AtmoSAFE

memmert

Experts in Thermostatics

Incubators

PERFECTLY COORDINATED. PERFECTLY CONTROLLED.

INCUBATOR I

CO_2 INCUBATOR INCOmed

COMPRESSOR-COOLED INCUBATOR ICP

PELTIER COOLED INCUBATOR IPP

STORAGE COOLED INCUBATOR IPS

100% ATMOSAFE. MADE IN GERMANY.

www.memmert.com | www.atmosafe.net

Stable.
Safe.
Sensitive.

Memmert incubator for microbiology.
Energy efficient, precise, 100% AtmoSAFE.

Even slight temperature deviations in the working chamber of an incubator may cause a test to fail. For this reason, the heating and control system of Memmert incubators are perfectly adapted to each other. During heating up and cooling down as well as in running operation, all appliances precisely keep the desired parameters within the smallest tolerance limits. Not only at one measuring point, but in the entire working chamber. Each individual Memmert incubator is tested according to the strict requirements of DIN 12.880: 2007-05 and is equipped with a maximum of safety functions. Each individual Memmert incubator is 100% AtmoSAFE.

GENERATI○N 2012

Incubator IN and IF with SingleDISPLAY
Incubator INplus and IFplus with TwinDISPLAY
Natural convection or forced air circulation
AtmoCONTROL software

Model sizes:
30 / 55 / 75 / 110 / 160 / 260 / 450 / 750
+30 °C to +80 °C

INCUBATOR I Memmert incubators I are at home in the world of research, medicine, pharmaceutics and food technology. Organic chamber loads require gentle heating. For this reason, the heating and control system are especially optimised for low temperatures of up to +80 °C. To prevent temperature overshoots, temperature is increased within a very narrow control range and kept exactly at the setpoint value. As required, the models IN with natural convection or IF with forced air circulation are available.
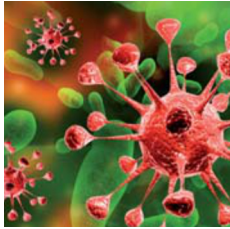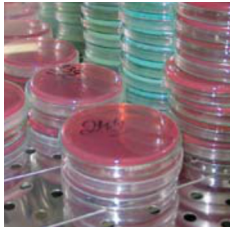
As little air circulation as possible in the incubator

Forced air convection may destroy the protective layer from moist air that is generated during incubation over the samples. This would lead to dehydration of the culture. In a Memmert incubator, the perfect combination of all-round surface heating and temperature control system ensures that incubation generally takes place without forced air circulation. Provided the chamber is fully loaded and forced air circulation is required, it can be precisely adjusted in 10% steps from 0 to 100 %.

Sterilisation

The chamber of the incubators INplus and IFplus, including all installations and sensors can be sterilised at +160 °C in a 4-hour programme to guarantee optimum hygiene.

Fresh air is preheated

Temperature deviations caused by fresh air can influence sample characteristics or prolong drying. In Memmert incubators, the fresh air is therefore fed through a pre-heating chamber and seamlessly introduced into the working chamber.

100
90
80
70
60
50
40
30
20

Temperature [°C]

Pre-warmed air entering working chamber

Pre-heating chamber below the working chamber

Air supply from outside
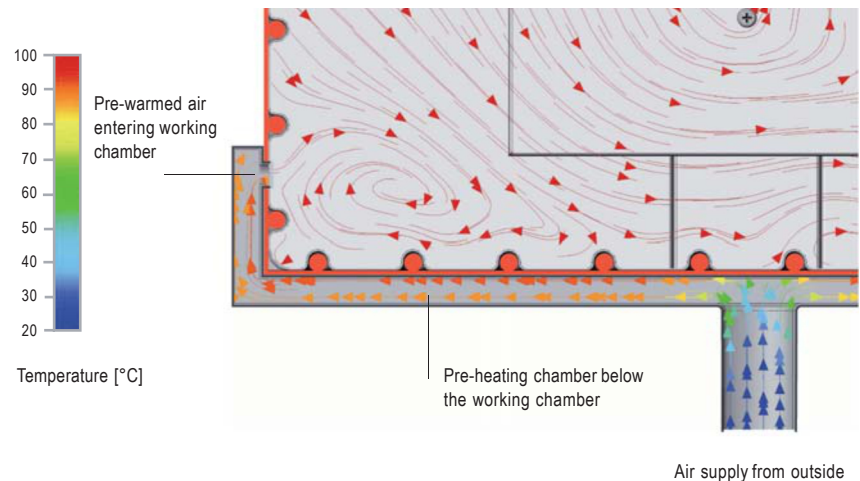
Intended use as a medical device:

