### STIRRERS, SHAKERS AND HOMOGENIZERS

**Magnetic stirrers**

**Rotator, tilting and vortex mixer shakers**

**Rocking Mixer shakers**

**Orbital and linear motion shakers**

**Overhead stirrer**

**Orbital shaker incubators**

**Ultrasonic homogenizer**

**Grinding and mixer homogeneizer**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetic stirrers</td>
<td>27 to 34</td>
</tr>
<tr>
<td>Rotator, tilting and vortex mixer shakers</td>
<td>35</td>
</tr>
<tr>
<td>Rocking Mixer shakers</td>
<td>36</td>
</tr>
<tr>
<td>Orbital and linear motion shakers</td>
<td>37 to 40</td>
</tr>
<tr>
<td>Overhead stirrer</td>
<td>41</td>
</tr>
<tr>
<td>Orbital shaker incubators</td>
<td>42 to 43</td>
</tr>
<tr>
<td>Ultrasonic homogenizer</td>
<td>44</td>
</tr>
<tr>
<td>Grinding and mixer homogeneizer</td>
<td>45</td>
</tr>
</tbody>
</table>

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_I never did anything worth doing by accident, nor did any of my inventions come by accident; they came by work._

*Thomas Edison*
## Stirrers & Shakers

### Stirrer and shaker summary table

#### MAGNETICS

<table>
<thead>
<tr>
<th>Stirring</th>
<th>Single Direction</th>
<th>Part No.</th>
<th>Controller</th>
<th>Volume max. litres</th>
<th>Heater</th>
<th>Controller</th>
<th>Range temperature °C</th>
<th>Range r.p.m.</th>
<th>Rapid Plate Ø cm</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AGIMIN</strong></td>
<td>7001731</td>
<td>Electronic</td>
<td>1</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>40 / 2000</td>
<td>ABS 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGIMICRO</strong></td>
<td>7001638</td>
<td>Analogue</td>
<td>2</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>40 / 1700</td>
<td>ABS 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGIMATIC-S</strong></td>
<td>7000242</td>
<td>Analogue</td>
<td>10</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>60 / 1600</td>
<td>INOX 14.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGIMATIC-N</strong></td>
<td>7000243</td>
<td>Analogue</td>
<td>10</td>
<td>Yes</td>
<td>Electronic/Energy</td>
<td>350</td>
<td>60 / 1600</td>
<td>INOX 14.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGIMATIC-E</strong></td>
<td>7002431</td>
<td>Analogue</td>
<td>10</td>
<td>Yes</td>
<td>Electronic/Temperature</td>
<td>350</td>
<td>60 / 1600</td>
<td>INOX 14.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGIMAN</strong></td>
<td>7000446</td>
<td>Analogue</td>
<td>2</td>
<td>Yes</td>
<td>Electronic/Energy</td>
<td>350</td>
<td>60 / 1600</td>
<td>For Heating Mantle</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGIMATIC-ED</strong></td>
<td>7001511</td>
<td>Digital</td>
<td>10</td>
<td>Yes</td>
<td>Electronic/Temperature</td>
<td>350</td>
<td>60 / 1600</td>
<td>INOX 14.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGIMATIC-ED-C</strong></td>
<td>7001609</td>
<td>Digital</td>
<td>10</td>
<td>Yes</td>
<td>Electronic/Temperature</td>
<td>350</td>
<td>60 / 1600</td>
<td>CERAMICS 14,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGIMATIC-ED-C</strong></td>
<td>7001609</td>
<td>Digital</td>
<td>25</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>50 / 980</td>
<td>INOX 28 x 34</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGIMATIC-HL</strong></td>
<td>7001006</td>
<td>Digital</td>
<td>60</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>50 / 980</td>
<td>INOX 44 x 38</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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    | 50 / 1500 | INOX 14.5          |              |                  |          |
| **AGIMATIC REV-TFT-C** | 7000838 | TFT touch screen | 10         | Yes              | Electronic/Temperature | 350    | 50 / 1500 | CERAMICS 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

