



## Heating Mantles & Hotplates

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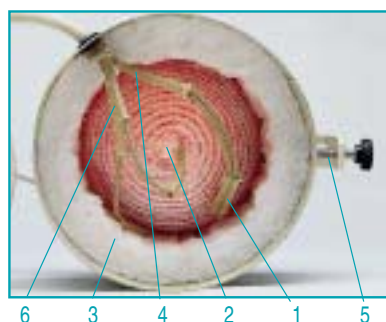
**Safety Screened Mantles**

**Stirring Mantles**





# Heating mantles



## Features

1. Hand woven mineral wool with flexible braiding, which adapts itself around the flask for optimum heat transfer.
2. The heating element is distributed homogeneously throughout the mantle, providing even heating with no hot spots. Connectors and cables protected by mineral fibre tubes. Efficient low power consumption, potential of 1 w/cm<sup>2</sup>, Maximum mantle temperature of 450 °C.
3. Cool exterior, carcinogenic free thermal insulation between the mantle and the external case.
4. Pure Nickel connection terminals protected by mineral fibre tubing that prevent the deterioration of the contact due to high temperature, resulting in a longer life.
5. Support for retort bar.

## Applications

For digestion distillation, extraction, evaporation and boiling processes.



**Safety**  
Following CE standards, in the case of liquid spills an earth wire is woven into the mantle to prevent electric shocks.



## Models selection summary table

Capacity ml	Ø Flask mm	Fibroman C 2 positions	Fibroman D Woven	Fibroman O Funnel hole	Fibroman N Heater control	Stirring Woven	Kjeldahl Bank	No. Places	Extraction Bank	No. Places
100	65	3003141	-	-	3000996	-	6014204	4	-	-
100	65	-	-	-	-	-	6014206	6	-	-
250	83	3003142	3004192	-	3000721	3000447	-	-	-	-
500	102	3003145	3004195	-	3000722	3000448	6003294	4	6003284	4
500	102	-	-	-	-	-	6003296	6	6003286	6
1000	132	3031410	3041910	3049110	3000723	3000449	-	-	-	-
2000	164	3031420	3041920	3049120	3000724	3000450	-	-	-	-
3000	190	3031430	-	-	-	-	-	-	-	-
4000	203	3031440	-	-	-	-	-	-	-	-
5000	222	3031450	-	3049150	-	-	-	-	-	-
6000	235	3031460	-	-	-	-	-	-	-	-
10000	290	3314100	-	3491100	-	-	-	-	-	-
20000	365	3314200	-	3491200	-	-	-	-	-	-



# Heating mantles 'Fibroman-C'

TWO HEATING POWER POSITIONS.

..... With independent heating control .....

## Features

Two position rocker switch heating control; 50 % and 100 %, with power on indicator lamp.

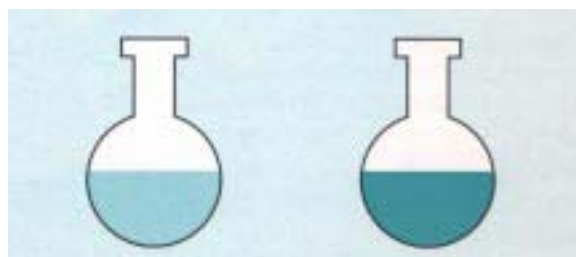
## Technical description

- DUR ALLOY aluminium exterior case with corrosion resistant epoxy coating.
- Suspended mineral wool woven heating mantle.
- Heating element homogeneously distributed throughout the woven mantle.
- Cool exterior, carcinogenic free thermal insulation between the mantle and the external case.
- Nickel connectors.
- Retort stand clamp at the back of the unit.
- In the case of breakage or spills a drain hole is provided at the bottom of the mantle.
- Safety, woven in earth into the mantle.



Part No.	Flask Capacity ml	Ø/Height (exterior) cm	Power W	Weight Kg
3003141	100	16 11	120	1
3003142	250	16 11	120	1.1
3003145	500	17 12	250	1.2
3031410	1000	21 12.5	380	1.4
3031420	2000	24 15	500	2
3031430	3000	27 18	600	2.2
3031440	4000	31 19	700	2.8
3031450	5000	31 19	800	3.2
3031460	6000	31 19	1000	3.4
3314100	10000	38 22	1300	4.7
3314200	20000	48 26	2000	11

## CROSS SECTION OF HEATED FLASKS



Position I  
50 % power output

Position II  
100 % power output

Controllers and regulators, see accessories

## Accessory



Support bar  
Dur-Aluminium of 12 Ø x 700 mm long.  
**Part No.** 6000270





## Heating mantles 'Fibroman-D'

### Features

Made with a double woven mineral wool soft exterior. A mains switch and safety earth are also incorporated. The mantle can be supported by a retort ring or tripod stand.

### Accessories

Part No.	Capacity Flask ml	Ø/Height (exterior) cm	Power W	Wt Kg	Retort	Tripod Ring	Mantle Part No.
3004192	250	15 6.5	120	0.8	7041921	7041922	3004192
3004195	500	17 7	250	0.9	7041951	7041952	3004195
3041910	1000	20 8.5	380	1	7419101	7419102	3041910
3041920	2000	24 11	500	1.5	7419201	7419202	3041920



## Heating mantles, suitable for funnels 'Fibroman O'

COMPLETE WITH TRIPOD SUPPORT.

