

The CAT logo is displayed in a bold, yellow, sans-serif font on a black rectangular background. Above the logo, a horizontal strip shows various laboratory equipment: a rack of test tubes, a multi-well plate, and glassware.

# CAT

Ingenieurbüro  
M. Zipperer GmbH

*From marketing knowledge  
to real innovation*

## Product Overview



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# Hotplate Stirrers and



## Hotplate Magnetic Stirrers

| Unit    | Description   | Watts | Rpm     | Temp     | Cat.No.  |
|---------|---|-------|---------|----------|----------|
| MCS66   | microprocessor controlled, LCD display, programmable multistep timer, safety temp., temp. ramps, RS232, Eloxal hotplate, membrane keyboard, PT-100 sensor                           | 500   | 60-1600 | 40°-330° | 60276-00 |
| MCS67   | same as above but with Ceran® hotplate  | 600   | 60-1600 | 40°-440° | 60277-00 |
| M26     | μP controlled, alpha-numeric LCD display, Eloxal hotplate 2 independent safety circuits, connector for PT-100 sensor programmable: timer, safety temp., temp. ramp. RS232 interface | 500   | 60-1600 | 40°-360° | 60279-00 |
| M17.5   | μP-controlled, 4 digit temp., speed and time LED display, Ceran® hotplate, connector for PT100 probe  | 600   | 60-1600 | 40°-500° | 60263-00 |
| M16.5   | same as M17.5, but with stainless steel hotplate  | 500   | 60-1600 | 40°-350° | 60262-00 |
| M16.6   | same as M17.5, but with Eloxal hotplate   | 500   | 60-1600 | 40°-380° | 60264-00 |
| M11     | el. feed-back speed control, st. steel hotplate, KTA1   | 500   | 80-1600 | 40°-330° | 60270-00 |
| M12     | el. feed-back speed control, Eloxal hotplate, KTA1  | 500   | 80-1600 | 40°-330° | 60271-00 |
| M13     | el. feed-back speed control, Ceran® hotplate, KTA1  | 600   | 80-1600 | 40°-400° | 60272-00 |
| M6      | el. feed-back speed control, Ceran® hotplate  | 600   | 80-1600 | 40°-400° | 60266-00 |
| M6.1    | el. feed-back speed control, st. steel hotplate   | 500   | 80-1600 | 40°-330° | 60268-00 |
| M6.2    | el. feed-back speed control, Eloxal hotplate  | 500   | 80-1600 | 40°-330° | 60269-00 |
| ECM6    | compact low-energy stirrer, Eloxal hotplate   | 160   | 10-1600 | 40°-250° | 60256-00 |
| KM16.4D | magnetic hotplate stirrer and bath heater for round-bottom flasks of 100, 250 or 500 ml, μP-controlled, 4 digit temp., speed and time LED display, connector for PT100 probe        | 500   | 60-1600 | 40°-300° | 60257-00 |
| KM16.7D | same as above but for round-bottom flasks of 1000, 2000 ml  | 500   | 60-1600 | 40°-300° | 60258-00 |

<sup>1</sup> with connector for electronic and standard contact thermometer.

All microprocessor controlled instruments are also available with an RS232 interface.



# Magnetic Stirrers



## Magnetic Stirrers (with stainless steel cases)

| Unit   | Description   | Watts | Rpm        | Cat.No.  |
|--------|---|-------|------------|----------|
| M30    | electr. feed-back speed control, volumes up to 100 liters | 65    | 100 - 1100 | 60254-00 |
| M20.20 | electr. feed-back speed control, volumes up to 50 liters  | 65    | 100 - 1100 | 60253-00 |
| M15    | opto-electronic speed control                             | 40    | 60 - 1600  | 60261-00 |
| M5     | stirrer with electronic feed-back speed control           | 40    | 80 - 1600  | 60265-00 |
| ECM5   | compact low-energy stirrer, electronic speed control      | 6     | 10 - 1200  | 60255-00 |
| ECM2   | compact stirrer for cell treatment, low speed range       | 6     | 2 - 200    | 60252-00 |
| M2     | small lightweight stirrer, fixed speed, pp - housing      | 4     | 500        | 60260-00 |

### Accessories for MCS66, MCS67, M26, M16.5, M16.6 and M17.5

|                  |  |          |
|------------------|--|----------|
| Dummy Plug MCS66 |  | 30278-45 |
| Pt-100           | Electronic temperature probe complete, probe diameter 3mm, total length 300 mm | 60278-00 |
| Pt-100           | duplex Electronic temp. probe for MCS and M26 only                             | 60273-00 |

### Accessories for M11, M12, M13

Electronical contact thermometer, digital and mercury free with Pt-1000 probe  
Length: 250 mm, temp. range: -50 - +300°C 60664-00