<table>
<thead>
<tr>
<th>Tube Mixers</th>
<th>Part No.</th>
<th>Vol. max. litres</th>
<th>Heaters</th>
<th>Range r.p.m.</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ORBIT</strong></td>
<td>3000445</td>
<td>5 x 0.25</td>
<td>No</td>
<td>12</td>
<td>See Tube Selection</td>
</tr>
<tr>
<td><strong>MOVIL ROD</strong></td>
<td>7001723</td>
<td>-</td>
<td>No</td>
<td>10 / 80</td>
<td>35 mm Ø max.</td>
</tr>
<tr>
<td><strong>MOVIL TUB</strong></td>
<td>7000913</td>
<td>-</td>
<td>No</td>
<td>15</td>
<td>12 Tubes</td>
</tr>
<tr>
<td><strong>VORTEX-VIB</strong></td>
<td>7001725</td>
<td>-</td>
<td>No</td>
<td>2800</td>
<td>See Tube Selection</td>
</tr>
</tbody>
</table>

### VIBRATING SHAKER

<table>
<thead>
<tr>
<th>Oscillating</th>
<th>Part No.</th>
<th>Max. Load</th>
<th>Heater</th>
<th>Capacity</th>
<th>Oscil. min.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VIBROMATIC</strong></td>
<td>7000384</td>
<td>4 Kg</td>
<td>No</td>
<td>8 flasks of 50 mm Ø max. (optional + Erlenmeyer 250 ml)</td>
<td>100 / 950</td>
</tr>
</tbody>
</table>

### ORBITAL TO - FRO SHAKERS

<table>
<thead>
<tr>
<th>To &amp; Fro &amp; orbital movement</th>
<th>Part No.</th>
<th>Heater</th>
<th>Range Type</th>
<th>Temperature °C</th>
<th>Range r.p.m.</th>
<th>Platforms cm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROTATERM</strong></td>
<td>3000435</td>
<td>Yes</td>
<td>Electronic/Digital</td>
<td>...250</td>
<td>20/230</td>
<td>41x31</td>
</tr>
<tr>
<td><strong>ROTABIT</strong></td>
<td>3000974</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>20/230</td>
<td>According to accessories</td>
</tr>
</tbody>
</table>

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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.


Ultrasonic homogeneizers “CY-500”.

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**Quick Overview**

- **STIRRERS & SHAKERS**
- **26**

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**COMEC**

**IYMEN**
MAGNETIC STIRRERS

A new generation of stirrer for the most exacting work

**Magnetic Stirrer “Agimin” without heating**

MICROPROCESSOR CONTROLLED, ELECTRONIC CONTROL, PORTABLE.

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

**CONTROL PANEL**
- Luminous On/Off push button.
- Mains switch with luminous “on” indicator.
- Analogue control of speed in r.p.m.

**MODEL**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height cm</th>
<th>Ø cm</th>
<th>Depth cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>7001005</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>0.9</td>
<td>0.35</td>
</tr>
</tbody>
</table>

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

**Magnetic Stirrer “Agimicro” without heating**

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

**CONTROL PANEL**
- Luminous On/Off push button.
- Mains switch with luminous “on” indicator.
- Analogue control of speed in r.p.m.

**MODEL**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height cm</th>
<th>Ø Plate cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>7001638</td>
<td>5</td>
<td>12</td>
<td>2</td>
<td>0.5</td>
</tr>
</tbody>
</table>

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

**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.

**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**
- Mains switch with a luminous “on” indicator.
- Electronic speed control.
- Digital speed display in r.p.m.

**MODEL**

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

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.

**COMMENTS**

AGIMATIC-HL comes complete with support bar and clamp (1 of 13 and 2 of 16 mm Ø). Used with pH and conductivity meters.

