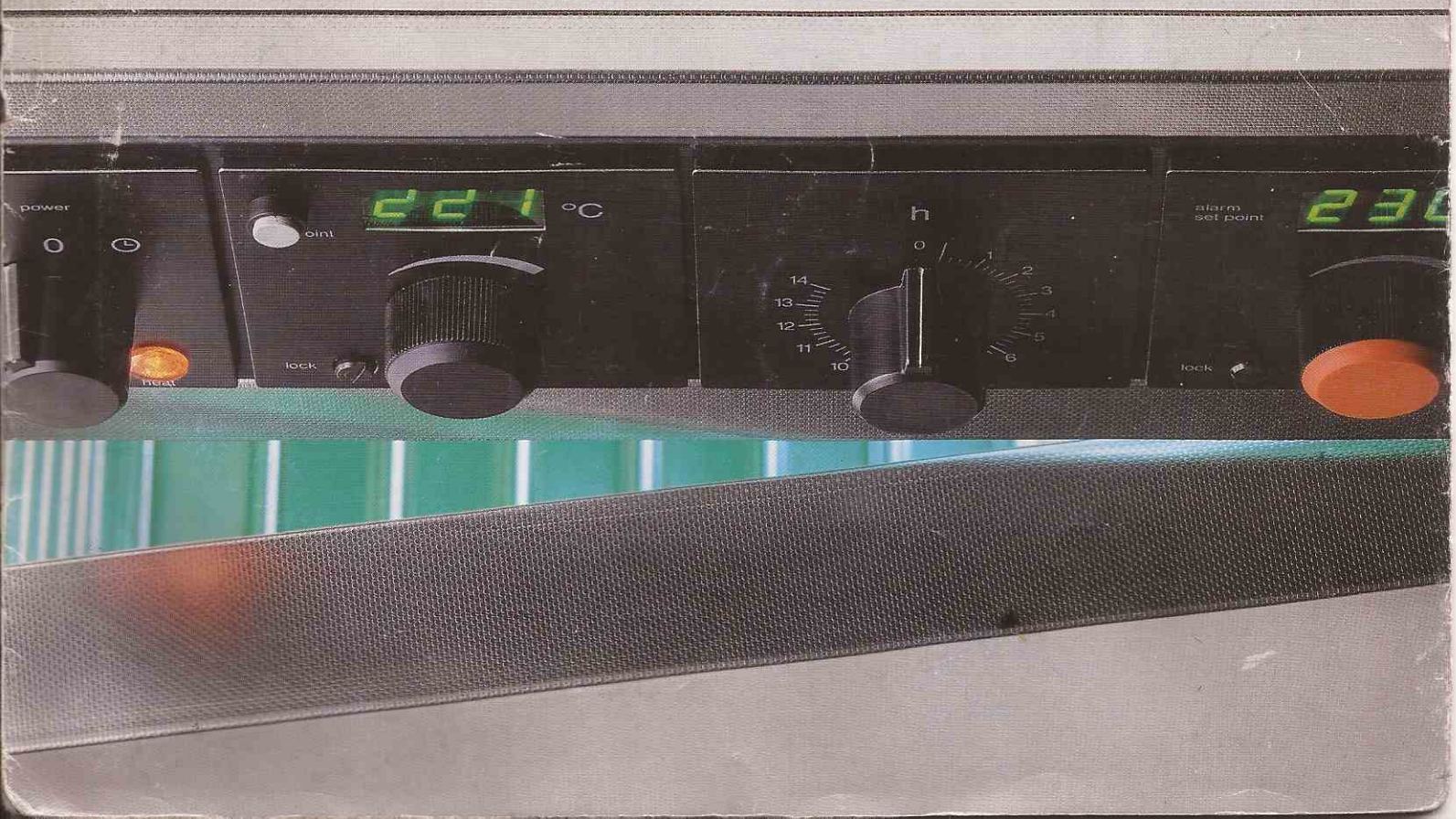
memmert

Universal Ovens
Incubators
Sterilisers

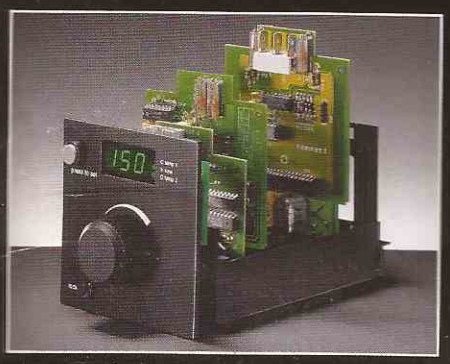


Good Things Come in Three's

The three oven lines offered by Memmert (universal ovens, incubators, and sterilisers) belong to the most successful family of temperature controlled cabinets. This strong product line allows Memmert to constantly improve its position as one of the leaders in the world market. Today, Memmert introduces three new performance classes to serve your needs even better. By utilizing lean production and bundling useful options, Memmert products provide unsurpassed value.

