

**GFL<sup>®</sup>**



# Quality

## Built on Tradition



**Summary** Range of Laboratory Products

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# Toughest Demands on Technique,

## Solutions

made by GFL

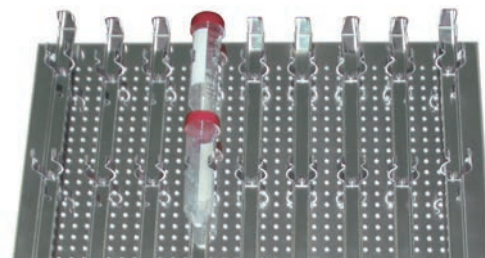


Upright Freezer, 500 litres, special make with two standard compartments and large drawer made of stainless steel with perforated raised side elements and a 10 mm thick insulating plastic cover with grip hole. Storage system for test plates and boxes.

Upright Freezer, 500 litres, with three additional shelves and storage system (accessories).



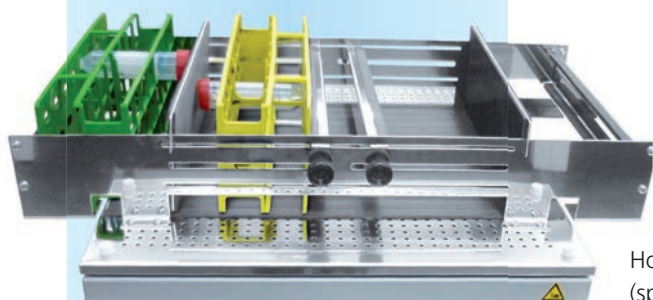
Upright Freezer, 500 litres, special make with five inside compartments and inside doors made of 10 mm thick acrylic glass, with grip hole. Storage system for test plates and boxes.



Clamping rails for tubes, for Shakers (special make), to be fixed on a tray.



Profiled rails for syringes, for Shakers (special make), to be fixed on a tray.



Horizontal clamping device for 4 test tube racks, for Shakers (special make), to be fixed on a tray.

# Material and Design



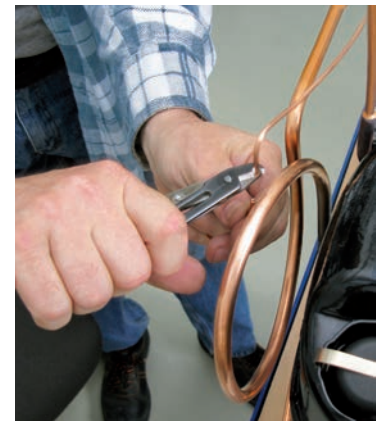
For more than 50 years, we have been producing  
"Quality Built on Tradition" in Germany.

Users in research labs, standard and special labs for medicine, science and industry benefit from the precision and reliability of our products in more than 150 countries worldwide.

In every-day laboratory practice there is an increasing demand for alternative product solutions, meeting our customers' requirements for practice-oriented functionality and flexibility.

We, therefore, offer special makes and a wide range of accessories for tasks requiring special solutions.

For examples see left.



Our product quality always includes a solid proportion of high-quality craftsmanship.

GFL products comply with valid European standards, bear the CE and EAC marks, they are maintenance-free and easy to operate. Convincing not only through clearly arranged controls and displays, but also through easy-to-understand operation symbols, they stand for experience of every-day use in detail, continuous technical advances and toughest demands on material, functioning and design.

Our corporate policy encompasses an integral approach to quality, including a high degree of ready-and-waiting service as well as certified quality management.



## Deep Freezers

to protect and permanently safeguard organic substances.

Excellent reliability and sample security. Long thawing times – effective insulation.

Controlled access – Door / lid and control panel can be locked.

Swivel castors for easy transport.

12 Chest Freezers with 6 different cabinet sizes (30 l - 500 l) and 6 Upright Freezers with 3 different cabinet sizes (96 l, 300 l and 500 l)

Temperature ranges from 0 °C to -40 °C and -50 °C to -85 °C

Microprocessor-controlled temperature regulation with digital display

RS 232 interface

Standard electronic alarm device and potential-free contact for remote transmission of an alarm signal

Over and under-temperature alarms separately adjustable (1-20 K)

Additional control and alarm options, individually settable



Accumulator back-up for display and alarm functions

Maintenance-free cooling device with fully hermetic high-capacity compressors

Evenly thick all-around insulation of up to 150 mm

Ex-proof inside cabinet, made completely of stainless steel

Wide range of accessories, various storage systems and customised special makes.

## Upright Deep Freezer with natural coolants (hydrocarbons)



**Further Upright Freezers (96 l, 300 l, 500 l) and Chest Freezers (70 l, 100 l, 220 l, 300 l, 500 l) with natural coolants are available.**

- **Model 6687**  
Temperature range -50 °C to -85 °C
- **Cabinet size 700 l, offering space for 500 2"-boxes**
- **Vacuum insulation panels with foamed-in-place polyurethane**
- **Excellent thawing times**

Eco-friendly and fit for the future.