Part No. 7001639
**Magnetic Stirrers “Agimatic” and “Agiman”**

**A new generation design of stirrers at the forefront of technology**

**COMMON FEATURES**

Unique functional design, with epoxy covered alloy case. Choice of stainless steel or ceramic top plate (model dependent). An internal case acts as a spill guard and insulator, made from AISI304 stainless steel. Tilted control panel for easy viewing with splash protection. Location hole at the back for a retort support rod, supplied as an accessory. Electronic speed control from 60 to 1600 r.p.m. and from 50 to 1500 r.p.m. for models “Agimatic Rev” with constant speed irrespective of liquid viscosity. Easy to service and to replace modular electronics. All heated models have a connection at the back to connect an electronic contact thermometer “Sensoterm II”, electronic controller “Electemp-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**

- Electronic contact thermometer “Sensoterm II”
- Electronic temperature regulator “Electemp-TFT”
- Temperature sensor Pt100

**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.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Part No.</th>
<th>Maximum stir volume litres</th>
<th>Height/width/Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGIMATIC-S</td>
<td>7000242</td>
<td>up to 10</td>
<td>14.5 19 26</td>
<td>550</td>
<td>3.5</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Maximum stir volume litres</th>
<th>Height/width/Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGIMATIC-N 7000243</td>
<td>up to 10</td>
<td>14,5 19 26</td>
<td>550</td>
<td>3,5</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Maximum stir volume litres</th>
<th>Height/width/Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGIMATIC-E 7002431</td>
<td>up to 10</td>
<td>14,5 19 26</td>
<td>550</td>
<td>3,5</td>
</tr>
</tbody>
</table>

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”.

MODEL

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Maximum stir volume litres</th>
<th>Height/width/Depth (exterior) cm</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGIMAN 7000446</td>
<td>up to 2</td>
<td>14,5 19 26</td>
<td>3,5</td>
</tr>
</tbody>
</table>

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

ACCESSORIES
Attachable heating mantle for the “Agiman” magnetic stirrer.
Part No. Capacity flask ml
3000447 250
3000448 500
3000449 1000
3000450 2000

Complements for Agimatic-S-N-E and Agiman. See accessories on page 34 and 35.
Magnetic Stirrers “Agimatic-ED” and “Agimatic-ED-C” digital control

FOR SPEEDS FROM 60 TO 1600 RPM.
FOR ADJUSTABLE TEMPERATURES FROM 50 °C TO 350 °C. 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
<table>
<thead>
<tr>
<th>Part No.</th>
<th>Maximum stir volume litres</th>
<th>Height/width/Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGIMATIC-ED 7001511</td>
<td>up to 10</td>
<td>14,5 19 26</td>
<td>550</td>
<td>3,5</td>
</tr>
</tbody>
</table>

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 Step-Start
Precision ±2 °C.

MODEL
<table>
<thead>
<tr>
<th>Part No.</th>
<th>Maximum stir volume litres</th>
<th>Height/width/Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGIMATIC-ED-C 7001609</td>
<td>up to 10</td>
<td>14,5 19 26</td>
<td>550</td>
<td>3,5</td>
</tr>
</tbody>
</table>

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

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

Complements for Agimatic-ED and Agimatic ED-C.
See accessories on pages 34 and 35.
Reversible magnetic Stirrers “Agimatic-Rev-TFT” and “Agimatic-Rev-TFT-C”

FOR SPEEDS FROM 100 TO 1500 rpm.
FOR ADJUSTABLE TEMPERATURES FROM 30 ºC TO 350 ºC. PRECISION ±2 ºC.
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 SEGMENTS WITH TEMPERATURE PROGRAMMING, RPM AND TIME.
REAL TIME GRAPHICAL REPRESENTATION OF AUTOMATIC CYCLES.

“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.
7. Increase/decrease parameters value.
8. Cursor.

MODEL

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

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.
7. Increase/decrease parameters value.
8. Cursor.

MODEL

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

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

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

**Stirrers “Multimatic” 5-S and 9-S without heating**
FOR 5 AND 9 POSITIONS.

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

**MODELS**

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

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

**APPLICATIONS**
Specially recommended for bio-pharmaceutical diagnostic assays.

**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 Thermostats and immersions (page 98).

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity litres</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1001007</td>
<td>14</td>
<td>16 29 35</td>
<td>4</td>
</tr>
</tbody>
</table>

**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**

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

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

Stir-bars followers for magnetic stirrers.
Encased in PTFE with pivot ring, temperature resistant to +275 °C.
Part No.  
1000099 6 Ø x 10 mm long. without pivot ring.
1000112 4 Ø x 12 mm long. without pivot ring.
1000119 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 8 x32 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

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 “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.

