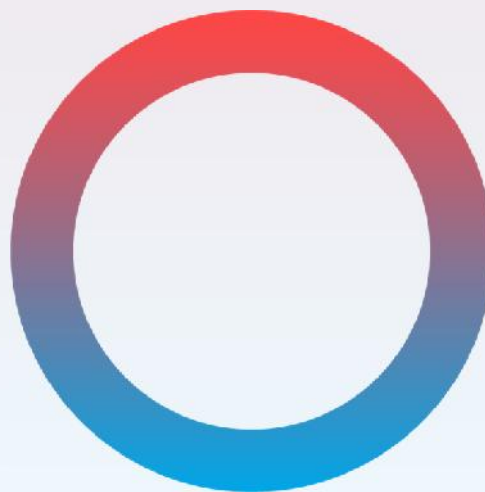


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## THE NEW PRODUCT LINE - HYDRO

Laboratory water, shaking water, vaporization water and tissue float baths

Dr. Carmen Bier • 2020-03-12

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## CONTENT

1	Overview
2	Water baths
3	Shaking water baths
4	Vaporization water baths
5	Tissue float bath
6	Availability
7	Accessories
8	Summary

# OVERVIEW

## Four types of Hydro water baths

### 1. WATER BATH



H 16 water bath

- Non-circulating and circulating water baths
- Shaking water baths

### 2. SHAKING WATER BATH



H 20 SW shaking water bath

# OVERVIEW

Four types of Hydro water baths

## 3. VAPORIZATION WATER BATH



H 6 V vaporization water bath



H 5 V vaporization water bath



H 19 V vaporization water bath

## 4. TISSUE FLOAT BATH



H 2 P tissue float bath

# UNIVERSAL WATER, SHAKING WATER BATHS FOR THE LABORATORY

High-quality, safe and user-friendly



## Applications:

- Bacteriological examinations
- Molecular biology
- Demulsibility studies
- Processing chemical reactions
- Thawing
- Metallurgical analysis
- Incubation of microbiological assays
- Warming Reagents
- Environmental studies
- Food processing (QC)
- Water quality research
- Cytochemistry

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2  
WATER BATHS

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# HYDRO WATER BATHS

## Product features

- 6 model sizes (4 L to 41 liters volume)
- Heating capacity up to 1.5 kW
- Temperature range: +25 ... 100 °C (boiling mode)
- Temperature stability:  $\pm 0.1$  K
- Programmable timer: up to 999 hrs, 59 mins
- Three timer functions
  - Switch-on delay
  - Operating time after expiry of switch-on delay or continuous operation
  - Operating time after expiry of switch-on delay and reaching the set point temperature or continuous operation.