Eight different oven sizes and numerous options allow application specific solutions without costly customization.

Quality without Compromise



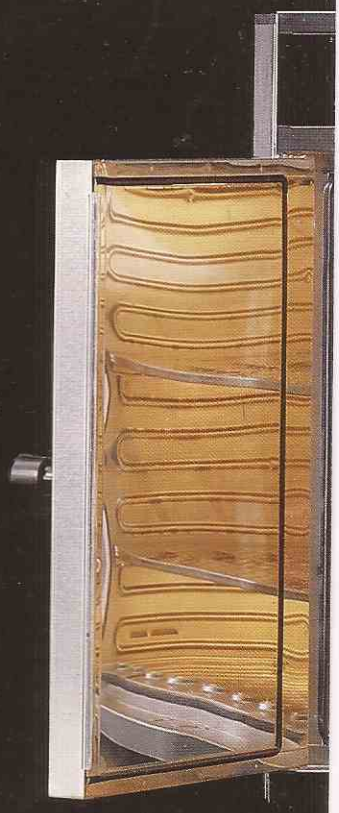
Quality in Stainless Steel (Spec. 1.4301)
Memmert has trusted this high performance stainless steel for decades in all its products. Both the textured uncoated stainless steel casing and the durable deep-drawn stainless steel interior are easy to maintain and fully recyclable.

Control Techniques in the Three Performance Classes
Whether we talk about the (mercury free) mechanically controlled Class M, the new microprocessor controlled Class E with improved ramp up time, or the new Class P controller with a dual temperature programmable cycle and an optional PC interface for full programmability. Memmert sets the standard for performance and price.

Precise Digital Temperature Display
One digital (Class M) or two digital (Class E and P) readouts display the actual temperature and overtemperature control settings. The display resolution is one degree for the oven and one tenth degree for the incubator.

Safety – Just in Case
Universal ovens, as well as incubators and sterilisers, are often run unattended (i.e. overnight). With this in mind, Memmert equips all Class M ovens with one overtemperature protection and all Class E and P ovens with double overtemperature control (complying with DIN 12 880).

Thermal Decoupling
between the interior and the external casing through high-efficiency insulation, multiple seals and special design to prevent heat bridges.



Controlled heating is our Speciality

drying • incubating • warming • testing • sterilising • ageing • burning-in

examining • hardening • storing • investigating

Universal Ovens
UM|UE|UP
ULM|ULE|ULP

For many decades the most successful series of ovens. Their wide range of applications (from 30 °C), preferred at temperatures above 100 °C up to 220 °C, to special order even up to 300 °C, are the main reason why they have been and remain the leading product in the Memmert range.

Incubators
BE|BP

These units equipped with double doors (internal glass, external stainless steel) are designed for the temperature range 30 °C to 70 °C in view of their specific application. Their outstanding feature is the extremely accurate control of the set incubating temperature (mainly 37 °C).

Sterilisers
SM|SE
SLM|SLE|SLP

Thanks to tried and true heating, convection, and control, Memmert's timer equipped sterilisers guarantee safe and economical sterilisation between 160 and 180 °C. Both the Class E and P feature short heating-up times, while the Class P provides the additional comfort and safety of an integrated set point dependent digital timer.

The Three New Oven Classes

Tempering tasks vary to the same extent as the individual requirements of the ovens.

What type of temperature controllers and features are desired? How important is overtemperature control when considering the oven environment and the thermal sensitivity of the load? Are there time dependent temperature patterns within your processes which require a dual temperature cycle or freely programmable temperature curves? It must be clear to everyone that this multitude of requirements cannot be satisfied with one standard solution.

In keeping with the Memmert philosophy of "top performance in every class", we have created three new product classes which feature specific attributes to optimally fulfill individual requirements.

Class M

The basic technology of the (mercury free) mechanical Memmert control which has been proved hundred thousands of times is supplied with a serial fixed temperature cut-out (TB, according to DIN 12 880, class 1 protection) which disconnects the heaters if the maximum temperature of the unit is exceeded (after failure of the thermostat). This protects the oven against excess temperatures and avoids any thermal danger to its surroundings. Even ovens of Class M have a digital display of the actual value (glass or dial-type thermometers are out with Memmert).

Class E

The microprocessor controller (with short heating-up and recovery times) is combined with a double, separately working safety system. An easy and precisely settable adjustable temperature monitor (takes over thermostatic control after failure of the thermostat, class 3.1 protection) with digital nominal value setting is completed by a second overtemperature safety device (TB, fixed cut-out).

With microprocessor control, dual digital temperature displays and double thermal safety the Class E meets high technical requirements.

Class P

The Class P has double high-grade microprocessor technology (separate systems with two digital displays), i.e. the working controller with integrated single/double ramp control and digital 99,9 h timer (with optional interface for computer controlled temperature programmes) and the adjustable temperature monitor (Protection class 3.1).