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 8 x32 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

Stirrers & Shakers 33

Stir-bar retriever. 
Flexible, encased in PTFE. 
Part No. 1000020 Length: 280 mm.
**Accessories for Magnetic Stirrers and Hotplate Stirrers**

**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 Pt100 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).
Part No. 3000897

**Temperature controller Electemp-TFT.**

**FEATURES:**
Temperature range: -150 °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 Pt100 /±1 °C K Type probe.
Operation: ON-OFF/P.I.D.
AUTOTUNING. Adapts automatically to the working medium (Solid, liquid or gas.)
Dimensions: 10.5 high x 13.5 wide x 21cm deep.
Maximum power (at 230 V): 3100 W.
Weight: 1.250 Kg

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

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

**Temperature sensor Pt100.** Controls the sample temperature in the digital hotplate stirrers:
Part Nos: 7001511, 7001609, 7000837 and 7000838.
Immersion Probe: 4mm Ø x 130 mm long.
Cable connector 150 cm long.

**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.

**ACCESSORIES:**
Adapters for round flasks of 250, 500 and 1000 ml.
Part No. 1001009

**Temperature sensor Pt100.** Controls the sample temperature in the digital hotplate stirrers:
Part Nos: 7001511, 7001609, 7000837 and 7000838.
Immersion Probe: 4mm Ø x 130 mm long.
Cable connector 150 cm long.

**Identification ICON**
Part No. 1001610 for 7001511 and 7001609.
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**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Speed r.p.m.</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000445</td>
<td>Fixed 12</td>
<td>19 23 20 15 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ACCESSORIES**
Erlenmeyer flask adapters, clips made from stainless steel.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000850</td>
<td>8 x 50 ml Erlenmeyer flasks.</td>
</tr>
<tr>
<td>3006100</td>
<td>6 x 100ml Erlenmeyer flasks.</td>
</tr>
<tr>
<td>3005250</td>
<td>5 x 250ml Erlenmeyer flasks.</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Tube capacity Ø / length mm</th>
<th>Speed r.p.m.</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Tilt angle</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>7000913</td>
<td>12 20 160 15 12 20 25°</td>
<td>6</td>
<td>2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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**

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

Mix shaker for tubes “Vortex-Vib”

**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**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Frequency r.p.m.</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>7001725</td>
<td>2800</td>
<td>120 170 170</td>
<td>50</td>
<td>4</td>
</tr>
</tbody>
</table>
**Rocking Mixer “Vibromatic”**

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

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**Optimum shaking frequency: 950 oscillations per minute**

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**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**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Oscillations p.m.</th>
<th>Maximum capacity Kg</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>7000384</td>
<td>100 - 950</td>
<td>4</td>
<td>23 77 27</td>
<td>34</td>
<td>11</td>
</tr>
</tbody>
</table>

---

**ADAPTORS FOR ERLENMEYER FLASKS**

Made from tempered stainless steel.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Adapter for</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000103</td>
<td>50 ml</td>
<td></td>
</tr>
<tr>
<td>1000978</td>
<td>100 ml</td>
<td></td>
</tr>
<tr>
<td>1000979</td>
<td>250 ml</td>
<td></td>
</tr>
<tr>
<td>1000980</td>
<td>500 ml</td>
<td></td>
</tr>
<tr>
<td>1000981</td>
<td>1000 ml</td>
<td></td>
</tr>
</tbody>
</table>

---

**ACCESSORIES**

Platform support for Erlenmeyer flasks. made from AISI 304 stainless steel with clip adapter position holes for 50 ml to 1000 ml flasks. Platform dimensions: 38 cm long x 19 cm wide.

Weight: 2 Kg.

Platform capacity:

- 18 Erlenmeyer flasks of 50 ml.
- 12 Erlenmeyer flasks of 100 ml.
- 8 Erlenmeyer flasks of 250 ml.
- 6 Erlenmeyer flasks of 500 ml.
- 3 Erlenmeyer flasks of 1000 ml.

