
Features:
Excellent chemical resistance, with resistance to class 1 and 2 chemicals.
Resists abrasion, boiling water, dry heat, fire and scratches.
Stains easily removed with a detergent or abrasive cleaner.
Applications:
Protects bench top surfaces 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.

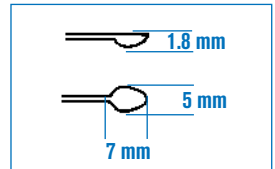## MICRO SPATULA WITH FLAT ENDS

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.
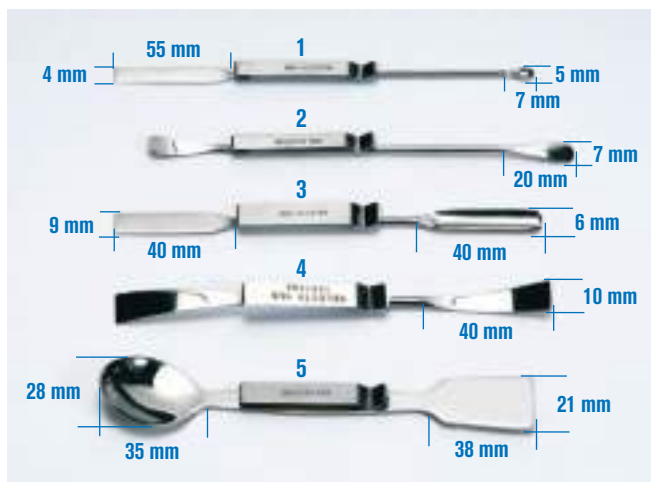Part No. **1001582**   Length 150 mm.

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**
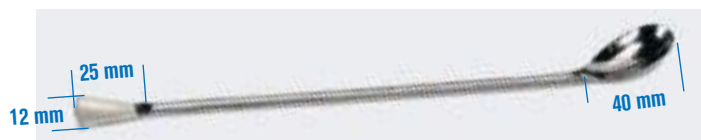
SPATULA SPOON FLAT-CONCAVE
Made Stainless steel AISI 304.
Part No. **1001584**   Length 250 mm.

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 x 10 mm exit.
Part No. **1000907** 120 mm Ø x 112 mm high x 10 mm exit.
Part No. **1000908** 150 mm Ø x 159 mm high x 20 mm exit.
Part No. **1000909** 200 mm Ø x 183 mm high x 20 mm exit.

SPOON WITH HANDLE
Made of AISI304 stainless steel.
Part No. **1001594** Capacity 100 ml. Total length 240 mm. Ø 83 mm
Part No. **1001595** Capacity 200 ml. Total length 280 mm. Ø 92 mm
Part No. **1001596** Capacity 300 ml. Total length 360 mm. Ø 102 mm

FLAT BOTTOM BASINS

Stainless steel AISI 304	Nickel Ni			
Part No.	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	Nickel Ni			
Part No.	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	Nickel Ni			
Part No.	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. Made of AISI304 stainless steel.

Part No.	Height	Ø	Capacity
1001599	270 mm	270 mm	10 litres
1001600	320 mm	350 mm	19 litres

BUCKET LIDS
Part No. **1001601** Suitable for buckets 10 litres Part No. 1001599
Part No. **1001602** Suitable for buckets 19 Litres Part No. 1001600

DYE BEAKER
Stainless steel AISI 304.
Volume: 500 ml.
Part No. **6000291**

114 Ø
90 Ø
135 mm.
102 mm.
70 Ø
80 Ø

Quartz glass
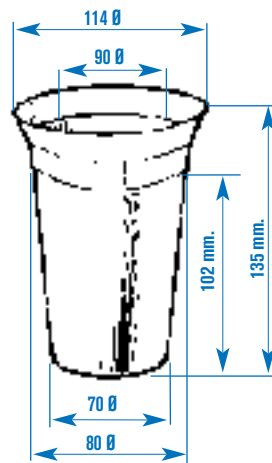
CRUCIBLES

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

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

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

QUARTZ GLASS

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1000570	45 mm.	36 mm.	1,5 mm.	38 ml.	1000620
1000571	50 mm.	40 mm.	2 mm.	49 ml.	1000621
1000572	60 mm.	48 mm.	2 mm.	90 ml.	1000622
1000573	35 mm.	44 mm.	1,5 mm.	24 ml.	1000623
1000574	40 mm.	50 mm.	1,5 mm.	40 ml.	1000624
1000575	50 mm.	62 mm.	2 mm.	75 ml.	1000625

QUARTZ GLASS FOR INCINERATION

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1000576	27 mm.	45 mm.	1,5 mm.	15 ml.	Included
1000577	25 mm.	38 mm.	1,5 mm.	10 ml.	Included

STAINLESS STEEL AISI 304- PURE NICKEL - ZIRCONIUM - QUARTZ

STAINLESS STEEL is usable at temperatures from -180 °C to +500 °C. Resistant to nitric acid, nitrate and potassium permanganate. Good resistance to concentrated alkaline solutions. Average resistance to acetic acid, hydrogen sulphide diluted, phosphoric low concentration, and solutions of sulphites, boric acid, organic acids and bromides.

NICKEL unalterable in the air and stainless up to temperatures of 500 °C, good resistance to molten alkali and seawater.
Excellent performance in the presence of wet chlorine or hydrochloric acid gas up to 500 °C. Slowly attacked by organic acids, hydrochloric and sulfuric acids.
Low resistance to diluted nitric acid.

THE ZIRCONIUM unalterable in the air and clean, resistant up to 550 °C in an oxidizing atmosphere at 1500 °C in inert gas (argon or nitrogen), **in many cases to replace platinum crucibles** in all melting and in particular the sodium peroxide and carbonates. **About 100 melting per crucible**, making them very economical with reference to the others, either porcelain crucibles, steel or nickel. Resistant to most alkali solvents (Na, K, Li), carbonates, hydroxides, peroxides, borates, nitrates, chlorides, some fluorides and sulfuric acid up to 75% concentrate.
Hydrofluoric acid attacks it.

QUARTZ GLASS has a high temperature resistant (liquid glass transition 1130°C) as well as a low thermal expansion. It is considered a unique material for several scientific applications due to its purity (can only be attacked by hot phosphoric acid and hydroflouric acid) and thermal characteristics. Furthermore, quartz glass has extraordinary optical properties through its spectral transparency and high irradiation resistance.

Stainless steel receptacles.

QUALITY AISI 304.

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	255 mm.	245 mm.	110 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.
| **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 1000 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
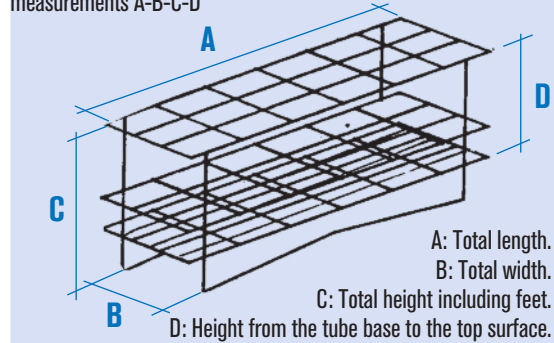Portable with rubber wheels and brake.
For bucket Part No. 8000252.
Part No. 6010252

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.
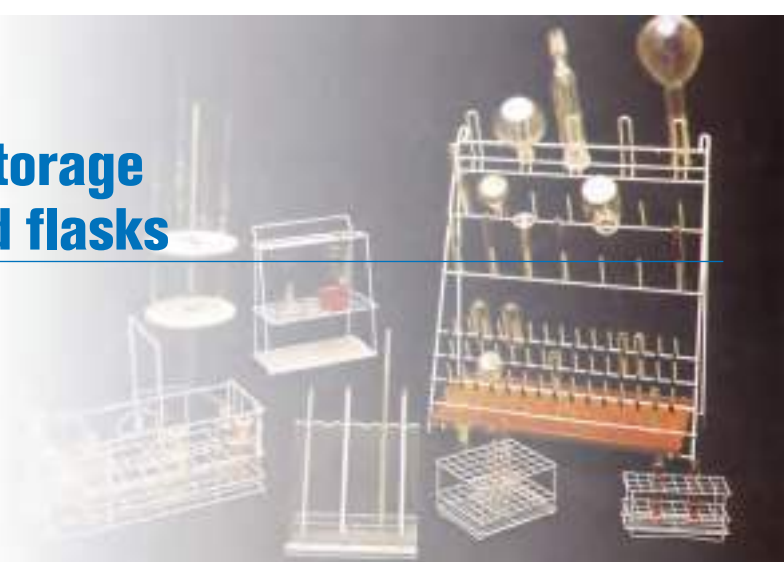
Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1001563	Stainless steel	24 (6 x 4)	13 mm VAC	95	70	70	60

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
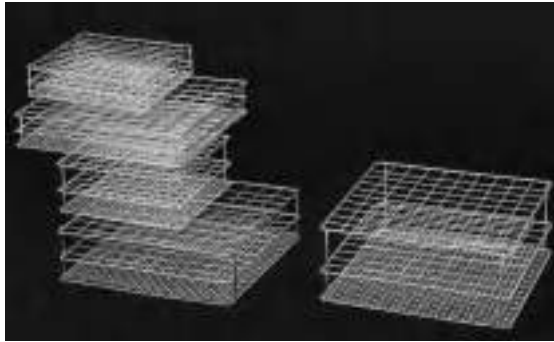
Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm			
				A	B	C	D
1000604	Stainless steel wire AISI 304	100 (10x10)	13 mm	162	162	35	35
1000606	Stainless steel wire AISI 304	100 (10x10)	13 mm	162	162	60	60
1000608	Stainless steel wire AISI 304	100 (10x10)	18 mm	210	210	40	40
1000610	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
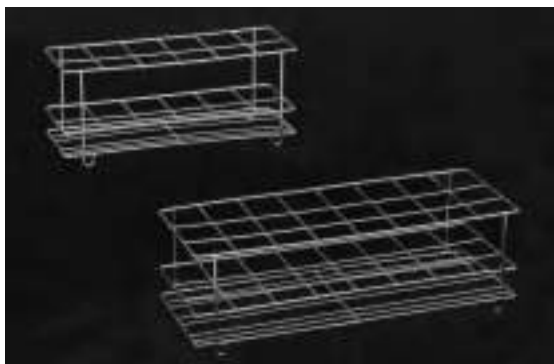
Suitable for Nessler tubes

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
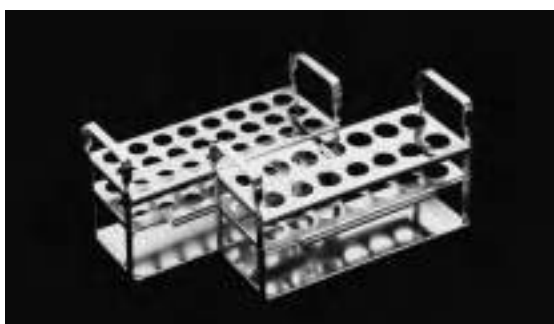
With rack linking guides

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	–

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
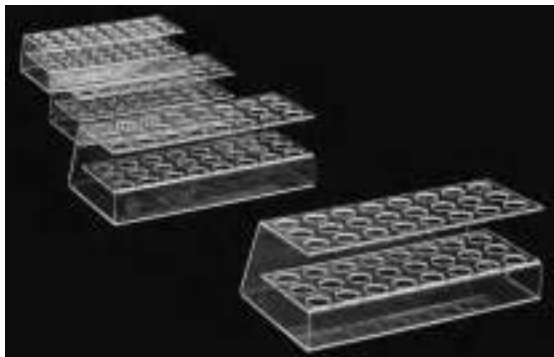
Transparent methacrylate racks

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 to Ø 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

Image showing the decanting aid in use and tubes still in place.

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".

Models

Part No.	Number tof tubes	For tubes up to Ø 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
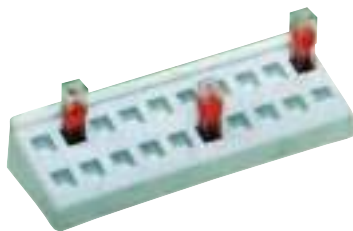
RACK FOR 20 10 mm ⬜SQUARE CUVETTES

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 40 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.
Height with lid 57 mm. Width 141 mm. Length 151 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 = 250ml
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**

COMECTA

Flake ice maker "COM-50", "COM-85" and "COM-150"

"COM-50" MODEL: PRODUCTION 58 kg-24 HOURS.
"COM-85" MODEL: PRODUCTION 89 kg-24 HOURS.
"COM-150" MODEL: PRODUCTION 142 kg-24 HOURS.

ivymen SYSTEM
OPTIC

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 stainless steel.
Thermal isolated inside.
High capacity for flake ice production from running or purified water.
Tropicalized (Class T).
The installation of an anti-scale filter and periodic cleaning are advised in areas with
medium or high limescale content (hard water)

CONTROL PANEL

Main power switch.