Electronical contact thermometer, digital and mercury free with Pt-1000 probe,  
length: 250mm, temp. range: -50 - +300°C V2A probe encased in glass 60666-00

| Stirring Bars                              | Cat.No.  | Stirring Bar Extractor         | Cat.No.  |
|--|----------|--------------------------------|----------|
| Length: 10 mm Diameter: 6 mm               | 8b035009 | Length: 150 mm Diameter: 10 mm | 8b037202 |
| 20 mm 7 mm                                 | 8b035017 | 200 mm 10 mm                   | 8b037204 |
| 25 mm 7 mm                                 | 8b035020 | 250 mm 10 mm                   | 8b037206 |
| 30 mm 7 mm                                 | 8b035022 |                                |          |
| 40 mm 7 mm                                 | 8b035024 |                                |          |
| 50 mm 7 mm                                 | 8b035028 |                                |          |
| 60 mm 7 mm                                 | 8b035031 |                                |          |
| 80 mm 10 mm                                | 8b035035 |                                |          |
| 1 Set of Stirring bars, Content: 12 pieces | 8b000000 |                                |          |

Egg-shaped stirring bar for M20.20 and M30.30



# Hotplates and Heaters

(usual temperature range: 40 - 300°C thermostat controlled)

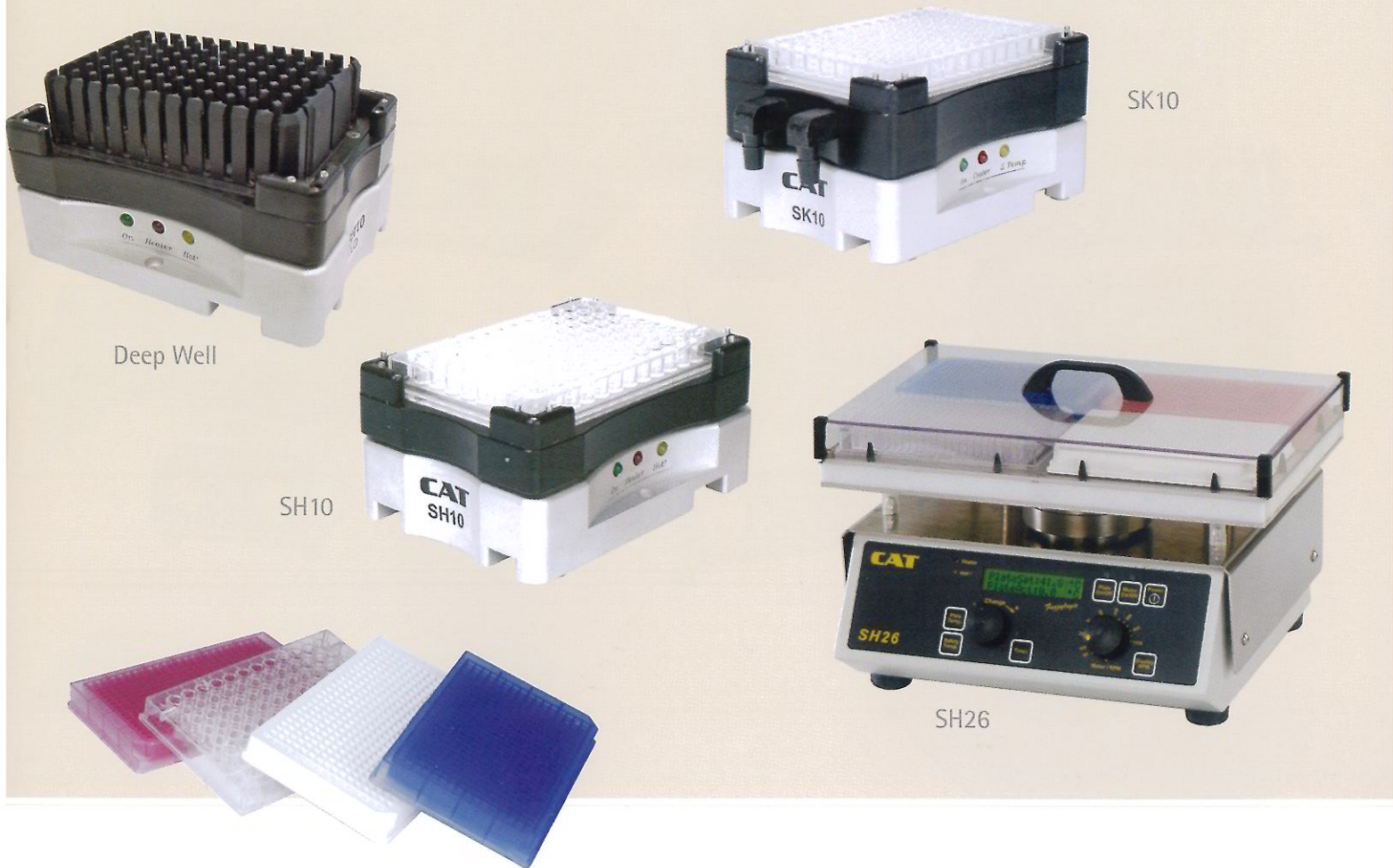


## Heaters

| Unit    | Description   | Watts | Cat.No.  |
|---------|---|-------|----------|
| M17.5D  | µP controlled, 4 digit temp., speed and time LED display, Ceran® hotplate, connector for PT100 probe, 150x184x110mm, RT-500°C | 600   | 60228-00 |
| H3      | Ceran® hotplate 140x140 mm  | 600   | 60223-00 |
| H3.1    | stainless steel hotplate 130 mm dia   | 500   | 60225-00 |
| H4      | sandbath for sand, oil or other fluids, 1 ltr st. steel bath  | 600   | 60224-00 |
| H30/30  | Aluminium hotplate 300x300 mm   | 2000  | 60226-10 |
| H30/30C | Ceran® hotplate, otherwise same as H30/30   | 2000  | 60226-30 |
| H30/45  | Aluminium hotplate 300x450 mm   | 2000  | 60226-20 |
| H30/45C | Ceran® hotplate, otherwise same as H30/45   | 2000  | 60226-40 |
| H60/30  | Aluminium hotplate 600x300 mm   | 4000  | 60226-60 |
| H60/30C | Ceran® hotplate, otherwise same as H60/30   | 4000  | 60227-70 |



