









# Uniquely precise and reliable.

Of course always at the right temperature

Since in 1947 the first Memmert hot air steriliser has left our facilites, we have pursued one essential goal in the development of our thermostatic ovens and thermostatic baths: controlled atmosphere. Inseparably linked to this are reliability, optimum temperature homogeneity and stability, user friendliness and an outstanding price/performance ratio. This promise to customers and users is called: 100% AtmoSAFE.

It is the modern control technology which makes Memmert's waterbaths and oilbaths unparalleled in precision. At least 2-fold over-temperature protection guarantees optimum safety for all baths. You can combine programme start delay and hold time, for baths of the Excellent class even setpoint-dependent. Made by professionals for professionals.



# **WATERBATHS WNB, WNE, WPE**

**PAGE 4 - 9** 

Temperature control of samples, plates, breeding media and emulsions in the laboratory, long-term exposure to heat of plastics to determine dimensional stability and post-shrinkage, softening temperature testing of plastic, warming of baby food

OILBATHS ONE PAGE 10 - 13

Testing of overtemperature protection devices, sensor calibration, industrial processings

ADDITIONAL INFORMATION

PAGE 14



Waterbath Basic WNB
Waterbath Excellent WNE
Waterbath Excellent with circulating pump WPE

Model sizes WNB, WNE: 7 / 10 / 14 / 22 / 29 / 45

Model size WPE: 45

+10 °C to +95 °C and boiling stage (WPE: only with pump switched off)

**WATERBATH W** Memmert waterbaths W are unparalleled in terms of precision, safety and comfort. In the Excellent version, they are perfectly suited for professional applications in quality management and for technical guidelines and standards.



# Safety functions of the Memmert Waterbaths

#### WATERBATHS BASIC WNB

2-stage safety through relay switch-off close to the setpoint (approx. +10 °C) and mechanical temperature limiter TB at +135 °C

#### WATERBATHS EXCELLENT WNE, WPE

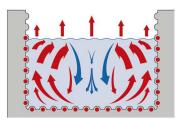
relay switch-off close to the setpoint (approx. +10 °C) and mechanical temperature limiter TB at +135 °C

additional electronic temperature controller TWW as standard or alternatively temperature limiter TWB adjustable in the setup

# 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 (see sketch). 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 overflow permits maintaining two different water levels.



#### Two baths in one

The optional electronically controlled shaking device for waterbaths is available in two versions for different bath sizes (requires gable cover). It converts the models from size W14 upwards into an adjustable-speed shaking bath with horizontal movement from 35 to 160 strokes per minute. An electronic blockage protection switches off the motor within fractions of a second on a sudden overload.





**PELTIER COOLING UNIT CDP115** Worldwide only from Memmert! The innovative Peltier cooling unit CDP115 enables you to work exactly at 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  $\pm 0.1$  K.











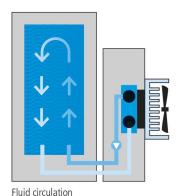
#### Cooling with Peltier - sustainable and energy-saving

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
- Quiet and smooth-running
- High control precision
- Saves valuable space in the laboratory

## A cooling unit for all Memmert waterbaths!

The CDP115 extends the working temperature range of the Memmert waterbaths. 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 cover 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.





\*At a room temperature of +20 °C

# Safety and precision are involved, as always!

The cooling unit CDP115 has its own main switch. The temperature is controlled via the electronic controller of the waterbath and achieves an impressive precision of  $\pm 0.1$  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 / WN7	14.1 K/h
10 litres / WN10	9.9 K/h
14 litres / WN14	7.1 K/h
22 litres / WN22	4.5 K/h
29 litres / WN29	3.4 K/h
45 litres / WN45	2.2 K/h