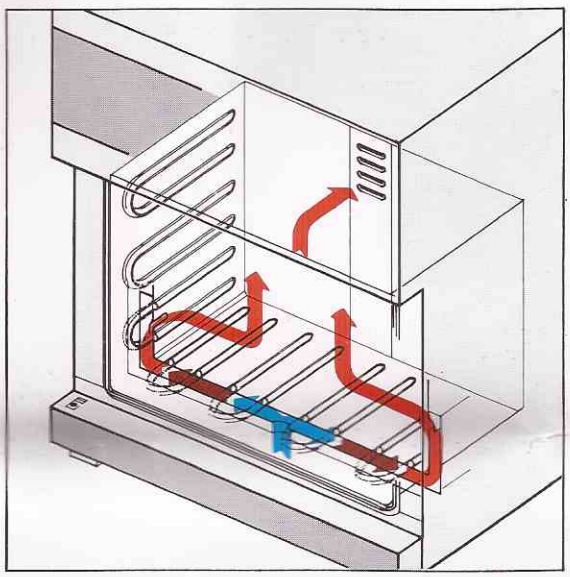
As precaution for the worst of all imaginable cases (simultaneous failure of working controller and adjustable temperature monitor) the Class P ist equipped with a second overtemperature safety device (TB, fixed cut-out).

Option – free of charge – for Class E and P
Upon request ovens can be equipped with adjustable temperature limiter (TWB, protection class 2) – instead of the serial adjustable temperature monitor (TWW). The heaters are disconnected when the oven reaches the set limit.

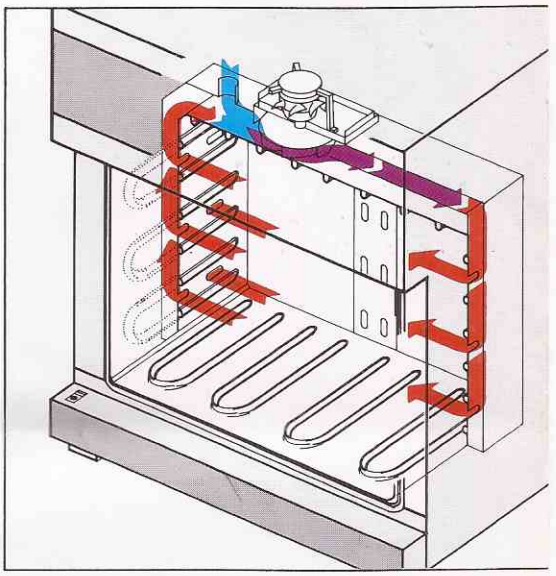
Optimised operation
Ergonomic details

Uniform temperature distribution:
The heating distributed over four sides of the working space is placed "inside" the oven interior, located close to the oven load and is yet "encased" in stainless steel/ceramics as protection against damage.

Pre-heated fresh air supply with natural circulation
In ovens with natural circulation (convection) a special chamber (proven for many decades) pre-heats the incoming air by utilising the radiant heat losses (continuous adjustment of fresh air admixture).
Example: at 100 °C internal temperature the incoming air has a temperature of about 90 °C.



Pre-heated fresh air supply with forced ventilation
Ovens with mechanical ventilation are fitted with an air turbine driven by a heavy-duty, maintenance-free motor. It is mounted inside the oven and induces an enforced horizontal air flow for rapid, uniform heat transfer (ideal for drying). A sliding flap provides continuous adjustment from (pre-heated) fresh air to recirculation, or mixed operation.