# Shaking Heaters



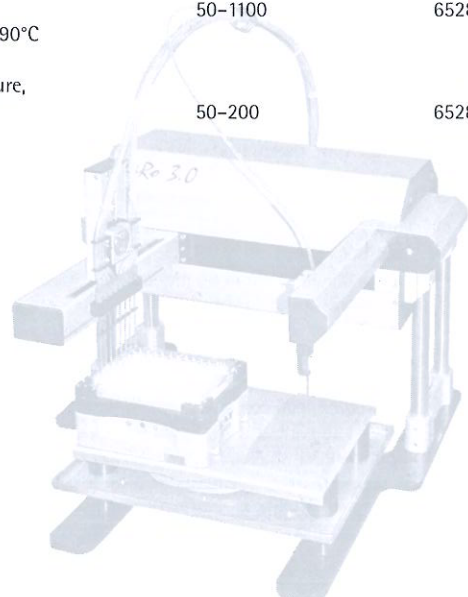
## Shaking Heaters

| Unit   | Description   | Frequency | Cat.No.  |
|--------|---|-----------|----------|
| SH26.0 | Shaking heater for 4 microtiter plates, high precision temp. control from ambient to 65°C in steps of 0.1°C Programmable over-temperature-cut-out. Optical control via a 2 x 16 character alpha-numeric LC-display. Protection against unintended changes on set temperature, safety-temperature and switch-off timer | 50-1100   | 65287-00 |
| SH26.1 | same as SH26.0. Customer can choose from pick ups for MTP or Eppendorf tubes and with RS232-interface, high precision temp. Control from ambient to 95°C in steps of 0.1°C  | 50-1100   | 65287-10 |
| SH26.2 | same as SH26.1. Full computer control and special indexing mechanism which stops platform always at defined position  | 50-1100   | 65287-20 |
| SH26.4 | shaking and heating up to 160°C, 2 heating blocks for 24 reagent vessels of either 1.5 or 2ml   | 50-1100   | 65287-40 |
| SH25   | Shaking heater for microtiter plates, high precision temp. control from ambient to 90°C Programmable over-temperature-cut-out. Optical control via a 2 x 16 character alpha-numeric LC-display. Protection against unintended changes on set temperature, safety-temperature and switch-off timer                     | 50-200    | 65286-00 |

Heating blocks for a great variety of microplates are available upon request.

|      |  |
|------|--|
| SK10 | Cooling/Heating Shaker via bath thermostat.<br>Operating temperature range minus 5 -° to 50 -°C.<br>Shaking frequency: 100 - 800 rpm   |
| SH10 | Modular shaking/heating unit with separate electronic control box suitable for automated applications. Operating temperature from RT to 90 -°C.<br>Shaking frequency: 200 - 1.200 rpm. |

The size of both shakers is based on the "footprint" of a microtiter plate. Please contact us in case of special applications. Stand-alone versions will be available soon.





# Shakers

S25



VM2



VM3



S50



S20-V



S20 with various shaking attachments

S20-S



## Shaking Heaters

| Unit | Description  | Frequency | Cat.No.  |
|------|--|-----------|----------|
| S25  | Powerful shaker with linear reciprocating motion, RS232 interface for computer control, indexing mechanism, timer, rpm, 20mm amplitude. To be combined with various shaking adaptors | 40-200    | 60385-00 |
| S26  | Powerful shaker with horizontal shaking motion, RS232 interface for computer control, indexing mechanism, timer, 3mm amplitude. To be combined with various shaking adaptors         | 50-1100   | 60386-00 |
| S50  | wrist-action shaker for up to 8 Erlenmeyer flasks of 500 ml each, feed-back speed control, 60 min timer  | 50-700    | 60285-00 |
| S20  | multi-use orbital shaker, electronic feed-back speed control, 3 mm amplitude, 0-60 min timer, 40 W, to be combined with the following shaking-adaptors                               | 80-1000   | 60283-00 |
| S20D | same as S20 but with digital display and digital timer   | 100-800   | 60289-00 |