#### WATERBATHS WNB, WNE, WPE

according to DIN 12876-3, EN 61010, EN 61010-1 (IEC 61010-1), EN 61010-2-010

Standard units are safety-approved and bear the test marks:  $\mathbf{EHCE}$ 

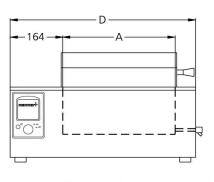


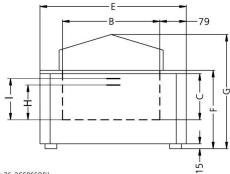
Interior:

deep-drawn, laser-welded stainless steel interior, material 1.4301, with integrated large-area heating system on three sides (no disturbing fittings)

Housing: textured stainless steel, material 1.4301 Connection: mains cable with plug (German type)

Installation: 4 feet





Cover is not include	led in standard	delivery, but	available as	accessory.
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Model sizes/Desc	ription		7	10	14	22	29	45	
Stainless steel	Contents	approx. l	7	10	14	22	29	45	
interior	Length	(A) mm	240		350		590		
	Width	(B) mm	2	10	290		350		
	Height	(C) mm		140		220	140	220	
Textured stainless steel exterior	Length	(D) mm	468		578		8	18	
	Width	(E) mm	3	56	4	36	516		
	Height (with flat cover)	(F) mm		238		296	238	296	
	Height (with gable cover)	(G) mm	3	37	347	405	343	401	
	Liquid level min.	(H) mm		97		177	105	177	
	Liquid level max.	(I) mm		120		200	120	200	
Temperature	Working temperature range	°C	at least 5 (WNB/WNE) 15 (WPE) above ambient to +95 and additiona boiling stage (WPE only with pump switched off)						
	Setting temperature range	°C	+10 to +95 and boiling stage						
	Temperature variation	K	+/- 0.1						
	Temperature distribution	K	+/- 0.25					+/- 0.	
Further data	Electrical load at 230 V, 50/60 Hz / 115 V, 50/60 Hz, WPE: 50 Hz	approx. W	1200 1800			2000	2400	2800	
	CDP115: Dimensions of casing height/width/depth	approx. mm	185/450/200						
	CDP115: Electrical load at 230 V/115 V, 50/60 Hz	max. W	160						
	CDP115: Effective cooling capacity	W		115					
	CDP115: Pumping capacity of circulation pump for coolant	ml/Min			6	00			
	Portable stainless steel rack for 10 baby food bottles, maximum capacity each bath	max.	-	1	2	-	4	-	
	Bath capacity - number of racks: models 10/14/22 width of bath working area less 20 mm : width of the racks models 29/45 length of bath working area less 20 mm : width of the racks					•			
Packing data	Net weight (with one cover option)	approx. kg	11	13	15	17	24	26	
	Gross weight in Triwall carton	approx. kg	16	19	21	23	31	33	
	Length	approx. mm	570	570 670			9	10	
	Width	approx. mm	450		530		6	10	
	Height	approx. mm	420	380	400	460	400	460	
Order No. Waterb	aths		WNB7	WNB10	WNB14	WNB22	WNB29	WNB4	
NNB = Waterbath	, natural circulation, temperature controller BASIC		WNE7	WNE10	WNE14	WNE22	WNE29	WNE4	
WNE = Waterbath	, natural circulation, temperature controller EXCELLENT		-	-	-	-	-	WPE4	

				Water	aths & oilbaths	5 / WAIL	KBATHS WNE	3, WNE, WPE
Options	7	10		14	22	2	9	45
Voltage 115 V, 50/60 Hz				X2				
Water level control				L3				
Works calibration certificate +37 °C				D001	23			
Accessories			7	10	14	22	29	45
Stainless steel gable cover, also suitable for shaking device (14/22 and 29/45) and Peltier cooling device CDP115		P115	B02641	B02642	B02	643	ВС	14390
Flat stainless steel cover with openings and concentric ring sets; 1 opening, Ø 147 mm			B02680			-		
Flat stainless steel cover with openings and concentric ring sets; 3 openings, Ø 107 mm			-	B02681			-	
Flat stainless steel cover with openings and concentric ring sets; 6 openings, Ø 87 mm				-	B02	682		-
							DC	2004

