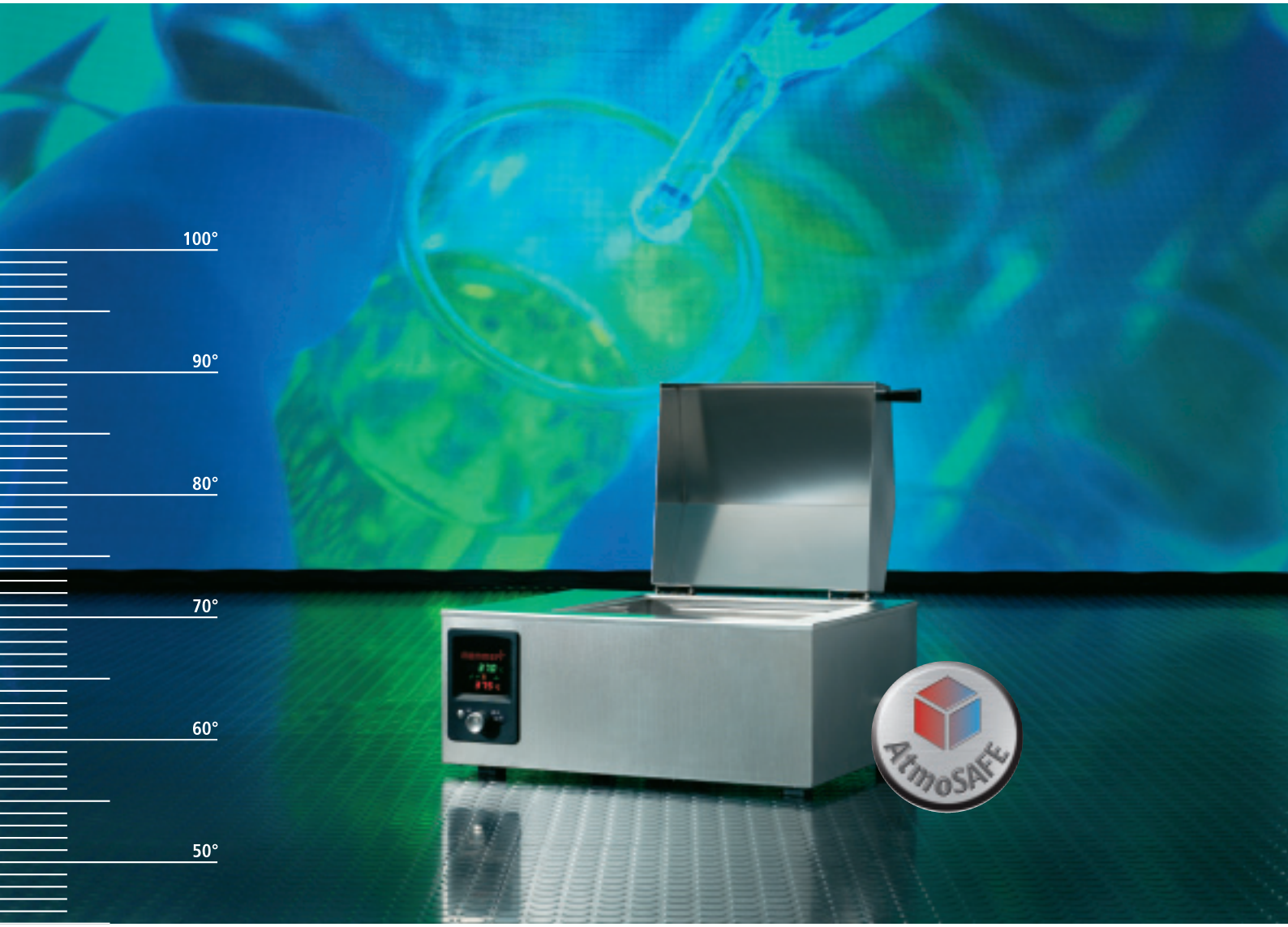
memmert

Experts in Thermostatics

Waterbaths and Oilbaths **WNB/WNE/WPE/ONE**



Precise and eco-friendly below ambient thanks to the Peltier cooling unit

Well-tempered

Combined start delay and hold time; on "Excellent" models setpoint-dependent

Optimal timing

More security through at least double overtemperature protection on all baths

Safe as houses

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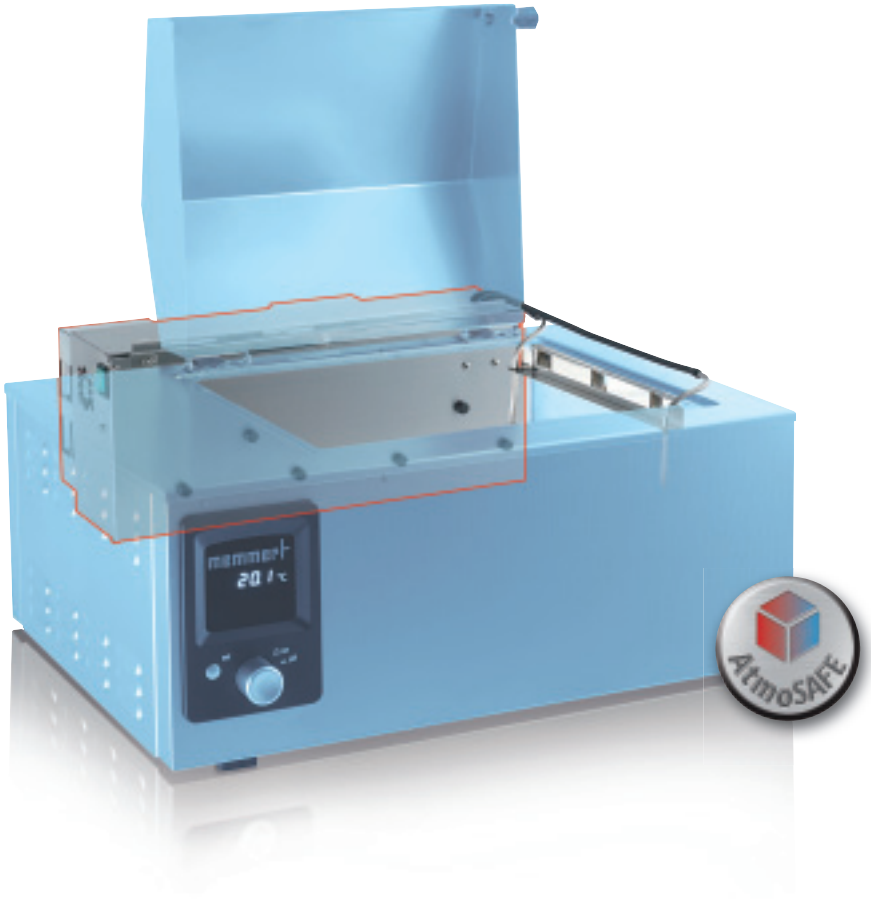
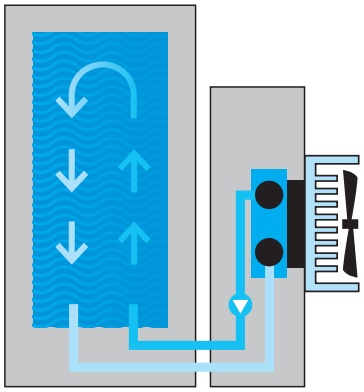


Cooling with Peltier – sustainable and energy-saving

If constant set temperatures close to ambient are required in the waterbath, Peltier elements cool down the tempering medium in a way that is economical, eco-friendly and precise.

- No gases or fluids (coolants) required, and therefore no hazardous waste
- Quiet and smooth-running
- High control precision
- Saves valuable space in the laboratory



Fluid circulation

A cooling unit for all Memmert waterbaths!

The CDP 115 extends the temperature range of the Memmert waterbaths from 10 °C to 95 °C. It can be fitted to all appliances from 7 to 45 litres in capacity, quickly and without technical knowledge. Simply hang it onto the flaps of the gable lid hinge, and that's it! The water is continually circulated via two Norpren tubes, cooling it down. Simultaneous use of the SV shaking device is not a problem.