COM-50 Part No. 5020104   COM-85 Part No. 5020105   COM-150 Part No. 5020106

MODELS	Código	Production Kg (24h.)	Capacity Kg (tank)	Height / Width / Depth cm			Power supply	Power W	Weight Kg
COM-50	5020104	58	20	79	47	60	220V 50Hz	470	58
COM-85	5020105	89	20	79	47	60	220V 50Hz	550	58
COM-150	5020106	142	60	136	51	55	220V 50Hz	900	75

COMPLEMENT "ICE BUCKET"
See page 189.

COMECTA

Manual hidraulic press "PM-15"

MAXIMUM PRESSURE LOAD: 15 TONS

ivymen SYSTEM
OPTIC

FEATURES

Compact and easy to use, designed for a maximum pressure load of 15 tons, especially for pressing in chemical research laboratories and materials for preparing ceramic composite. This machine has an integrated auto return hydraulic pump.

Tablets from 6.3mm to 19mm can be compacted with the MT matrix accessory, for KBR compression technique and fluorescence analysis works.
Cylinder elevation of 0-25mm.

MODEL

Part No.	Max. Pressure tons	Height / Width / Depth mm			Weight Kg	Max. Working area mm Height / Width / Depth
5810200	15	55	13	21	30	150 x 160 x 160

ACCESORIES
Part No. **5810201**   MT Matrix 12.5mm
Part No. **5810202**   MT Matrix 6.3mm
Part No. **5810203**   MT Matrix 19mm
Part No. **5810204**   MT Matrix 3.2mm
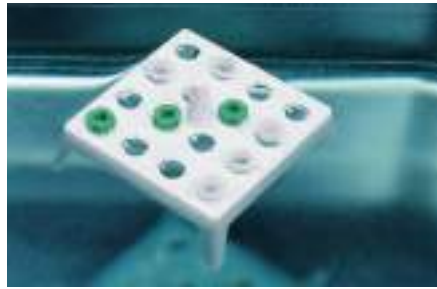
FREEZING CONTAINER
For sample freezing with liquefy gas (liquid nitrogen), liquids and solutions.
Spherical inside. Exterior made of AISI 304 stainless steel.
Double body with thermal isolated PRTFE joint.
Hit-resistant.
External measures: 14 high x 24cm wide.
Capacity: 1.5 L.   Weight Kg: 2,9.
Part 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**
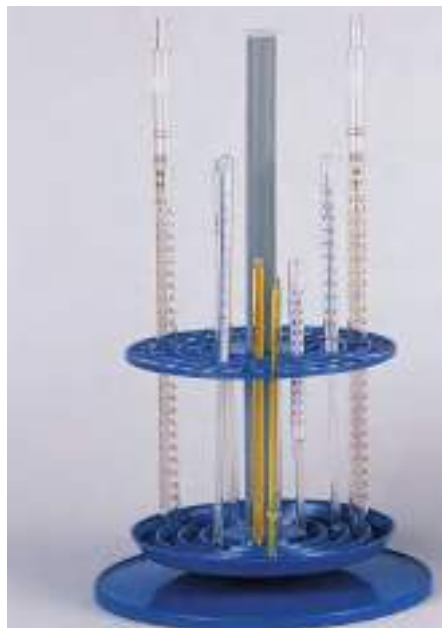
PIPETTE RACK "CIRPIP"
Portable upright rack for pipettes and thermometers, made of PVC. No. of positions: 93 of various sizes.
Stable heavy base with drain
Weight 0.4 Kg.
Part No. **1001254**

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**

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.

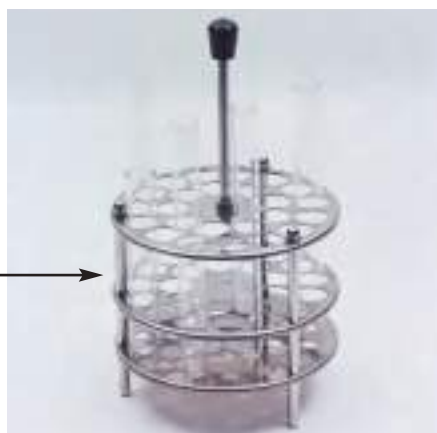| Part No.	colour	capacity ml	total height cm	quantity
1001699	violet	100	7	300

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.

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 220 - 221).
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 220-221).
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.
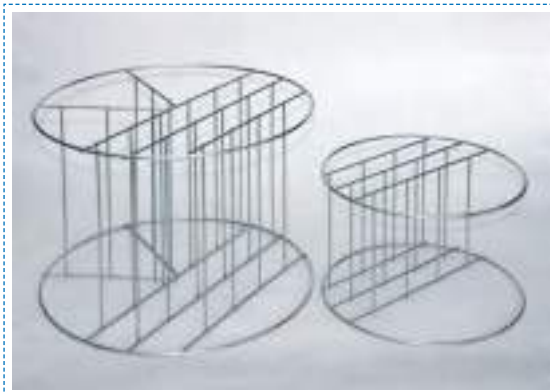500 high x 400 mm wide.
Part No. **1024148**

88 positions.
620 high x 500 mm wide.
Part No. **1024188**

WIRE BASKETS

Made of AISI 304 stainless steel sheet with electro-bright finish. Designed to fit the Selecta autoclaves. (See page 53).

Part No.		Part No.	
1004771	220 Ø x 140 mm high.	1000496	365 Ø x 265 mm high.
1004772	220 Ø x 240 mm high.	1000780	435 Ø x 205 mm high.
1000495	265 Ø x 185 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 53.)

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 BURNERS
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.

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.

TECLU BURNER
With air and gas regulator.
External tube Ø: 13 mm. Total height: 180 mm.
Part No.
7094519   For natural gas.

NATURAL GAS BURNERS
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 195).

BUNSEN BURNER WITH SAFETY GAS CUT OUT

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

BURNER FOR BUTANE GAS

Suitable for use with bottled gas "International Camping Gas ". Approved following ACTA of the GENE-RAL LABORATORY ANALYSIS AND SERVICES FOR IN-DUSTRY. 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 Internatio-nal" bottle.
Exterior Ring Ø : 140 mm.
Interior Ring Ø: 110 mm.
Part No. **7000489**

BUNSEN BURNER WITH SAFETY GAS CUT OUT, NATURAL GAS

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

ACCESSORY

Gas cable with connections, flexible coated stain-

less steel 100 cm long with 1/2 inch connection with quick fit and safety valve. Conforms to the UNE 60715 & BS669. Safety regulations.
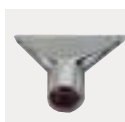Part No. **1001541**

HIGH POWER BURNER

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 BURNER

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.
Compliant with Spanish Royal Decree RD 919/2006
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Part No.	Gas type	Pressure	Nominal power
7000660	butane	28/37 mbar	1.14 kw
7000661	natural	18 mbar	1.14 kw

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

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 J3000 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. Regulation of flame intensity and flame color. Gas fill by a simple lighter gas fuel as used common gas lighters. Long life flint. Power by a 1.5 V battery. Flame temperature: 1300 ºC.

APPLICATIONS

Microbiology, bacteriology, dentistry and for general use where a fine hot flame is required for fast heat and fusion.
Part No. **1001134**

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.
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.
7003614	For tube of Ø 13 mm.
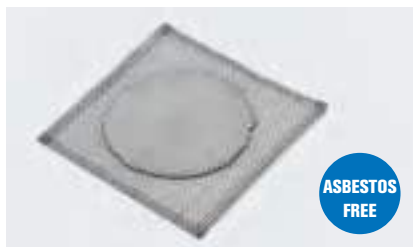
ASBESTOS FREE

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.

(For variable height tripods see page 174).

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.
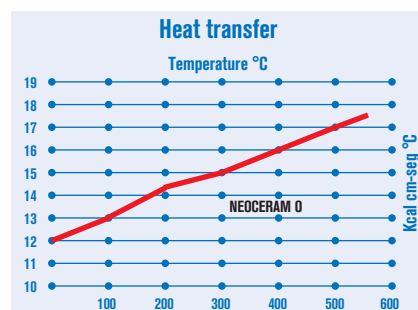
Heat transfer

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

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 O 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

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. Only suitable for dry products.

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.		Electrobrite finish.	
Universal handle.		Individual handle.	
Part No.		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, 4.9, 5.5, 6.4, 8 and 9.5 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.
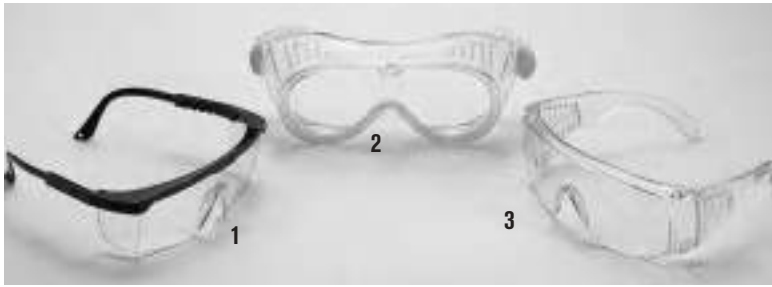Part No. 1001733

RICHARDSON RUBBER BULB
With net covered decompression bulb.
For blowing out bench top automatic burettes.
Part No. 1001168

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
16 height x 19 width	3 x	2 x 7 W	2.3

Part No. **5310506**

VERNIER CALLIPERS WITH DIGITAL DISPLAY DIN 862
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".

BIFOCAL

MONOFOCAL

PALMER MICROMETER WITH DIGITAL DISPLAY DIN 862
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**

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	100 mm	2 x

AUXILIARY TABLES HEIGHT ADJUSTABLE FOR LABORATORY
Cabinet in a corrosive resistant epoxy coated.
Supplied with 4 lockable wheels for an easy transportation and 4 suction cups for a static clamping.
Specially designed to support different laboratory instruments
(Ovens, furnaces, centrifuges, etc...).
5 adjustable heights: 72, 75, 78, 81 or 84 cm.

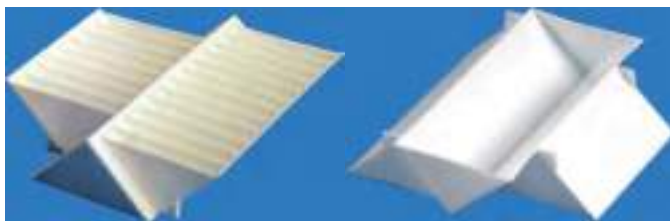| Part No.	Measurements cm	Load Capacity Kg	Weight Kg
1001781	75 width x 60 depth	120	25
1001780	100 width x 70 depth	150	29

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.

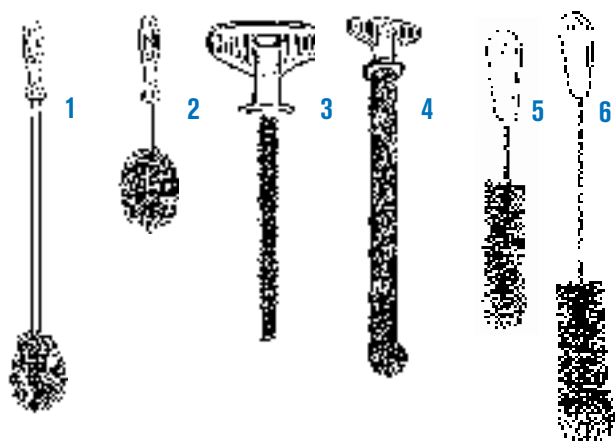| Part No.	Capacity ml	PP cap	Specific weight
5310100	250	Not	1.2
5310101	250	Yes	1.2

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.
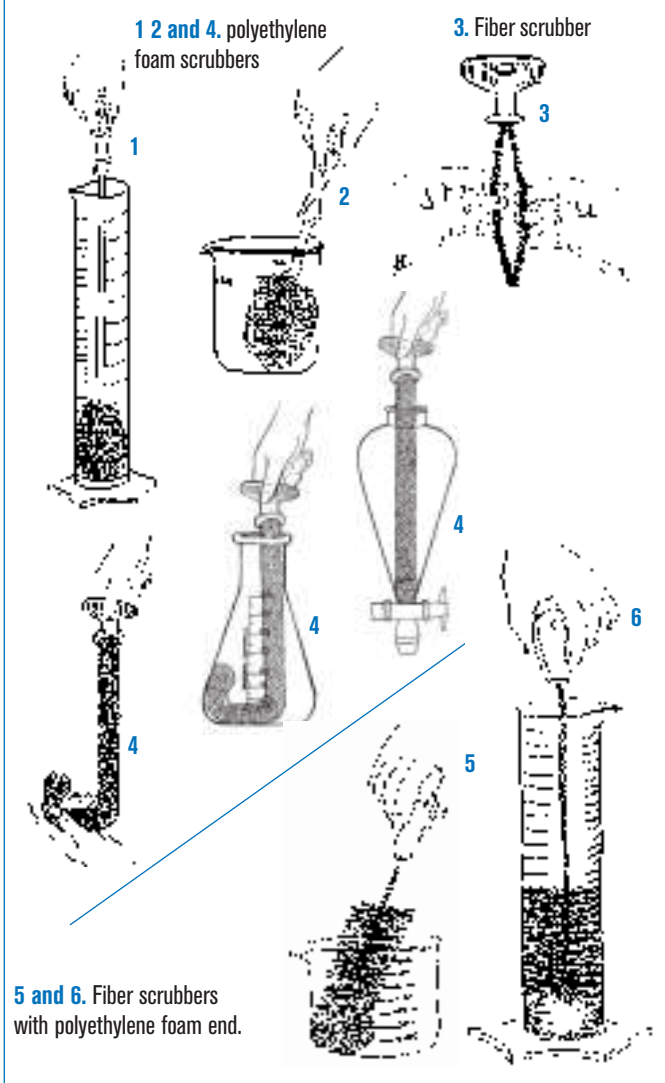
Models

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.