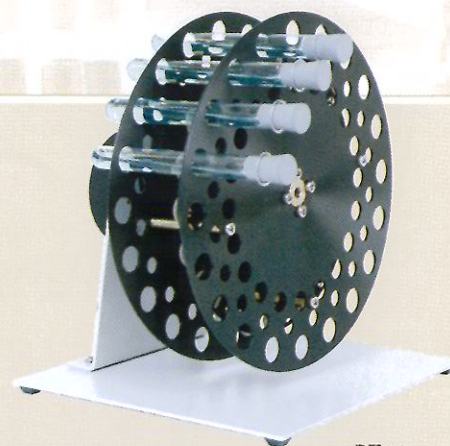
### S20 shaking adaptors:

|   |   |            |          |
|---|---|------------|----------|
| E- shaking-adaptor for single hand held vessels   |   |            | 60683-00 |
| S- platform with adhesive mat, to hold petri dishes and similar items (200x400)                                   |   |            | 60684-00 |
| V- shaking-adaptor for either 4 Erlenmeyer flasks or round-bottom flasks  |   |            | 60685-00 |
| U- universal shaking-adaptor, two rubber rollers to hold Erlenmeyer flasks  |   |            | 60686-00 |
| R- test tube shaking-adaptor to hold 36 test tubes of up to 16 mm o.d., variable from vertical to 45° inclination |   |            | 60687-00 |
| VM2   | Vortex mixer for up to 30 mm o.d. test tubes, continuous or touch operation, feed-back speed control  | 100-2800   | 60204-00 |
| VM3   | Vortex mixer for up to 20 mm o.d. test tubes, continuous or touch operation, feed-back speed control  | 100-2800   | 60203-00 |
| VM4   | Universal vortex mixer for test tubes, microcentrifuge tubes and microtiter plates, timer controlled or touch operation, feed-back speed control  | 100-2800   | 60208-00 |
| ST5   | Bidimensional shaker, flat tray 420 x 350 mm, oscillation angle at 3, 6, 9 and 12°, electronic speed control  | 10-100     | 60281-00 |
| ST5D  | same as above but with digital display  | 10-100     | 60282-00 |
| ST3   | Bidimensional shaker, flat tray 217x217 mm, oscillation angle at 3 or 6°. electronic speed control  | 3-50 O/min | 60381-00 |
| GM3   | Shaker with 3D-movement. Ideal for low foaming agitation as well as DNA extraction. Angular tilt: 3 and 6°. Platform dimension: 217 x 217 mm to hold Petri dishes, micro plates and other small containers. With digital display and built in timer: up to 99 hours | 3-50       | 60382-00 |



# and Mixers

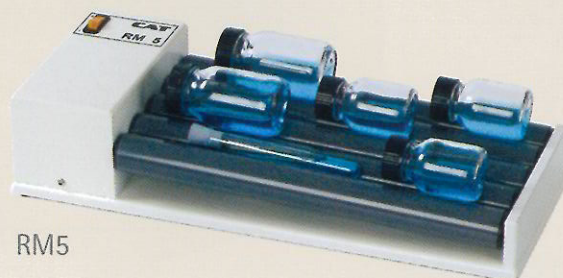
ST5D



RT60



S20-U



RM5

S20-R

GM3  
(ST3 looks as GM3)

## Accessories for Shaker S 25 and S26

Shaking Adaptor for Erlenmeyer flasks, 6 Flasks à 250 ml, 4 Flasks à 500 ml, 2 Flasks à 1000 ml

Shaking Adaptor for max. 4 Separating funnels

Clamps for Erlenmeyer Flasks: 25 ml, 50 ml, 100 ml, 250 ml, 500 ml, 1000 ml

## Accessories for Shaker ST3 and GM3

Detachable platform

## Horizontal Mixers

| Unit      | Description  | Watts | Rpm   | Cat.No.  |
|-----------|--|-------|-------|----------|
| RM5-40    | 5 rollers synchronous rocking and rotating tube mixer                                    | 45    | 36    | 60205-00 |
| RM5K-30   | same as above, but shorter rollers   | 45    | 30-32 | 60205-10 |
| RM5-6     | same as above, but slow speed  | 6     | 6     | 60206-00 |
| RM5-30V   | same as above, but variable slow speed   | 6     | 1-30  | 60207-00 |
| RM5-80V   | 5 rollers synchronous rocking and rotating tube mixer                                    | 45    | 10-80 | 60207-80 |
| RM5W-40   | same as RM5-40 but with removable rollers  | 45    | 36    | 60205-30 |
| RM5W-30V  | same as above but with removable rollers   |       | 1-30  | 60207-40 |
| RM5W-80V  | same as above but with removable rollers   |       | 10-80 | 60207-50 |
| RM10W-30V | 10 removable rollers synchronous rocking and rotating tube mixer                         |       | 1-30  | 60207-10 |
| RM10W-80V | 10 removable rollers synchronous rocking and rotating tube mixer                         |       | 10-80 | 60207-90 |
| RT20      | rotating and swaying mixer for 20 test tubes up to 15 mm o.d., exchangeable tube holders | 6     | 5/6   | 60201-00 |
| RT60      | rotating and swaying mixer for 60 test tubes, 12, 15 and 18 mm o.d.                      | 6     | 5/6   | 60202-00 |