The intended use of incubators IN/IF and INplus/IFplus is warming of rinsing solutions and infusions. IF and IFplus are also accredited for warming non-sterile cloths and blankets.

GENERATI⬤N 2012

INCUBATORS I

according to 12 880: 2007-05, EN 61010-1 (IEC61010-1), 61010-2-010

CE

Standard equipment

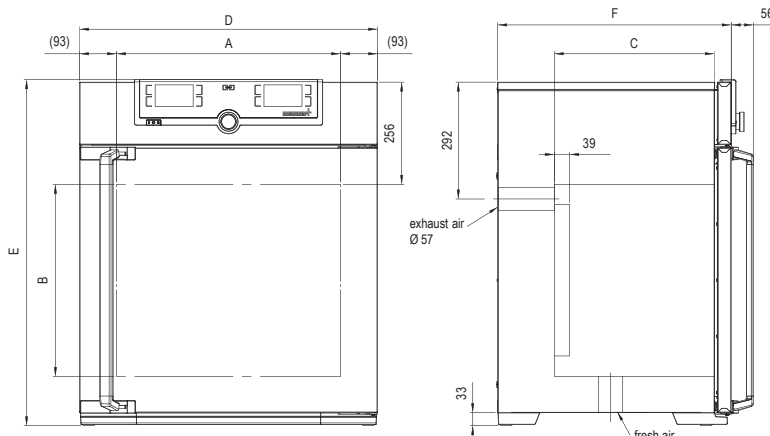|	
Interior:	Stainless steel, material 1.4301 (ASTM 304) with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath
Internals:	Stainless steel grids (size 30 and 55: 1, size 75 to 750: 2)
Housing:	Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY or TwinDISPLAY with Multi-Touch-screen; fully insulated stainless steel door (from size 450 two leaves)
Fresh air:	Admixture of pre-heated fresh air by electronically adjusted airflap
Connection:	Mains cable with plug
Installation:	4 feet; size 450 and 750 on lockable castors
Interfaces:	Ethernet / LAN USB (only TwinDISPLAY)

Model sizes/Description			30	55	75	110	160	260	450	750
Stainless steel interior	Volume	approx. l	32	53	74	108	161	256	449	749
	Width (A)	mm	400	400	400	560	560	640	1040	1040
	Height (B)	mm	320	400	560	480	720	800	720	1200
	Depth (less 39 mm for fan) (C)	mm	250	330	330	400	400	500	600	600
	Stainless steel grids (standard equipment)	number	1	1	2	2	2	2	2	2
	Max. number of grids	number	3	4	6	5	8	9	8	14
	Max. loading per grid	kg	30	30	30	30	30	30	30	30
	Max. loading of chamber	kg	60	80	120	175	210	300	300	300
Textured stainless steel exterior	Width (D)	mm	585	585	585	745	745	824	1224	1224
	Height (size 450, 750 with castors) (E)	mm	707	787	947	867	1107	1186	1247	1726
	Depth (with door handle), door handle + 56 mm (F)	mm	434	514	514	584	584	684	784	784
Further data	Power consumption at 230 V/115 V, 50/60 Hz	approx. W	800	1000	1250	1400	1600	1700	1800	2000
	Working-temperature range	°C	min. 5 K (IN/INplus) 10 K (IF/IFplus) above ambient temperature up to +80 °C							
	Setting temperature range	°C	+20 to +80							
	Setting accuracy	K	0.1							
Packing data	Net weight	approx. kg	44	55	64	72	80	96	160	192
	Gross weight (packed in carton)	approx. kg	55	67	76	86	96	114	185	242
	Width	approx. cm	69	70	70	83	83	93	134	134
	Height	approx. cm	86	94	111	104	127	134	141	189
	Depth	approx. cm	66	73	73	79	79	89	99	99
Order No. Incubators			IN30	IN55	IN75	IN110	IN160	IN260	IN450	IN750
			IN30plus	IN55plus	IN75plus	IN110plus	IN160plus	IN260plus	IN450plus	IN750plus
			IF30	IF55	IF75	IF110	IF160	IF260	IF450	IF750
			IF30plus	IF55plus	IF75plus	IF110plus	IF160plus	IF260plus	IF450plus	IF750plus