Peltier cooling unit CDP 115

The Peltier cooling unit CDP 115 enables you to work precisely with temperatures below room temperature and puts an end to unwieldy external cooling units. Space-saving, environmentally friendly and precise in its temperature control, it fits on the smallest as well as on the largest Memmert waterbath!
Your benefits: Compact design, user-friendly snap-on technology and exact controllability down to ± 0.1 K.

Waterbaths Basic 7-45 litre

WNB 7-45: +10 °C to +95 °C
plus boiling stage

2-level security through relay cut-out close to setpoint (approx. +10 °C) and mechanical temperature limiter TB at 135 °C

optional water flow cooling for WNB 10 to 45

The new professional generation

Unique in its accuracy!

The latest generation of Memmert waterbaths and oilbaths – that is the combination of high-grade anti-corrosion stainless steel with the latest electronics. For maximum functional security and decisive advantages in convenience and ease of operation. By professionals made for professionals.

With a setpoint resolution of 0.1°C, indicated temperature to the nearest 0.1°C, and timer programming of switch-on delay and hold time in 1-minute steps, the accuracy of Memmert thermostatic baths is carried to a new dimension!

E – an excellent decision!

In the Excellent version the Memmert waterbaths and oilbaths perfectly conform to professional requirements of quality management and to technical regulations and standards:

- Excellent overtemperature protection and digital level monitor to guarantee secure long-term tests – with visual and audible alarm signals
- Excellent quality assurance on standardised or documented material tests through +/- 5K recalibration facility on the controller
- Excellent user friendliness through programmable start of hold time only after reaching the temperature setpoint

Waterbaths Excellent 7-45 litre

WNE 7-45: +10 °C to +95 °C plus boiling stage

relay cut-out close to setpoint (approx. +10 °C) and mechanical temperature limiter TB at 135 °C

additionally as standard: either electronic adjustable temperature monitor TWW or alternatively adjustable temperature limiter TWB (to be chosen in setup)

optional water flow cooling for WNE 10 to 45

Waterbaths Excellent 45 litre with circulating pump

WPE 45: +10 °C to +95 °C

relay cut-out close to setpoint (approx. +10 °C) and mechanical temperature limiter TB at 135 °C

additionally as standard: either electronic adjustable temperature monitor TWW or alternatively adjustable temperature limiter TWB (to be chosen in setup)

optional water flow cooling for WPE 45

Oilbaths Excellent 7-45 litre

ONE 7-45: +20 °C to +200 °C

relay cut-out close to setpoint (approx. +10 °C) and mechanical temperature limiter TB at 230 °C

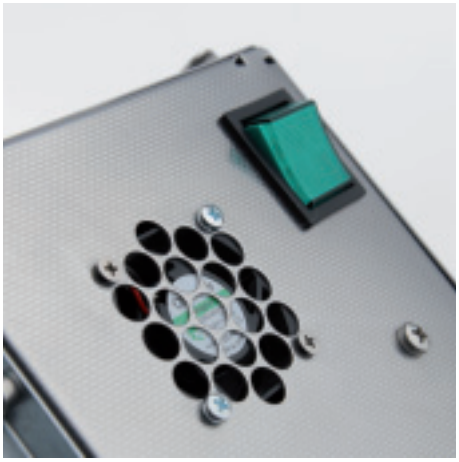
additionally as standard electronic adjustable temperature limiter TWB

1 WNE 22 with shaking device (requires special gable cover L4)
2 WNE 45
3 ONE 29
4 WNE 14
5 WNE 10
6 WNB 7



Sustainably into the future!

For many years, the use of Peltier elements for laboratory equipment has been a tradition at Memmert. No manufacturer has a larger range of innovative appliances with this compact, smooth-running, economical and energy-saving technology.



Safety and precision are involved, as always!

The cooling unit CDP 115 has its own main switch. The temperature is controlled via the electronic controller of the waterbath and achieves an impressive precision of ± 0.1 K. A frost protection unit we have developed switches off the cooling element if there is too little fluid flow, thus protecting the Peltier flow-through cooler from freezing. After the disruption has been cleared up, the frost protection switch resets automatically.