Part No. 3001221

---

**ADAPTORS FOR ERLENMEYER FLASKS**

Made from tempered stainless steel.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Adapter for</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000103</td>
<td>50 ml</td>
<td></td>
</tr>
<tr>
<td>1000978</td>
<td>100 ml</td>
<td></td>
</tr>
<tr>
<td>1000979</td>
<td>250 ml</td>
<td></td>
</tr>
<tr>
<td>1000980</td>
<td>500 ml</td>
<td></td>
</tr>
<tr>
<td>1000981</td>
<td>1000 ml</td>
<td></td>
</tr>
</tbody>
</table>

---

**2 in 1. Platform support for Erlenmeyer flasks.**

Model Vibromatic with adapter platform.
Orbital shaker “AG-200”, “AG-200-A”, “AG-200-B”
ELECTRONIC DIGITAL CONTROL OF SPEED AND RUN-TIME

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: Alt. 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

Shaker for Petri plates “AG-200”

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

Shaker for bottles “AG-200-A”

Incubator for Petri capsules. See page: 154
Orbital and linear motion shaker “Rotaterm”

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

2 in 1 System suitable for orbital or linear motion

FEATURES

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

CONTROL PANEL

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

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

MODEL

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Platform</th>
<th>Width / Depth (platform) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000435</td>
<td>Spring clip</td>
<td>41</td>
<td>31</td>
<td>30</td>
<td>46</td>
</tr>
</tbody>
</table>

Diagram of Temperature Vs Time.
For 500ml Erlenmeyer flasks.
A. Plate to 250 °C: Silicon 150 °C.
B. Plate to 200 °C: H2O 97 °C.
C. Plate to 150 °C: H2O 82 °C.
D. Plate to 100 °C: H2O 61 °C.
E. Plate to 50 °C: H2O 37 °C.
**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.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000975</td>
<td>9 42 35</td>
<td>5</td>
</tr>
<tr>
<td>3000976</td>
<td>9 70 35</td>
<td>7</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>For platform number</th>
<th>Width / Depth (platform) cm</th>
<th>Capacity, No. of positions</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000977</td>
<td>3000975</td>
<td>40 34</td>
<td>50 ml 250 ml 500 ml 1000 ml</td>
<td>1.5</td>
</tr>
<tr>
<td>3001010</td>
<td>3000976</td>
<td>69 34</td>
<td>66 45 21 18 10</td>
<td>2.2</td>
</tr>
</tbody>
</table>

**Erlenmeyer flasks spring clips.**

Made with tempered stainless steel.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Adapter for ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>1001003</td>
<td>50 ml</td>
</tr>
<tr>
<td>1000978</td>
<td>100 ml</td>
</tr>
<tr>
<td>1000979</td>
<td>250 ml</td>
</tr>
<tr>
<td>1000980</td>
<td>500 ml</td>
</tr>
<tr>
<td>1000981</td>
<td>1000 ml</td>
</tr>
</tbody>
</table>

**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.

**MODEL**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Control oscillations p.m.</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Power W</th>
<th>Load capacity Kg</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000974</td>
<td>20 - 230</td>
<td>20 42 43</td>
<td>80</td>
<td>30</td>
<td>13.5</td>
</tr>
</tbody>
</table>

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

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

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 through 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.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height / Width / Depth (interior) cm</th>
<th>Height / Width / Depth (exterior) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000957</td>
<td>50 47 47</td>
<td>61 51 51</td>
<td>220</td>
<td>11</td>
</tr>
</tbody>
</table>

See incubator section for more details (page 134).

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.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Width / Depth (platform) cm</th>
<th>Total combined height cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>3001011</td>
<td>55</td>
<td>40</td>
</tr>
</tbody>
</table>

Flow diagram of the selection of accessories for the “Rotabit” To & Fro Orbital Shaker

SUITABLE FOR ERLENMEYER

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Part No.</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 ml</td>
<td>1001003</td>
<td>36</td>
<td>48</td>
</tr>
<tr>
<td>100 ml</td>
<td>1000978</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>250 ml</td>
<td>1000979</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>500 ml</td>
<td>1000980</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>1000 ml</td>
<td>1000981</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>
**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 aggressive vapours.