### Applications

Suitable for round bottom flasks, Funnels and reaction flasks with a bottom drain.

### Features

- Woven mantle of mineral fibre.
- Metal exterior with an epoxy corrosion resistant coating.
- On/Off switch.
- Safety earth interwoven throughout the mantle.

Part No.	Flask Capacity ml	Ø /Height (exterior body) cm	Ø /Hole mm Bottom	Tripod Height mm	Power W	Weight Kg
3049110	1000	24 10.5	80	340	380	1.5
3049120	2000	28.5 12	80	360	500	2.5
3049150	5000	37.5 17.5	90	380	800	3.5
3491100	10000	43.5 20	90	430	1300	5
3491200	20000	48 25	120	360	2000	13

Due to the size and capacity of the part no. 3491200 of 20000 ml, the case is made of a spun cylinder. See accessories for controllers and regulators.



## Stirring heating mantles

REQUIRES THE MAGNETIC STIRRING CONTROLLER AND BASE "AGIMAN".

Part No.	Flask Capacity ml	Ø/Height (exterior) cm	Power W	Weight Kg
3000447	250	15 6.5	120	0.8
3000448	500	17 7	250	0.9
3000449	1000	20 8.5	380	1
3000450	2000	24 11	500	1.5

### Accessory

Stirring and heating controller AGIMAN with electronic temperature control and stir speeds of up to 1600 r.p.m. A connector at the back for sample temperature measurement and control permits the use of a digital or contact thermometer, "Sensoterm" or electronic temperature regulator "Electemp". See page 209 for more information. **Part No.** 7000446



AGIMAN with mantle

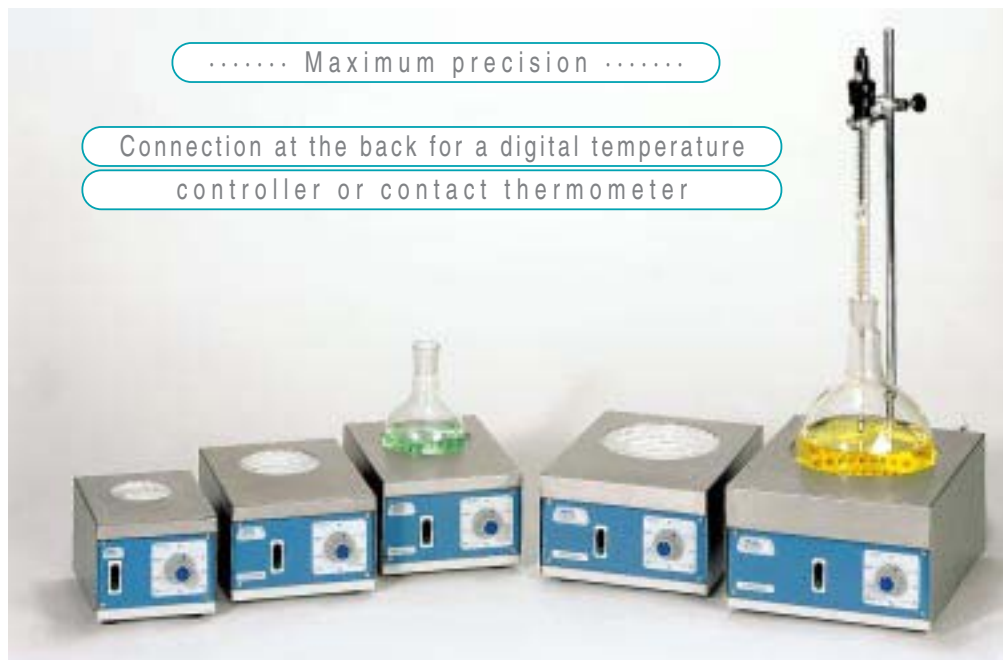
AGIMAN STIRRER

MANTLE



# Heating mantles 'Fibroman-N'

HEATER CONTROL FROM 0-100 % WITH SAMPLE TEMPERATURE MONITOR CONNECTION.



..... Maximum precision .....

Connection at the back for a digital temperature controller or contact thermometer

## Features

AISI 304 stainless steel outer casing with a rod support clamp at the back.  
Safety earth woven into the mantle.

Part No	Flask Capacity ml	Height/Width/Depth (exterior) cm	Power W	Weight Kg
3000996	100	11 14 18	120	1.5
3000721	250	12 18 24	120	3
3000722	500	12 18 24	250	3
3000723	1000	13 21 27	380	4
3000724	2000	15 25 31	500	5

## Control panel

Main power switch with power on indicator lamp

Heating control using a 0 to 100 % energy regulator.

Indicator lamp shows when the heating mantle is on.

To monitor the sample temperature, a connection at the back of the unit allows for a contact or digital thermometer "Sensoterm", to be connected. Alternatively an "Electemp" controller can be added to set and control the temperature of the unit.



## Accessory

Support Bar made of Dur- aluminium, of Ø 12mm x 700 mm long.  
**Part No. 6000270**

## Heating mantle accessories



Double nut boss head.  
**Part No. 1000069**



Spring clamp for holding thermometers.  
**Part No. 7000025**



Clamp for supporting and holding condensers or other glassware. **Part No. 7000161**



## Fibroman-N mantle accessories: controllers, regulators and thermometers

Contact thermometers.