Average cooling speed

Filling volumes bath size	Average cooling down speed*
7 litres / WN...7	14.1 K/h
10 litres / WN...10	9.9 K/h
14 litres / WN...14	7.1 K/h
22 litres / WN...22	4.5 K/h
29 litres / WN...29	3.4 K/h
45 litres / WN...45	2.2 K/h

*At a room temperature of 20 °C

Technical data Peltier cooling unit CDP 115

• Casing dimensions:	(H x W x D) 185 x 450 x 200 mm
• Electrical connection:	230 V; 50/60 Hz 115 V as option
• Power consumption:	max. 160 W
• Effective cooling capacity:	115 Watt
• Pumping capacity of circulation pump for coolant:	600 ml/minute
• Order number:	L8

Convenience and security through the latest control technology

Because there are such great variations in thermal tests and tested materials, Memmert offers waterbaths in two performance classes. For warming paraffin wax, for example, the Basic waterbath is usually adequate. The Excellent version on the other hand supports reliable and precise testing processes; e.g. safety glass for the motor and aircraft industries is tested in the waterbath for its moisture absorption, the oil-bath with its higher temperatures up to +200°C is ideal for testing and calibrating temperature sensors, among others.

Push and turn – intuitive operation of the control

Memmert carries out the entire development, production and assembly of all baths in-house. This allows electronic development and product design to be matched exactly to customer requirements. In the Basic versions an electronic PID controller ensures that the selected temperature is accurately reached and maintained. The multi-functional fuzzy-supported PID control on the Excellent versions guarantees maximum security. Two high-grade platinum sensors are responsible for temperature control and for monitoring temperature and level. Like a climbing team on a rope they communicate with each other and ensure uninterrupted fault-free temperature control; the high-grade 4-wire circuit guarantees uncorrupted transmission of measurements.

The result can readily be seen behind the easy-clean glass window: all essential settings and operating states are clearly displayed.

Only from Memmert – the patented push-turn control for intuitive operation of the entire menu.

The functions of the Basic version WNB

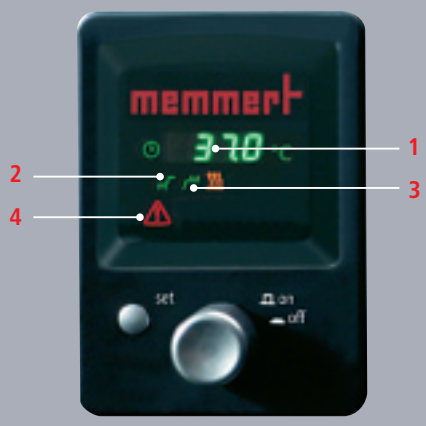
1 Normal operation
Press the SET key, select the setpoint temperature, and off we go!

2 Delayed switch-on
Go home in the evening; in the morning the bath is already at temperature.
from 0 to 99:59 hrs (Excellent: 999 hrs)
setting accuracy: 1 minute

3 Programmable hold time
Select to the nearest minute how long the waterbath should hold the temperature.
from 0 to 99:59 hrs (Excellent: 999 hrs)
setting accuracy: 1 minute

4 Visual alarm
If the setpoint temperature is exceeded by more than 10°C the monitor relay permits emergency operation, indicated visually by the flashing alarm signal.

If the factory-set maximum temperature is exceeded the mechanical temperature limiter TB switches off the heating permanently and the alarm symbol is on continuously.



Anti-corrosion stainless steel – including the accessories

It is not only the inner tank which is made from pure, fully recyclable stainless steel mat. 1.4301 (ASTM 304). The same material is used for outer casing, cover, and the full range of accessories such as test tube racks, bottom grating or retainer plates for the shaker attachment. For optimal hygiene and at the same time perfectly easy to clean.

The functions of the Excellent version WNE – WPE – ONE

Excellent versions offer everything included in the Basic versions and in addition still more convenience and security: start of hold period only after reaching the set-point, re-calibration on the controller, and audible signals e.g. on overtemperature and programme end.