Thermal protection for overheating with auto power off and LED indicator.

Height adjustable stirring rod.

**Features**

Excellent blending results in an accurate and repeatable control.

Stirring by electronic control of speed, from 60 to 1500 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 100,000 mPas**.

Speed digital reading and pre-selection (rpm).

Adaptable spindle to stirring rods up to 9.5 mm Ø.

**Model**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height/Width/Depth (external) cm</th>
<th>Power W</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>7000385</td>
<td>17,5 7,5 13,5</td>
<td>100</td>
<td>2,8</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Height / Width / Depth (external) cm</th>
<th>Lift cm</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>6000412</td>
<td>74 41 42</td>
<td>25,5</td>
<td>12</td>
</tr>
</tbody>
</table>

**Overhead stirrer accessories**

**Stirring shafts with rotors**

Shaft with AISI 304 stainless steel rotor. Shaft: 7mm Ø.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Rotor Ø mm</th>
<th>Shaft Ø mm</th>
<th>Total length mm</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>6002891</td>
<td>1</td>
<td>90</td>
<td>400</td>
<td>Double fly vane</td>
</tr>
<tr>
<td>6002892</td>
<td>2</td>
<td>60</td>
<td>400</td>
<td>Fly vane</td>
</tr>
<tr>
<td>6002893</td>
<td>3</td>
<td>50</td>
<td>400</td>
<td>Fixed blade</td>
</tr>
<tr>
<td>6002894</td>
<td>4</td>
<td>50</td>
<td>400</td>
<td>Double cross vane</td>
</tr>
<tr>
<td>6002895</td>
<td>5</td>
<td>58</td>
<td>400</td>
<td>Helix</td>
</tr>
<tr>
<td>6002896</td>
<td>6</td>
<td>70</td>
<td>450</td>
<td>Six hole paddle</td>
</tr>
<tr>
<td>6002897</td>
<td>7</td>
<td>70</td>
<td>450</td>
<td>Three hole paddle</td>
</tr>
<tr>
<td>5050921</td>
<td>8</td>
<td>46</td>
<td>400</td>
<td>Radial turbine</td>
</tr>
<tr>
<td>5050932</td>
<td>9</td>
<td>45</td>
<td>400</td>
<td>Turbo helix 45 mm Ø</td>
</tr>
<tr>
<td>5050933</td>
<td>10</td>
<td>66</td>
<td>400</td>
<td>Turbo helix 66 mm Ø</td>
</tr>
</tbody>
</table>

**Shafts with PTFE paddles**

Shaft of 8 mm Ø.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Rotor Ø mm</th>
<th>Shaft Ø mm</th>
<th>Total Length mm</th>
<th>Features</th>
<th>Speed range r.p.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5050934</td>
<td>11</td>
<td>50</td>
<td>500</td>
<td>Helix PTFE</td>
<td>500</td>
</tr>
<tr>
<td>5050935</td>
<td>12</td>
<td>80</td>
<td>500</td>
<td>Anchor PTFE</td>
<td>500</td>
</tr>
</tbody>
</table>

**Adjustable height shaft stirrers**

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

 Shaft: 8 mm Ø. Adjustable height paddles using a locking thread.

Can be used with differing paddles on the same shaft to create a multiple mixing action.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Rotor Ø mm</th>
<th>Shaft Ø mm</th>
<th>Total Length mm</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>5050936</td>
<td>13</td>
<td>70</td>
<td>400</td>
<td>Shaft PTFE</td>
</tr>
<tr>
<td>5050937</td>
<td>14</td>
<td>40</td>
<td>400</td>
<td>Helix PTFE</td>
</tr>
<tr>
<td>5050938</td>
<td>Shaft PTFE</td>
<td>400</td>
<td></td>
<td>Spare or additional paddle for multiple stir effect</td>
</tr>
<tr>
<td>5050939</td>
<td>Helix PTFE</td>
<td>400</td>
<td></td>
<td>Spare or additional paddle for multiple stir effect</td>
</tr>
</tbody>
</table>

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

**Shaft base support T “MAXI”**

Red 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