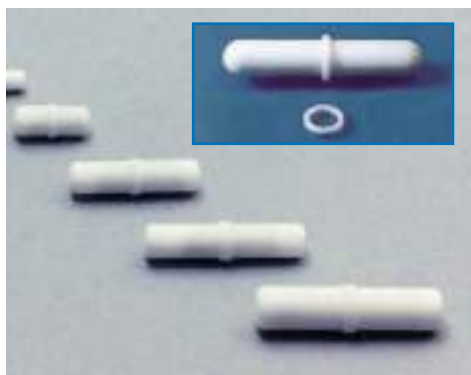| Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
6	1001440	50	180	500

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.
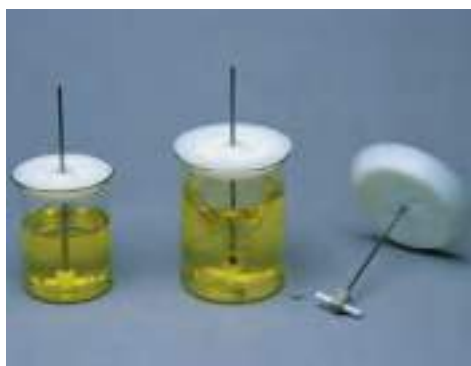
STIR-BARS FOLLOWERS FOR MAGNETIC STIRRERS.

Encased in PTFE with pivot ring, temperature resistant to +275 °C.

Part No.

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.

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.

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.

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.

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.

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.

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	46	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.

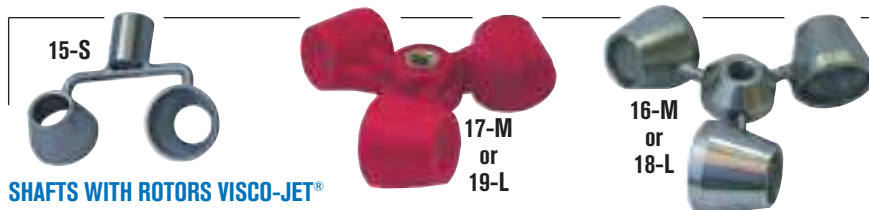| Part No.	Rotor type	Ø shaft mm	Total Length mm	Features	Speed range r.p.m.
5050934	11	50	500	Helix PTFE	500
5050935	12	80	500	Anchor PTFE	500

ADJUSTABLE HEIGHT SHAFT STIRRERS

Shafts made of AISI 304 stainless steel coated in PTFE and PTFE stirrer paddles. Shaft: 7 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
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.
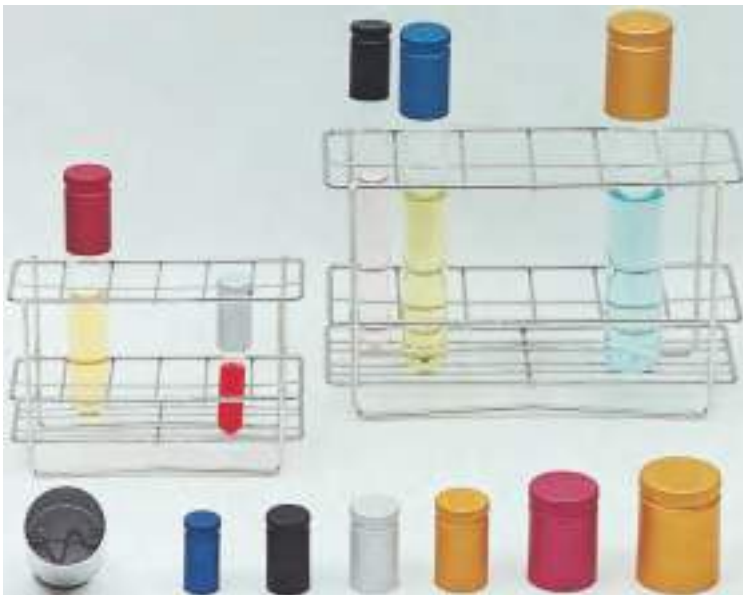
Made of anodised aluminium with internal AISI 304 stainless steel spring inside the cap. Not hermetically sealed. Autoclavable at 1 bar.

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

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 5 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 Height	Width	Depth	Weight g	Colour	Quantity
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

COMECTA Graduated jars

NEW

FEATURES

Graduated and stackable jars. Made of natural colour transparent polypropylene. Graduation in liters and ml. Resistant to chemical products as well as high temperatures (121 ºC for 20 minutes)

MODELS

Part No.	Capacity ml
8000028	500
8000025	1000
8000026	2000
8000027	3000

COMECTA Frasco lavador

NEW

FEATURES

Bottles made of translucent polyethylene of natural colour, with lid and outlet tube of different colours to choose. Wide neck for an easy filling. Capacity of 500ml and numerical graduation every 100ml..

MODELS

Part No.	Colour	Capacity ml
5113640	Neutral	500
5113644	Red	500
5113646	Blue	500
5113641	Yellow	500

10 units are supplied.

Self-sealing parafilm ® M

PARAFILM ®
Dispenser

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**

COMECTA 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

SPATULA SPOON GLAZED

Part No.	Total Length mm
5310022	140

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

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/mm^2
Breaking resistance: 210 Kg/mm^2
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	100	30	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 **Chairs for laboratory**

FEATURES
Chairs for laboratory with adjustable height of 60 to 80cm. Seat made of polyurethane foam.
Available with or without wheels and in aluminium or chromed.

MODELS

Part No.	Ø base cm	Made in	Wheels	Adabtable weight cm
5609601	40	Aluminium	Yes	60 to 80
5609602	40	Chromed	Yes	60 to 80
5609603	40	Aluminium	No	60 to 80
5609604	40	Chromed	No	60 to 80

35 cm   30 cm

COMECTA **Transport Refrigerator HJ-1**

DESIGNED TO TRANSPORT AND PRESERVE LABORATORY BIOLOGICAL SAMPLES.

MEDICAL DIRECTIVE CERTIFICATE: CLASS 1-93/43 EEC

FEATURES
Strap and handles for transportation.
Opening on both sides.
Supplied with 10 packs of cooling gel. Easy access by opening at the top. Extra aluminium insulation.
Drainage.
Integrated thermometer with LCD screen for reading the temperature.

MODEL

Part No.	Height / Width / Depth Interior cm			Height / Width / Depth Exterior cm			Capacity litres without gel	Capacidad litres with gel	Weight without gel Kg	Weight with gel Kg
5601057	25	33	17	32	39	27	14	4,2	4,5	9,8

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 ℃ and 180 ℃

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	39	36	35	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-B"

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

FEATURES
Metal epoxy covered case.
Pressure sealer. Manual cut.

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
4100047	12	300	12	35	21	100	4,8

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 2". Part No: **4100044**

Bag sealer "Seal-1000". Part No: **4101712**

RECTANGULAR HOTPLATE "PLACFIN"

KOLLE MANDLES LOOPS
Infrared sterilizers.

LABORATORY LIGHT

PIPETTE DISPENSERS AND AUTOMATIC DISPENSERS

PARAFFIN WAX FLOATING BATHS

BLOOD AND CELL COUNTERS
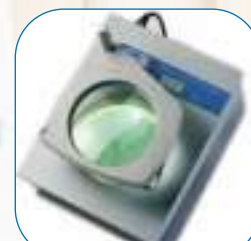
COLONY COUNTERS

"Work is the law of life, and to reject it as boredom is to submit to it as torment."
Victor Hugo

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 safety lock, 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**

FORCEPS RING SHAPED TIP
AISI 304 stainless steel forceps for picking up swabs and textiles etc.
Part No. **1001192**

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**

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**

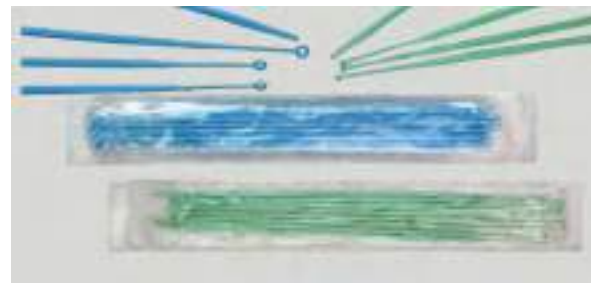|			
5	**Sprung straight forceps with curved fine tips** with wood laminate sides	160 mm	**1001190**
6	**Forceps straight serrated fine point,** with wood laminate sides.	160 mm	**1001189**
7	**Laboratory forceps curved point**	160 mm	**6000128**
8	**Laboratory forceps fine point**	120 mm	**1001191**

KOLLE HANDLES

Nickel metal handle with loop end of Ni-Cr.
Handle length: 43 mm. Internal loop Ø: 3 mm.
Part No.
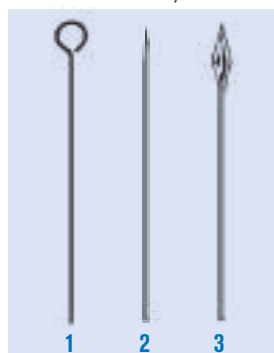**1000033** ABS handle. Handle length: 200 mm.
1000488 "Pasteur", with metal handle. Handle length: 290 mm.

1. CULTURE LOOP FOR KOLLE HANDLE
Loop end.
Handle length: 43 mm. Loop Ø: 3 mm.
Part No.
1000013 Made of Ni-Cr.
1000014 Made of Platinum iridium (10% 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**

BUNSEN J3000 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. Regulation of flame intensity and flame color. Gas fill by a simple lighter gas fuel as used common gas lighters. Long life flint. Power by a 1.5 V battery. Flame temperature: 1300 ºC.

APPLICATIONS

Microbiology, bacteriology, dentistry and for general use where a fine hot flame is required for fast heat and fusion.
Part No. **1001134**

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.
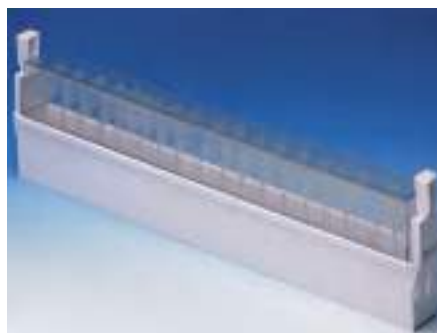Box of 100 units.
Part No. **5600398**

RECTANGULAR HOTPLATE "PLACFIN"

Adjustable temperature from ambient+5 °C to 130 °C.
Stability ±3 °C. Not suitable for boiling.
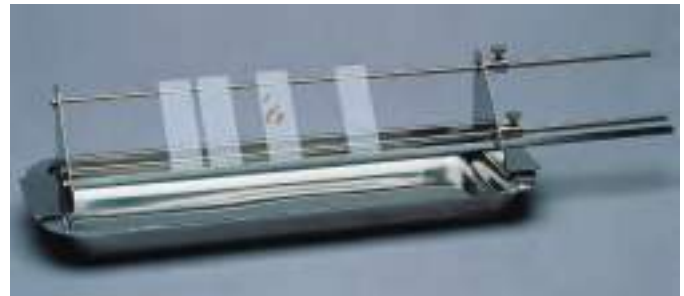Coated with chemically treated aluminium, enamelled outer case.

Part No.	Width/Depth (plate) cm		Height/Width/Depth (exterior) cm			Power W	Weight Kg
7000497	**23**	**22**	**8**	**22**	**30**	**1500**	**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**

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**
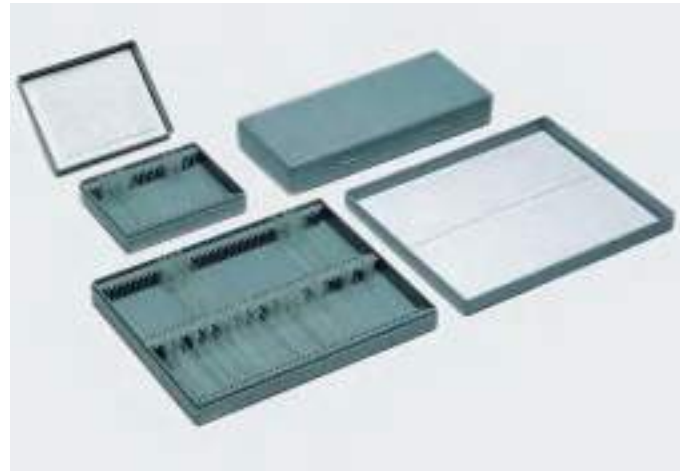Supplied complete with a carry case, dissection forceps, blade and a 5 mm thick glass base.