H 16 water bath



## HEATING CONCEPT

### Homogeneous bath temperature

Heating element is located directly under the sieve plate

→ homogeneous temperature distribution in the bath

Heating capacity is adapted to the bath size

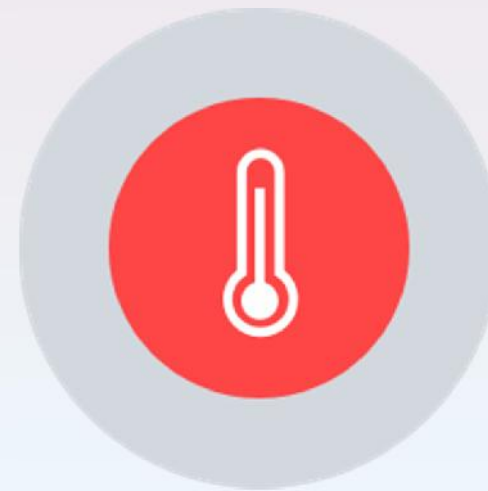
→ Set temperature is rapidly reached

Overtemperature safety sensor

→ Prevention of overheating

Calibration of the controller by reference thermometer

→ Optimal temperature accuracy



# CONTROLLER

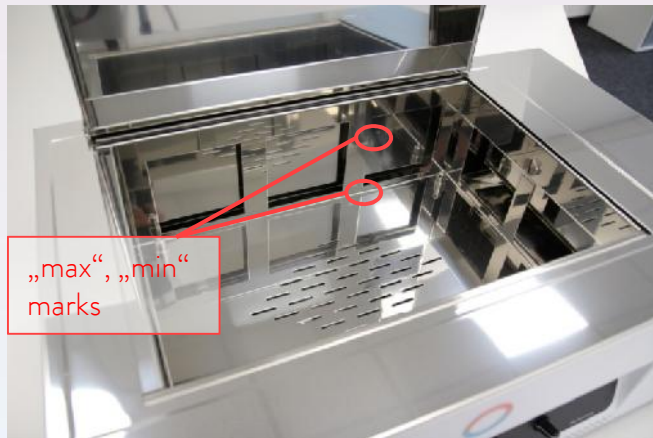
Self-explanatory, easy operation



- Large high-contrast TFT display (3.5")
- Membrane keypad with four softkeys
- Menu-guided operation
- Enhanced visual and audible alarms for more sample safety
- Temperature display either in °C or °F
- Backward-inclined operation elements → Protection of electronics from dripping water and dirt.

## OPERATION

Easy to handle from filling to cleaning



Bath interior

### FILLING

- All water baths are provided with a sieve plate as standard. → no racks necessary: flasks, containers can be placed directly on the sieve plate.
- Max. mark → no overflow

### CLEANING

- Drain valve at the rear side → convenient emptying
- Easy removal of the sieve plate for cleaning



Drain valve at the rear side of the device.

## NO DRIPPING BACK OF CONDENSATE

Double-walled lid with inner curvature



Arched insulating lid

- reduces heat loss and
- prevents condensate from dripping back into the samples.

# SAFETY FUNCTIONS

## 2-fold temperature protection

- Electronic monitoring of the temperature controller
- In case of a failure: The cause is shown on the display, the bath heating is switched off
- Optical and acoustic alarm in case of water shortage, over-/under-temperature as well as sensor break/short circuit
- Two independently operating temperature fuses (electronic over-temperature alarm and water low-level protection)



## HIGH-QUALITY PROCESSING COMBINED WITH MODERN DESIGN

Highest demands on technology, function, material and design



- Welded bath tank
- Bath interior (heating element, cover, lid and sieve plate) made of stainless steel
- Corrosion proof exterior housing made of electrolytically galvanised sheet steel, powder-coated

## MADE BY LAUDA-GFL

GFL is a synonym for highest quality and durability

# GFL Technology

Made by GFL – Gesellschaft für Labortechnik mbH

- All GFL products are renowned for their durability, reliability and long life
- All products are low maintenance or maintenance free.
- In case of malfunction, easy accessibility and thus interchangeability of all components

# TECHNICAL DATA OF THE WATER BATHS

According to DIN 12876 standard

		H 4	H 8	H16	H22	H 24	H 41
Working temp. range	°C	+25 ... 100					
Temperature stability	±K	0.1					
Heater power	kW	0.5 kW	1.0 kW	1.5 kW	1.5 kW	1.5 kW	1.5 kW
Bath volume	L	4	8	16	22	24	41
Bath opening (WxD)/ Bath depth	mm	245x100/ 165	245x200/ 165	400x245/ 165	400x245/ 225	600x245/ 165	410x296/ 335
Usable depth	mm	115	115	115	180	115	285
Dimensions (WxDxH)	mm	340x290x275	340x395x275	500x440x275	500x440x345	700x440x275	510x490x476
Weight	kg	9.2	9.3	13.3	15.0	17.2	21.2



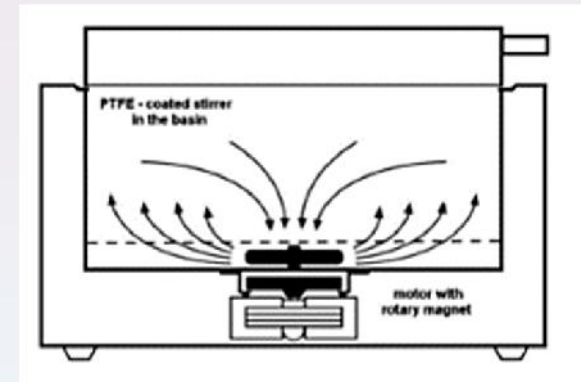
# HYDRO CIRCULATING WATER BATHS

The product option “Agitation” is available for two types

- Two model sizes (8 L and 16 liters volume) with circulating system  
→ Optimal temperature uniformity in the whole bath