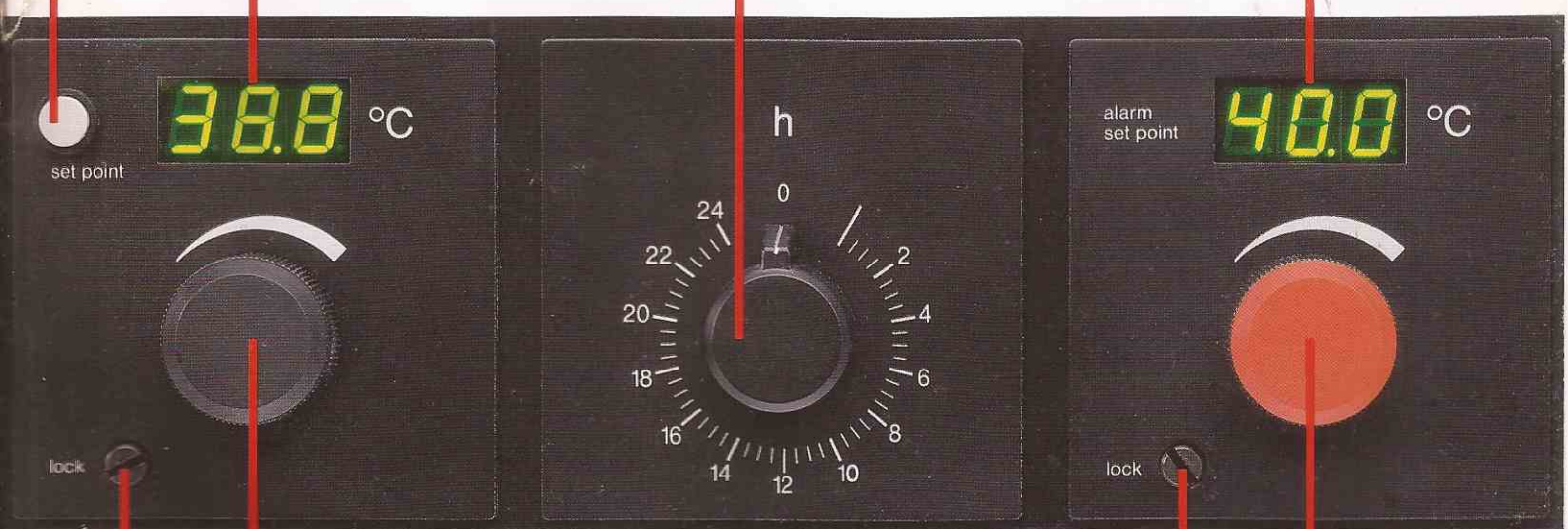


Push-button for digital set-point adjust-ment

Digital setpoint and actual indication of thermostat

Timer (switches off the unit after pre-set time)

Digital setpoint display for over-temperature pro-tection



Temperature set-point lock (pre-vents undesirable change in setting)

Knob for setting electronic microprocessor-controller (definite 1°/0,1° rests)

Temperature setpoint lock for overtemperature protection

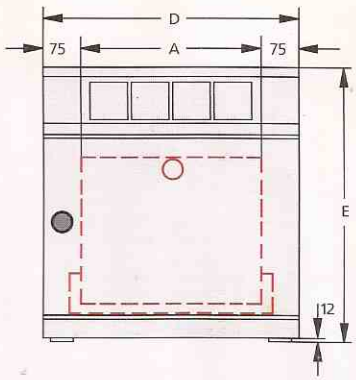
Adjustment for digital temperature monitor (or limiter)

The programme at a glance

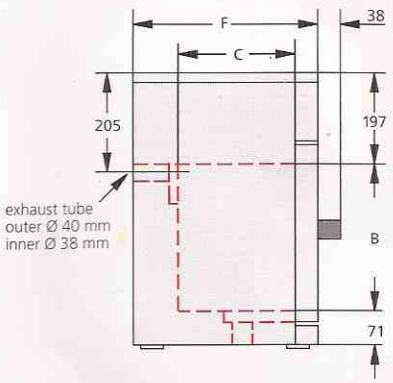
A common feature of all three newly created performance classes M, E, P (M: mechanical control; E: electronic control; P: process control) is the comprehensive equipment specification, consisting of the standard specification for each class together with the following basic specification common to all the ovens:

Interior:	stainless steel material 1.4301, deep drawn
Internals:	perforated stainless steel shelves (up to size 300: 1 shelf, sizes 400 – 800: 2 shelves)
Housing:	textured stainless steel rear zinc-plated steel fully insulated stainless steel door (from size 600: two leaves)
Ventilation:	admixture of pre-heated fresh air controlled by air slide (with scale) vent connection with restrictor flap
Connection:	mains cable with plug (German type)
Installation:	4 feet; size 800 mounted on lockable castors

Front view



Side view



dimensions see opposite table

Class M

Mechanical Memmert controller especially developed for this type (no mercury), with factory-calibrated temperature setting scale

Digital temperature indication (LED) overtemperature protection to DIN 12 880 class 1: fixed cut-out

Standard equipment

- Double-pole rotary switch (on-off timer operation)
- Signal lamp panel (green: ready for use, red: overtemperature protection – fault, yellow: heating)
- Mechanical thermostat (no mercury) with sensitizing heater and individually calibrated temperature setting scale
- Scale lock
- Overtemperature protection to DIN 12 880 Protection class 1: fixed cut-out (TB)
- Digital temperature display (LED)
- Provision for retrofitting timer
- Extra on sterilisers (SM/SLM: timer 0 – 24 h (0 – 20 h on 60 Hz)
- Extra on forced circulation ovens: (ULM/SLM) maintenance-free low-noise air turbine
- Standard ovens are safety-approved and bear the test marks:

Class E

Electronic control through microprocessors, electronic on-off control as adjustable monitor (TWW, class 3.1 Protection DIN 12 880)

Digital display (LED) of setpoints for temperature and overtemperature, also actual temperature

Additional fixed cut-out guarantees max. thermal safety through double overtemperature protection (TWW and TB)