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.

PTFE coated lid

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**

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. 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.	Heigh/Width/Depth mm			Nº of plates	With Lid
MINICROM	1001162	139	135	80	1	Yes
CROMACROM	1001163	240	236	118	1	Yes
MULTICROM	1001164	240	236	118	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.
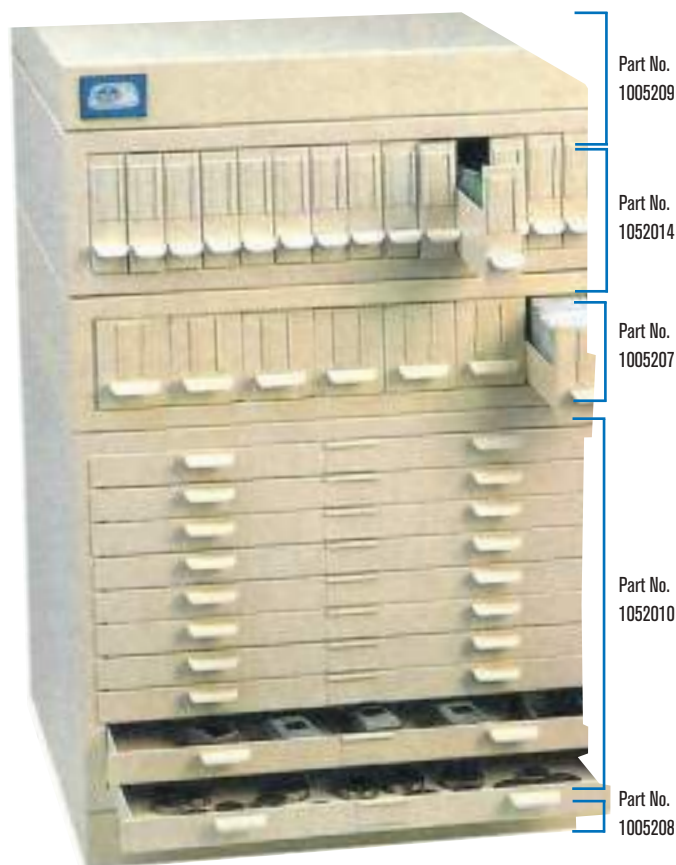Complete with 10 drawers.
Part No. **1052010**

Part No. 1005209

Part No. 1052014

Part No. 1005207

Part No. 1052010

Part No. 1005208

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	48	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 VALIDATION TEST ACCORDING TO SERIAL NUMBER.

NEW DESIGN

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 VALIDATION TEST ACCORDING TO SERIAL NUMBER.
**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

ACCESSORIES. PIPETTE TIPS AND RACKS. 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	Tips 5490040	0.1- 10	Transparent	1000	5904009	5
1	Rack 5490035	0.1- 10	Transparent	96	5904010	10
					5900010	1 - 10
2	Tips 5490041	2 - 20	Transparente	1000	5900020	2 - 20
2	Rack 5490036	2 - 20	Transparente	96		
					5904011	20
					5904012	25
					5904013	50
3	Tips 5490042	5 - 200	Transparent	1000	5904014	100
3	Rack 5490037	5 - 200	Transparent	96	5904015	200
					5900100	10 - 100
					5900200	20 - 200
					5904017	500
4	5490044	101 - 1000	Blue	1000	5904018	1000
4	5490034	101 - 1000	Blue	96	5901000	100 - 1000
5	5490047	1000 - 5000	Blue	500	5905006	1000 - 5000
5	5490039	1000 - 5000	Blue	500		
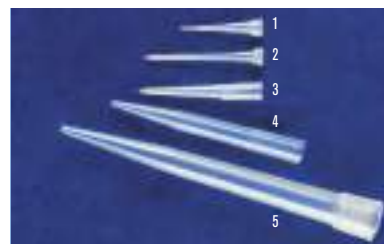
Pipette rack.
Made of AISI 304 stainless steel. No. of places: 6 dosing pipettes up to 28 cm in length.
Part No. 1001215

Rack for pipette tips.

Multichannel variable volume dispensing pipettes "Multi-Var 8"

NUMBER OF CHANNELS: 8.

FEATURES

Due to its excellent tips alignment, they offer a great advantage in microtitrer techniques such as: agglutination, immunological radio assays, hemagglutination, antibiotic test, etc. (All models are calibrated according to DIN 12600 recommendations)

MODELS	Part No.	Tips Range µl	Nominal Volume Accuracy A < ±%		Coefficient variation Nominal volume CV < %		Increments µl	Tips types µl
			Min %	Max %	Min %	Max %		
Multi-Var 8	5905027	5-50	0.8	6	0.4	3	0.1	200
Multi-Var 8	5905028	10-100	0.8	4	0.3	2	0.2	200/300
Multi-Var 8	5905029	20-200	0.8	4	0.3	1.5	0.2	200/300

ACCESSORIES
Pipette tips rack. Part No. 5490037
Carousel support for a maximum 3 multichannel pipettes. Part No. 5490038

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):

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.
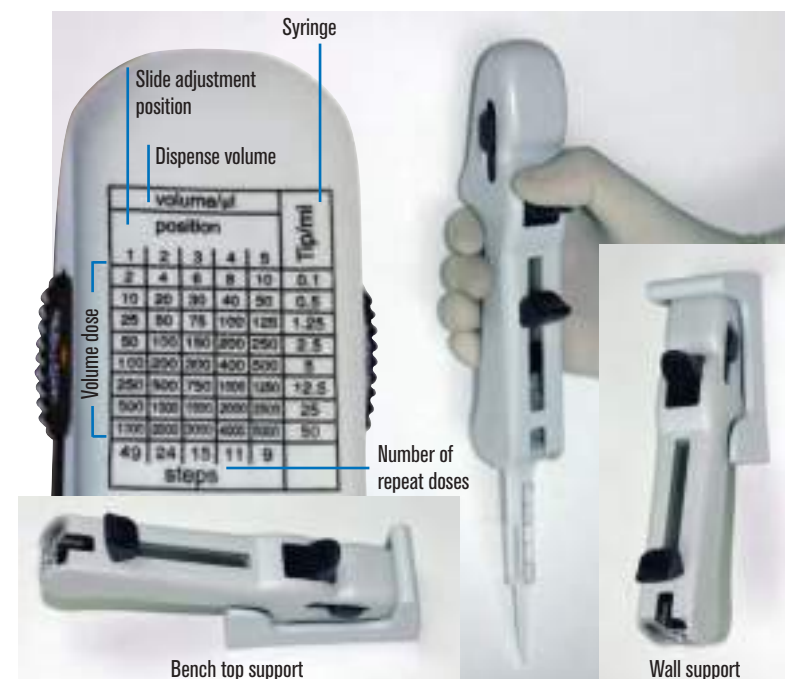Maximum pressure: 500 mbar.
Operating temperature: from 15 to 40 °C.
At the back of the dispenser shows a quick table reference of the volume and dose, that shows the repeatable dose from the syringe to be used and the correct slide position.
Includes an easy to locate wall or bench support.
Supplied 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

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

ACCESSORIES
Steril syringes. Supplied in individual bag.

Part No.	Volume ml	Syringes x part No.
5490053	0,5	100
5490054	1,25	100
5490055	2,5	100
5490056	5	100
5490057	12,5	50
5490058	25	50
5490059	50	50

Syringe

Slide adjustment position

Dispense volume

Volume dose

Number of repeat doses

Bench top support

Wall support

SPARE

8	5490060	Adapter made from PP for 25 and 50 ml syringes

COMECTA Motorized pipette dispenser "Rota-Filler 3000®"

FOR ANY KIND OF PIPETTES FROM 1 TO 100 ML.

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.

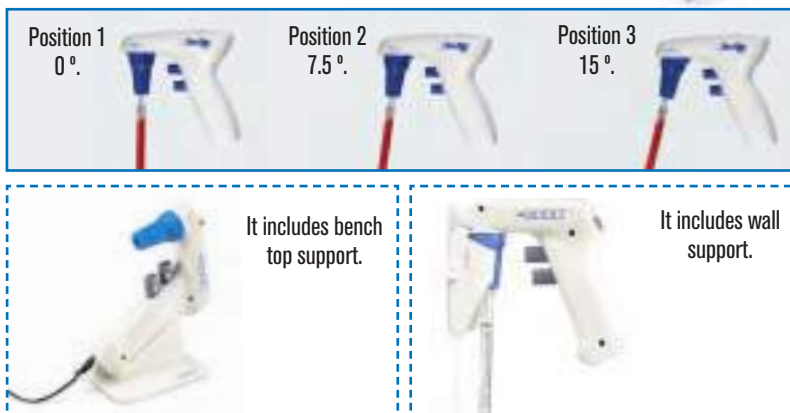Pipettes: from 1 to 100 ml (glass and plastic).

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.

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.

USB interface for download of results to a computer.

Includes software for PC with the following parameters: Patient Number, Laboratory name, Date, Hour, Comments and comparison of previous results after treatment.
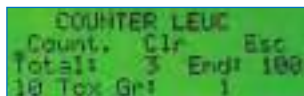
FOUR PROGRAMS INCLUDED:

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.	- Myelo:	MieloBlasts.
- Eos:	Eosinocytes.	- At Ly:	Linfocytes untypical.
- Lym:	Linfocytes.	- My Bi:	Mielococytes Binucleads.
- Mono:	Monocytes.	- Normo:	NormoBlasts.
- Stab:	Bands.	- Tox. Gr.:	Granulocytes toxic.
- Baso:	Basocytes.	- Reti:	Reticulocytes.
- Met My:	Metamielicocytes.	- Ery:	Eritrocytes / EritoBlasts.

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
7121431	7	15	22	6	0.6
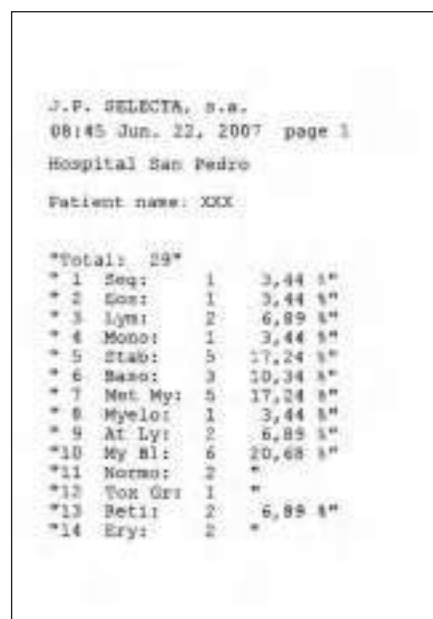
Report.

Software download and report.

Colony counter "Digital S"

FOR PETRI DISH OF UP TO 100 mm DIAMETER.
LED ILLUMINATION.

NEW DESIGN

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) LED 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.

MODEL

Part No.	Ø of magnifying glass cm	Magnification	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4905002	12.5	2x	25	23	30	20	3.5

Supplied complete with Wolffhuegel disc.

ACCESSORY
5 Wolffhuegel discs.
Part No. 4905001

Bench top ultraviolet radiation sterilizer

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
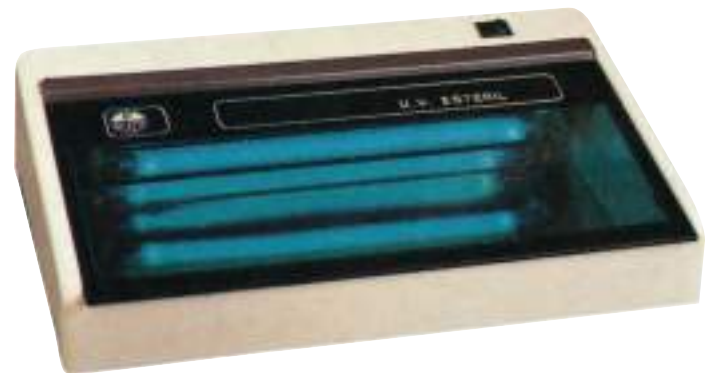
SPARE
Germicidal tube. Part No. 0022113

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.