# Overhead Stirring Motors



## Stirring Motors

| Unit  | Description  | Watts | Rpm      | Cat.No.  |
|---|--|-------|----------|----------|
| R100CT  | the „bull“ of CAT high torque stirring motors applies up to 600 Ncm torque at speeds of 10–500 rpm. Ideal for medium to high viscous media, 10,5 mm chuck, hollow shaft, $\mu$ -controller and alpha-numeric display of mechanic power, torque and timer, RS232. | 220   | 10–500   | 60314-00 |
| R100C   | powerful stirring motor (150 Ncm) for laboratory and pilot-plant use, 10.5 mm chuck with hollow shaft, microprocessor, speed and torque display, timer, RS232.   | 220   | 40–2000  | 60218-00 |
| R100CL  | same as R100C but with 250 Ncm torque and speed range of 40–1100 rpm.  | 220   | 40–1100  | 60315-00 |
| R100SD  | general purpose laboratory use, same as above but with 4–digit LED speed readout only. Max. torque 100 Ncm. Hollow shaft and precision chuck at 10.5 mm.   | 180   | 40–2000  | 60313-00 |
| <p>The R100-series is designed for stirring jobs up to 200 litres (related to water); ideal for medium and high viscous media 1,000–50,000 mPaxs. We also offer units with other speed ranges up to 6000 rpm. For further information please contact us directly.</p> <p>Accessories: Special stand for all R100 overhead stirrers Cat.No. 60494, special clamp, essential for all R100 overhead stirrers Cat.No. 60495</p> |  |       |          |          |
| R80D  | high torque stirrer (80 Ncm) for lab use, clamping Diameter 1–10.5 mm; capacity 120 liters related to water, electronic speed control/display  | 85    | 20–700   | 60310-00 |
| R80-PC  | same as R80D, but with RS232 interface   | 85    | 20–700   | 60310-10 |
| R50D  | high torque stirrer (50 Ncm) for lab use, adjustable hollow shaft, 10.5 mm chuck, electronic speed control/display   | 85    | 30–1600  | 60216-00 |
| R50   | same as R50D, but without speed display  | 85    | 30–1600  | 60215-00 |
| R18   | laboratory stirrer (18 Ncm) electronic feed-back control   | 120   | 110–2000 | 60214-00 |
| R17   | laboratory stirrer, steplessly adjustable speed, 4 mm shaft only   | 40    | 100–2000 | 60213-00 |
| R2  | mini-stirrer, fixed speed, stainless steel stirring paddle   | 3     | 750      | 60212-00 |
| R1  | hand stirrer, battery-powered, for use with disposable stirring rods and special stainless steel stirring blades   |       | 3000     | 60211-00 |



# and Stirring Paddles



| Part No. | Blade Stirrer | Length including blade | Diameter of rod | Diameter of blade |
|----------|---------------|------------------------|-----------------|-------------------|
| 8B009403 |               | 300 mm                 | 8 mm            | 70 mm             |
| 8B009404 |               | 400 mm                 | 8 mm            | 70 mm             |
| 8B009405 |               | 500 mm                 | 8 mm            | 70 mm             |
| 8B009406 |               | 300 mm                 | 10 mm           | 70 mm             |
| 8B009407 |               | 400 mm                 | 10 mm           | 70 mm             |
| 8B009408 |               | 500 mm                 | 10 mm           | 70 mm             |
| 8B009503 |               | 300 mm                 | 8 mm            | 70 mm             |
| 8B009504 |               | 400 mm                 | 8 mm            | 70 mm             |
| 8B009505 |               | 500 mm                 | 8 mm            | 90/15 mm          |
| 8B009506 |               | 300 mm                 | 10 mm           | 90/15 mm          |
| 8B009507 |               | 400 mm                 | 10 mm           | 90/15 mm          |
| 8B009508 |               | 500 mm                 | 10 mm           | 90/15 mm          |

## Part No. Centrifugal Stirrer

| Part No. | Centrifugal Stirrer | Length including blade | Diameter of rod | Diameter of blade |
|----------|---------------------|------------------------|-----------------|-------------------|
| 8B009209 |                     | 300 mm                 | 8 mm            | 90/15 mm          |
| 8B009210 |                     | 400 mm                 | 8 mm            | 90/15 mm          |
| 8B009211 |                     | 500 mm                 | 8 mm            | 90/15 mm          |
| 8B009212 |                     | 300 mm                 | 10 mm           | 90/15 mm          |
| 8B009213 |                     | 400 mm                 | 10 mm           | 90/15 mm          |
| 8B009214 |                     | 500 mm                 | 10 mm           | 90/15 mm          |

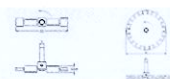
## Part No. Propeller Stirrer

| Part No. | Propeller Stirrer | Length including blade | Diameter of rod | Diameter of blade |
|----------|-------------------|------------------------|-----------------|-------------------|
| 8B009100 |                   | 300 mm                 | 6 mm            | 50 mm             |
| 8B009101 |                   | 400 mm                 | 6 mm            | 50 mm             |
| 8B009102 |                   | 500 mm                 | 6 mm            | 50 mm             |
| 8B009103 |                   | 300 mm                 | 8 mm            | 50 mm             |
| 8B009104 |                   | 400 mm                 | 8 mm            | 50 mm             |
| 8B009105 |                   | 500 mm                 | 8 mm            | 50 mm             |
| 8B009106 |                   | 300 mm                 | 6 mm            | 70 mm             |
| 8B009107 |                   | 400 mm                 | 6 mm            | 70 mm             |
| 8B009108 |                   | 500 mm                 | 6 mm            | 70 mm             |
| 8B009109 |                   | 300 mm                 | 8 mm            | 70 mm             |