Standard equipment

- Double-pole rotary switch (on-off timer operation)
- Signal lamp panel (green: ready for use, red: overtemperature protection – fault, yellow: heating)
- Electronic microprocessor-controller with continuous power matching; lockable knob for digital setpoint selection
- Solid-state switching unit
- Digital display of actual value (LED)
- Setpoint lock for temperature and overtemperature
- Electronic on-off control as overheat safety device (adjustable monitor to DIN 12 880 class 3.1; upon request TWB, class 2 without extra charge); additional TB
- Extra on incubators (BE): double doors (glass inner, stainless steel outer)
- Provision for retrofitting timer
- Extra on sterilisers (SE/SLE): timer 0 – 24 h (0 – 20 h on 60 Hz)
- Extra on forced circulation ovens: (ULE/SLE) maintenance-free low-noise air turbine
- Standard ovens are safety-approved and bear the test marks:

Class P

Process controller: single or double ramp control (standard on UP/ULP) with microprocessor-PID-control.
In combination with the integral digital timer the following functions can be chosen alternatively for 99,9 h long-time programme or for 999 min.:
ON (continuous running); up to 99,9 h delayed ON (for continuous running) delayed OUT; delayed OUT dependent on set temperature.

Double overtemperature protection (microprocessor adjustable monitor and fixed cut-out according to DIN 12 880).

Digital display (LED) of all temperature and time values.

Standard equipment

- Double-pole rotary switch (on-off or programme operation)
- Signal lamp panel (green: ready for use, red: overtemperature protection – fault, yellow: heating)
- Microprocessor-controller with selective digital setpoint selection for ramp 1, programme time and ramp 2; digital display (LED) of actual temperature and (residual) programme time.
- Extra on series UP/ULP: 24 h programme timer for periodic 2-ramp operation
- Solid-state switching unit
- Setpoint lock for temperature and overtemperature
- Microprocessor adjustable monitor (overheat safety device to DIN 12 880 Protection class 3.1) with digital nominal value setting (upon request TWB without extra charge); additional TB
- Extra on incubators (BP): Double doors (glass inner, stainless steel outer)
- Extra on forced circulation ovens: (ULP/SLP) maintenance-free low-noise air turbine
- Standard ovens are safety-approved and bear the test marks:

General technical data				Model size	100	200	300	400	500	600[1]	700[1]	800[1]
Stainless steel interior	Volume			approx. l	14	32	39	53	108	256	416	749
	Width (clear dimensions)		(A)	mm	320	400	480	400	560	800	1040	1040
	Height (clear dimensions)		(B)	mm	240	320	320	400	480	640	800	1200
	Depth		(C)	mm	175	250	250	330	400	500	500	600
	Basic shelves/max. shelf capacity			number	1/2	1/3	1/3	2/4	2/5	2/7	2/9	2/14
Stainless steel exterior	Width		(D)	mm	470	550	630	550	710	950	1190	1190
	Height (size: 800 with castors)		(E)	mm	520	600	600	680	760	920	1080	1605
	Depth (without door handle, door handle 38 mm)		(F)	mm	325	400	400	480	550	650	650	750
Further Data	Electrical load (during heating)	series U/S series B		approx. W approx. W	600 300	1100 440	1200 500	1400 800	2000 900	2400 1600	4000 1800	4800 2000
	Electrical supply (230 V, ±10 %) 50/60 Hz[2]	series U/S series B		V V	230 230	230 230	230 230	230 230	230 230	230 230	400 3ph N 230	400 3ph N 230
	Net weight			approx. kg	20	28	30	35	50	87	121	164
	Gross weight in Triwall carton			approx. kg	25	34	38	42	63	107	139	224
	Packed dimensions (carton)	width		approx. cm	58	67	75	67	82	110	134	132
		height		approx. cm	62	70	70	78	97	114	131	184
		depth		approx. cm	44	54	54	63	67	84	85	91
max. temp. deviations standard. models (closed air slide)	control fluctuation	series B (at 37°C) electr. control		±°C	–	0,1	0,1	0,1	0,1	0,1	0,1	0,1
		series U/S (at 100°C) with mech./electr. control		±°C	1,0	1,0/0,5	1,0/0,5	1,0/0,5	1,0/0,5	1,0/0,5	1,0/0,5	1,0/0,5
	temp. variation	series B (at 37°C) electr. control		±°C	–	0,4	0,4	0,5	0,5	0,5	0,6	0,6
		series U/S with mech./electr. control		in ± % of max. temp.	2	2	2	2	2	2	2	2