Children start and a substantial for the bire desire (14/22 and 20/45) and Deltin and bire CDD145	D02C41	D02C42	D03C43	D04200
Stainless steel gable cover, also suitable for shaking device (14/22 and 29/45) and Peltier cooling device CDP115  Flat stainless steel cover with openings and concentric ring sets; 1 opening, Ø 147 mm	B02641 B02680	B02642	B02643	B04390
Flat stainless steel cover with openings and concentric ring sets; 3 openings, Ø 147 mm	D02000	B02681		
Flat stainless steel cover with openings and concentric ring sets; 6 openings, Ø 87 mm	-	D02001	B02682	_
Flat stainless steel cover with openings and concentric ring sets, 8 openings, Ø 107 mm		-	DUZUOZ	B02684
Flat stainless steel cover with openings and concentric ring sets, 8 openings, Ø 147 mm		-		B02685
	D2/1272			DU2003
Flat stainless steel cover with openings and concentric ring sets for Peltier cooling CDP115; 1 opening, Ø 147 mm	B24372	D24272	-	
Flat stainless steel cover with openings and concentric ring sets for Peltier cooling CDP115; 3 openings, Ø 107 mm	-	B24373	DO4FF2	<del>-</del>
Flat stainless steel cover with openings and concentric ring sets for Peltier cooling CDP115; 6 openings, Ø 87 mm		-	B04552	- D04463
Flat stainless steel cover with openings and concentric ring sets for Peltier cooling CDP115; 8 openings, Ø 107 mm	F02002	-	F0390F	B04462
Shelf reversible for 2 heights (30 or 60 mm)	E02893	E02894	E02895	E02896
Portable stainless steel rack for 10 baby food bottles	-	E02066	) -	E02066 -
Peltier-cooling device CDP115 for waterbaths for temperatures below ambient from +10 °C, Voltage 230 V, 50/60 Hz, or 115 V, 60 Hz (please state in case of order). Please do not forget to order the installation and connection set! On sizes 7 - 22 racks cannot be used together with this device			CDP115	
nstallation and connection set for Peltier cooling device CDP115 (incl. mounting bars for all different bath sizes)			B02770	
Shaking device for waterbaths incl. support frame, shaking frequency 35 - 160 strokes per minute (horizontal back/forth movement), requires gable cover. Please do not forget to order the support basket!		-	SV1422	SV2945
support basket with perforated mounting shelf (stainless steel) with grid perforations to take clips for conical lasks		-	B02782	B04397
Clip for 100 ml flask, 18 flasks max.		-		B02692
lip for 100 ml flask, 12 flasks max.		-	B02692	-
lip for 200 ml flask, 14 flasks max.		-		B02693
lip for 200 ml flask, 6 flasks max.		-	B02693	-
lip for 300 ml flask, 14 flasks max.		-		B02694
lip for 300 ml flask, 6 flasks max.		-	B02694	-
lip for 500 ml flask, 8 flasks max.		_		B02695
lip for 500 ml flask, 5 flasks max.		-	B02695	-
ack for shaking device for 216 test tubes Ø 14.5 mm		-		B04399
lack for shaking device for 110 test tubes Ø 14.5 mm		-	B02778	-
ack for shaking device for 180 test tubes Ø 18 mm		-		B04400
lack for shaking device for 90 test tubes Ø 18 mm		-	B02779	-
lack for shaking device for 54 test tubes Ø 32 mm		-		B04401
tack for shaking device for 25 test tubes Ø 32 mm		-	B02780	-
est tube racks, 56 holes (7x8), Ø 18 mm each; bath capacity: 1 rack	B02781		-	
est tube racks, 24 holes (3x8), Ø 18 mm each; bath capacity: 2 racks	B02783		-	
est tube racks, holes 2-row racks, 40 holes, Ø 10 mm each, width 42 mm	-		E02028	
est tube racks, holes 2-row racks, 40 holes, Ø 12 mm each, width 41 mm	-		E02013	
est tube racks, holes 2-row racks, 24 holes, Ø 14.5 mm each, width 45 mm	-		E02014	
est tube racks, holes 2-row racks, 24 holes, Ø 18 mm each, width 50 mm	_		E02022	
est tube racks, holes 2-row racks, 20 holes, Ø 21 mm each, width 57 mm	_		E02032	
Fest tube racks, holes 2-row racks, 12 holes, Ø 32 mm each, width 81 mm	_		E02034	
Fest tube racks, holes 3- row racks, 60 holes, Ø 10 mm each, width 50 mm	-		E02046	
Fest tube racks, holes 3- row racks, 60 holes, Ø 12 mm each, width 57 mm	-		E02049	
est tube racks, holes 3- row racks, 36 holes, Ø 14.5 mm each, width 60 mm	-		E02039	
est tube racks, holes 3- row racks, 36 holes, Ø 18 mm each, width 71 mm	-		E02019	
est tube racks, holes 3- row racks, 30 holes, Ø 21 mm each, width 82 mm	-		E02043	
est tube racks, holes 4-row racks, 80 holes, Ø 10 mm each, width 66 mm	-		E02057	
est tube racks, holes 4-row racks, 80 holes, Ø 12 mm each, width 75 mm	_		E02060	
Fest tube racks, holes 4-row racks, 48 holes, Ø 14.5 mm each, width 86 mm	_		E02056	
Fest tube racks, holes 4-row racks, 48 holes, Ø 18 mm each, width 97 mm	_		E02051	
Fest tube racks, holes 4-row racks, 40 holes, Ø 21 mm each, width 110 mm	_		E02061	
IQ/OQ document with device-specific works test data for one free-selectable temperature value, incl. temperature distribution survey at Memmert for 9 measuring points to DIN 12876.2. Further temperature values and validation			D00125	