| Part No. | Propeller Stirrer | Length including blade | Diameter of rod | Diameter of blade |
|----------|-------------------|------------------------|-----------------|-------------------|
| 8B009110 |                   | 400 mm                 | 8 mm            | 70 mm             |
| 8B009111 |                   | 500 mm                 | 8 mm            | 70 mm             |
| 8B009112 |                   | 300 mm                 | 10 mm           | 100 mm            |
| 8B009113 |                   | 400 mm                 | 10 mm           | 100 mm            |
| 8B009114 |                   | 500 mm                 | 10 mm           | 100 mm            |
| 8B009000 |                   | 300 mm                 | 6 mm            | 50 mm             |
| 8B009001 |                   | 400 mm                 | 6 mm            | 50 mm             |
| 8B009002 |                   | 500 mm                 | 6 mm            | 50 mm             |
| 8B009003 |                   | 300 mm                 | 8 mm            | 50 mm             |
| 8B009004 |                   | 400 mm                 | 8 mm            | 50 mm             |
| 8B009005 |                   | 500 mm                 | 8 mm            | 50 mm             |
| 8B009703 |                   | 300 mm                 | 8 mm            | 50 mm             |
| 8B009704 |                   | 400 mm                 | 8 mm            | 50 mm             |
| 8B009705 |                   | 500 mm                 | 8 mm            | 50 mm             |
| 8B009603 |                   | 300 mm                 | 8 mm            | 50 mm             |
| 8B009604 |                   | 400 mm                 | 8 mm            | 50 mm             |
| 8B009605 |                   | 500 mm                 | 8 mm            | 50 mm             |

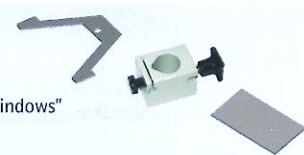
## Part No.

|          |                                    |
|----------|------------------------------------|
| 60619-00 | Stirring blade                     |
| 60618-00 | Stirring shaft $\varnothing$ 8x350 |
| 60617-00 | Dissolver $\varnothing$ 100        |



## Part No.

|          |                                   |
|----------|-----------------------------------|
| 60494-00 | U-Stand                           |
| 60495-00 | Special clamp for R100            |
| 60709-00 | Software "LabControl for Windows" |
|          | PC-connecting cable               |
| 60491-00 | Pedestal Stand                    |





# Homogenisers

Build your Dispersing  
system by selecting a  
motor plus one Tool













## Homogenisers/Motors (Drive units)

| Unit     | Description  | Rpm         | Cat.No.  |
|----------|--|-------------|----------|
| X1740    | high-power, heavy-duty drive motor with electronic speed control, 1700 watts for 40 mm tools                                 | 5000-22000  | 60408-00 |
| X1030    | very powerful robust drive motor 1000 watt electronic speed control, for tools up to 30 mm                                   | 10000-24000 | 60407-00 |
| X1030D   | same as above but with digital display of rpm,   | 10000-24000 | 60406-00 |
| Unidrive | powerful drive motor, built-in speed control for all dispersing tools below up to 30 mm                                      | 4000-33000  | 60402-00 |
| X520D    | high-speed robust drive motor for all dispersing tools up to 30 mm, with electronic speed control and digital display of rpm | 11000-29000 | 60405-00 |
| X520     | same as above but without digital speed display  | 11000-29000 | 60403-00 |
| X360     | drive motor, 350 watts, high speed motor, speed control separately available   | 45000       | 60401-00 |
| P1500    | speed control unit for X360  |             | 60493-00 |
| X120     | hand-held, high speed drive motor for small volumes electronically stabilized speed control for tools up to 17 mm            | 11000-33000 | 60404-00 |

## Homogeniser/Dispersing Tools (interchangeable all stainless steel)

Teeth per rotor/stator

| Volume   | Dispersing tools*   | Shafts<br>diam.<br>(mm) | length<br>(mm) | viscous V<br>V-rotor + V-stator<br>= V-generator                                       | low viscosity N<br>F-rotor + V-stator<br>= N-generator                                 | fine F<br>F-rotor + F-stator<br>= F-generator  | knife**M<br>M-rotor + M-stator<br>= M-generator   | Rotor/Stator<br>diam.<br>(mm) | Possible motors<br>motors / max. v<br>m/sec. |
|----------|---|-------------------------|----------------|--|--|--|---|-------------------------------|--|
| 0,1 - 50 | T6/T6 lang  | 6                       | 105-170        | 2 7  | 4 7  | 4 11   | 2 7   | 4 6                           | X120<br>X360<br>X520D<br>Unidrive            |
| 6        | <br>CAT No.: 6420/6410 |                         |                |  -V |  -N |  -F |  -M |                               | 9,5  |
| 1 - 250  | T10   | 10                      | 205            | 2 7  | 4 7  | 4 15   | 2 7   | 7,5 10                        | X120<br>X360<br>X520D<br>Unidrive            |
| 10       | <br>CAT No.: 6421      |                         |                |  -V |  -N |  -F |  -M |                               | 17,5   |