ALL OTHER PRODUCT FEATURES OF THE WATER BATHS REMAIN UNCHANGED:

- Heating capacity up to 1.5 kW
- Temperature range: +25 ... 100 °C (boiling mode)
- Temperature stability:  $\pm 0.1$  K
- **Temperature homogeneity:  $\pm 0.2$  K**
- Programmable timer, up to 999 hrs, 59 mins
- Three timer functions
  - Switch-on delay
  - Operating time after expiry of switch-on delay or continuous operation
  - Operating time after expiry of switch-on delay and reaching the set point temperature or continuous operation.



An electric motor with rotary magnet is flanged to the bath floor, whose torque is transmitted to a PTFE coated stirring magnet in the bath

# TECHNICAL DATA OF THE CIRCULATING WATER BATHS

According to DIN 12876 standard

		H 8 A*	H 16 A*
Working temp. range	°C	+25 ... 100	
Temperature stability	±K	0.1	
Heater power	kW	1.0 kW	1.5 kW
Bath volume	L	8	16
Bath opening / Bath depth	mm	245x200 / 165	400x245 / 165
Usable depth	mm	115	115
Dimensions (WxDxH)	mm	340x395x275	500x440x275
Weight	kg	9.3	13.3

\*A - agitation

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### 3 SHAKING WATER BATHS

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# HYDRO SHAKING WATER BATHS

## Product features

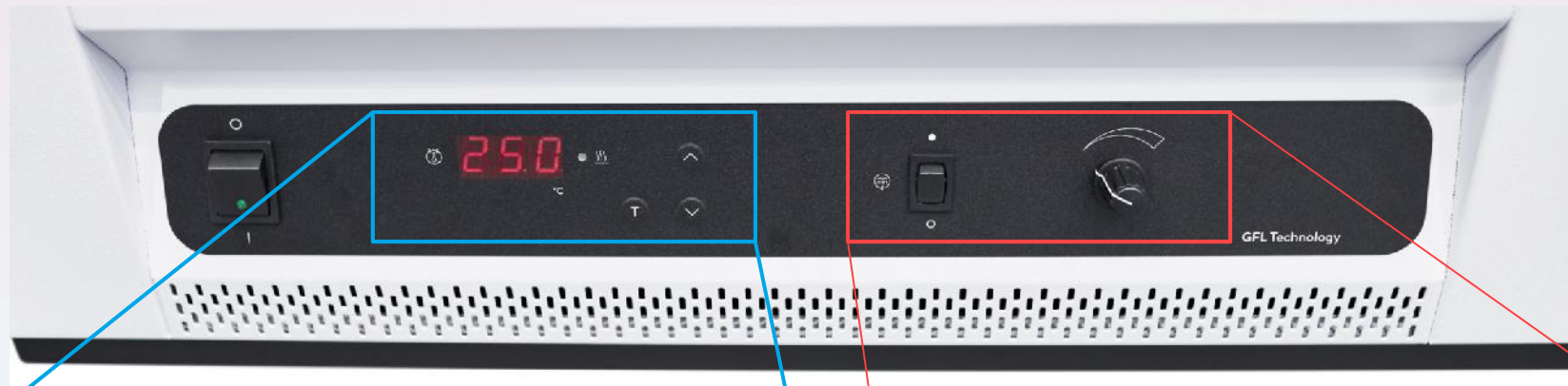
- 3 models specialized for different operating modes
  - H 20 S and H 20 SW with oscillating shaking motion
  - H 20 SOW with orbital shaking motion
- Built-in cooling coil for applications below ambient temperature (H 20 SW + H 20 SOW as a standard scope of supply)
- Heating capacity: 1.5 kW
  
- Temperature range: +10 ... 99.9 °C
- Temperature stability:  $\pm 0.1$  K (temporal at 50 °C)



Image: H 20 S shaking water bath

# CONTROLLER

Heating, shaking or heating and shaking



## Temperature setting (on the left side)

- Easy-to-read LED display
- Membrane keypad with concise symbols
- 2-finger operation → protection of unintentional modification
- Digital set point adjustment

## Frequency setting of the movement (on the right side)

- Shaking motion on/off control
- Freely adjustable electronic speed controller to control the shaking motion

## SHAKING DEVICE

Maintenance-free and low-wear shaking mechanism

- Constant shaking frequency, independent of load, even at continuous operation
- Gentle start-up
- Corrosion-resistant special ball bearings  
→ Maintenance-free and durable
- Simple removal of the shaking rack for easy cleaning

Only for H 20 SW:

- Display of the actual speed via an LED display



Image: H 20 S shaking water bath

# NO DRIPPING BACK OF CONDENSATE

Double-walled lid with inner curvature



Arched insulating lid

- reduces heat loss and
- prevents condensate from dripping back into the vessels.