Universal Ovens U +30°C up to +220°C	**Incubators B** +30°C up to +70°C	**Sterilisers S** +30°C up to +220°C	100	200	300	400	500	600	700	800
convection / air turbine	convection	convection / air turbine								
UM[3] Mechanical controller natural air circulation	–	–	□[4]	□	□	□	□	□	□	□
ULM[3] Mechanical controller turbine-driven ventilation	–	–	–	–	–	□	□	□	□	□
–	–	**SM**[3] Mechanical controller natural air circulation	□	□	□	□	–	–	–	–
–	–	**SLM**[3] Mechanical controller turbine-driven ventilation	–	–	–	□	□	□	□	□
UE Electronic controller natural air circulation	–	–	–	□	□	□	□	□	□	□
ULE Electronic controller turbine-driven ventilation	–	–	–	–	–	□	□	□	□	□
–	**BE** Electronic controller natural air circulation	–	–[4]	□[5]	□[5]	□[5]	□[5]	□	□	□
–	–	**SE** Electronic controller natural air circulation	–	□	□	□	–	–	–	–
–	–	**SLE** Electronic controller turbine-driven ventilation	–	–	–	□	□	□	□	□
UP Process controller natural air circulation	–	–	–	–	–	□	□	□	□	□
ULP Process controller turbine-driven ventilation	–	–	–	–	–	□	□	□	□	□
–	**BP** Process controller natural air circulation	–	–	–	–	□	□	□	□	□
–	–	**SLP** Process controller turbine-driven ventilation	–	–	–	□	□	□	□	□

□ standard equipment
– not available
1) two-leaf doors
2) other voltages to special order
3) Safety first: During unsupervised operation and/or in case of valuable heat-sensitive loads we recommend ovens of class E and P with adjustable monitor
4) Model size 100 is available (without inner glass door) with metal door as UM 100 with incubator heating up to 70°C
5) Price reduction if overheat safety device class 3.1 is not required: (important to see note 3)!)

Class M Special Equipment, Accessories

UM/ULM/SM/SLM	100	200	300	400	500	600	700	800
Timer 0–24 h/50 Hz; (on 60 Hz 0–20 h) (basic equipment SM/SLM)	●	●	●	●	●	●	●	●
Perforated stainless steel shelf, non-tipping	●	●	●	●	●	●	●	●
Stainless steel tray (non-perforated) 15 mm rim, non-tipping (affects temperature distribution)	●	●	●	●	●	●	●	●
Stackable stainless steel sterilising cassette (material No. 1.4301) with closing ports (open for sterilisation; closed for transport and storage). Extra port to measure temperature of load using Pt 100.								
Length 300 mm, width 150 mm, depth 75 mm (1/16 st. unit)	–	●	●	●	●	●	●	●
Maximum number of cassettes (SM/SLM)	–	2	2	6	8	20	30	54
Port (standard position centre/centre or centre top) for introducing connections at the side, can be closed by flap, 23 mm clear diameter (please state location when ordering)	●	●	●	●	●	●	●	●
Wall bracket (tubular frame for wall mounting)	●	●	●	●	●	●	●	–
Stacking version for 2 ovens of equal size	●	●	●	●	●	●	●	–
Subframe (height mm: size 500 and 600: 650, size 700: 570)	–	–	–	–	●	●	●	–
Subframe as above, but with castors; height see above	–	–	–	–	●	●	●	–
Plug-in tube extension (l 88 mm, outer dia. 40 mm, inner dia. 38 mm) for exhaust air ducting (if necessary for connection to extraction system by hose)	●	●	●	●	●	●	●	●