Order No. Incubators
I   = Incubator
N   = Natural convection
F   = Forced convection
plus = Model with TwinDISPLAY

Optionen	30	55	75	110	160	260	450	750
Interior lighting (up to size 260: 15 W, sizes 450/750: 2 x 15 W)				R0				
Interior socket can only be ordered with limited temperature range up to max. +70 °C, ampacity 230 V/2.2 A, can be switched off with the On/Off switch, cannot be switched individually				R3				
Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap and silicone stopper, standard positions _left centre/centre_				F0				
left centre top				F1				
right centre/centre				F2				
right centre top				F3				
Other port, 23 mm clear diameter, can be closed by flap, in special positions (please, state location) _left_				F4				
right				F5				
rear				F6				
Other port, 14 mm clear diameter, can be closed by flap, in special positions in the back wall (please, state location)				D6				
Other port, 38 mm clear diameter, can be closed by flap, in special positions in the back wall (please, state location)				F7				
Other port, 57 mm clear diameter, in special positions in the back wall (please, state location)				F8				
Other port, 100 mm clear diameter, can be closed by flap, in special positions in the back wall (please, state location)				F9				
Other port, 120 mm clear diameter, can be closed by flap, in special positions in the back wall (please, state location)				D7				
4 – 20 mA current loop interface (0 to 90 °C ≙ 4 to 20 mA) _Temperature controller, actual value_				V3				
Temperature of a Pt100 sensor positioned flexibly in chamber (max. 3)				V6				
Fan speed monitoring – optional only for IFplus				V4				
Works calibration certificate for 3 temperatures: +37 °C, +52 °C, +70 °C				D00126				

Accessories	30	55	75	110	160	260	450	750
Stainless steel grids (standard equipment)	E28884	E20164		E20165		E28891	E20182	
Perforated stainless steel shelves	B29727	B03916		B00325		B29725	B00328	
Stainless steel tray (non-perforated) 15 mm rim (may affect the temperature distribution)	E02070	E02072		E02073		E29726	E02075	
Bottom drip tray (may affect the temperature distribution)	B04356	B04358		B04359		B29722	B04362	
Wall bracket (tubular frame for wall mounting)	B29755	B29756	B29757	B29758	B29759	–	–	–
Guarantee extension by 1 year			GA1Q5				GA2Q5	

CO_2 Incubator INCOmed
"Celsius" standard software

Model sizes:
108/153/246
+20 °C to +50 °C
Humidity 88 to 97 % rh
CO_2 content up to 10 %
Humidity 40 to 97 % rh (humidity module)
CO_2 content up to 20 % (CO_2 module)
O_2 content between 1 and 20 % (O_2 module)

CO_2 INCUBATOR INCOmed For cell cultivation and especially for in-vitro fertilisation, the precision and reliability of CO2 incubators are of crucial importance. During cultivation, the slightest deviation in the CO2 atmosphere, temperature or humidity can influence cell development. For this reason, Memmert has subjected its CO2 incubators to a comprehensive evaluation process for their recognition as medical devices. The classification as class IIa medical device confirms that all Memmert CO2 incubators INCOmed comply with the basic safety requirements of the European Medical Devices Directive 93/42/EEC. The interior chamber including all installations and sensors can be sterilised at 160 °C in a 4-hour programme.