Cover frame

- Condensate channel in the cover frame let's condensate run back into the bath

Material

- Bath interior, insulating lid und cover made of stainless steel
- Corrosion proof exterior housing

# TECHNICAL DATA

According to DIN 12876 standard

		H 20 S	H 20 SW	H 20 SOW
Working temp. range	°C	+25 ... 99.9	+25 ... 99.9	+25 ... 80
Working temp. range with water cooling	°C	--	10 ... 99.9	10 ... 80
Temperature stability	±K	0.1		
Heater power	kW	1.5 kW		
Bath volume	L	20		
Bath opening (WxDxH)	mm	450x300x160	450x300x160	450 x 300 x 155
Shaking motion		oscillating	oscillating	orbital
Shaking frequency	rpm	10 - 250		
Shaking amplitude	mm	22	22	14
Dimensions (WxDxH)	mm	715x520x330	715x520x330	632 x 500 x 390
Net/gross weight	kg	28 / 32	30 / 34	35 / 40



# HIGH-QUALITY SHAKING WATER BATHS

High-quality, safe and maintenance-free

- Technology
  - Welded bath tank
  - Shaking device mounted on special ball bearings
  - Low-wear mechanics
  - Optimum safety functions (electronic monitoring, two independent over-temperature protection measures)
- Function
  - Optimum temperature distribution throughout the whole bath interior
  - Overload-protected AC motor for shaking device
  - Marked with CE mark
- Design
  - Modern and pleasant design



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## 4 VAPORIZATION WATER BATHS

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# HYDRO VAPORIZATION WATER BATHS

## Product features

- 5 model sizes (5 L to 19 liters volume)
- Heating capacity up to 1.5 kW
- Temperature range: +25 ... 100 °C (boiling mode)
- Temperature stability:  $\pm 3$  K
- Temperature adjustment via rotary knob with temperature scale
- Number of openings (1 to 8)
  - All openings are provided with hole covers
  - All hole covers consist of a multi-piece ring set and are removable
  - Multi-piece ring set made of heat resistant plastic
- Adjustable water level regulator as standard



H 9 V vaporization water bath



H 11 V vaporization water bath

# HYDRO VAPORIZATION WATER BATHS

For gentle multiple steaming work from columns, Erlenmeyer flasks or beakers

Removable square cover plate  
(W 265 mm x D 265 mm)



H 5 V vaporization water bath

A support rod of 600 mm length, 12 mm diameter is behind each opening



H 6 V vaporization water bath



H 9 V vaporization water bath

- Corrosion proof exterior housing made of electrolytically galvanised sheet steel, powder-coated
- Bath interior, heating element, frame with openings and 2-part perforated floor plate above the heating element are made of stainless steel.

# HYDRO VAPORIZATION WATER BATHS

For the protected use in fume hoods (digestories)

- All constructive parts of the housing as well as the heating element are made of stainless steel.



H 11 V vaporization water bath



H 19 V vaporization water bath

# TECHNICAL DATA OF THE VAPORIZATION WATER BATHS

According to DIN 12876 standard

		H 5 V	H 6 V	H 9 V	H 11 V	H 19 V
Working temp. range	°C	+25 ... 100				
Temperature stability	±K	3				
Heater power	kW	1.0 kW	1.0 kW	1.5 kW	1.5 kW	1.5 kW
Bath volume max.	L	5	5.3	8	10.5	18.4
Number of openings		1	4	6	6	8
Ø of the openings min. / max.	mm	32.5 / 173.5	32.5 / 112.5	32.5 / 112.5	32.5 / 92.5	32.5 / 92.5
Dimensions (WxDxH)	mm	342x400x180	682x232x190	982x232x190	450x300x155	690x300x155
Net / gross weight	kg	8.1 / 9.4 kg	12.4 / 13.6 kg	17.0 / 18.5 kg	5.7 / 7.0 kg	7.9 / 9.1 kg