Vacuum insulation ensuring improved sample security.

Controlled access – door can be locked.

Swivel castors for easy transport.

Model 6687 offers 40 % more storage capacity while having the footprint of a 500 l Upright Freezer and includes smart details:

Five inner compartments having insulated inside doors with magnetic catches

Height-adjustable, perforated shelves offering flexible storage space

Long-ledge stainless steel grip bars, ergonomic door handle

Wide range of accessories, various storage systems and customized special makes.



## Water Baths

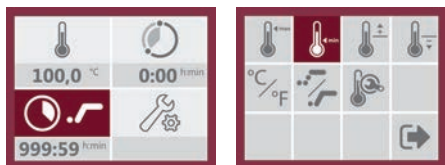
### Incubation / Inactivation Water Baths

- **Models 1101 to 1108 / 1112 / 1113**
- **Additional functions – proven technical solutions**
- **Large colour graphical user interface**
- **Three application-specific timer functions**
- **Stainless steel lid and integrated drain cock are standard**

Comfortable, logic operation.  
Excellent sample security.

The new generation of Incubation and Inactivation Water Baths includes 8 models with different capacities of 4 to 41 litres.

Models 1112 and 1113 with circulation system.



The new controller offers numerous additional functions:

Large high-contrast TFT colour display

Menu-guided operation

Enhanced visual and acoustic alarms for more sample security

Process-specific temperature adjustment

Temperature display either in °C or °F.

Microprocessor-controlled temperature regulation up to 100°C (boiling mode), temperature constancy  $\pm 0.1$  °C temporal at 50 °C

Interior made of stainless steel

Direct heating system for short heating-up times

Lid and perforated floor are standard

Electronic function control of the temperature controller

Two independently working over-temperature protections

Double-walled, insulating arched lid to prevent condensate dripping back into vessels

Drain cock at the back

Accessories of the existing Water Baths range 1002 to 1008 and 1012 / 1013 are compatible with the new Water Baths.

**Comprehensive range of accessories and customised special makes allow versatile applications.**



### Steam Baths, Water Baths for fume hoods and Multiple Water Baths

Comfortable operation.

Product range for gentle steaming from Erlenmeyer flasks and beakers, also for fume hoods (digestories).

Equipped with heat-resistant multi-part ring sets made of plastic material, suitable for a variety of vessels

Fully equipped with adjustable water level regulator and over-temperature cut-out

Choose between 5 models with one, four, six or eight opening(s).

### Tissue Float Bath

Low-priced and proven.

Special bath for stretching and drying cut tissues.

Comfortable and safe working owing to the low bath height of 100 mm

Optimum visibility of the samples in the black, anodized bath

Broad, warmed rim for careful drying of cut tissue samples.





## Shakers

### 15 models, 5 different motions.

Efficient and durable.  
Compact, durable mechanism  
for reliable continuous operation.

### Orbital, Reciprocating, Orbital Rocking and Rocking Shakers

Analogue or digital (microprocessor-controlled, optional RS 232 interface) control

Extremely silent operation,  
gentle start-up

Switchable between continuous  
and timed operation up to 60  
minutes and / or 99:59 hours  
(digital)

Clearly arranged control panel  
for easy operation

Constant shaking frequency, even  
when in continuous operation

Load between 8 and 30 kg

**Comprehensive range of accessories for easy fixing of nearly all kinds of laboratory vessels. Customised special makes available.**



### Rotating Shaker

Variable and robust large-scale  
rotator for continuous operation.

Especially suitable for rotating  
shaking of sedimentation bottles,  
mixing cylinders and other vessels,  
for mixing of powdery, pasty or  
liquid samples.

Rotating rack with ball bearing,  
having four levels for three each  
bottles / vessels, round or angular, up  
to 110 mm Ø and 270 mm height

Clearly laid-out control panel for  
easy operation

Shaking frequency electronically  
adjustable up to 20 rpm, stepless

Constant shaking frequency when  
in continuous operation.

### Shaking Water Baths

Efficient and robust.  
Excellent temperature constancy of  
 $\pm 0.1$  °C temporal.  
Easily removable shaking rack.

For exact temperature control procedures with gentle mixing or vigorous shaking.