Part No.	Total length mm	Immersion length mm	Scale °C	Divisions °C
3521159	465	150	0 - 100	1/1
3522159	465	150	0 - 200	2/1
3523159	465	150	0 - 300	5/1



Digital thermometer "Sensoterm".  
Complete with Pt 1000 temperature probe.

### Features

The digital thermometer has several advantages over the contact thermometer: the probe is separate from the control unit, keeping the electronics away from steam or other corrosive vapours and has no mercury content that could be spilled if broken.

### Technical details

Temperature range - 50 to 300°C  
 Temperature probe 3.5 dia x 250 mm immersion length  
 Precision ± 1°C, ± 1 digit  
 Resolution 1°C  
 Temperature display LCD, display of 8 mm height  
 Ambient conditions 0 to 60°C, relative humidity 80%  
 Size ( HWD ) 130 x 71 x 24 mm (without temperature probe)

Part No. 1001009



Temperature controller "Electemp".

### Features

Digital temperature control, P.I.D. operation, controlled by a microprocessor that is configurable to the users requirements.  
 Temperature range from -150 °C up to 1300 °C.

Temperature sensor: thermo-resistance or thermocouple.

Functions: ON-OFF / P.I.D.

AUTOTUNNING. Automatically adjusts for the sample medium (Solid, liquid or air).

Part No.	Height/Width/Depth (exterior) cm			Max. Power (at 230V) W	Weight Kg
3000887	10.5	13.5	21	3100	1.250

Accessory

Probe Pt 100.  
Part No. 1000893

Probe K type.  
Part No. 1000895

## Fibroman-C-D-O mantle accessories: controllers and regulators



Energy controller "Enertron"

Interference free pulsed energy controller, from 4 to 100%

Connector at the back for a digital or contact thermometer.

Part No.	Height/Width/Depth (exterior) cm			Max. Power (at 230V) W	Weight Kg
3000886	10.5	13.5	21	2500	1.2



Linear Triac digital controller "Triac".

Controllable applied power from 10 % to 100 %, Setting by voltage or current (Model dependent).

Selector (Volts/Amps) (Model dependent).

Part No.	Height/Width/Depth (exterior) cm			Volts/Amps Selector	Max. Power W (at 230V)	Weight Kg
3000888	10.5	13.5	21	Yes	1200	1.3
3000889	10.5	13.5	21	Yes	3000	1.3
3000890	10.5	13.5	21	No	1200	1.2
3000891	10.5	13.5	21	No	3000	1.2



## Banks of heating mantles

### Features

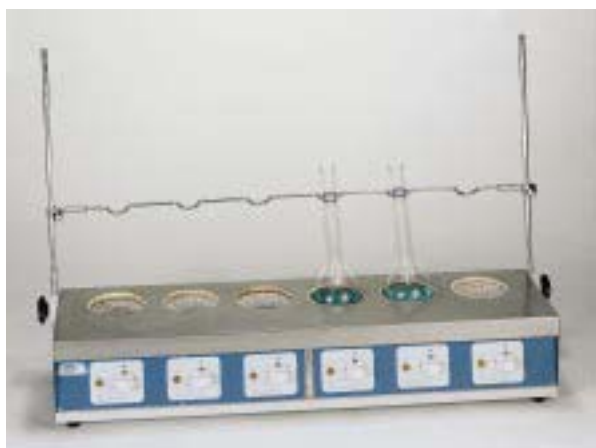
Independent heating control for each position.  
Height adjustable bar to support condensers or other glassware, etc.

External case made of AISI 304 stainless steel.  
Safety; An earth strip is woven into the mantle.

### Control Panel

Temperature control by the use of a pulsed energy regulator. An indicator lamp shows when the mantle is on.

**BANK OF HEATING MANTLES FOR KJELDAHL DIGESTIONS.**  
Adjustable mantle surface temperature up to 550 °C.



Part No.	Application	Capacity Flask ml	No. of pos.	H/W/D (exterior) cm			Power W	Wt Kg
6003294	Macro-Kjeldahl	300-500	4	18	76	25	1400	12
6003296	Macro-Kjeldahl	300-500	6	18	105	25	2100	16
6014204	Micro-Kjeldahl	100	4	16	59	21	600	9
6014206	Micro-Kjeldahl	100	6	16	81	21	900	12

**BANK OF HEATING MANTLES FOR EXTRACTION APPLICATIONS**  
Mantle surface temperature adjustable up to 450 °C.



Part No.	Capacity Flask	No. of places	H/W/D (exterior) cm			Power W	Wt Kg
6003284	500	4	18	76	25	1000	12
6003286	500	6	18	105	25	1500	16

### 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- Kjeldahl.



Borosilicate 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



## Heating Tapes

HEATING TAPE SURFACE TEMPERATURES UP TO 210 °C, CONFORMS TO THE VDE. EN 60335-A. STANDARD.



### Features

Heating elements distributed homogeneously between flexible moulded sheets of silicon.

### Applications

For heating small areas such as heating ducts, valves and pipes etc.

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, valves and pipes etc.

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

## Heating mats for large surface area heating

MAT SURFACE TEMPERATURES UP TO 210 °C. CONFORMS TO VDE. EN 60335-A STANDARD.



### Features

The heating element is insulated and distributed homogeneously between two sheets of flexible moulded silicon.