Class E Special Equipment, Accessories

UE/ULE/BE/SE/SLE	200	300	400	500	600	700	800
Temperature range 300°C for Universal Ovens (not available for ovens with glass door as well as with adjustable and disconnectable air turbine)	●	●	●	●	●	●	●
Adjustable temperature limiter safety device class 2 instead of adjustable monitor, safety device class 3.1	○	○	○	○	○	○	○
Full-sight glass door[1] (triple insulating glass) for series UE/ULE	●	●	●	●	●	●	●
Locking door (security lock)	●	●	●	●	●	●	●
Door-hinges on the left side	●	●	●	●	–	–	–
Timer 0–24 h/50 Hz; (on 60 Hz 0–20 h) (basic equipment SE/SLE)	●	●	●	●	●	●	●
Programme timer with actual time indication (24 h) to switch a thermostating programme on and off. Minimum switching interval 15 minutes	●	●	●	●	●	●	●
7-day programme timer, minimum switching interval 120 minutes	●	●	●	●	●	●	●
Perforated stainless steel shelf, non-tipping	●	●	●	●	●	●	●
Stainless steel tray (non-perforated) 15 mm rim, non-tipping (affects temperature distribution)	●	●	●	●	●	●	●
Stackable stainless steel sterilising cassette (material No. 1.4301) with closing ports (open for sterilisation; closed for transport and storage). Extra port to measure temperature of load using Pt 100.							
Length 300 mm, width 150 mm, depth 75 mm (1/16 st. unit)	●	●	●	●	●	●	●
Maximum number of cassettes (SE/SLE)	2	2	6	8	20	30	54
Entry port (standard position centre/centre or centre top) for introducing connections at the side, can be closed by flap. 23 mm clear diameter (please state location when ordering)	●	●	●	●	●	●	●
Other port (23 mm dia.) in special positions (please state location)	●	●	●	●	●	●	●
Other port (38 mm dia.) at the back (please state location)	●	●	●	●	●	●	●
Wall bracket (tubular frame for wall mounting)	●	●	●	●	●	●	–
Flush-fit unit	●	●	●	●	●	●	●
Stacking version for 2 ovens of equal size	●	●	●	●	●	●	–
Subframe (height mm: size 500 and 600: 650, size 700: 570)	–	–	–	●	●	●	–
Subframe as above, but with castors; height see above	–	–	–	●	●	●	–
Flexible Pt 100 for positioning in chamber or in load with 7-pin plug, for external temperature recording (load temp.)	●	●	●	●	●	●	●
Interior lighting (up to size 600: 15 W, 700/800: 2 x 15 W)	●	●	●	●	●	●	●
Interior nearly gastight (UE/BE)[2]	–	–	●	●	–	–	–
Adjustable air turbine[1] (speed control) for product category ULE	–	–	–	●	●	●	●
Disconnectable air turbine[1] for product category ULE	–	–	●	●	●	●	●
Plug-in tube extension (l 88 mm, outer dia. 40 mm, inner dia. 38 mm) for exhaust air ducting (if necessary for connection to extraction system by hose)	●	●	●	●	●	●	●

1) Affects temp. distribution. Not available for 300°C ovens.
2) Extra for 2 tubes with ball valves for gas inlet/outlet

○ special equipment without extra charge
● available (extra charge)
– not available

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UP/ULP/BP/SLP		400	500	600	700	800
Temperature range 300°C (not available for ovens with glass door) for UP/ULP-Ovens		●	●	●	●	●
Adjustable temperature limiter safety device class 2 instead of adjustable monitor, safety device class 3.1		○	○	○	○	○
Full-sight glass door[2] (triple insulating glass) for series UP/ULP		●	●	●	●	●
Stainless steel doors (can be used up to 300°C) with triple insulating glass windows	Window cut-out W x H mm	–	–	350 x 230 ●	430 x 230 ●	430 x 230 ●
Locking door (security lock)		●	●	●	●	●
Door-hinges on the left side		●	●	–	–	–
Programme timer with time indication (24 h) for operating a 2-ramp temperature programme, min. switching interval 15 minutes for series UP/ULP for series BP		□ ●	□ ●	□ ●	□ ●	□ ●
as above 7-day programme timer, minimum switching interval 120 minutes for series UP/ULP (instead of timer 0 – 24 h) for series BP		○ ●	○ ●	○ ●	○ ●	○ ●
Process-controlled electromagnetic door lock (two required for double-sided loading)		●	●	●	●	●
Fully automatic sterilisation process control with electromagnetic door lock, with fine filter (99,9µ)-air supply (for cooling phase)[1] on sterilisers SLP		–	–	●	●	●
as above for 2-door sterilisers (loading from both sides) with alternating electomagnetic door lock for enforced separation between clean and dirty sides (in-wall unit)[1] for sterilisers SLP		–	–	●	●	●
Max. total loading of chamber (basic equipment)	kg	40	50	80	100	160
Max. loading of reinforced chamber Extra for reinforced chamber	kg	120 ●	175 ●	300 ●	300 ●	300 ●
Perforated stainless steel shelf, non-tipping (basic equipment) Max. loading per shelf	kg	● 15	● 15	● 30	● 30	● 30
Perforated stainless steel shelf, non-tipping, reinforced for heavy loads Max. loading per shelf Extra for reinforced perforated stainless steel shelf	kg	30 ●	35 ●	60 ●	60 ●	60 ●
Stainless steel tray (non-perforated) 15 mm rim, non-tipping (affects temp. distribution)		●	●	●	●	●
Stackable stainless steel sterilising cassette (material No. 1.4301) with closing ports (open for sterilisation, closed for transport and storage). Extra port to measure temperature of load using Pt 100. Length 300 mm, width 150 mm, depth 75 mm (1/16 st. unit) Maximum number of cassettes (SLP)		● 6	● 8	● 20	● 30	● 54
Entry port (standard position centre/centre or centre top) for introducing connections at the side, can be closed by flap, 23 mm clear diameter (please state location when ordering)		●	●	●	●	●
Other port (23 mm dia.) in special positions (please state location)		●	●	●	●	●
Other port (38 mm dia.) at the back (please state location)		●	●	●	●	●
Wall bracket (tubular frame for wall mounting)		●	●	●	●	–
2-sided loading (metal doors) for series UP/ULP/SLP		–	●	●	●	●
Flush-fit unit (for two-sided loading 2 units are required)		●	●	●	●	●
Stacking version for 2 ovens of equal size		●	●	●	●	–
Subframe (height mm: size 500 and 600: 650; size 700: 570)		–	●	●	●	–
Subframe as above, but with castors; height see above		–	●	●	●	–
Temperature recorder up to +70°C, up to +220°C or up to +300°C		–	●	●	●	●
Flexible Pt 100 for positioning in chamber or in load with 7-pin plug, for external temperature recording (load temperature)		●	●	●	●	●
Volt-free contact (24 V/2 A) with socket, 6-pin, for external monitoring		●	●	●	●	●
Interface RS232/V24 (sub-D connector including 9/25-pin adapter) for computer-controlled/-recorded temperature programmes. Temperature setpoint and motorised air vent operation (open/close)[4] by PC. Outfit includes: MEMMERT "Celsius" software program, handbook, diskette with demo program		●	●	●	●	●
Interior lighting (up to size 600: 15 W, 700/800: 2 x 15 W)		●	●	●	●	●
Interior nearly gastight (UP/BP)[3]		●	●	–	–	–
Adjustable air turbine[2] (speed control) for series ULP (not available on Universal Oven ULP 400 for space reasons)		–	●	●	●	●
Disconnectable air turbine[2] for series ULP		●	●	●	●	●
Plug-in tube extension (l 88 mm, outer diameter 40 mm, inner diameter 38 mm) for exhaust air ducting (if necessary for connection to extraction system by hose)		●	●	●	●	●