## Homogeniser/Dispersing Tools (interchangeable all stainless steel)

Teeth per rotor/stator

| Volume      | Dispersing tools*  | Shafts<br>diam.<br>(mm) | length<br>(mm) | viscous V<br>V-rotor + V-stator<br>= V-generator | low viscosity N<br>F-rotor + V-stator<br>= N-generator | fine F<br>F-rotor + F-stator<br>= F-generator | knife**M<br>M-rotor + M-stator<br>= M-generator | Rotor/Stator<br>diam.<br>(mm) | Possible motors<br>motors / max. v<br>m/sec. |
|-------------|--------------------|-------------------------|----------------|--|--|---|---|-------------------------------|--|
| 5 - 1000    | T17                | 10                      | 205            | 2 9  | 6 9  | 6 13  | 2 9   | 12,5 17                       | X120<br>X360<br>X520D<br>Unidrive            |
| 17          | CAT No.: 6426      |                         |                | -V   | -N   | -F  | -M  |                               | 29,5   |
| 10 - 2000   | T20/G20            | 20                      | 265            | 2 9  | 6 9  | 6 13  | 2 9   | 15 20                         | X360<br>Unidrive<br>X1030D                   |
| 20          | CAT No.: 6422/6423 |                         |                | -V   | -N   | -F  | -M  |                               | 35,4   |
| 30 - 5000   | T30/G30            | 20                      | 255            | 3 13   | 6 13   | 6 17  | 3 13  | 25 30                         | Unidrive<br>X1030D                           |
| 30          | CAT No.: 6424/6425 |                         |                | -V   | -N   | -F  | -M  |                               | 32,7   |
| 100 - 20000 | T40/G40            | 20                      | 360            | 4 13   | 8 13   | 8 23  | 4 13  | 33 42                         | X1740<br>40,8                                |
| 40          | CAT No.: 6414/6415 |                         |                | -V   | -N   | -F  |   |                               |  |

\* T denotes Teflon bearing, G denotes ceramic seals \*\* Special knife generator for stringy and fibrous materials

### Tools

### Description

|      |   |
|------|---|
| DK30 | stainless steel, flow through chamber for shaft G20 and G30, flow 3000 ltr/h                                      |
| DK40 | stainless steel, flow through chamber incl. motor and G40, flow 5000 ltr/h  |
| AX60 | analytical mill (use drive unit X520 or Unidrive) stainless steel grinding chamber with separate cooling channels |

### Cat.No.

|          |
|----------|
| 60428-00 |
| 60429-00 |
| 60409-00 |

All tools are available for coarse, medium and fine grade and with special cutting knives. Please see detailed information in special leaflet "High efficiency Homogenizers".



# Liquid Handling



## Dispensing Units

### Unit Description

#### Liquid processor

system comprising a bottle-mounted dispensing unit for precise dispensing, pipetting, diluting, sampling and time controlled operations, microprocessor controlled, remoteable programming keypad, with 2 line a-numeric LCD display, RS232 interface, handles volumes from 10μ l to 100 ltr. optional: remote dispensing hand-set.

#### Cat.No.

60294-00  
60715-00

#### Contriburette μ10MC

motor-driven burette, 0.01 ml–9999.99 ml, rinse port optional with connections for power supply with calibration and adjustment facility, RS 232 interface.

60792-00

#### Contriburette μ10MCR

burette as μ10MC but with pistonrinse device

61793-00

#### Contriburette μ1MC

burette as μ10MC but smallest dosing volume 1μ l

60290-00

#### Contriburette μ20MC

burette as μ10MC but smallest dosing volume 20μ l

60298-00

#### Contriburette μ10-C

electronic digital burette, 0.01 ml–9999.99 ml, hand operated version, with 500 hr battery-powered

LCD display, with calibration and adjustment facility.

60791-00

#### Contriburette μ20-C

burette as μ10-C but smallest dosing volume 20μ l

61794-00

#### Contriburette μ10MO

similar as μ10MC but without digital display and controls without calibration and adjustment facility, without RS 232 interface, for use with remote controllers C2 or C4 or

60291-00

PC cable

60710-00

#### Remote controller C2

remote functions "reset", "run", and "10μl" steps, digital display for dispensed volume.

60711-00

#### Remote controller C4

2-line a-numeric display, microprocessor controlled for setting and read-out of set volume and digital

60713-00

display of actual volume and total sum dispensed.

#### Accessories

Power supplies, PC-connecting cable, remote foot- and hand-switch, bottle thread adaptors, suction and ejection cannulas – on request.