Customised models for every application

As much function as needed, as much customisation as possible. Put together your own customised INCOmed from 7 additional modules.

- s **COMFORT MODULE:** Two gas connections with quick release connectors, automatic switch-over between gas bottles (a combination of the comfort module and the O2 module is not possible, since the N2 introduction takes place via a second gas bottle connection)

- s **HYGIENE MODULE:** Electropolished, seamless laser-welded chamber

- s **COMMUNICATION MODULE**: USB interface, „Celsius" standard software for programming and protocol logging, ring memory, printer port

- s **CO_2 MODULE:** Extended CO_2 range from 0 to 20 %

- s **O_2 MODULE:** Control of oxygen concentration by introducing nitrogen, adjustment range from 1 % to 20 % O_2 (combination of comfort module or Premium module and O_2 module not possible, since N_2 is introduced via a second gas bottle connection) For applications with a set O_2 value of less than 10 %, the humidity module is highly recommended.

- s **PREMIUM MODULE:** Includes COMFORT, hygiene, communication and CO_2 module

- s **HUMIDITY MODULE:** Active microprocessor humidification and dehumidification control (40 - 97 % rh) Recommended for applications with set O_2 values of less than 10 %.

Homogeneity in the chamber

Heating the working chamber from all six sides along with the electronic humidity control system and turbulence-free ventilation is decisive for temperature and humidity distribution. An aluminium thermal conduction layer supports homogeneity in the chamber and serves as a heat accumulator if there is a temporary power failure.

Short recovery times thanks to active humidity control

The INCOmed standard model features a humidity limiting system to reduce water tray generated maximum relative humidity inside the chamber from 97 % down to 88 %. To achieve an increase in usable volume, optimum hygiene and short recovery times after opening the door, the optional humidity module, an active humidification system with an adjustment range of 40 % to 97 % rh can be integrated, introducing sterile hot steam into the air stream.
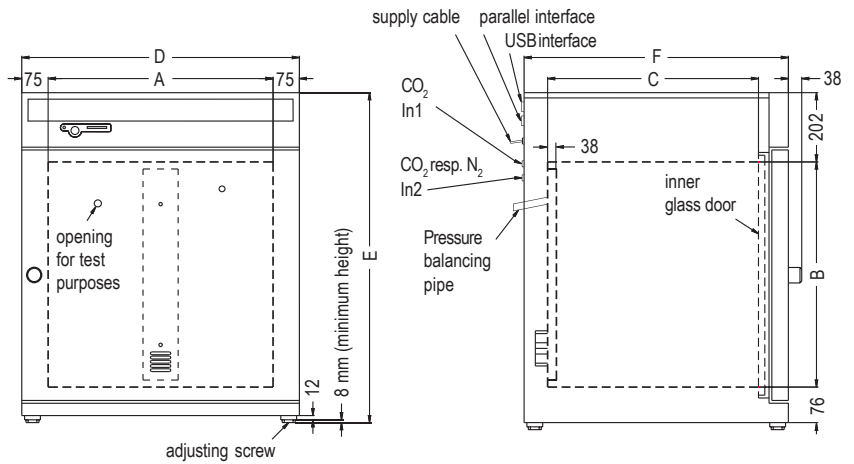
CO$_2$-INCUBATORS INCOmed

with automatic sterilisation

according to 12 880: 2007-05

CE

Standard equipment

Interior:	Stainless steel, material 1.4301 (ASTM 304), deep-drawn
Internals:	Perforated stainless steel shelves (size 108: 2, sizes 153/246: 3, stainless steel water dishes (sizes 108/153: 1 (full width), size 246: 2 (half width)
Housing:	Textured stainless steel, rear zinc-plated steel, aesthetic functional glass-stainless steel operating panel with multifunction display and input module; fully insulated stainless steel door and inner glass door
Connection:	Mains cable with plug
Installation:	4 adjustable feet
Interfaces:	Optional with Communication resp. Premium module