1) Additional height with filter size 600 and 700: 416 mm , size 800: 597 mm
2) Affects temp. distribution.
3) Extra for 2 tubes with ball valves for gas inlet/outlet
4) Normally (without PC) flap is opened/closed with an extra switch

□ included in standard outfit
○ special equipment without extra charge
● available (extra charge)
– not available

Check list for optimum ordering

(*) C1/15 Cr12
Favorece el punto.
(*) Material de cuchillas
Caras con 6C.

1. What size oven is required? Is there enough room for it? Is the interior volume sufficient to avoid overcrowding and ensure adequate circulation?
2. Is a temperature range of 220 °C sufficient (as in 80% of the cases) or is a 300 °C capability required? Series U.
3. Can an Universal Oven replace the acquisition of an incubator? The answer is an emphatic no. When incubating (37 °C) is done even periodically, the use of an incubator is essential because the Universal Ovens control and heating systems are optimized for temperature ranges over 70 °C.
4. Can oven performance be improved with air turbine forced circulation and/or enhanced air exchange (i.e. during drying, with large loads)? Series U + S.
5. Mechanical Class M or electronic control Class E and P? Both systems are outstanding in their own respects; with control systems specially developed for Memmert ovens, no off the shelf parts compromise the design. The following general rules may help you with your decision:
When, even with large and bulky loads, particularly fast heat up and precise temperature control (largely independent of ambient temperature) are required, electronic ovens are recommended. However, if minimal control fluctuations and shorter heating times are not as important, mechanical control will offer considerable savings.
6. How thermally sensitive and/or valuable are the perspective loads? Is an overtemperature cut-out, (standard in Class M) which disconnects the heaters if the maximum temperature of the unit is exceeded after failure of the thermostat, enough ?
Or do you prefer the additional safety of an adjustable temperature monitor or the optional (but no additional charge) adjustable overtemperature limiter offered in the Class E and P? (See page 6)
7. Does a timer seem useful? (The Class P comes standard with a 99.9 hour timer while the Class M and E sterilisers offer a standard 24 hour timer.)
8. Are additional sliding shelves required? (As standard equipment model sizes up to 300 receive one shelf while models 400 and larger receive two shelves.)
9. Are the electrical supply data correct?
10. What special equipment is required? (Fitting options at the factory is always better and more economical.)

A very detailed description of the planned application will enable us to support you in the most possible way to find the right oven for you.

Other items from our programme

Memmert Cooled Incubators (from 0 – 60 °C) with energy-saving integration of cooling system control through advanced electronic heating-cooling controller.
(5 sizes from 53 – 749 litres.)

Memmert CO_2 Incubators with digital temperature and CO_2 control and integrated automatic hot air sterilisation (2 sizes: 108 and 246 litres).

Memmert Water and Oil Baths for bacteriological research and other applications, we offer 6 different sizes and many options.

Your local supplier will be happy to answer any further questions – and you can of course also contact us directly at any time for information and advice.

Some of the illustrations in this publication include special accessories.

We reserve the right to make changes in technical specifications. Dimensions subject to confirmation.

Memmert have introduced a comprehensive quality management system for all areas of the Company and have obtained certification to ISO 9001.

ISO CERTIFIED 9001

memmert®

Memmert GmbH + Co. KG
Electrotechnical equipment for heating, medicine and laboratory

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