1 **Electronic overtemperature protection**
Set the monitoring temperature with 0.1°C accuracy up to 10°C above nominal temperature. If there should be a fault, you can choose in setup through standard function selection between continuation of the procedure (TWW) or abort (TWB).

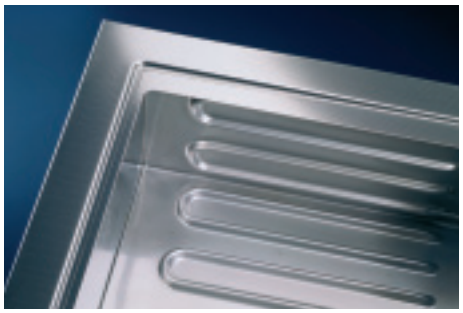
2 **Level**
This flashes on low liquid level. At the same time there is an audible alarm and the heating is switched off automatically.

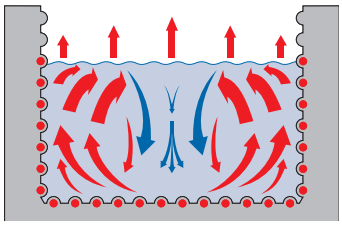
3 **Audible signals**
There is a brief beep at programme end and also as input acknowledgement. On overtemperature and low liquid level there is an audible signal together with a visual alarm.

4 **Circulating pump (WPE 45 only)**
The circulating pump in the WPE 45 optimises the thermal uniformity of the large water volume!

Dual-use heating design

The tank does not contain any heating elements liable to corrode or attract lime deposits. Fully protected against moisture and yet close to the tank contents, the heating is located underneath deep-drawn and easy-to-clean ribs. This form of construction generates natural turbulence and therefore better temperature distribution in the bath. Heating from three sides ensures optimal temperature uniformity. At 95°C water temperature the deviation over the entire bath is less than 0.36°C!





optimal temperature uniformity

Water level control

Where an almost constant water level is required, each thermostatic bath can optionally be fitted with a level control device. The bath is connected by hoses to the mains water system and is continuously supplied drop-wise with additional water. An additional overflow permits maintaining two different water levels.

Two baths in one

The electronically controlled shaker attachment is available in two versions for different bath sizes (requires special gable cover L4). It converts the models from size W14 upwards into an adjustable-speed shaking bath with horizontal movement from 15 to 150 strokes per minute.

An electronic blockage protection switches off the motor within fractions of a second on a sudden overload.

For each bath its cover

On all models there is the choice between gable cover and/or flat cover with ring openings for different flask diameters. The closed gable cover prevents excessive evaporation of the thermostating liquid. The slope discharges any condensate towards the sides well away from any objects inside the bath.

At a glance: technical data, models and accessories for water- and oilbaths (see picture at bottom of page 9)