printer interface   USB   optional   Ethernet
LAN

Model sizes/Description				108	153	246
Stainless steel interior	Volume		approx. l	108	153	246
	Width	(A)	mm	560	480	640
	Height	(B)	mm	480	640	640
	Depth (less 25 mm for fan)	(C)	mm	400	500	600
	Provision for grids or shelves Half width / Full width		number	– / 4	– / 6	2 x 6 / 6
Stainless steel exterior	Width	(D)	mm	710	630	790
	Height (variable through adjustable feet)	(E)	mm	778	938	938
	Depth (without door handle, depth of door handle 38 mm)	(F)	mm	550	650	750
	Fully insulated, heated stainless steel door					
	Extra internal glass door					
Ventilation	Uniform atmosphere and temperature distribution through enclosed non-turbulent ventilation system, fully covered by the sterilisation process					
Temperature	Electronic microprocessor temperature controller with Pt100 and auto-diagnostic system					
	Temperature sensors Pt100 Class A in 4-wire circuit for uninterrupted operation on failure of one Pt1100 with warning indication				double	
	Temperature range (during sterilisation the temperature is fixed at +160 °C – set value)		°C		from +20 to +50 (min. 8 K above ambient)	
	Temperature fluctuations with time (to DIN 12 880: 2007-05)		°C	Φ± 0.1	Φ± 0.1	Φ± 0.1
	Temperature variation in chamber at +37 °C (to DIN 12 880: 2007-05)		°C	Φ± 0.3	Φ± 0.3	Φ± 0.3
Sterilisation	STERICard for automatic chamber sterilisation cycle 4 h at +160 °C (not for sterilising the load!)					
CO$_2$	Digital electronic CO$_2$ control with autozero, NDIR system, with auto-diagnostic system and acoustic fault indication, barometric pressure compensation					
	Setting accuracy		% CO$_2$		0.1	
	Adjustment range		% CO$_2$		0 to 10	
Humidity	Capacitive humidity sensor (sterilisable)					
	Standard water dishes		number	1	1	2
	Adjustable humidity limit control (88 – 97 %) incl. digital indication and auto-diagnostic system with visual and acoustic fault indication (air supply via sterile filter) ensures rapid reaching of set humidity and short recovery times while avoiding condensate formation					
Monitor	Microprocessor temperature monitor acting as overtemperature protection (protection class 3.1), with Pt100 incorporating fault diagnostics with visual and audible alarm					
	Digital over- and undertemperature monitor					
	Temperature monitoring band automatically linked to the setpoint (ASF)					

Model sizes/Description			108	153	246
Monitor	Relay for reliable heating cut-off in case of fault				
	Mechanical temperature limiter (TB)				
	Audible alarm: Over- and undertemperature, over-CO_2 and empty gas cylinder, open door, underhumidity and empty water tank (with optional Humidity module)				
Timer functions	Real-time/weekly programmer with group function (e.g. Monday - Friday)				
Setup	Calibration (no separate PC required), Temperature: 3-point calibration on controller, CO_2: 3-point calibration at 5 %, 7 % and 10 %, Auto-zero-function of NDIR CO_2-sensor after every sterilisation and cyclically every 24 h, Humidity: 2-point calibration at 20 % and 90 %				
	Setting of language for dialogue and display D / UK / E / F / I				
Further data	Power consumption at a voltage of 230 V, 50/60 Hz	approx. W	1000	1500	2000
Packing data	Net weight/Gross weight (packed in carton)	approx. kg	70/78	80/96	110/125
	Width/Height/Depth	approx. cm	82/97/67	75/114/84	93/114/93
Standard accessories	Perforated stainless steel shelves (full width)	number	2	3	3
	Stainless steel water dishes, 40 mm high	number	1 (full width)		2 (half width)
	Works calibration certificate (test point chamber centre at 37 °C)				
Order No. CO₂-Incubators			**INC108med**	**INC153med**	**INC246med**