Heating Power: 0.39 W cm<sup>2</sup>.

Surface temperature up to 210 °C.

Held in place by spring fittings or adhesives.

### Applications

Heating applications: any type of surface heating from round to flat surfaces.

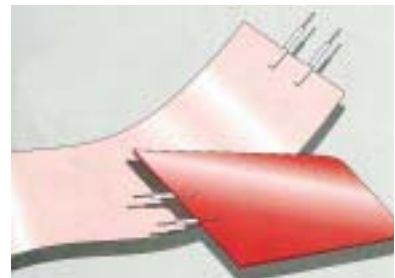
### Drum heaters

Suitable for drums up to 200 litres with a diameter of 60 cm.

Total: 3 bands of 171 cm in length x 15 cm wide.

Power consumption 3000 w.

**Part No.** 4000200



MADE TO MEASURE ACCORDING  
TO APPROVED PLANS

### Accessories

See regulators and controllers





## Heating Mantles

COOL EXTERIOR, WITH SAFETY EARTH SCREEN, CONTROLLED TO 450°C.

### Features

Polypropylene cool exterior case around a ceramic fibre moulded mantle. A safety earth screen protects the user and mantle against spills. Replaceable mantle. Retort mountable.



### Control Panel

A burst low spark controller controls the mantle. An indicator lamp shows when the mantle is heating up and is switched on.

### Safety

These mantles have a circulation of air around the base of the unit maintaining a cool exterior. The earth screen protects the user against shocks in the case that there is a spill. This screen also acts as a heat diffuser preventing bumping.

Model	Part No.	Capacity ml	H / W / D (exterior) cm	Power W	Wt. Kg
EM0 050 CE	5200050	50	13 18 26	60	1
EM0 100 CE	5200100	100	13 18 26	60	1
EM0 250 CE	5200250	250	13 18 26	150	1
EM0 500 CE	5200500	500	15 24 31	200	1,5
EM 1000 CE	5201000	1000	15 24 31	300	1,5
EM 2000 CE	5202000	2000	19 35 40	500	2,5
EM 3000 CE	5203000	3000	19 35 40	500	2,7
EM 5000 CE	5205000	5000	19 35 40	800	3

## Stirring Mantles

STIRRING MANTLES AUTO PICK MAGNETIC BAR PICK UP, REVERSIBLE ACTION, TEMPERATURE TO 450°C, 250 TO 2000ML

### Features

Polypropylene cool exterior case around a ceramic fibre moulded mantle. A safety earth screen protects the user and mantle against spills. Replaceable mantle. Reversible stirring action with speeds up to 520r.p.m. Switching stirring direction every 20 seconds. Minimum bumping. Retort mountable.



### Control

A burst low spark controller controls the mantle. An indicator lamp shows when the mantle is heating up and is switched on. The stir control is isolated at the bottom of the mantle.

### Safety

These mantles have a circulation of air around the base of the unit maintaining a cool exterior. The earth screen protects the users against shocks in the case that there is a spill. This screen also acts as a heat diffuser preventing bumping.

Models	Part No.	Capacity ml	H / W / D (exterior) cm	Heater / Motor Power W	Wt. Kg
EMA0 250 CE	5200253	250	15 18 26	150 20	2,3
EMA0 500 CE	5200503	500	16 24 31	200 20	3,3
EMA 1000 CE	5201003	1000	16 24 31	300 20	3,3
EMA 2000 CE	5202003	2000	20 35 40	500 20	6,7



## Funnel Mantle

SUITABLE FOR FUNNELS AND ACCOMMODATES SEVERAL FLASK SIZES. IN ONE MANTLE TEMPERATURE UP TO 450 °C. FROM 10 TO 5000 ml, FUNNELS UP TO 300 MM Ø

### Features

Polypropylene cool exterior case around a ceramic fibre moulded mantle.  
A safety earth screen protects the user and mantle against spills. Replaceable mantle.  
The screen is moulded into three flask sizes.  
A hole at the bottom of the mantle allows the use of funnels.  
Two heat zones.  
Retort mountable.



### Control Panel

A burst low spark controller controls the mantle.  
An indicator lamp shows when the mantle is heating up and is switched on.  
A single switch heats the whole mantle or the lower half depending on the flask or funnel size.

### Safety

These mantles have a circulation of air around the base of the unit maintaining a cool exterior.  
The earth screen protects the users against shocks in the case that there is a spill. This screen also acts as a heat diffuser preventing bumping. The double heat zone prevents substances being burned on the side of the flask.



Model	Part No.	Capacity ml	Ø int. mm	H / W / D (exterior) cm	Power W	Wt. Kg
EMV 50 CE	5200051	10- 25 - 50	18	13 18 26	72	1,2
EMV 250 CE	5200251	100 - 150 - 250	18	13 18 26	120+ 60	1,2
EMV 1000 CE	5201001	500 - 1000	33	15 24 31	240+220	1,5
EMV 5000 CE	5205001	2000 - 3000 - 5000	68	20 33 40	600+360	3,8

## Safety Screen Mantle

SUITABLE FOR RESINS AND SALTS. FOR TEMPERATURES UP TO 300 °C. FOR FLASKS OF 50 TO 1000 ML OR 500 TO 5000 ML AND FUNNELS OF 50 - 150 MM AND 100 - 300MM Ø.