Model sizes				7	10	14	22	29	45
Stainless steel container	Contents		approx. l	7	10	14	22	29	45
	Length	(A)	mm	240	350	350	350	590	590
	Width	(B)	mm	210	210	290	290	350	350
	Height	(C)	mm	140	140	140	220	140	220
Stainless steel casing	Length	(D)	mm	468	578	578	578	818	818
	Width	(E)	mm	356	356	436	436	516	516
	Height (with flat cover)	(F)	mm	238	238	238	296	238	296
	Height (with gable cover)	(G)	mm	337	337	347	405	343	401
Liquid level	min.	(H)	mm	97	97	97	177	105	177
	max.	(I)	mm	120	120	120	200	120	200
Temperature deviation	Waterbaths variation/distribution		°C	±0,1/±0,25	±0,1/±0,25	±0,1/±0,25	±0,1/±0,25	±0,1/±0,25	±0,1/±0,25
	Oilbaths variation/distribution		°C	±0,3/±1	±0,3/±1	±0,3/±1	±0,3/±1	±0,3/±1	±0,3/±1
Electrical supply	Electrical supply 230 V[1] (±10%), 50/60 Hz[2]; Electrical load W/O during heating		approx. W	1200	1200	1800	2000	2400	2800
Shipping details	Net weight (with one cover option)		approx. kg	11	13	15	16	22	24
	Gross weight in Triwall carton		approx. kg	14/22	17/26	19/30	20/32	29/42	31/46
Packed dimensions carton	Length		approx. cm	57/60	67/70	67/70	67/70	91/94	91/94
	Width		approx. cm	45/48	45/47	53/56	53/56	61/64	61/64
	Height (with flat cover)		approx. cm	42/36	38/36	40/36	46/42	40/36	46/42
	Height (with gable cover)		approx. cm	42/47	38/46	40/46	46/52	40/46	46/52
Waterbaths[3] with timer	WNB[4] (Basic) with control range from +10 °C[5] to +95 °C and additional boiling stage		Order No.	WNB 7	WNB 10	WNB 14	WNB 22	WNB 29	WNB 45
Basic: up to 99:59 h	WNE[4] (Excellent) with control range from +10 °C[5] to +95 °C and additional boiling stage		Order No.	WNE 7	WNE 10	WNE 14	WNE 22	WNE 29	WNE 45
Excellent: up to 999 h	WPE[2)+4)] (Excellent) with circulation pump with control range from +10 °C[5] to +95 °C and boiling stage (only with pump switched off)		Order No.	–	–	–	–	–	WPE 45
Oilbaths[3]	ONE[4)+6)] (Excellent) with timer up to 999 h with control range from +20 °C[5] to +200 °C		Order No.	ONE 7	ONE 10	ONE 14	ONE 22	ONE 29	ONE 45
Special equipment	**Peltier cooling device CDP 115**		Order No.	L8	L8	L8	L8	L8	L8
	Installation and connection set (including mounting bars for all different bath sizes)		Order No.	L9	L9	L9	L9	L9	L9
	Special gable cover for shaking device (14/22 and 29/45) or cooling device		Order No.	L4	L4	L4	L4	L4	L4
	Special flat cover with openings and concentric ring sets		Number of openings/dia. Order No.	1/147 L6	3/107 L6	6/87 L6	6/87 L6	8/107 L6	8/107 L6
	Flat stainless steel cover with concentric ring sets (for sizes 29 + 45 two options available)	ring set openings Ø of the openings	number Ø Order No.	1 147 L0	3 107 L0	6 87 L0	6 87 L0	8 / 4 107 / 147 L0 / L2	8 / 4 107 / 147 L0 / L2
	Fitted stainless steel gable cover for condensate drainage/(with shaking device L4)		Order No.	L1	L1	L1/L4	L1/L4	L1/L4	L1/L4
	Water level control (for WNB, WNE, WPE)		Order No.	L3	L3	L3	L3	L3	L3
	Works calibration certificate (37 °C for WNE, WPE; 160 °C for ONE)		Order No.	Z4	Z4	Z4	Z4	Z4	Z4
	Test tube racks (W7: 56 holes; Ø 18 mm each) Test tube racks (W7: 24 holes; Ø 18 mm each)		Order No. Order No.	N07 N08	see table page 9				
	Portable stainless steel rack for 10 baby bottles (for WNB, WNE) Maximum capacity each bath		Order No. number	– –	N00(x) 1	N00(x) 2	– –	N00(x) 4	– –
	Shelf reversible for 2 heights (30 or 60 mm)		Order No.	L5	L5	L5	L5	L5	L5
	Continuous water flow cooling (for WNB, WNE, WPE)		Order No.	–	L7	L7	L7	L7	L7
	Shaking device[7] incl. support frame (for test tube racks or support basket with perforated shelf) for fitting into waterbaths with electronic speed control (speed from 15 to 150 strokes per minute); stroke 15 mm (horizontal back/forth movements)		Order No.	–	–	M00	M00	M01	M01
	Support basket with perforated mounting shelf (stainless steel) with grid perforations to take clips for conical flasks		Order No.	–	–	M10	M10	M10	M10
	Clip for 100 ml flask; 18 flasks max.		Order No.	–	–	–	–	M11(x)	M11(x)
	Clip for 100 ml flask; 12 flasks max.		Order No.	–	–	M11(x)	M11(x)	–	–
	Clip for 200 ml flask; 14 flasks max.		Order No.	–	–	–	–	M12(x)	M12(x)
	Clip for 200 ml flask; 6 flasks max.		Order No.	–	–	M12(x)	M12(x)	–	–
	Clip for 300 ml flask; 14 flasks max.		Order No.	–	–	–	–	M13(x)	M13(x)
	Clip for 300 ml flask; 6 flasks max.		Order No.	–	–	M13(x)	M13(x)	–	–
	Clip for 500 ml flask; 8 flasks max.		Order No.	–	–	–	–	M14(x)	M14(x)
	Clip for 500 ml flask; 5 flasks max.		Order No.	–	–	M14(x)	M14(x)	–	–
	Rack for 216 test tubes Ø 14,5 mm		Order No.	–	–	–	–	M21	M21
	Rack for 110 test tubes Ø 14,5 mm		Order No.	–	–	M21	M21	–	–
	Rack for 180 test tubes Ø 18 mm		Order No.	–	–	–	–	M22	M22
	Rack for 90 test tubes Ø 18 mm		Order No.	–	–	M22	M22	–	–
	Rack for 54 test tubes Ø 32 mm		Order No.	–	–	–	–	M23	M23
	Rack for 25 test tubes Ø 32 mm		Order No.	–	–	M23	M23	–	–