Options		108	153	246
Comfort module: two gas connections with quick release connectors, automatic switch-over of gas cylinders			T1	
Hygiene module: electropolished interior, seamlessly welded by laser			T2	
Communication module: USB interface, "Celsius" standard software for programming and documentation, ring memory, printer interface			T3	
CO₂ module: extended CO_2 range from 0 to 20 %			T4	
Premium module: includes Comfort, Hygiene, Communication and CO_2 module			T5	
Humidity module: active microprocessor control for humidifying and dehumidifying (40 – 97 % rh), incl. digital indication and auto-diagnostic system ensures even more rapid reaching of set humidity and very short recovery times while avoiding condensate formation; humidity supply with distilled water (from an external tank) by a self-priming pump (standard humidity limit control and water dishes are omitted)			K7	
O₂ module: control of oxygen concentration by N2 inlet; adjustment range 1 % up to 20 % O2; setting accuracy 0,1 %			T6	
Entry port (silicone), 40 mm clear diameter, for introducing connections, moisture tight, can be closed by silicone stopper, at the back (please, state location)			F7	
4-part partitioning of interior with 4-part gas baffle (replacement of 3 full-width shelves by 6 half-width shelves)		–	–	K4
Door with lock (safety-lock)			B8	
Stacking version for 2 units of equal size (bottom unit modification)			G3	
Potential-free contact (24 V/2 A) with socket to NAMUR NE 28 for external monitoring (setpoint of temperature and CO_2 is reached)			H5	
Works calibration certificate for 5 %, 7 % and 10 % CO_2 (measured at +37 °C)			D00106	
Start-up of INCO incubators and brief training (D, A, CH only), through MEMMERT service, not subject to discount			K9	

Accessories	108	153	246
Additional perforated stainless steel shelf, full width	B00325	B00321	B03813
Additional perforated stainless steel shelf, half width	–	–	B02742
Additional stainless steel grid, full width	E20165	E20166	E03492
Additional water dish	B02787	B02784	B02786
Subframe (622 mm high)	B02792	B02732	B02793
Subframe (130 mm hight for 2 stacked incubators)	B02794	B02740	B02795
HEPA-filter for chamber according to EN 1822, packed in sterile condition, incl. fixing unit		B04459	
STERICard (additional or as replacement) for automatic chamber sterilisation cycle (not for sterilising load)		E04337	
Pressure reducing valve to DIN 8546, incl. gas cylinder monitor		E02087	
CO₂ connection set, hose with coupling and clamp		B03881	
Module for external fresh water supply, only in combination with humidity module		B04712	
Guarantee extension by 1 year		GA2Q5	

GENERATION 2012

Compressor-cooled incubator ICP*
with TwinDISPLAY
AtmoCONTROL software

Model size: 55
0 °C to +60 °C
Model sizes: 110 / 260 / 450 / 750
-12 °C to +60 °C

COMPRESSOR-COOLED INCUBATOR ICP Ideal at temperatures around zero and below! If rapid and precise alternation between heating up and cooling down times in ramp operation is required, cooled incubators with compressor cooling prove to be in peak form – yet still work extraordinarily quiet. Due to the finely adjusted control technology, temperatures exactly reach the set point values without energy-intensive bursts of power.

* available as Generation 2012 appliance as of 2nd quarter 2013

Completely enclosed working chamber

Cooling and heating units are situated outside the working chamber inside the air jacket temperature control system surrounding the entire chamber interior ensuring quick and precise temperature control. The motor-driven forced air circulation, adjustable in 10 % steps via the ControlCOCKPIT ensures optimum temperature distribution.
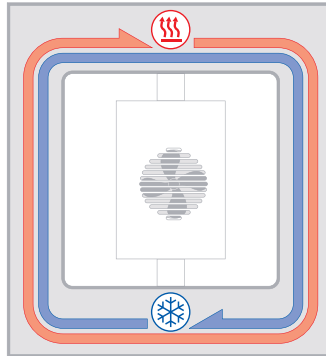
ICP air jacket temperature control system

The sun is rising

s⌐ Optional thermally decoupled internal illumination
s⌐ Realistic day-night simulation by programming function for light, temperature and fan speed