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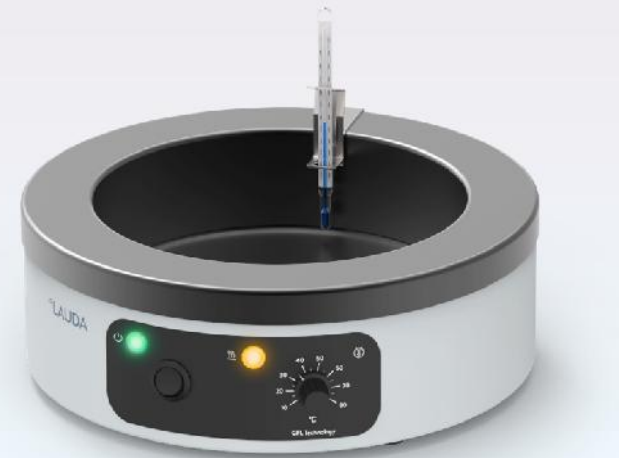
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TISSUE FLOAT BATH

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# HYDRO TISSUE FLOAT BATH

For stretching and drying cut tissues in histological, pathological, chemical, clinical + bacteriological labs

- 1 model size (2 L liters volume)
- Heating capacity: 0.3 kW
- Temperature range: +25 ... 80 °C
- Temperature stability: ±0.5 K
- Bath size/depth: Ø200 mm / 60 mm
- Temperature adjustment via rotary knob with temperature scale
- Temperature indication by control thermometer at the bath edge
- Aluminium bath interior, black anodised



1 | 2 | P tissue float bath



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## 6 AVAILABILITY

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## DESIGNATION DEVICE TYPES

Concept from Aqualine and ECO transferred to Hydro consequently



A – Circulating water bath “A- Agitation”

**S** – Shaking water bath

V – Vaporization water bath

P – Tissue float baths

**W** – with water cooling

○ – orbital shaking motion

## OVERVIEW OF HYDRO DEVICE TYPES

Devices also available with different mains plugs

Order number	Device type	Filling volume	Heating power	Power supply
L002900	H 4	4 L	0.5 kW	230 V; 50/60 Hz
L002901	H 8	8 L	1.0 kW	230 V; 50/60 Hz
L002902	H 16	16 L	1.5 kW	230 V; 50/60 Hz
L002903	H 22	22 L	1.5 kW	230 V; 50/60 Hz
L002904	H 24	24 L	1.5 kW	230 V; 50/60 Hz
L002905	H 41	41 L	1.5 kW	230 V; 50/60 Hz
L002906	H 8 A	8 L	1.0 kW	230 V; 50/60 Hz
L002907	H 16 A	16 L	1.5 kW	230 V; 50/60 Hz
L002908	H 20 S	20 L	1.5 kW	230 V; 50/60 Hz
L002909	H 20 SW	20 L	1.5 kW	230 V; 50/60 Hz
L002910	H 20 SOW	20 L	1.5 kW	230 V; 50/60 Hz

These device types are equipped with an CEE7/7 angled, "Schuko" (EU) plug

The following plugs are also available

- BS1363 angled (UK)
- NBR 14136, BR/3/20 (BR)
- AS/NSZ 3112, SAA/3/15 (AUS)
- SEV 1011, SEV 5934/2, T23 (CH)
- GB2099 (CN)

## OVERVIEW OF HYDRO DEVICE TYPES

Devices also available with different mains plugs

Order number	Device type	Filling volume	Heating power	Power supply
L003066	H 5 V	5 L	1.0 kW	230 V; 50/60 Hz
L003067	H 6 V	5.3 L	1.0 kW	230 V; 50/60 Hz
L003068	H 9 V	8 L	1.5 kW	230 V; 50/60 Hz
L003069	H 11 V	10.5 L	1.5 kW	230 V; 50/60 Hz
L003070	H 19 V	18.4 L	1.5 kW	230 V; 50/60 Hz
L003071	H 2 P	2 L	0.3 kW	230 V; 50/60 Hz