distribution survey at Memmert for 9 measuring points to DIN 12876.2. Further temperature values and validation at customer site on demand (GER, AT, CH only)



Oilbath Excellent ONE

Model sizes: 7 / 10 / 14 / 22 / 29 / 45 +20 °C up to +200 °C

**OILBATH O** Memmert oilbaths O guarantee absolute safety for laboratory and samples even at high temperatures. They score through corrosion-resistant stainless steel, precise electronics, multiple temperature protection as well as reliable alarm and status notifications.



# Safety functions of the Memmert Oilbath

#### **OILBATH EXCELLENT ONE**

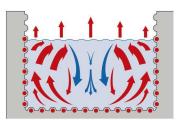
relay switch-off close to the setpoint (approx. +10 °C) and mechanical temperature limiter TB at +230 °C

additional electronic temperature limiter TWB adjustable as standard

# 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 (see sketch). Heating from three sides ensures optimal temperature uniformity. At 95  $^{\circ}$ C oil temperature the deviation over the entire bath is less than 0.36  $^{\circ}$ C!





optimal temperature uniformity

#### **OILBATHS ONE**

according to DIN 12876-3, EN 61010, EN 61010-1 (IEC 61010-1), EN 61010-2-010

Standard units are safety-approved and bear the test marks:  $\mathbf{EHCE}$ 

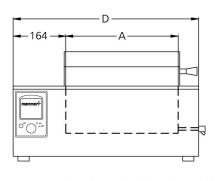


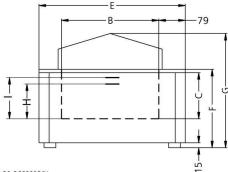
Interior:

deep-drawn, laser-welded stainless steel interior, material 1.4301, with integrated large-area heating system on three sides (no disturbing fittings)

Housing: textured stainless steel, material 1.4301 Connection: mains cable with plug (German type)