2 models with reciprocating motion,  
1 model with orbital motion

Microprocessor-controlled temperature  
regulation

Temperature range up to max +99.9 °C,  
depending on the model

Digital temperature display

Two models with built-in cooling coil  
and shaking frequency display  
(reciprocating or orbital motion)

Interior and shaking rack made of  
stainless steel

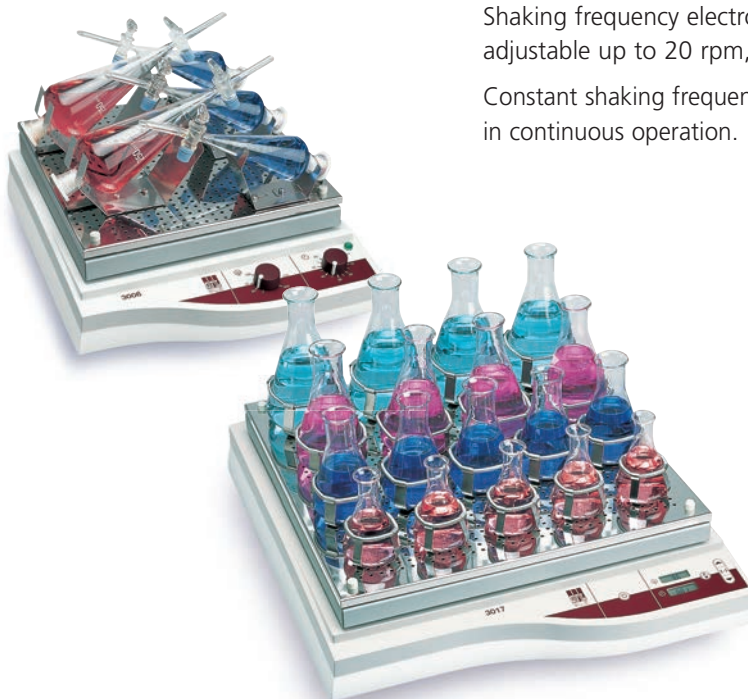
Double-walled, insulating arched lid  
to prevent condensate dripping back  
into vessels

Constant shaking frequency, independent of load, also in continuous operation

Maintenance-free and durable shaking  
device

Double over-temperature cut-out,  
electronic and electro-mechanical

**Comprehensive range of accessories and customised special makes allow versatile applications.**





## Shaking Incubators

Reliable, durable mechanism.  
Comfortable operation.

For applications requiring exactly  
reproducible orbital motions and  
temperature up to +70 °C.

3 models with 45, 46 and 150 l  
capacity

Microprocessor-controlled, PID  
type and RS 232 interface

Exact reproducibility of temperature,  
time and shaking frequency

Temperature constancy of  $\pm 0.2$  °C  
temporal

Temperature range approx. 8 °C  
above ambient to +70 °C



Over-temperature cut-out electronic  
and electro-mechanical

Shaking frequency up to 250 rpm.

Built-in cooling coil for applications  
below ambient

**Comprehensive range of accessories  
and customised special makes allow  
versatile applications.**



## Water Stills

Manual to fully automatic control.

For bench-top and / or wall  
mounting.

Maintenance-free and easy-care,  
without requiring frequent exchange  
of filters or cartridges.

Distillation of the heated cooling  
water, therefore low energy con-  
sumption of all models.

For production of ultra-pure,  
bacteria and pyrogen free distillate  
(DAB) with a very low conductivity.

4 product lines including 14 models  
for 2-12 litres of distillate per hour.

Practice-oriented accessories.

## Mono Distillers

2 benchtop models without storage  
tank for 2 and 4 litres of distillate  
per hour

4 fully automatic benchtop / wall-  
mounted units with storage tank for  
2, 4, 8 and 12 litres of distillate per  
hour



Good distillate quality, conductivity  
approx. 2.3  $\mu\text{S}/\text{cm}$  at 25 °C

Boiler, condenser, heating elements  
and storage tank (if applicable)  
made of stainless steel.

## Double Distillers

3 fully automatic benchtop / wall-  
mounted units made of stainless steel /  
glass, without storage tank, capacity  
2, 4 and 8 litres per hour

Excellent bi-distillate quality, conduc-  
tivity approx. 1.6  $\mu\text{S}/\text{cm}$  at 25 °C.

## Mono / Double Distillers made of glass

3 fully automatic benchtop / wall-  
mounted units without storage tank  
for 2, 4 and 8 litres mono distillate  
per hour

2 models produce bi-distillate with-  
out storage tank, with capacities  
of 2 and 4 litres per hour

Excellent to superior bi-distillate quality  
due to extremely low content of metal  
ions, conductivity of mono distillate  
approx. 2.2  $\mu\text{S}/\text{cm}$  at 25 °C,  
conductivity of bi-distillate  
approx. 1.6  $\mu\text{S}/\text{cm}$  at 25 °C

Evaporators, condensers and  
overflows made of DURAN® /  
Borosilikatglas 3.3

Heating elements with quartz  
sheathing.

## We produce in Germany.

Chest Freezers  
Upright Freezers  
Water Stills  
Glass Water Stills  
Incubation Water Baths  
Steam Bath, Water Baths for  
fume hoods and  
Multiple Water Baths  
Tissue Float Bath  
Shaking Water Baths  
Shakers  
Rotating Shaker  
Shaking Incubators



- Deep Freezers
- Water Stills
- Water Baths
- Shaking Water Baths
- Shakers
- Shaking Incubators



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