°C

loop

37°C
20°C
15°C

t   Day/night simulation programme function
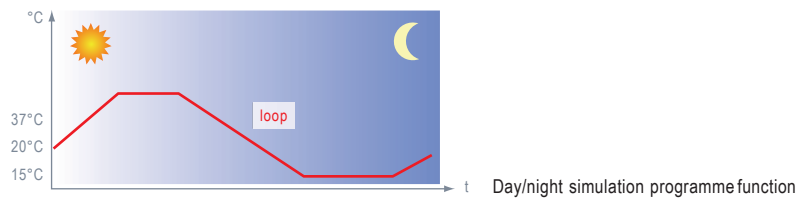
Integrated energy saving function

The cooling unit works extremely energy-efficiently, as there is no continuous heating against cooling. An intelligent DEFROST function enables defrosting as required.

GENERATION 2012

COMPRESSOR-COOLED INCUBATOR ICP

according to 12 880: 2007-05, EN 61010-1 (IEC61010-1), 61010-2-010

CE

Standard equipment

Interior:	Stainless steel, material 1.4301 (ASTM 304) with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath
Internals:	Stainless steel grids (size 55: 1 grid, sizes 110 to 750: 2 grids)
Housing:	Textured stainless steel, rear zinc-plated steel, intuitively operated TwinDISPLAY with Multi-Touchscreen; fully insulated stainless steel door (from size 450 two leaves)
Fresh air:	Admixture of pre-heated fresh air by electronically adjusted airflap
Connection:	Mains cable with plug
Installation:	4 feet; size 450 and 750 on lockable castors
Interfaces:	USB Ethernet LAN
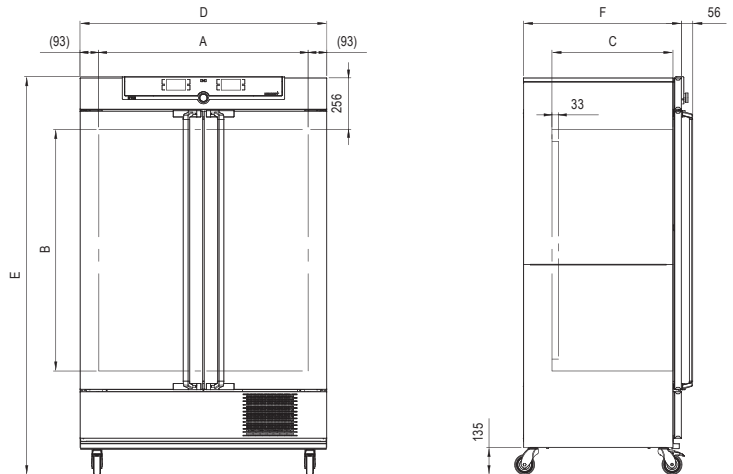
Model sizes/Description			55	110	260	450	750
Stainless steel interior	Volume	approx. l	53	108	256	449	749
	Width (A)	mm	400	560	640	1040	1040
	Height (B)	mm	400	480	800	720	1200
	Depth (less 33 mm for fan) (C)	mm	330	400	500	600	600
	Stainless steel grids (standard equipment)	number	1	2	2	2	2
	Max. number of grids	number	4	5	9	8	14
	Max. loading per grids	kg	30	30	30	30	30
	Max. loading of chamber	kg	80	175	300	300	300
Textured stainless steel exterior	Width (D)	mm	585	745	824	1224	1224
	Height (size 110 to 750 with castors) (E)	mm	1153	1233	1552	1613	1950
	Depth (without door handle), door handle + 56 mm (F)	mm	514	584	684	784	784
Further data	Electrical load at 230/115 V (±10%), 50/60 Hz	approx. W	500	500	700	750	1200
Setting	Setting temperature range	°C	-12 bis +60 °C (ICP55 -5 bis +60 °C)				
	Setting accuracy	K	0.1				
Packing data	Net weight	approx. kg	88	109	153	217	249
	Gross weight (packed in carton)	approx. kg	104	127	178	252	309
	Width	approx. cm	70	83	93	134	134
	Height	approx. cm	142	150	181	188	221
	Depth	approx. cm	73	79	79	99	99
Order No. Compressor-cooled Incubators			**ICP55**	**ICP110**	**ICP260**	**ICP450**	**ICP750**