# and Pumps



HPLH 200

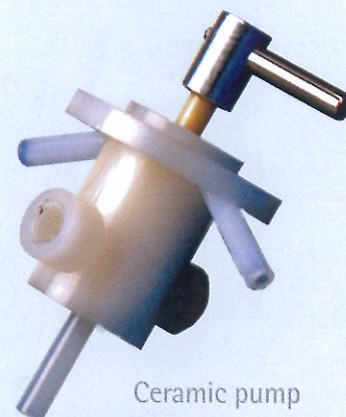


HPLH 200PF



HPLH 1000

9 channel pump



Ceramic pump

DP04



## Pumps

| Unit   | Description  | Cat.No.                 |
|--|--|-------------------------|
| <b>DOSCA micrometering pump HPLH PCON C with remotable controllers</b> |  |                         |
| HPLH 20V   | high precision micrometering pump (ø 4 mm) encased in a coated steel housing, pump head stainless steel, wetted parts are AL2O3 and PVDF or Tefzel, flow rate: 5 µl/min – 10ml/min   | 70940-00                |
| HPLH 20VS  | same as above but with rinse port, wetted parts: AL2O3 and PVDF or Tefzel  | 70945-00                |
| HPLH 20VCS   | same as above but with special rinse port inside ceramic cylinder, "wetted" parts: AL2O3 and PEEK or PFA   | 70947-00                |
| HPLH 200V  | high precision micrometering pump (ø 6 mm) encased in a coated steel housing, pump head stainless steel, wetted parts are AL2O3 and PVDF or Tefzel, flow rate: 50 µl/min – 100ml/min   | 70950-00                |
| HPLH 200VS   | same as above but with rinse port, wetted parts: AL2O3 and PVDF or Tefzel  | 70955-00                |
| HPLH 200VCS  | same as above but with special rinse port inside ceramic cylinder, "wetted" parts: AL 2O3 and PEEK or PFA  | 70957-00                |
| HPLH 300VCS  | same as above (ø 8 mm), flow rate: 100 µl/min – 200ml/min wetted parts are AL2O3 and PEEK or PFA   | 70967-00                |
| HPLH 1000V   | high precision micrometering pump (ø 10 mm) encased in a coated steel housing, pump head stainless steel, wetted parts are AL2O3 and PVDF or Tefzel, flow rate: 250 µl/min – 400ml/min   | 70970-00                |
| HPLH 1000VS  | same as above but with rinse port, wetted parts: AL2O3 and PVDF or Tefzel  | 70975-00                |
| HPLH 20PF  | pulse-free pump, flow rate: 5 µl/min–10ml/min, wetted parts: AL2O3 and Tefzel  | 70980-00                |
| HPLH 200PF   | pulse-free pump, flow rate: 50 µl/min–100ml/min, wetted parts: AL2O3 and Tefzel  | 70985-00                |
| <b>Multi channel pumps</b>   | consisting of 2 up two 9 pump units in one housing. These systems are made upon customer request. Great variety of pump heads, also heatable, with different kinds of rinse ports available, dosing volumes from 1 µl/step up to 400 ml/min. Pump heads in stainless steel, or highly resistant plastics such as PEEK, PFA, PVDF or Tefzel. Pump systems made from high grade AL2O3. RS232-interface and Daisy chaining. | 617xx-xx                |
| <b>Lab Pump DP04</b>   | precise micrometering lab pump with analogue flow rate control. Flowrate 0 – 2ml/min. Flow direction: Normal/reverse, Piston dia: 4mm V-pump head made of stainless steel. VS-pump head made of stainless steel with rinse port. T-pump head made of Tefzel.   | 70900<br>70901<br>70902 |
| <b>Lab Pump DP06</b>   | same as above but with flowrate from 0–20ml/min, Piston dia: 6mm V-pump head made of stainless steel VS-pump head made of stainless steel with rinse por. T-pump head made of Tefzel.  | 70905<br>70906<br>70907 |



# Blood Cell Counter



## Blood Cell Counter

| Unit     | Description  | Cat.No.              |
|----------|--|----------------------|
| DIFF15   | compact, multi-function cell counter for manual differential counting procedures, e.g. bone, marrow, blood, 15 entry keys, % or real read out  | 60243-00             |
| DIFF15PC | same as above but with RS232 interface, including software to be used with windows®<br>Print Adaptor for connection to DIFF15PC. Generates a formatted output of the counting results on a printer | 60244-00<br>60641-00 |

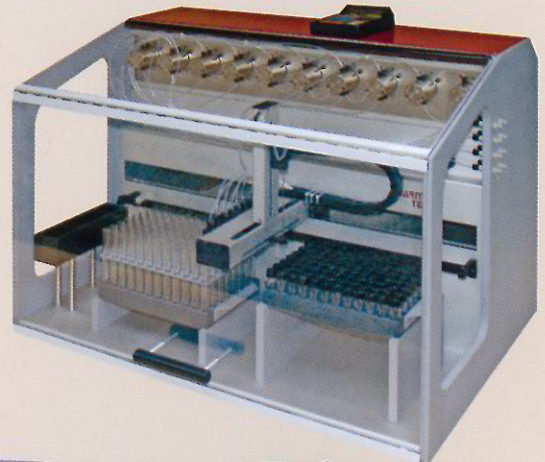


# XYZ Robot (OEM) and *Third Arm*™



*Third Arm*™

DSR



XYZ Robot

## XYZ Robot

### Your application – our solution!

Please ask for our OEM XYZ machines. A tool changing device offers a variety of robotic handlings. Our product specialist will assist you with detailed information

## DSR

Our Dissolution Sampling Robot saves time and grants for reproducibility. Built-in pumps save a lot of bench space. For technical and product information please contact our product specialist.

## *Third Arm*™

Your personal pipetting assistant fills tubes and vials with either a constant or variable amount of liquid(s). It also collects from preparative HPLC, Flash chromatography, leaching test and other fraction collection applications. ThirdArm and pump may be operated locally, or remotely, via a simple keypad or via PC. Contact our product specialist for detailed information.



## Interested?

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