### Features

Polypropylene cool exterior case around a ceramic fibre moulded mantle.  
A safety earth screen protects the user and



mantle against spills. Replaceable mantle.  
A solid shield replaces the earth screen mould.  
The shield is moulded into three flask sizes.  
A hole at the bottom of the mantle allows the use of funnels. Two heat zones.  
Retort mountable.

### Control panel

A burst low spark controller controls the mantle.  
An indicator lamp shows when the mantle is heating up and is switched on.  
A single switch heats the whole mantle or the lower half depending on the flask or funnel size.

### Safety

These mantles have a circulation of air around the base of the unit maintaining a cool exterior.  
The shield catches any drips on the mantle from burning substances such as resins or salts.  
This shields also acts as a heat diffuser preventing bumping.  
The double heat zone prevents substances being burned on the side of the flask.

Model	Part No.	Capacity ml	Ø interior mm	H / W / D (exterior) cm	Power W	Wt. Kg
EMX 1000 S-CE	5201002	50 - 1000	24	15 24 31	150 + 80	1,8
EMX 5000 S-CE	5205002	500 - 5000	58	20 33 40	400 + 200	4



## Universal mantle 3 in 1

EXTERNAL CONTROLLER, 3 SIZES IN ONE MANTLE. MAX TEMPERATURE 450°C

### Features

Aluminium cool exterior case around a ceramic fibre moulded mantle.  
A safety earth screen protects the user and



Model	Part No.	Capacity ml	Ø / H (exterior) cm	Power W	Wt. Kg
KST 1000 CE	5202510	250-500-1000	22 13	300	1,2

mantle against spills. Replaceable mantle.  
The screen is moulded into three flask sizes.  
Two heat zones.

### Control Panel

External burst, low spark, controller controls the mantle.  
An indicator lamp shows when the mantle is heating up and is switched on.  
A single switch heats the whole mantle or the lower half depending on the flask or funnel size.

### Safety

These mantles have a circulation of air around the base of the unit maintaining a cool exterior.  
The earth screen protects the users against shocks in the case that there is a spill. This screen also acts as a heat diffuser preventing bumping.  
The double heat zone prevents substances being burned on the side of the flask. Ideally suited for education

## Safety Mantle CM-135

LOW TEMPERATURE SECURITY MANTLE EUROPE CLASS 1 AREA 1 BELOW FUME HOOD CEI 31-8 & CEI 64-2  
CONSTRUCTION AND HEATING BELOW THE FLASH POINT OF THE SAMPLE WITH NO SPARK COMPONENTS.

### Features

Uses a heating element around a soft mantle. Spark free external controller.  
Pt100 monitors the temperature if it exceeds the set point, the mantle switches off.



### Control panel

A separate wall mounted spark free controller  
With safety cut-out. Digital setting of temperature and cut out temperature.

### Safety

Safety approval to EN50.014-50.018 (Eexd 11 B-T3)  
Used for volatile substances.  
Maximum temperature 250°C

Ordering information: Both mantle and control panel need to be ordered,  
Two mantles can be controlled from one controller.

Model	Part No.	Capacity ml	Power W	Control Part No.
CM 135-250	5210250	250	150	MC-91
CM 135-500	5210500	500	250	MC-91
CM 135-1000	5211000	1000	400	MC-91
CM 135-2000	5212000	2000	500	MC-91
CM 135-3000	5213000	3000	600	MC-91
CM 135-5000	5215000	5000	900	MC-93
CM 135-10000	5210000	10000	1600	MC-93
CM 135-20000	5220000	20000	2400	MC-93

Requires controller to be ordered separately. Part No. MC91 or MC93



## Hotplates

( See Shakers, Mixers and Stirrers for Hotplate Stirrers )



Summary table of different models

CIRCULAR WITH POWER CONTROL		dia. 12 cm	dia. 15 cm	dia. 19 cm
Up to 400 °C		1000718	1000442	1000443
Up to 250 °C	"SELECTEMP"		1000444	
CIRCULAR WITH DOUBLE PLATE WITH ENERGY REGULATOR				dia.19 cm
Up to 400 °C	"DUPLAC"			4000634
RECTANGULAR WITH ELECTRONIC CONTROL			20 x 40 cm	30 x 30 cm
Up to 400 °C	"COMBIPLAC"		3000156	3000718
CIRCULAR WITH ELECTRONIC CONTROL			dia. 12 cm	dia. 19 cm
Up to 400 °C	"COMBIPLAC"	3002301		3002302
RECTANGULAR WITH PRECISE CONTROL			24 x 24 cm	20 x 40 cm
25 x 60 cm				
Amb. + 5 °C up to 200 °C	"PLACTRONIC"	6155100	6156100	6157100
RECTANGULAR WITH HYDRAULIC THERMOSTAT				23 x 22 cm
Amb. + 5 °C up to 130 °C	"PLACFIN"			7000497
GLASS CERAMIC PLATE WITH ENERGY REGULATOR		dia. 20 cm	17 x 33 cm	30 x 30 cm
Up to 400 °C	"CERAMICPLAC"	3000919	3000920	3000921
BANK OF HOTPLATES WITH ENERGY REGULATOR			4 x dia. 12 cm	6 x dia. 12 cm
Up to 400 °C	"UNIPLAC"		6002314	6002316



## Hotplates-Circular

HOT PLATE TEMPERATURE UP TO 400 °C. 6 POSITION POWER CONTROLLER.