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."
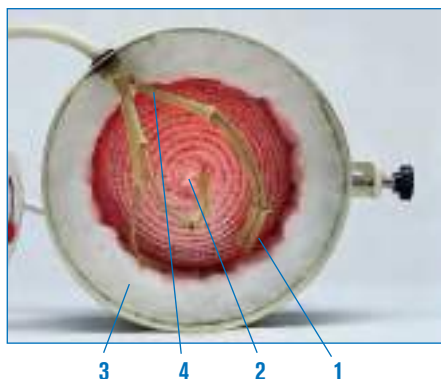*Thomas Edison*

HEATING MANTLES FOR FLASKS

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/cm^2. Maximum mantle temperature of 400 °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	–	–	–	–	–	–	–	–
5000	222	3031450	–	3049150	–	–	–	–	–	–
10000	290	3314100	–	3491100	–	–	–	–	–	–
20000	365	3314200	–	3491200	–	–	–	–	–	–

Heating mantle for flasks "Fibroman-C"

DUAL HEATING POWER. TEMPERATURES UP TO 400 °C.

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	18	11	130	1,1
3003145	500	102	20	12	270	1,2
3031410	1000	132	22	13,5	410	1,4
3031420	2000	170	26	14	530	2
3031430	3000	190	29	18	620	2,2
3031450	5000	222	33	19	840	3,2
3314100	10000	290	38	22	2250	4,7
3314200*	20000	365	48	26	2300	11

* The mantle part no. 3314200 supplied without the 2 position controller and switch. See Accessories on (page 30) and Regulators and controllers (pages 293 and 294).
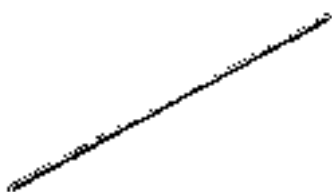
CROSS SECTION OF HEATED FLASKS

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

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	13	22	26	4	170	±0.5 to 1	130	1,5
3031471	250	83 to 87	13	26	29	4	170	±0.5 to 1	216	3
3031472	500	102 to 105	13	26	29	4	170	±0.5 to 1	220	3,5
3031473	1000	132 to 139	14	30	33	4	170	±0.5 to 1	500	4
3031474	2000	164 to 170	16	31	34	4	200	±0.5 to 1	760	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. 7000161

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 230) and controller (pages 293 and 294).

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 230) and controller (pages 293 and 294).

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.). Part No. **7000446** See page 26. With connection at the back for an electronic contact thermometer "Sensoterm" or digital electronic regulator "Electemp-TFT".
See controller (pages 293 and 294).

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.

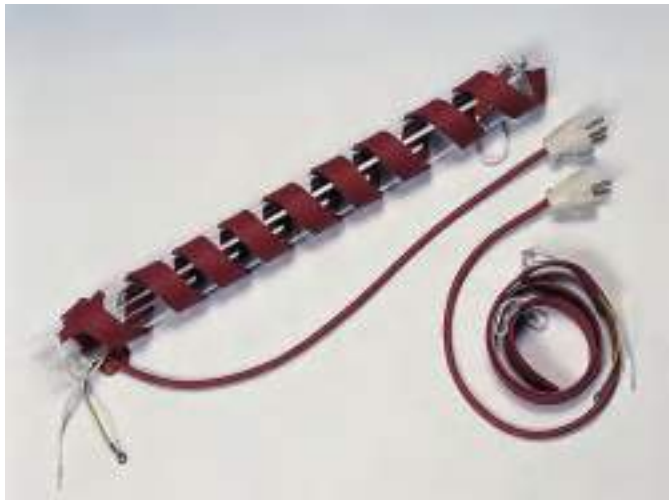| Part No.	Height / Width / Depth (exterior) cm			Vacuum level bar	Pump rate litre/minute	Weight Kg
4001612	44	39	28	0.98	10	10

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
Controller (pages 293 and 294).

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**	**800**	**2.1**
1000442	**15**	**8**	**22**	**22**	**1600**	**3**
1000443	**19**	**8**	**26**	**26**	**2100**	**4.5**

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	1750	8.5

Ceramic top hotplates "Ceramic-plac"

ADJUSTABLE HOT PLATE TEMPERATURE UP TO 400 °C. MAXIMUM SUPPORTABLE WEIGHT: 40 KG.

> **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

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-TFT".
See Regulators and Controllers (pages 293 and 294).

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-TFT" that can be added and are lis-
ted as accessories.
See section Regulators and Controllers (288 and 289).

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 50 to 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 800 ml and round
bottom flasks of 250 to 500 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 293
and 294).

**Electronic temperature controller
"Electemp-TFT"**

Part No.	Height / Width / Depth (exterior) cm			Max power (at 230 V) W	Weight Kg
3000897	10.5	13.5	21	3100	1.250

Features. See Regulators and Controllers (see pages
293 and 294).

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
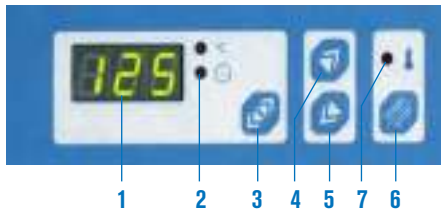
CONTROL PANEL

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	1500	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 50 to 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 800 ml and round bottom flasks of 250 to 500 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 251).
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**

"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 "B960"

FOR 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.
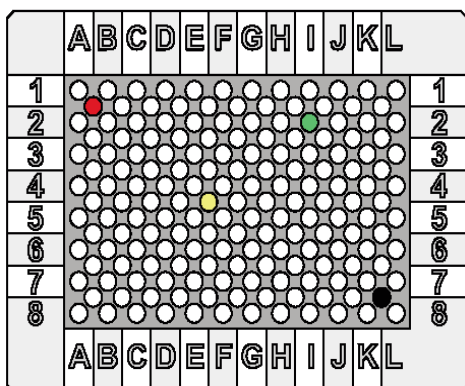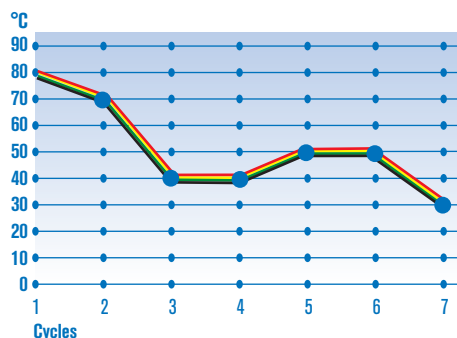
INTERCHANGEABLE BLOCKS
Each block incorporates a connector that identifies it and allows the thermocycler to recognize it. There's also an extractor handle which makes easy the block support use.

TECHNICAL SPECIFICATIONS
Temperature range: 0ºC to 99ºC.
Durability: 99min. 99sec.
Warming-up speed: 4ºC/sec.
Cooling down speed: 4ºC/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.
Temperature range gradient: 30-99 ºC.
Heater lid: From 70 to 115ºC according

to the program.
Max. cycles number: 299.
Stored programs: Up to 1000.
Graphic display of 14.5cm, 320x240 pixels.
USB 2.0, LAN and RS232 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	27	38	**220V/50-60Hz**	**780**	**7,8**

ACCESSORIES
Interchangeable modules:
A. 96 vials of 0,2 ml. Code: **5109001**   C. 96 vials of 0,2 ml + 77 vials of 0,5 ml. Code: **5109003**
B. 54 vials of 0,5 m.l Code: **5109002**   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.

"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.

ACCESSORIES

Profesional software. Part No. 4312001
(see page 241).

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	4312007
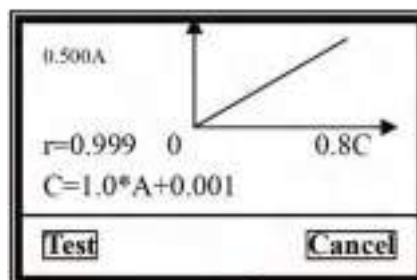
Graphic display visualized detail of a regression line for concentration calculation. (VR-2000)

Ultraviolet and visible range spectrophotometers "UV-2005" and "UV-3100"

AUTOMATIC WALVELENGTH POSITIONING AND BLANK SETTING

"UV-2005" Part no. 4120020

"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.

ACCESSORIES

(see page 241).

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
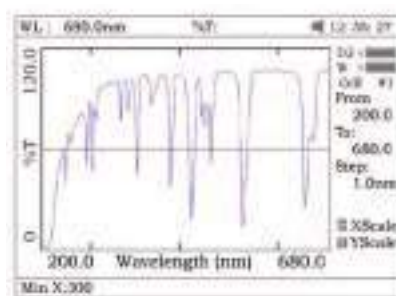
Graphic display visualized detail of holmium crystal scanning, from a UV3100 spectrophotometer.

SPARE PARTS	UV-2005	UV-3100
Halogen lamp (visible)		4312007
Deuterium lamp (UV)		4312006

Thermostatted flow Peltier cuvette holder (only compatible with UV-2005 and UV-3100 models)
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

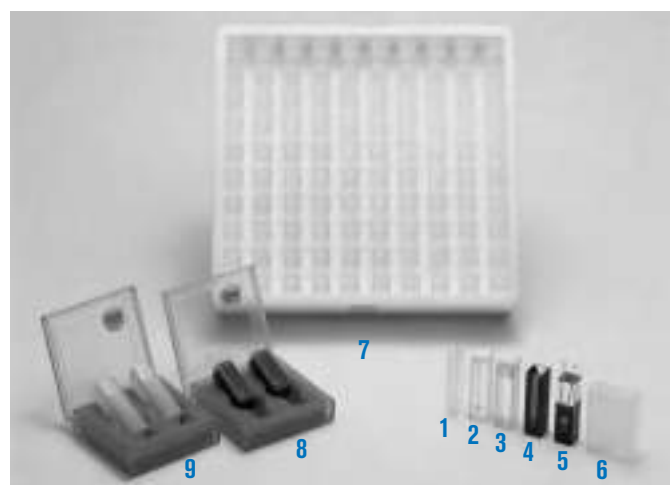| Part No.	Height / Width / Depth cm	Weight Kg
4120117	4 16 10	1

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	5 mm	Square Semi-Micro	Pack of 1 unit

Double Beam Spectrophotometer "UV-6301"

BAND WIDTH 1 nm. TOTAL STABILITY DOUBLE BEAM OPTICS.
AUTOMATIC WAVELENGTH CORRECTION CALIBRATION.
USB PORT FOR DATA STORAGE.
WIDE RANGE OF ACCESSORIES.

APPLICATIONS

Investigación, laboratorios químicos, biotecnológicos, análisis espectrofotométricos y ensayos ambientales.

COMMON FEATURES

All methods are included as built-in standard, this eliminates de need of additional software.

The local control software includes functions as ; Photometry, Quantitative, wavelenght scan, Kinetics, DNA/Protein, Muli wavelenght, Test and system Utilities

Kinetics: This mode may be used for time course scanning or reaction rate calculations. Abs vs time graphics is displayed on the screen in real time.
Wait time and measurement time up to 12 hours may be entered with time ingtervals of 0,5, 1, 2,5 10, 30 seconds and 1min.

Standard Curve: Up to 10 standard solutions may ve used to establish calibration quation curve. There is a choice of four methods for fitting curve through the calibration points. Linear Fit, Linear fit though zero, Square fit and cubic fit.

Multi-Wavelenght: Up to 10 wavelenghts may be entered, allowing the measurement of multiple wavelenghts on a series of samples.

Wavelength Scan: The wavelenght scan intervals are 0.1, 0.2, 0.5, 1, 2, 5nm and High, medium and Low scan speeds are available. Scan speeds vary from 100 to 1000 nm/min. Wavelenghts are scanned from high to low so that the instrument stand-by at high wavelenght. This minimizes de degradation of UV sensitive samples. precise control of filter and lamp changes measn that their effects are not seen on the final scan.

DNA/protein test: Concentration and DNA purity are calculated. Absorbance ratios 260nm/280nm or 260nm/230nm with optional subtracted absorbance at 320nm

USB connectable storage.
Memoria "flash" no incluida.

DATOS TÉCNICOS

Display:	LCD 5" - 320 X 240p
Optical system:	Double beam
Absorbance Rang:	-0,3....+3,0 A
Absorbance Precision:	±0,0002 A a 1,0 A
Photometric Precision:	< 0,3% T
Photometric Range :	0 - 200% T; 0,3 - 3A
Photometric Stability:	0,001 A/h a 500 nm
Wavelenght Accuracy:	± 0,3 nm
Wavelenght Range:	190 - 1100 nm
Interface:	Paralel port (printer)
Light source:	Tungsten & Duterium
Memory:	200 test & 200 curves
Output:	USB
Scan Speed:	100 - 3000 nm/min.
	Intervals 0,1; 0,2; 0,5; 1,0; 5,0 nm
Stray Light:	< 0,05% T a 220 y 360 nm

MODEL	Code	Height / Width / Depth cm			Voltage	Weight Kg
UV-6301	4120036	60	45	20	110-220V / 50-60Hz	22

ACCESSORIES

Thermostatted flow Peltier cuvette holder (compatible with UV-2005, UV-3100 and UV-6301 models)
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.
Models

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**

Code 4120030   **Code 4120031**   **Code 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

SPARES

Tungsten halogen lamp.
Part No. **5110021**

Deuterium lamp (UV-6301).
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%
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.