These device types are equipped with an CEE7/7 angled, "Schuko" (EU) plug

The following plugs are also available

- BS1363 angled (UK)
- NBR 14136, BR/3/20 (BR)
- AS/NSZ 3112, SAA/3/15 (AUS)
- SEV 1011, SEV 5934/2, T23 (CH)
- GB2099 (CN)

## OVERVIEW OF HYDRO DEVICE TYPES

US voltage

Order number	Device type	Filling volume	Heating power	Power supply
L002911	H 4	4 L	0,5 kW	115 V; 60 Hz
L002912	H 8	8 L	1,0 kW	115 V; 60 Hz
L002913	H 16	16 L	1,5 kW	115 V; 60 Hz
L002914	H 22	22 L	1,5 kW	115 V; 60 Hz
L002915	H 24	24 L	1,5 kW	115 V; 60 Hz
L002916	H 41	41 L	1,5 kW	115 V; 60 Hz
L002917	H 8 A	8 L	1,0 kW	115 V; 60 Hz
L002918	H 16 A	16 L	1,5 kW	115 V; 60 Hz
L002919	H 20 S	20 L	1,5 kW	115 V; 60 Hz
L002920	H 20 SW	20 L	1,5 kW	115 V; 60 Hz
L002921	H 20 SOW	20 L	1,5 kW	115 V; 60 Hz

These device types are equipped with a NEMA 5-15P (USA) plug

## OVERVIEW OF HYDRO DEVICE TYPES

US voltage

Order number	Device type	Filling volume	Heating power	Power supply
L003072	H 5 V	5 L	1.0 kW	115 V; 60 Hz
L003073	H 6 V	5.3 L	1.0 kW	115 V; 60 Hz
L003074	H 9 V	8 L	1.5 kW	115 V; 60 Hz
L003075	H 11 V	10.5 L	1.5 kW	115 V; 60 Hz
L003076	H 19 V	18.4 L	1.5 kW	115 V; 60 Hz
L003077	H 2 P	2 L	0.3 kW	115 V; 60 Hz

These device types are equipped with a NEMA 5-15P (USA) plug

# OVERVIEW OF HYDRO DEVICE TYPES

Japanese voltage

Order number	Device type	Filling volume	Heating power	Power supply
L002922	H 4	4 L	0,5 kW	100 V; 50/60 Hz
L002923	H 8	8 L	1,0 kW	100 V; 50/60 Hz
L002924	H 16	16 L	1,5 kW	100 V; 50/60 Hz
L002925	H 22	22 L	1,5 kW	100 V; 50/60 Hz
L002926	H 24	24 L	1,5 kW	100 V; 50/60 Hz
L002927	H 41	41 L	1,5 kW	100 V; 50/60 Hz
L002928	H 8 A	8 L	1,0 kW	100 V; 50/60 Hz
L002929	H 16 A	16 L	1,5 kW	100 V; 50/60 Hz
L002930	H 20 S	20 L	1,5 kW	100 V; 50/60 Hz
L002931	H 20 SW	20 L	1,5 kW	100 V; 50/60 Hz
L002932	H 20 SOW	20 L	1,5 kW	100 V; 50/60 Hz

These device types are equipped with a NEMA 5-15P (USA) plug

## OVERVIEW OF HYDRO DEVICE TYPES

Japanese voltage

Order number	Device type	Filling volume	Heating power	Power supply
L003078	H 5 V	5 L	1.0 kW	100 V; 50/60 Hz
L003079	H 6 V	5.3 L	1.0 kW	100 V; 50/60 Hz
L003080	H 9 V	8 L	1.5 kW	100 V; 50/60 Hz
L003081	H 11 V	10.5 L	1.5 kW	100 V; 50/60 Hz
L003082	H 19 V	18.4 L	1.5 kW	100 V; 50/60 Hz
L003083	H 2 P	2 L	0.3 kW	100 V; 50/60 Hz