### Features

Cast steel plate with embedded heating elements throughout.  
Fast ramp rate to set temperature when using maximum power.

Enamelled outer casing that is resistant to high temperatures and corrosive agents.

### Control Panel

6 position power regulator.

Part No.	Plate dia. cm	Height/Width/Depth (exterior) cm	Power W	Weight Kg
1000718	12	8 20 20	1000	2.1
1000442	15	8 22 22	1500	3
1000443	19	8 26 26	2000	4.5



## Hotplate - Circular 'Selectemp'

ADJUSTABLE TEMPERATURE FROM 45 °C UP TO 250°C. STABILITY  $\pm 2$  °C.

### Features

Temperature control using a thermostat located in the center of the plate.  
Non warping steel plate with embedded heating element throughout the plate surface.  
Enamelled outer casing, resistant to high temperatures and corrosive agents with a top surface of AISI 304 stainless steel.

### Control panel

Hydraulic thermostat temperature control synchronised with an indicator lamp.

### Accessories

Circular sand, oil or water bath made of AISI304 stainless steel, suitable for the "Selectemp" hotplate. Dimensions 200 mm dia x 115 mm high. Comes complete with a lid with concentric reduction rings.

Part No. 7000008



Part No.	Plate dia. cm	H/W/D (exterior) cm	Power W	Wt Kg
1000444	15	6 30 22	1500	3



## Hotplate -double- circular 'Duplac'

FOR PLATE TEMPERATURES UP TO 400 °C.

### Features

Double 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 being epoxy covered steel.

### Control Panel

Two energy regulators synchronised with indicator lamps when in operation.

Part No.	Plate dia. cm	H/W/D (exterior) cm	Power W	Wt Kg
4000634	19	15 47 24	850	8.5





## Hotplate- Rectangular ‘Combiplac’

PLATE TEMPERAURE ADJUSTABLE UP TO 400 °C.

### Features

Electronic energy control. The non warp steel hotplate has heating elements embedded throughout the hotplate surface maintaining an even heat distribution.

The main case is made of AISI 304 stainless steel.

### Control panel

Main power switch with luminous “ON” indicator lamp. Electronic energy control from 0 to 100 %. An indicator lamp shows when the unit is in operation.

A connector at the back of the unit permits the use of a contact or digital thermometer, alternatively when more accurate temperature control is required a “Sensoterm” or “Electrotemp” digital electronic controller can be used.



Part No.	Plate Dims. Width/Depth cm	Height/Width/Depth (exterior) cm	Power W	Weight Kg
3000156	20 40	12 22 55	2000	9
3000718	30 30	13 33 46	2500	13

### Accessories

Sand bath adapters.

Made entirely of AISI 310 stainless steel, removable for easy cleaning

Part No.	Hotplate Part No.	H/W/D (Sand tray Dims.) cm
6000719	3000156	5.5 20 40
6000720	3000718	5.5 31 31



## Hotplate-Circular ‘Combiplac’

PLATE TEMPERATURE ADJUSTABLE TO 400 °C

### Features

Electronic energy controller with embedded heating element throughout the non warping steel hotplate surface.

A retort bar can be located on to the unit. The main case is made of AISI 304 stainless steel.

### Control Panel

Main power switch with a luminous “ON” indicator. Temperature controlled by a 0 - 100% energy controller. An indicator lamp operates when the hot plate is on. A connector at the back of the unit permits the addition of a contact or digital thermometer. If better temperature control is required the “Sensoterm” or “Electrotemp” can be added.



Part No.	Plate dia. cm	Height/Width/Depth (exterior) cm	Power W	Weight Kg
3002301	12	10 16 27	500	2
3002302	19	13 21 30	875	3



## Accessories for the hotplate range 'Combiplac'

12 cm diameter hotplate only Part No. 3002301.



Bath of AISI 304 stainless steel of 140 mm dia. 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 500 a 800 ml and round bottom flasks of 250 to 750 ml.  
**Part No. 1002280**



Round bottom flask adapter made of aluminium and suitable for Kjeldahl flasks of 30 to 250 ml and 50 to 250 ml round bottom flasks.  
**Part No. 1002290**

Support rod of 120 to 500 mm high, adaptable to the main body of the hotplate. Suitable for the Circular Combiplacs only.  
**Part No. 1000725**

Contact thermometers.



Features

Adjustable temperature using lockable rotary magnet dial on the top.  
An inert gas is sealed within the internal capillary of the thermometer.  
Comes complete with connection cable.

Part No.	Total length mm	Immersion stem length mm	Range °C	Division Scale
3521159	465	150	0 - 100	1/1
3522159	465	150	0 - 200	2/1
3523159	465	150	0 - 300	5/1



Digital thermometer "Sensoterm".  
With a AISI 304 stainless steel Pt 1000 probe.

Features

Advantages include a separate Pt 1000 probe maintaining the main body away from steam and other vapours. Safer than a contact thermometer eliminating the risk of broken glass or risk of mercury spillage.

Technical data

Temperature range: from -40 °C to + 270 °C  
Temperature probe: 3.5 mm dia. x 250 mm immersion.  
Precision: ±1 °C.  
Resolution: 1 °C.  
Temperature Display: 8 mm high LCD display.  
Ambient working range: 0 a 60 °C and a relative humidity of 80 %.  
Dimensions: 130 x 71 x 24 mm. (Main body only)

**Part No. 1001009**



PID electronic temp. controller "Electemp".