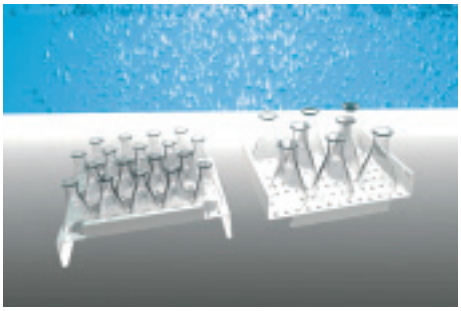
Subject to technical modifications
All performance data are typical average values for standard appliances
– Not available

1) Option 115 V, 50/60 Hz
2) WPE: frequency only 50 Hz
3) Please do not forget to order a cover!

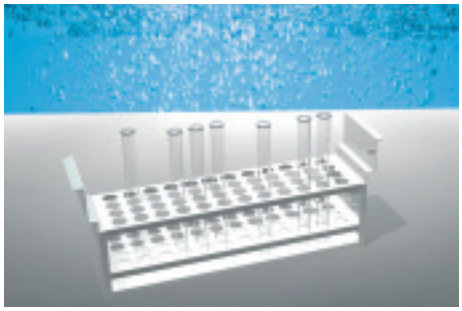
4) WNB: Waterbath Natural Circulation Basic
WNE: Waterbath Natural Circulation Excellent
WPE: Waterbath Pump Circulation Excellent
ONE: Oilbath Natural Circulation Excellent

5) The control range starts at least 5 °C, on WPE 15 °C above ambient temperature
6) We recommend Silicone oil with a flash point >300 °C
7) On shaking device special gable cover L4
(x) Please specify quantity required after the order number

Accessories made of stainless steel

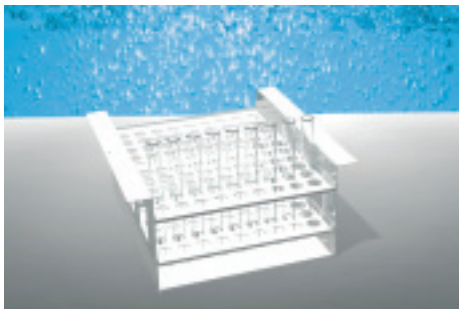


Reversible stainless shelf for two heights

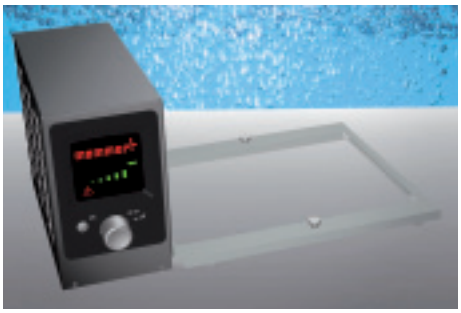


Ergonomically optimised test tube racks in stainless steel (no hot handholds)