These device types are equipped with a NEMA 5-15P (USA) plug



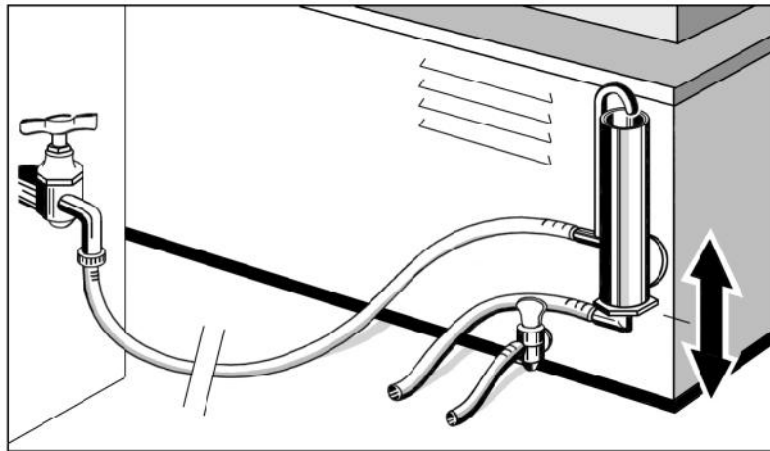
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7  
ACCESSORIES

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## WATER LEVEL CONTROL FOR ALL BATHS

Allows unattended continuous operation



**Water level regulator** - Cat. No.: A000024

available as accessory

- Water loss (through evaporation) is compensated and thus water level is kept constant.
- Operation of the bath below ambient temperature at a minimum of approx. 3 °C above tap water temperature

# ACCESSORIES

Universal applicable in all water baths

Cat. No.	A000015	A000016	A000017	A000022
Device types	 Rack with 20 openings Ø18 mm	 Rack with 5 openings Ø 31 mm	 Rack with 20 openings Ø 13 mm	 Milk bottle rack with 12 openings Ø56 mm
H 4	max. 2 racks	max. 2 racks	max. 2 racks	--
H 8 (A)	max. 4 racks	max. 4 racks	max. 4 racks	max. 1 racks
H 16 (A) + H 22	max. 8 racks	max. 8 racks	max. 8 racks	max. 2 racks
H 24	max. 12 racks	max. 12 racks	max. 12 racks	max. 3 racks
H 41	max. 9 racks	max. 9 racks	max. 9 racks	max. 2 racks

## ACCESSORIES

Suitable for shaking water baths



Shaking tray Cat. No.: A000023

Shaking tray made of stainless steel, perforated, to accommodate clamps for Erlenmeyer flasks of 25 ml to 500 ml\*



Clamps for Erlenmeyer flasks of 25 ml to 500 ml\*  
Cat. No.: A000025- A000031

\* When using Erlenmeyer flasks with 500 ml a raised lid for H 20 S and H 20 SW is necessary.

Cat. No.: A000038

# ACCESSORIES

Suitable for shaking water baths



Stainless steel test tube rack for max. 20 (12) Falcon tubes,  
15 ml (50 ml)

Cat. No.: A000032 (Cat. No.: A000033)



Stainless steel test tube rack with 243 openings  
Ø16/17 mm

Cat. No.: A000018

## ACCESSORIES

Suitable for all water baths

Water additive: Algizide Aquastab

- Highly effective algicide increases lifetime of filling water and hinders bio-fouling
- Reduction of contamination with bacteria and growth of fungi

Content	Cat. No.
100 ml	LZB 929
1 L	LZB 429
5 L	LZB 129

## ACCESSORIES

Suitable for vaporization water bath H 5 V and tissue float bath H 2 P



Support rod for vaporization bath H 5 V  
316 mm long, Ø12 mm

Cat. No.: A000039



Dust guard lid made of aluminum, black anodised  
Suitable for tissue float bath H 2 P

Cat. No.: A000040

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## 8 SUMMARY

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# SUMMARY

New product features, reliable and safe technology

## NEW

- Hydro replaces Aqualine water baths
- In addition to simple water baths, Hydro also includes the following device categories: Circulating water baths, shaking water baths, vaporization water baths and one tissue float bath
- Numerous additional functions such as programmable timer and extended equipment: drain valve, TFT display

## RELIABLE + SAFE

- GFL Technology, robust and reliable from one of the most competent and reknown manufacturers in the field of laboratory equipment
- Robust thanks to stainless steel inner body
- Comprehensive security functions
- Maintenance-free

## PRICE

- Competitive price and excellent price-performance ratio



**000 «Диаэм»**

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