Features

Microprocessor digital control of temperature and PID settings, suitable for a variety of applications. Temperature range from -150 °C to 1300 °C

Thermo- resistance temperature probe.

Functions ON-OFF/P.I.D. AUTOTUNNING.  
Adjusts automatically for working medium (solids, liquids and air).

Part No.	Height/Width/Depth (exterior) cm	Max. Power load (at 230 v) W	Weight Kg
3000887	10.5 - 13.5 - 21	3100	1.250
<b>Accessories</b>	Probe Pt 100 <b>Part No. 1000893</b>	K type probe <b>Part No. 1000895</b>	

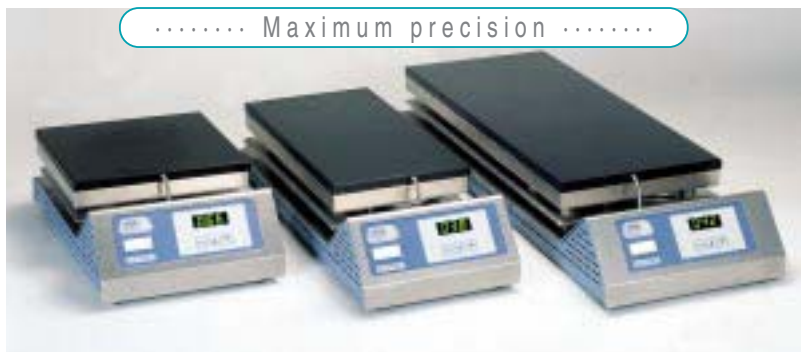


## Rectangular precision hotplate 'Plactronic'

ADJUSTABLE TEMPERATURES FROM AMBIENT+5 UP TO 200 °C STABILITY  $\pm 0.5$  °C.  
 WITH ELECTRONIC DIGITAL CONTROL AND DISPLAY. FOR THERMAL TESTS (NOT SUITABLE FOR BOILING).  
 SURFACE PLATE COATED WITH PROTECTIVE TEFLON AGAINST CORROSION FROM CHEMICAL AGENTS.

### Features

Electronic digital temperature control and display (3 digits).  
 Display resolution: 1°C  
 Temperature probe Pt 100.  
 DUR aluminium alloy hotplate coated with Teflon, with heating elements embedded in the plate surface. Main case and element protective grill made of AISI 304 stainless steel distributed evenly throughout the plate.  
 Suitable for slide mounting.



### Control Panel

- Mains power switch.
- Digital temperature display.
- Push button temperature selection and control.

Part No.	Width/Depth Hotplate		Height/Width/Depth cm (external)			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 TEMPERATURE ON THE HOT PLATE FROM AMBIENT +5 °C UP TO 130 °C. STABILITY 3 °C.  
 SUITABLE FOR THERMAL TEST ( BUT NOT BOILING AND SLIDE DRYING.)

### Features

Temperature regulation by a hydraulic thermostat.  
 Mercury thermometer from 0 °C to 130 °C.  
 Hotplate surface protected by chemically treated aluminium, with heating elements evenly distributed throughout the hotplate surface.  
 Enamelled external case with a AISI 304 stainless steel top.

### Control Panel

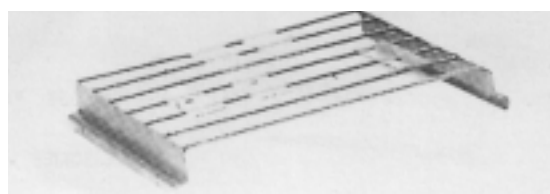
Hydraulic thermostat control synchronised with a indicator lamp when functioning.



### Accessory

Slide support adapter made of AISI 304 stainless steel  
 Capacity: up to 18 slide of 76 x 25 mm (in a horizontal position.)  
**Part No. 7000498**

Part No.	Width/Depth (hot plate) cm		Height/Width/Depth (exterior) cm			Power W	Wt Kg
7000497	23	22	8	22	30	400	3.7







## Ceramic top hotplates 'Ceramic-plac'

ADJUSTABLE TEMPERATURE UP TO 400 °C.

..... Excellent resistance to chemicals .....

..... Unaffected by thermal shock .....



Part No. 3000920

Part No. 3000919

Part No. 3000921

### Features and advantages

The "CERAMIC-PLAC" has the following features and advantages:

- Flat, smooth surface.
- Not affected by thermal shocks.
- Short heating time to the set temperature.
- 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. (Part No. 3000919 and 3000920).
- Hydraulic thermostat temperature control up to 400 °C (Part No. 3000921).

### Safety

- Conforms to the EN 61010 standard. Over temperature cut-out incorporated.

Part No.	Heat zones	Hot surface Area dia./ area cm	Height/Width/Depth (exterior) cm	Power W	Weight Kg	Temp. Control System
3000919	1	18 Ø	10 28 33	1700	5.5	Energy regulator
3000920	2	14 Ø + 14 x 14	10 27 47	2000	7.5	Energy regulator one per zone
3000921	1	30 x 30	10 42 47	3500	11	Hydraulic Thermostat



## HEATING AND COOLING DRY BLOCKS 'TEM BLOC' & 'BIOCOLD'

ELECTRONIC TEMPERATURE CONTROL WITH DIGITAL DISPLAY. ADJUSTABLE TEMPERATURE FROM 30 °C UP TO 200 °C. PELTIER COOLED BLOCK -15° TO 50 °C SELECTION OF BLOCKS FOR A VARIETY OF TUBE SIZES.