MODEL

Part No.	Height / Width / Depth cm			Power rating	Power W	Weight Kg
4120010	14	45	33	110-220V/50-60Hz	150	10

ACCESSORY

Metallic thermostat dry block "BIO-BATH"

Small size with a fixed temperature of 37 °C 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 °C	Power W	Weight Kg
7001561	8.8	9.6	7	0.5	8	0.5

SPARE. Halogen lamp 6 V 10 W. Part No. **4312015**

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 30 nm band pass.
12 position Filter disc wheel selection .
Standard filters: 420, 440, 490, 520, 550, 580, 620 and 680 nm.
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**

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.
interference filter 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.

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

Multi-parameter water quality meter "MP-2006"

LARGE TOUCH SCREEN. TO MEASURE PH, ORP, CONDUCTIVITY, TDS, SALINITY, DISSOLVED OXYGEN, IONS & TEMPERATURE SUPPLIED WITH ELECTRODES: OF CONDUCTIVITY, PH, DISSOLVED OXYGEN AND TEMPERATURE PROBE.

FEATURES
5.7 inches touch screen.
Capacity to store up to 2200 sets of data. GLP method. Possibility of storing, printing and deleting measuring data. USB and RS-232 ports for PC connection.
Measuring modes: continuous, timing and balance measuring modes.

TECHNICAL DATA

	Range	Accuracy	Resolution
pH:	-2 to +19,999	±0,002 FS	0,001
ORP:	±1999,99 mV	±0,03 FS	0,01 mV
Conductivity:	0,001 µS to +199,9mS	±0,5 FS	0,001µS
TDS:	0,000 mg/L to 19.99g/L	±0,5 FS	0,001 mg/L
Salinity:	(0,0 to 8,00)%	±0,1%	0,1%
Dissolved oxygen:	0,00 to 19.99 mg/L	±0,5 mg/L	0,01 mg/L
Ions:	0 to 19990(ug/L, mol/L)	±0,5%	±1
Tª:	-0,5 to +135	±0,5 FS	0,1

MODEL

Code	Height / Width / Depth cm			Power	Weight Kg
4120700	29	20	7	110-230V/50-60Hz	1

ACCESSORIES
Standard electrodes of pH, conductivity and temperature. See page 247.
Special electrodes:

Code	Electrode type	Working temperature	Body material	Measure mm	Code	Electrode type	Working temperature	Body material	Measure mm
4120183	Platinum	0-50°	Glass	Ø 12 x 120	4120189	Calcium	5-60°	Glass	Ø 12 x 120
4120184	Platinum-2	0-50°	Glass	Ø 12 x 120	4120190	Nitrate	5-60°	Glass	Ø 12 x 120
4120185	Antimony	0-50°	ABS	Ø 12 x 120	4120191	Copper	5-60°	Glass	Ø 12 x 120
4120186	Tungsten	0-50°	Glass	Ø 12 x 120	4120192	Chloride	5-60°	Glass	Ø 12 x 120
4120187	Silver	0-50°	ABS	Ø 12 x 120	4120193	Oxygen	5-40°	ABS	Ø 12 x 120
					4120194	Reference	5-55°	Glass	Ø 12 x 120

COMECTA

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).

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

ACCESSORIES
Software for data transfer to computer. Part No. 5109997

COMECTA

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 and pH electrode.

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 247).

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 247).
Universal arm support not included. Part No. 1001552 (see page 248).

Part No. 1001552

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**

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 247).

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.

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	Glass	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

Ion selective electrodes

Part No.	Ion	Range	Limits	Range ºC	Range pH
4120168	Chloride Cl⁻	1-3×10^{-6}	35.500 - 1	5-50	1-12
4120174	Nitrate NO⁻₃	1-7×10^{-6}	62.000 - 0.4	0-50	2-11
4120177	Potassium K⁺	1-10^{-6}	39.000 - 0.04	0-50	1-9

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 9.26 at 20 ºC; 9.18 at 25 ºC
4120109   Frasco 250 ml KCl 3M solution (Electrolyte for pH electrodes)

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 (°C)	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 mS/cm at 20 ºC; 1413 mS/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 mS/cm at 20 ºC; 12.88 mS/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**

"Only in the dictionary does the word success come before work"
Professor Luis Huguet

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
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	
Crude Fat	Soxhlet Extraction				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**
Crude Fat	Soxhlet Extraction				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**
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**
Raw Cellulose	Method Weende & Wijkströn		YES	YES		
Raw Protein	Method Kjeldahl	YES				YES
Raw Fat	Soxhlet estraction				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	
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.

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.
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. Digester "Bloc Digest 20" requires 2 "Scrubber" units for a proper neutralization of fumes. Note: Pump with part number 4001612 has 2 suction inlets.

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.

RS232

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.

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

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	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 H$_2$O 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 251 and 252).

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.
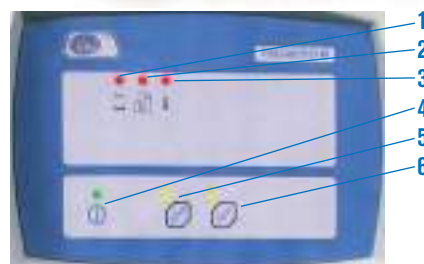
CONTROL PANEL

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

Tube for digestion and distillation Series MICRO of 100 ml volume.
Part No. 4001045
Digestion and distillation tube Series MACRO of 250 ml volume.
Part No. 4042300

Adapter kit for automatic determinations. Vessel with location positions for pH electrode, stirrer and reagents and distillate sample.
Part No. 4001724

Polycarbonate conical flasks durable. CAPACITY 250 ml
Part No. 5310100 with cap.
Part No. 5310101 without cap.

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 0.1 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 251 and 252).

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

Tube for digestion and distillation Series MICRO of 100 ml volume.
Part No. **4001045**
Digestion and distillation tube Series MACRO of 250 ml volume.
Part No. **4042300**

Adapter kit for automatic determinations. Vessel with location positions for pH electrode, stirrer and reagents and distillate sample.
Part No. **4001724**

Polycarbonate conical flasks durable. CAPACITY 250 ml
Part No. **5310100** with cap.
Part No. **5310101** without cap.

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 251 and 252).