Installation: 4 feet





Cover is not included	in standard delivery,	but available as accessory.
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Model sizes/Desc	ription		7	10	14	22	29	45	
Stainless steel	Contents	approx. I	7	10	14	22	29	45	
interior	Length	(A) mm	240		350		590		
	Width	(B) mm	210 290			3!	350		
	Height	(C) mm		140		220	140	220	
Textured stainless	Length	(D) mm	468		578		8	18	
steel exterior	Width	(E) mm	3	56	43	36	5	16	
	Height (with flat cover)	(F) mm		238		296	238	296	
	Height (with gable cover)	(G) mm	3	37	347	405	343	401	
	Liquid level min.	(H) mm		97		177	105	177	
	Liquid level max.	(I) mm	120 200 120					200	
Temperature	Working temperature range	°C	- at least 5 above ambient to +200						
	Setting temperature range	°C	+20 to +200						
	Temperature variation	K	+/- 0.3						
	Temperature distribution	K	+/-1						
Further data	Electrical load at 230 V, 50/60 Hz / 115 V, 50/60 Hz	approx. W	1200 1800 2000 2400			2400	2800		
	Portable stainless steel rack for 10 baby food bottles, maximum capacity each bath	max.	-	1	2	-	4	-	
	Bath capacity - number of racks: models 10/14/22 width of bath working area less 20 mm : width of the racks models 29/45 length of bath working area less 20 mm : width of the racks					•			
Packing data	Net weight (with one cover option)	approx. kg	11	13	15	17	24	26	
	Gross weight in Triwall carton	approx. kg	16	19	21	23	31	33	
	Length	approx. mm	570	570 670			9	10	
	Width	approx. mm	450		530		610		
	Height	approx. mm	420	380	400	460	400	460	
Order No. Waterb ONE = Oilbath, na	tural convection, temperature controller EXCELLENT		ONE7	ONE10	ONE14	ONE22	ONE29	ONE45	

Options	7	10	14	22	2	29	45
Voltage 115 V, 50/60 Hz			X2				
Works calibration certificate +160 °C			D0012	23			
Accessories		7	10	14	22	29	4
Stainless steel gable cover		B02641	B02642	B02	2643	B04	390
Flat stainless steel cover with openings and concentric ring sets; 1 opening, Ø 147 mm		B02680			-		
Flat stainless steel cover with openings and concentric ring sets; 3 openings, Ø 107 mm		-	B02681			-	
Flat stainless steel cover with openings and concentric ring sets; 6 openings, Ø 87 mm			-	B02	2682	-	
Flat stainless steel cover with openings and concentric ring sets; 8 openings, Ø 107 mm			-			B02684	
Flat stainless steel cover with openings and concentric ring sets; 4 openings, Ø 147 mm						B02	685
Shelf reversible for 2 heights (30 or 60 mm)		E02893	E02894	E02	1895	E02	896
Portable stainless steel rack for 10 baby food bottles		-	E020	066	-	E02066	
Support basket with perforated mounting shelf (stainless steel) with grid perforations to take of flasks	clips for conical		-	B02	2782	B04	397
Clip for 100 ml flask, 18 flasks max.			-			B02	692
Clip for 100 ml flask, 12 flasks max.			-	B02	2692		
Clip for 200 ml flask, 14 flasks max.			-			B02	693
Clip for 200 ml flask, 6 flasks max.			-	B02	2693		
Clip for 300 ml flask, 14 flasks max.			-			B02	694
Clip for 300 ml flask, 6 flasks max.			-	B02	2694		
Clip for 500 ml flask, 8 flasks max.			-			B02	695
Clip for 500 ml flask, 5 flasks max.			-	B02	2695		
Test tube racks, 56 holes (7x8), Ø 18 mm each; bath capacity: 1 rack		B02781			-		
Test tube racks, 24 holes (3x8), Ø 18 mm each; bath capacity: 2 racks		B02783			-		
Test tube racks, holes 2-row racks, 40 holes, Ø 10 mm each, width 42 mm		-			E02028		
Test tube racks, holes 2-row racks, 40 holes, Ø 12 mm each, width 41 mm		-			E02013		
Test tube racks, holes 2-row racks, 24 holes, Ø 14.5 mm each, width 45 mm		-			E02014		
Test tube racks, holes 2-row racks, 24 holes, Ø 18 mm each, width 50 mm		-	E02022				
Test tube racks, holes 2-row racks, 20 holes, Ø 21 mm each, width 57 mm		-	E02032				
Test tube racks, holes 2-row racks, 12 holes, Ø 32 mm each, width 81 mm		-			E02034		
Test tube racks, holes 3- row racks, 60 holes, Ø 10 mm each, width 50 mm		-			E02046		
Test tube racks, holes 3- row racks, 60 holes, Ø 12 mm each, width 57 mm		-			E02049		
Test tube racks, holes 3- row racks, 36 holes, Ø 14.5 mm each, width 60 mm		-			E02039		
Test tube racks, holes 3- row racks, 36 holes, Ø 18 mm each, width 71 mm		-			E02019		
Test tube racks, holes 3- row racks, 30 holes, Ø 21 mm each, width 82 mm		-			E02043		
Test tube racks, holes 4-row racks, 80 holes, Ø 10 mm each, width 66 mm		-			E02057		
Test tube racks, holes 4-row racks, 80 holes, Ø 12 mm each, width 75 mm		-			E02060		
Test tube racks, holes 4-row racks, 48 holes, Ø 18 mm each, width 97 mm		-			E02051		
Test tube racks, holes 4-row racks, 48 holes, Ø 14.5 mm each, width 86 mm		-			E02056		
Test tube racks, holes 4-row racks, 40 holes, Ø 21 mm each, width 110 mm		-			E02061		
IQ/OQ document with device-specific works test data for one free-selectable temperature valudistribution survey at Memmert for 9 measuring points to DIN 12876.2. Further temperature valudistribution survey at Memmert for 9 measuring points to DIN 12876.2. Further temperature values to the control of the c				D0	0125		