....Accurate and precise with no cross contamination ....

### Applications

Suitable for clinical, biochemistry and chemistry applications.  
Incubation of D.N.A., enzyme tests, test residues in milk, incubation and fusion of AGAR, cell culture, combinatorial chemistry.  
Thermoregulation, drying, boiling, evaporation, concentration, hydrolysis, digestion and incubation, etc.

### 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.  
Heating elements are distributed evenly across the contact surface

maintaining an even distribution of heat.  
Easy to use electronic temperature control with a digital display (3 Digits).  
Built in temperature probe 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

Mains power switch with indicator "On" lamp.  
Digital temperature display.  
Push button control for increasing / decreasing the set temperature.

## Biocold Cooling and Heating Dry Block

Applications  
Incubation of biological samples at low temperatures.  
Cell culture.  
Enzymatic tests using below ambient temperatures.  
Sample preservation.

### Features

Inert Teflon coated chamber.  
Teflon Lid, prevents heat loss and ice formation.  
To maintain the set temperature the unit must be used with the lid, maximum tube length 100 mm.  
Exterior case of steel covered with an epoxy coating with a top surface of AISI 304 stainless steel.



Biocold - Part No 3001030



Temblock comes complete with thermometer 0-200 °C and block extractor rod.

### Accessories

Metallic Blocks of 105 dia. x 55 mm high.  
**Part No.**  
7000346 For 34 tubes x 6mm dia.  
7000714 For 18 Eppendorf tubes of 1.5 ml.  
7001224 For 24 tubes x 12 mm dia.  
7001618 For 18 tubes x 16 mm dia.  
7000208 For 8 tubes x 20 mm dia.  
7000256 For 6 tubes x 25 mm dia.  
7000715 Customised blocks on demand.

Blocks need to be ordered separately.

Model	Part No.	Temp. °C	Stability °C	Homogeneity %	Set error %	Resolution °C	H / W / D (external) cm	Power W	Wt Kg
Temblock	7462200	30 - 200	± 0.75	± 1.5	± 2	1	11 19 29	350	3.7
Biocold	3001030	-15 +50	± 0.5	± 0.5	± 0.5	0.1	24 24 33	130	13



## Melting Point IA9100, IA9200 and IA9400

MODEL IA-9100 & IA-9200 TEMPERATURE UP TO 400 °C.

MODEL IA-9400 (PELTIER COOLED) TEMPERATURES FROM 0 °C TO 80 °C.

### Features

Small oven mounted on an adjustable arm for optimal positioning, view sample through x 8 eyepiece.

Internal light 12 V / 2,2 W.

Digital 12 mm temperature display.

Holder for 100 capillary tubes.

Printer computer interface RS 232 Models IA-9200 & IA-9400.

IA-9100 & IA-9200 melting point from 45 to 400 °C capacity 3 tubes 1.5 to 2mm dia.

IA-9400 (cooled) For viewing samples on a slide with adjustable temperature from 0°C to 80 °C

Models IA9200 and IA9400 with variable ramp rate and memory.

### Applications

Test & control for testing the purity of drugs, raw chemicals and QC processes.



Model	IA-9100	IA-9200	IA-9400
Part No.	5609100	5609200	5609400
Capillary tube 1.5 or 2 mm Ø	3 tubes	3 tubes	-
Slide	-	-	1 slide
Memory points during analysis	4	4	4
Sample result memory with batch no.	-	1000	200
Ramped temperature	2 ramps: 1 x 1 °C/min. 1 x 10 °C/min. set value ramp	6 ramp: 5 set value and 1 user set. 0,2 °C to 10 °C/min. in steps of 0,1 °C	
Temperature range	45 to 400 °C	45 to 400 °C	0 to 80 °C at 30 °C ambient
Digital temperature range	Ambient to 400 °C	Ambient to 400 °C	-10 °C to +100 °C
Temperature readability	0,1 °C	0,1 °C	0,1 °C
Accuracy at 23 °C	1 °C/min. with 2 mm Ø capillary: ±0,5 °C ±0,5 °C at 20 °C. ±1 °C at 350 °C ±1 digit		
Power / Weight	45 W / 2,5 Kg	45 W / 2,5 Kg	30 W / 2,7 Kg
Height extended and closed W x D cm	85/45 x 20 x 35	85/45 x 20 x 35	11/45 x 20 x 42
Interface RS-232	-	Yes	Yes

### Accessories

Printer PR-2000B\* with cable.

Print out of: date, time, batch number, Start

temp., ramp rate and melting point.

Suitable for IA-9200 & IA-9400.

**Part No.** 5602000

Capillary tube 1,5 mm Ø.

Box of 1000.

**Part No.** 5600150

Capillary tubes 2 mm Ø.

Box of 1000

**Part No.** 5600200

Slides with cavity

76 x 26 x 1,5 mm. 10 slides

**Part No.** 5600300

Slides

76 x 26 x 1,5 mm. 72 slides.

**Part No.** 5600400