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, 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
```

ACCESSORIES

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**

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.

COMPLEMENT

Digital colorimeter "Pro-A 520"

MICROPROCESSOR CONTROLLED.
AUTOMATIC ZERO ABSORBANCE AND 100% TRANSMITTANCE.
ALPHANUMERIC 20 CHARACTER 2 LINE L.C.D. DISPLAY.

APPLICATIONS
Reagent preparation for Pro-Nitro A.

FEATURES
Wavelength range: 400 to 800 nm, by using special filters.
Standard filter: 520 nm.
Expanded Absorption range: -0.3 to 3.5 O.D.
Transmission: 0 to 100 T %.
Photometric accuracy: >1 %. @ 1.000 A.
Photometric precision: ±1 %. @ 1.000 A.
Photometric stability: 0.004 A/hr. @ 0.000 A.
Light source: Long life tungsten lamp.
Detector: Solid state.
Sample chamber: 10 mm cuvettes.
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.

SPARE

Lamp of 6 V / 6 mm.
Part No. **4512009**

MODEL

Part No.	Built in printer	Height / Width / Depth cm			Power W	Weight Kg
4120029	**NO**	11	18	28	10	4.5

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.

SPECIFICATIONS

Cellulose extraction thimbles $\emptyset_{ext}$ 26 x 60 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	3
Aluminium tubes for thimble support	6	2
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.

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

ACCESSORIES
Double hotplate for reagents.
Power consumption 1750 W.
Part No. 4000634
Beaker for reagents.
Part No. 1000635

SPARES
Support rack	**Support rack**	**Crucibles**
4 crucibles.	for 6 crucibles.	with a P - 2 porosity.
Part No. 4000600	Part No. 4000624	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 91).

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

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.

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.

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.

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
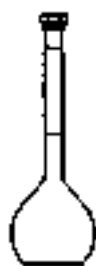
Matrix flask 200 ml.
Part No. 1001636

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.

APPLICATIONS

With the oenological application photometer, the following 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, glucose, fructose and glycerine.

FEATURES

Wavelength range: from 340 to 750 nm, with interference 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
4120019	11	18	28	35	3

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 determination (absorbance 280 nm) and the *Cromoenos*® method exact and accurate measurement.
Part no. 4120020. Page: 240

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**

Microcentrifuge "Cencom III"

FOR MICROTUBES OF 2,2/1,5, 0,5 AND 0,2 ML.
DIGITAL ELECTRONIC CONTROL OF SPEED AND TIME. ADJUSTABLE SPEED UP TO 14500 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.

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
5022010	12	15	21	25	14500	14000	105	till 99' 99"	4

Comes complete with 12 adapters of 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 incubator for tubes/cuvettes at a fixed temperature of 35 ºC.
Part No. **7001570**
Capacity: 15 cuvettes pathlength 10 mm, which can be macro or semi-micro of 1,5 ml..

MODEL

Part No.	Height / Width /Depth (exterior) cm			Stability °C	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**

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. Visual and acoustic alarm at the end of the cycle. Alarm if the temperature probe fails.

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.

Condenser tube support.
Part No.
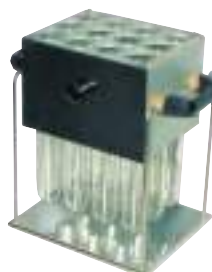**4000643** 6 places.
4000644 12 places.
4000645 20 places.

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).

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.
NEW LIGHTING SYSTEM.

NEW DESIGN

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 3000821 and 3000823, 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.

CONTROL PANEL

1. Alphanumeric display. Indicates rpm and time.
2. Parameter invalidate button.
3. Parameter value decrease button.
4. Parameter value increase button.
5. Parameter validation button.
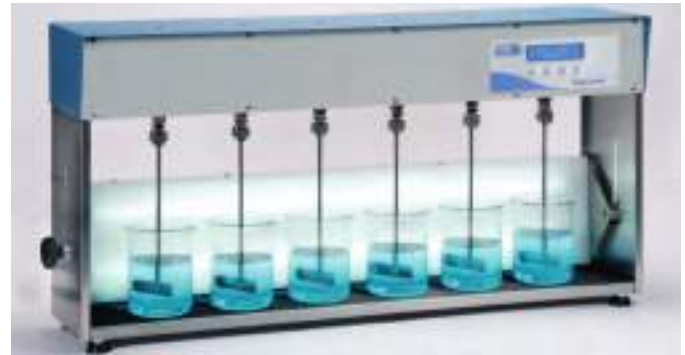
Flocculator "Flocumatic" with horizontal and vertical illumination (6 places).

Flocculator "Flocumatic" with horizontal illumination (4 places).

MODELS

Part No.	No. of places	Speed r.p.m.	Height / Width / Depth (exterior) cm			Illumination power W	Power W	Weight Kg
3000820	4	15 - 200	52	70	23	40	160	24
3000822	6	15 - 200	52	99	23	50	170	36

ACCESSORIES

Illumination units, simultaneous lighting horizontal and vertical.

Part No.	Model part No.	
3000821	3000820	4 places.
3000823	3000822	6 places.

Portable flocculator "4P-M"

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

1. Alphanumeric display. Indicates rpm and time.
2. Parameter invalidate button.
3. Parameter value decrease button.
4. Parameter value increase button.
5. Parameter validation button.

MODEL

Part No.	Height / Width / Depth (exterior) cm			Power W	Power supply	Weight Kg
3000835	37	25	27	20	12 volts	6

ACCESSORY.
Carrying case.
Part No. **3000836**

Water distiller "Aquasel"

DISTILLATION CAPACITY: 3 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/min	Conductivity at 20 °C	Ø / Height (ext.) cm		Power W	Weight Kg
Aquasel 4	4903004	3	1	3 µs/cm	18	43	2400	5
Aquasel 6	4903006	6	2	3 µs/cm	23	68	4800	8

Supplied complete with silicon seals.

Distillation still "L-3"

DISTILLATION CAPACITY: 3 LITRE PER HOUR.

FEATURES

Made entirely of borosilicate glass.
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/min	Conductivity at 20 ºC	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4903000	3	1	3 µs/cm	34.5	56	19	2200	4.5

Water distiller "D-4 Large" and "D-10 Large"

DISTILLATION CAPACITY: 4 AND 10 LITRES/HOUR.

NEW

FEATURES

Equipment entirely made of borosilicate glass.
Automatic operation.
Continuous production of high purity distilled water, free of dissolved gases, metals, salts and pyrogens.
Spiral heating system.
Double safety system:
1. By a presostat that turns the heater off in case of lack of water supply. 2. Water level device that avoids the computer to function until the heating element is covered with water.

CONTROL PANEL

Power switch.
Lack of water flow indicator lamp.

MODEL

Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20º C	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4903001	4	1	2 µs/cm	69	28	30	3000	6,3
4903015	10	2	1,5 µS/cm	96	36	40	6600	23

Water distillers, "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 3/4" 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/min	Conductivity at 20 °C	Height / Width / Depth cm			Power W	Weight Kg
AC-L4	4903007	4	1	2 µs/cm	44	25	23	3000	8
AC-L8	4903008	8	1,4	2 µs/cm	61	26	26	6000	14

Water distillers "L-4 Cabinet" and "L-8 Cabinet"

DISTILLATION CAPACITY: 4 AND 8 LITRES/HOUR.

NEW

FEATURES

Equipment entirely made of borosilicate glass, with protective case with transparent plastic door that allows an easy access to the glass and heating elements.
The water distiller incorporates a boiler, a large surface cooling and two heating elements with protective quartz.
Desktop model with device to hang it on the wall.
Continuous production of high purity distilled water free of dissolved gases, metals, salts and pyrogens.
Easy to dismantle for a complete cleaning.
Automatic operation.
Totally automatic operation:
• The equipment disconnects when the distilled water tank is full.
• The equipment reconnects when emptied.
• Automatic operation of the distiller.
Double safety system: **1.** By a thermostat that turns the heater off in case of lack of water supply. **2.** Water level device that avoids the computer to function until the heating element is covered with water.

CONTROL PANEL

Start up main switch.
Light indicators of heating, cleaning, of lack of water and tank full.

Note on the outlet water: Depending on the inlet water quality, it can be of type II or III (according to ASTM). All parameters have been tested under standard laboratory conditions.

MODEL

Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20° C	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4903002	4	1	1.5 µs/cm	40	69	26	1x3000	12
4903016	8	2	1,5 µS/cm	48	69	40	2x3000	22

Water distillers "R-4 Reser" and "R-8 Reser"

DISTILLATION CAPACITY: 4 AND 8 LITRES/HOUR.
STORAGE TANK: 8 LITRES.

NEW

FEATURES

External case epoxy covered.
Cooling and heating elements made of stainless steel.
Easy to dismantle for cleaning.
Thermostat that disconnects the heater when there's lack of water supply.
Monitoring function that disconnects the distiller when the storage tank is complete full, and resumes as it empties.
Distilled water dispenser located in the front part.
Distilled water and water supply racords of 3/4 inch.
Desktop model with device to hang it on the wall.

CONTROL PANEL

Illuminated power switch.
Lack of water flow indicator lamp.

MODEL

Part No.	Distillation capacity l/h	Water storage tank l	Water consumption l/min	Conductivity at 20° C	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4903005	4	8	1	1,5 µs/cm	50	63	32	1x3000	24
4903017	8	16	1,4	1,5 µS/cm	60	71	34	2x3000	34

Water double distillation "L-4B"

DISTILLATION CAPACITY: 4 LITRES/HOUR.

OPTIC ivymen **SYSTEM** ®

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.

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.

Voltage: 230 V / I, 50/60 Hz = 26.8 A

MODEL

Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20 ºC	Height/Width/Depth cm			Power W	Weight Kg
4903010	4	2	0.5 µs/cm	48	69	40	2x3000	22

SPARES

Heater element made of quartz. Part No **4903011**

Glass still, borosilicate glass (the equipment comes with 2 condensers. Price provided is for 1 spare condenser). Part No. **4903012**

Condenser, borosilicate glass (the equipment comes with 2 condensers. Price provided is for 1 spare condenser). Part No. **4903014**

Water distiller, specially for autoclaves "Dest-4"

DISTILLATION CAPACITY: 1.2 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.

MODEL

Part No.	Distillation capacity l/h	Conductivity µs/cm	Ø cm	Height cm	Power W	Weight Kg
4001729	1.2	5	29	39	750	3.5

No external additional water required.

SPARE. Dispensing filter tip. Part No. **4001730**

COMECTA 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/cm².

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.

COMECTA 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: 68 cm high x 35 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

ANTIVIBRATION BALANCE TABLE

MELTING POINT APPARATUS

PRECISE BALANCES

LIGHT SOURCE

MICROSCOPES

"One researcher shines for his questions, not for his answers."
Duque de Levis

Precise analytical balance "JF-2204M"

COMECTA

USB

RS232

FEATURES

Digital 7 segment screen.
Time to stability: 8 seconds.
Adjustable time and sensitivity control.
ON/OFF automatic zero adjustment.
Automatic calibration with internal weight.
Tare range by subtraction up to the maximum capacity.
Piece counting function.
Hydrostatic weighing through lower acommodation.
Units of measurement in g, ct, and oz.
Adjustable Height. Level adjustment (bubble).
Data interface: RS-232/USB.
Operable ambient temperature 5 to 40 °C
Power supply: 110/220 V-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
JF-2204M	5830040	220	0.0001	0.0002	35	21.5	34	26.5	22	22,5	8	5

Electronic Balance "Laborcom"

COMECTA

COMMON FEATURES

Easy to read seven segments display.
Stabilization time: 3 seconds.
ON/OFF. Automatic Zero adjustment
External automatic calibration.
Operating temperature: from 5 to 35 °C.
Voltage: 220 V ±10 V / 50 Hz.

Tare range by subtraction up to maximum capacity.
-All models are externally calibrated. The 0.01G precision models have a weight included.
-All models also have batteries in addition to the power supply. In the 10, 20 and 30 kg models the batteries are rechargeable.
Piece couting function. Overload indicator.
-All models have RS232 connection

MODELS	Part No.	Maximum weight capacity g	Precision ±g	Height / Width / Depth (exterior) cm			Ø plate cm	Weight Kg
LABORCOM 100-L	5830125	110	0,01	7	17,5	24	12,5	1,6
LABORCOM 200-L	5830126	210	0,02	7	17,5	24	12,5	1,6
LABORCOM 600-L	5830131	600	0,1	7	17,5	24	12,5	1,6
LABORCOM 1000-L	5830132	1100	0,1	7	17,5	24	12,5	1,6
LABORCOM 2000-L	5830133	2000	0,1	7	17,5	24	12,5	1,6
LABORCOM 5000-L	5830128	5000	1	8	18	28	14,2 x 19,2	1,8
LABORCOM 10000-L	5830127	10000	1	8	37	37	14,2 x 19,2	2,5
LABORCOM 20000-L	5830129	20000	1	8	37	37	14,2 x 19,2	2,8
LABORCOM 30000-L	5830130	30000	1	8	37	37	14,2 x 19,2	2,8

Shaking monitor for blood collection "HEDO2"

COMECTA

FOR BLOOD COLLECTION PROCESSES IN BAGS

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.
Power supply: 110/220 V-50/60Hz.

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.

ACCESSORIES

Barcode reader Hedo-2. Part No. 5010003
Alarm lamp pool Hedo-2. Part No. 5010004

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)

COMECTA

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**   **Certificate for** set of weights **E2** of **1 mg** to **500 mg**   Part No. **5862350**
Set of weights F1 of **1 mg** to **500 mg**   Part No. **5832822**   **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**   **Certificate for** set of weights **E2** of **1 mg** to **50 g**   Part No. **5862301**
Set of weights F1 of **1 mg** to **50 g**   Part No. **5832302**   **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**   **Certificate for** set of weights **E2** of **1 mg** to **100 g**   Part No. **5862302**
Set of weights F1 of **1 mg** to **100 g**   Part No. **5832303**   **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**   **Certificate for** set of weights **E2** of **1 mg** to **200 g**   Part No. **5862303**
Set of weights F1 of **1 mg** to **200 g**   Part No. **5832304**   **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

COMECTA **Stereomicroscope "XTX-3C LED and ZTX-20 LED"** ivymen SYSTEM OPTIC ®

Model XTX-3C LED.

Model ZTX-20 LED.

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.
Rechargeable battery 3x1800Ah and external charger.
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 ZTX-3C.
Pair of 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 LED: 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 LED: 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 LED: 270 high x 117 wide x 190 mm deep.
Dimensions: ZTX-20 LED: 350 high x 320 wide x 190 mm deep.

Stereomicroscope model XTX-3C LED.	Part No. **5313113**
Stereomicroscope model ZTX-20 LED.	Part No. **5313090**

ACCESSORIES

Eyepiece with wide field of view WF 5x (single).	Part No. **5313091**
Eyepiece with wide field of view WF 10x (single).	Part No. **5313092**
Eyepiece with wide field of view WF 15x (single).	Part No. **5313093**
Eyepiece with wide field of view WF 20x (single).	Part No. **5313094**
Wooden box with handle and lock.	Part No. **5313022**
Ocular with scale 10/100 mm (each unit).	Part No. **5313095**

SPARES

Set of LED lamps (for XTX-3C LED).	Part No. **5313013**
Set of LED lamps (for XTX-20 LED).	Part No. **5313015**

MODELS	Part No.	Objectives	Eyepieces	Magnification	Ø Field of view mm	Working Distance mm	Illumination	Weight kg
XTX-3C LED	**5313113**	**2x**	**WF–10x**	**20x**	10.0	57	**Transmitted or incident**	**2.8**