#### **ACCESSORIES INFORMATION**

#### Racks for models with shaking device







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

W10/14/22:

Width of the bath container less 20 mm: width of the rack

1/20//5

Length of the bath container less 20 mm: width of the racks

#### Mounting shelve



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



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

#### Stainless steel cover



Stainless steel flat cover with openings and concentric ring sets



Stainless steel gable cover, also suitable for shaking device (SV14/22 and SV29/45) or Peltier cooling unit CDP115

#### Peltier cooling unit CDP115 for waterbath





#### Portable stainless steel rack



for 10 baby bottles

#### Shaking device for waterbath



#### Support basket with perforated mounting shelf (stainless steel



with grid perforations to take clips for conical flasks

#### Shelf reversible





for 2 heights (30 or 60 mm)

#### **MODEL VARIANTS - MODERN CONTROL TECHNOLOGY**

# Push and turn – intuitive operation of the control

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.

# BASIC version WNB



# EXCELLENT version WNE / WPE / ONE



#### ① Normal operation

Press the SET key, select the setpoint temperature

#### 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.

### TB switches off the heating permanently and the alarm symbol is on continuously. ⑤ 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). 6 Level This flashes on low liquid level. At the same time there is an audible alarm and the heating is switched off automatically. ① 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. ® Circulating pump (WPE45 only) The circulating pump in the WPE45 optimises the thermal uniformity of the large water volume! 9 Hold period Start of hold period only after reaching the setpoint. **10** Recalibration facility Excellent quality assurance on standardised or documented material tests through +/-5 K recalibration facility on the controller.



#### HEATING AND DRYING OVENS

LINIVERSAL OVEN L

PASS-THROUGH OVEN HE TO

PARAFFIN OVEN UNpa

STERILISER !

VACUUM OVFN VO

BLANKET WARMER IEDW

#### **INCUBATORS**

INCUBATOR

CO. INCUBATOR ICOmed

COMPRESSOR-COOLED INCUBATOR ICPeco/ICP

PEITIER-COOLED INCLIBATOR IPP

COOLED STORAGE INCUBATOR IPS

#### CLIMATE CHAMBERS

ONSTANT CLIMATE CHAMBER HPP

HUMIDITY CHAMBER HCP

CLIMATE CHAMBER ICHeco/ICH

ENIVIRONIMENTAL TEST CHAMBER CTC/TTC

#### WATERBATHS / OILBATHS

WATERBATH W

OILBATH O



FSC° C107518

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