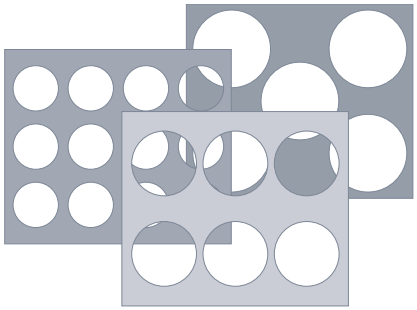
Stand for baby food bottles



Test tube racks for W7

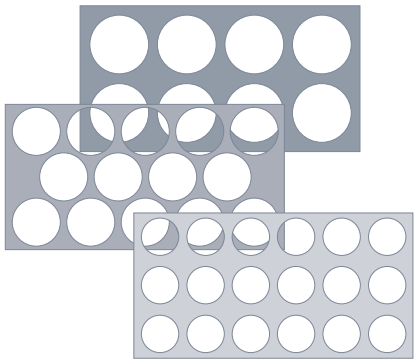


Variable shaker attachment in two versions for WNB/WNE 14/22 as well as WNB/WNE/WPE 29/45

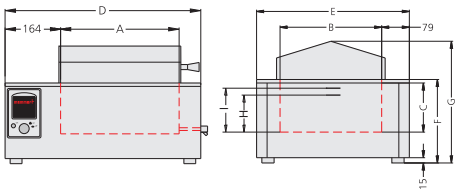


Mounting shelves W14/22:
12 flasks 100 ml
or 6 flasks 200/300 ml
or 5 flasks 500 ml

Retaining elements for conical flasks and test tubes (for shaking device)



Mounting shelves W29/45:
18 flasks 100 ml
or 14 flasks 200/300 ml
or 8 flasks 500 ml



Dimensions of waterbaths and oilbaths
(see table left)

Test tube racks

2-row racks

Holes (H) num.	Ø mm	Width (Wr) mm	Order No.
40	10	40	N20(x)
40	12	40	N21(x)
24	14,5	43	N22(x)
24	18	50	N23(x)
20	21	55	N24(x)
12	32	80	N25(x)

3-row racks

Holes (H) num.	Ø mm	Width (Wr) mm	Order No.
60	10	50	N30(x)
60	12	55	N31(x)
36	14,5	60	N32(x)
36	18	70	N33(x)
30	21	80	N34(x)

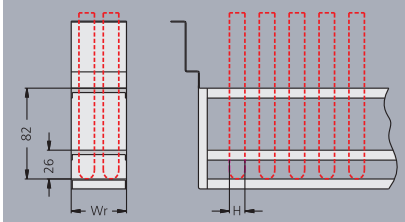
4-row racks

Holes (H) num.	Ø mm	Width (Wr) mm	Order No.
80	10	64	N40(x)
80	12	75	N41(x)
48	14,5	85	N42(x)
48	18	95	N43(x)
40	21	110	N44(x)

Technical data for W10 to 45

The maximum number of test tube racks of equal width in your waterbath is calculated as follows:

- for W10/14/22 divide the useful width of the bath by the width of the test tube racks.
- for W29/45 divide the useful length of the bath by the width of the test tube racks.



Technical data for W7

56 holes (7x8); 18 mm dia.;
bath holds 1,
Order no. N07

24 holes (3x8); 18 mm dia.;
bath holds 1 or 2,
Order no. N08

Universal ovens
Incubators
Hot air sterilisers
Ovens

Vacuum ovens

Peltier-cooled incubators
Compressor-cooled incubators
Cooled incubators

CO_2 incubators

Storage chambers

Humidity chambers

Constant climate chambers

Climatic test chambers
Temperature test chambers
Environmental test chambers

Water and oil baths

Your Memmert Partner

Upon your request we are pleased to send you detailed brochures

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