		4x		**40x**	5.0			
ZTX–20 LED	**5313090**	**2x**	**WF–20x**	**40x**	5	40	**Transmitted or incident independent or simultaneous**	**3.6**
		4x		**80x**	2.5			

Comes complete with key for tightening the axis tension, spare lamp and plastic dust cover.

COMECTA Stereomicroscopes with Zoom "SQF-L LED, SQF-D LED and SQF-E LED" ivymen OPTIC SYSTEM ®

Model SQF-L LED.

Model SQF-D LED 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 54 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** (12 Ø) or **WF10x** (22 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 LED system, low voltage with incident light (episcopic) in the head and transmitted (diascopic) in the circular platform: activated individually or simultaneously, with controllable intensity.

Model SQF-E LED trinocular
Same characteristics to the SQF-D LED model, except that the head is trinocular and it is supplied with a photography adapter and eyepiece WF 10x with an adjustable focus visor. The photographic eyepiece and camera with support T2 PK and trigger cable have to be ordered as accessories.

ACCESSORIES
Supplementary objective 0.5x. SQF-L	Part No. **5313096**
Supplementary objective 0.75x. SQF-L	Part No. **5313097**
Supplementary objective 1.5x. SQF-L	Part No. **5313098**
Supplementary objective 2x. SQF-L	Part No. **5313099**
Eyepiece with wide field of view HWF 10x (single).SQF-D & E	Part No. **5313081**
Eyepiece with wide field of view HWF 15x (single).SQF-D & E	Part No. **5313082**
Eyepiece with wide field of view HWF 20x (single).SQF-D & E	Part No. **5313083**
Video camera for eyepiece (See page 273)	Part No. **5435030**
Adapter CCD of 0.5x suitable for a video camera.	Part No. **5313089**
Eyepiece WF10x with grid (single). (Model SQF-D and E)	Part No. **5313084**
Wooden case with handle and lock.	Part No. **5313016**

SPARES
Set of LED lamps SQF-L	Part No. **5313015**
LED lamp 3 W SQF-D LED and SQF-E LED (transmitted).	Part No. **5313044**
LED lamp 3 W SQF-D LED and SQF-E LED (incident).	Part No. **5313045**

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 LED	**5313311**	**Binocular**	**1x - 4x**	**10x**	**1x - 4x**	**26 - 5.8**	**90**	**Transmitted**	**5.5**
SQF-D LED	**5313309**	**Binocular**	**0.67x - 4.5x**	**20x**	**13.4x - 90x**	**17.9 - 2.7**	**105**	**or incident or both**	**6.1**
SQF-E LED	**5313308**	**Triocular**	**0.67x - 4.5x**	**20x**	**13.4x - 90x**	**17.9 - 2.7**	**105**	**simultaneously**	**6.4**

Comes with a dust cover.

Optical **271**

COMECTA **Microscope Monocular "M-100 FL LED"**

ivymen SYSTEM OPTIC ®

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 10x (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: 40x, 100x and 400x.
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 110 x 126 mm.
Condenser, fixed lens and aperture (A.N. 0.65), with diaphragm disk of 5 apertures.
Illumination, transmitted light (diascopic), LED 0.5 W, 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 LED (400x).
Part No. **5313119**

ACCESSORIES
Eyepiece Widefield WF-15x with cross hairs (Pointer).
Part No. **5313076**
Eyepiece Widefield WF-20x with reticule.
Part No. **5313077**
Condenser ABBE 1.25 A.N. with filter and iris diaphragm.
Part No. **5313003**
Graduated mechanical stage.
Part No. **5435030**
Video Micro-camera, 3.1 MP-:
- 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
LED lamp 0.5 W.
Part No. **5313028**

ACCESSORY
Set of polarisers with circular graduated base and filter. Part No. **5313075**

COMECTA **Microscope Binocular "701 LED"**

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. 0.10), **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 lamp LED 3W, 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 set filters, matt glass filter, fuse, oil, dust cover.

Power supply: 110/220 V-50/60Hz.
Microscope Binocular 701 LEd. Part No. **5313111**

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**
Video camera for eyepiece (see page. 273)
Part No. **5435030**

SPARE
LED lamp 3 W.
Part No. **5313027**

COMECTA **Polarising Binocular Microscope 206 LED**

ivymen SYSTEM

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 ±5 dp. 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 LED 3 W lighting with regulable intensity.
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	5313115	425	245	335	220 V / 50 Hz	7.5

SPARE
3W LED lamp. Part No. 5313046

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 reticule (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 camera for eyepiece
Part No. 5435030

5313017

5313018

5313019

5435030

Optical **273**

COMECTA

Microscopes "3000-A LED, 3000-B LED and 3000-C LED"

ivymen OPTIC SYSTEM ®

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

APPLICATIONS
Biology, bacteriology, cytology, immunology, diagnostics, pathology, agriculture,industry and university laboratories.

3000-A LED (BINOCULAR) AND 3000-B LED (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 **180x140 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).
Transmitted illumination with LED that is formed with a condenser lens, viewing diaphragm removable filters and a precentred, low voltage, adjustable intensity.
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 LED. Part No. 5901981
Microscope Triocular Part No. 3000-B LED. Part No. 5901982

Model "3000-B". Part No. 5901982.

MODEL 3000-C LED PLAN PHASE CONTRAST - BINOCULAR.

FEATURES
Similar characteristics to the model 3000-A LED 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. 0.40) 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 LED. Part No. 5901983

MODELS	Part No.	Head	Eyepieces	Objectives	Technique	Illumination	Weight kg
3000-A LED	5901981	Binocular	WF 10x (20 Ø)	Planachromatic (PL) 4x - 10x - 40x - 100x	Brightfield	3 W LED	8.4
3000-B LED	5901982	Triocular					8.7
3000-C LED	5901983	Binocular		Planachromatic (PL) phase contrast 4x - 25x - 40x - 100x	Phase contrast		8.4

Supplied complete with matt glass filter, fuse and a dust cover.

SPARE
LED lamp 3. Part No. 5313026

ACCESSORIES
See page: 278

Trinocular fluorescence microscope "3002-F"

COMECTA

Ivymen OPTIC SYSTEM

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.

OPTICS ANTI MOULD / ANTI FUNGAL

APPLICATIONS
Biology, cytology, oncology, genetics, scientific investigation, clinical diagnostics, epidemic prevention and embryology.

FEATURES
Trinocular head, inclined 30° and rotatable through 360°.
Interpupillary distance adjustable from 55 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 (22 Ø).
Bright field planachromatic DIN objectives of 4x (A.N. 0.10), **10x** (A.N. 0.25), **40x** (A.N. 0.65)retactable, 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 **180x150 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 12V/30W 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 (Waveband B and G, N free).
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.

ACCESSORIES
Waveband V and UV. Part No. **5901986**

MODEL	Part no.	Eyepieces	Objectives	Technique	Illumination	Weight kg
3002-F	5901984	WF 10x (22 Ø)	Planachromatics (PL) 4x- 10x- 40x-100x	Epifluorescent	Transmitted 12v / 30w & 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** 12 V / 30 W. Part No. **5313021.**   **Mercury lamp** 100 W DC. Part No. **5313055**
Block with omega fluorescence filter: U V. Part No. **5313060**   Violet. Part No. **5313061**   Blue. Part No. **5313062**   Green. Part No. **5313063**

ACCESSORIES FOR MICROSCOPES MODELS "3000-A LED", "3000-B LED", "3000-C LED" AND "3002-F"

Eyepiece with wide angle lens WF-15x (single). Part No. **5313073**.
Eyepiece with wide angle lens WF-20x (single). Part No. **5902074**
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 green filter. Part No. **5901985**
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. **5313071**
- Dark field condenser: A.N. 1.25~1.40 immersion (high magnification). Part No. **5313072**
Micrograph Kit, camera mechanism WF 10x with a visor for focus correction and a photographic objective of 2.5 - 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. **5531322**
Adapter for a CCD video camera: attachment. Part No. **5313070**
Wooden case. Part No. **5313016**

5902008   *5313071*   *5313072*

5901985   *5313222*

COMECTA Microscope biological inverted, trinocular "XDS-1B LED"

ISO 9001 COIC

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 53 to 77 mm.
Diopter correction of ±5dp in the left eyepiece, used to correct differences in sharpness.

Pair of DIN wide field **WF 10x** (22 Ø), 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.=4.3 mm), **20x** (A.N. 0.40/W.D.=8 mm), **40x** (A.N. 0.40/W.D.=3 mm) and on **negative phase contrast LWD PL ph of 10x** (A.N. 0.25/W.D.=5 mm), colour coded for rapid identification.
Maximum thickness acceptable for receptacle bases 1.2 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 mm), 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 227x208 mm. Includes 3 stages 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 77 mm longitudinal and 114 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 and grey.

Comes complete with 2 flasks, 2 culture plates, wooden holder for eyepieces, objectives and accessories, 2 lamps, 2 spare fuses and a protective cover.

MODEL	Part No.	Height / Width / Depth exterior cm	Weight Kg
XDS-1B LED	**5901988**	58 30 53	17

ACCESSORIES

Objectives planachromatic long working distance
Negative phase contrast:
Objective PLL ph 20x
(A.N. 0.40 W.D.=8 mm)
Part No. **5313065**
Objective PLL ph 40x
(A.N. 0.60 W.D.=3,5 mm)
Part No. **5313066**
Adapter thread CCD 0.5 x
Part No. **5313067**
Adapter thread 1 x
Part No. **5313068**
Eyepiece WF10x (22 mm)
With reticule   Part No. **5313064**

5313065   *5313066*

5313064

Digital reflex photographic kit, composed of a mount, a shutter and a SD memory card of 2Gb.
Part No. **5313222**

SPARES   *5313222*
3W LED lamp. Part No. **5313029**

COMECTA Microscope metallographical inverted "18AT"
EXCELLENT RESOLUTION. PLANACHROMATIC OPTIC.

ivymen OPTIC SYSTEM ®

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), 45° inclined angle.
Adjustable interpupillary distance from 53 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** (22 mm Ø).
Objectives DIN grade, planachromatic brightfield of **10x** (A.N. 0.25), **20x** (A.N. 0.50), **50x** (A.N. 0.70), retractable, and **100x** (A.N. 0.85), retractable, using immersion oil. Colour coded for easy and rapid identification.
Magnification range: 100x, 200x, 500x 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 **242x200 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 18AT.

filters and a pre-centred halogen 6 V / 30 W low voltage controllable light source.
Structure, robust with an illumination system in the base, intensity potentiometer and illumination switch.
Dimensions: 40 height x 25 Width x 61 cm depth.
Weight: 15 Kg.
Comes complete with a set of filters: blue, yellow, green and matt glass filter.

Microscope Triocular Part No. 18AT. Part No. 5901990

SPARE
Halogen lamp 6 V / 30 W. Part No. 5313069

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

Eyepiece with wide field, of view WF-10x (22 mm) with reticule.
Part No. 5313064

Adapter thread CCD 0.5x.
Part No. 5313067

Adapter thread CCD 1x.
Part No. 5313068

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

Eyepiece video camera
ADAPTS DIRECTLY ONTO THE EYEPIECE OF THE MICROSCOPE OR TRINOCULAR HEAD.

Micro video camera 3.1 MP **with a USB connection**, direct to a PC, includes software.
Part No. **5435030**

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 micros-
copes.
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**

Slide support, Slide box for storing slides, slide staining
stands, etc. (See pages 215 to 219).

Disk polarimeter "polar-2010" LED
LAURENT TYPE MODEL
LED LAMP ILLUMINATION

APPLICATIONS
Designed for colleges and universities, chemical laboratories, pharmaceutical, cli-
nics, 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.

NEW DESIGN

MODEL

Part No	External measurements cm. Height / Width / Depth	Consumption W	Power V / Hz	Weight Kg
5120220	32 43 14	20	110-220 / 50-60	5

SPARE PARTS
Sodium lamp. Part No. **5120221**

Microscopes "3000-A LED, 3000-B LED and 3000-C LED"

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

APPLICATIONS
Biology, bacteriology, cytology, immunology, diagnostics, pathology, agriculture,industry and university laboratories.

3000-A LED (BINOCULAR) AND 3000-B LED (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 **180x140 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).
Transmitted illumination with LED that is formed with a condenser lens, viewing diaphragm removable filters and a precentred, low voltage, adjustable intensity.
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 LED. Part No. 5901981
Microscope Triocular Part No. 3000-B LED. Part No. 5901982

Model "3000-B". Part No. 5901982.

MODEL 3000-C LED PLAN PHASE CONTRAST - BINOCULAR.

FEATURES
Similar characteristics to the model 3000-A LED 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), 20x (A.N. 0.40) 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 LED. Part No. 5901983

MODELS	Part No.	Head	Eyepieces	Objectives	Technique	Illumination	Weight kg
3000-A LED	5901981	**Binocular**	**WF 10x** **(20 Ø)**	**Planachromatic (PL) 4x - 10x - 40x - 100x**	**Brightfield**	**3 W** **LED**	**8.4**
3000-B LED	5901982	**Triocular**					**8.7**
3000-C LED	5901983	**Binocular**		**Planachromatic (PL) phase contrast** **4x - 20x - 40x - 100x**	**Phase contrast**		**8.4**

Supplied complete with matt glass filter, fuse and a dust cover.

SPARE
LED lamp 3. Part No. 5313026

ACCESSORIES
See page: 278

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.
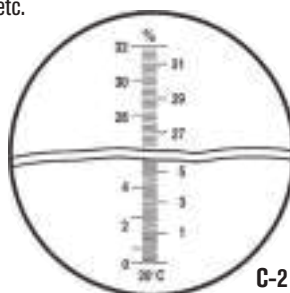Division scale: . . . . .0.001.
Part No. **5901001**

C-1
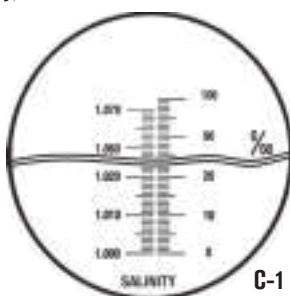
REFRACTOMETER BRIX% INDEX "C-2", "C-3", "C-4" AND "C-5"
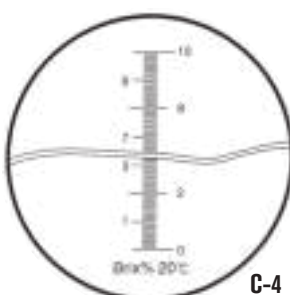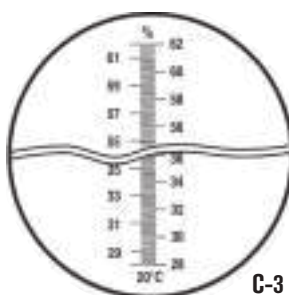**APPLICATIONS**
Concentrates of sugar in fruit, juices, gaseous drinks, milk, wine, industrial oils etc.

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 - 20 %.
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
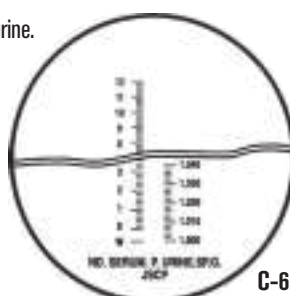**5901025** Model C-5 with temperature compensation

C-2

C-3   C-4   C-5

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**

C-6

COMECTA

Automatic Melting Point Apparatus "WRS-1B" "WRS-2A"
AUTOMATIC DETERMINATION NO VISUAL CONTROL REQUIRED.

ivymen SYSTEM ®

RS232

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.
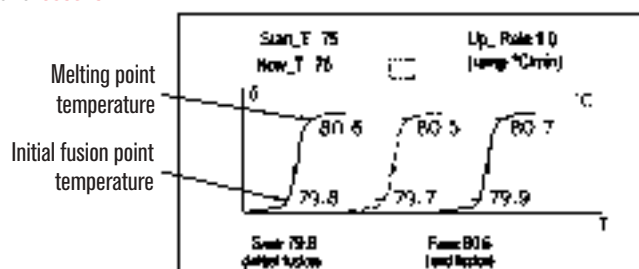Part No. 5609401

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

Melting point temperature

Initial fusion point temperature

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 °C/minute	0.2 - 0.5 - 1 - 1.5 - 2 - 3 - 4 and 5 °C/min.	
Repeatability	0.4 °C ramp rate of 1 °C/min	0.3 °C ramp rate of 1 °C/min.
		0.2 °C ramp rate of 0.2 °C/min.
Decending time to reach the start temperature — increasing	from 50 °C of 300 °C 3 minutes	
Decending time to reach the start temperature — 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	
Power supply	220V~50/60Hz	
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