Options	55	110	260	450	750
Chamber modification for the application of reinforced perforated stainless steel shelves or stainless steel grids (bearing rails mounted in the working chamber) – includes replacement of 2 standard grids by 2 reinforced grids	–	–	–	K1	
Interior lighting (programme-segment-dependent switching on/off by processcontroller, for example day/night simulation) flourescent lamps at the back – Thermallyisolated illumination box with insulating glass window and reflectors	–	R2	R2	R2	R2
no. of lamps/W	–	6/15	6/18	6/18	6/30
Illumination approx. Lux.	–	1000	2500	1000	2500
Interior socket, ampacity 230 V/2.2 A, can be switched off with the On/Off switch, cannot be switched individually, moisture tight IP68			R3		
Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap and silicone stopper, standard positions left centre/centre			F0		
left centre top			F1		
right centre/centre			F2		
right centre top			F3		
Entry port (silicone), 40 mm clear diameter, for introducing connections, moisture tight, can be closed by silicone stopper, at the back (please, state location)			F7		
4 – 20 mA current loop interface (-20 to +70 °C ≙ 4 to 20 mA) Temperature controller, actual value			V3		
Temperature of a Pt100 sensor positioned flexibly in chamber (max. 3)			V6		
Fan speed monitoring			V4		
Works calibration certificate for 3 temperatures: 0 °C, +37 °C, +60 °C			D00130		

Accessories	30	55	75	110	160
Stainless steel grid (standard equipment)	E20164	E20165	E28891	E20182	
Reinforced stainless steel grid, max. loading 60 kg (from size 750 only in connection with option K1)	–	E29767	E29766	E20185	
Perforated stainless steel shelf	B03916	B00325	B29725	B00328	
Reinforced perforated stainlesssteel shelf, max. loading 60 kg (from size 750 only in connection with option K1)	–	B29777	B29724	B00844	
Stainlesssteel tray (non-perforated) 15 mm rim (may affect the temperature distribution)	E02072	E02073	E29726	E02075	
Bottom drip tray (may affect the temperature distribution)	B04358	B04359	B29722	B04362	

GENERATI 2012 N

Peltier cooled incubator IPP* with SingleDISPLAY
Peltier cooled incubator IPPplus* with TwinDISPLAY
AtmoCONTROL software

Model sizes:
30 / 55 / 110 / 260 / 750
0 °C to +70 °C

PELTIER COOLED INCUBATOR IPP Heating and cooling seamlessly with one system thanks to Peltier technology. In this respect, cooled incubators IPP not only contribute to climate protection, but it also achieves an additional decrease in operating costs of up 90 % compared to compressor technology. This perfect development from the environmentally friendly and energy-saving heating/cooling technology by Memmert convinces by outstanding control precision and extremely small fluctuations.

* available as Generation 2012 appliance as of 1st quarter 2013

Extremely quiet and vibration-free

The fact that no compressor is required saves space and brings peace and quiet to the laboratory. As Peltier cooled incubators IPP are almost vibration-free, they can also be applied in entomology. If defined humidity is also required, an alternative would be the constant climate chamber HPP, which is also equipped with Peltier technology.

No condensation in the interior chamber

Due to the closed Peltier cooling system, no outside air is exchanged. Physically derived, unavoidable formation of condensation during the cooling process does not take place in the interior chamber but on the outside heat sink. In addition, the in the Peltier elements integrated fans ensure a rapid transport of energy as well as an optimal temperature distribution.

Energy-saving heating/cooling technology combination

In contrast to compressor systems, Peltier technology is particularly economical at temperatures close to the ambient temperature, since energy is only required during heating or cooling. Therefore heating and cooling function are particularly precisely adjusted to each other.

Comparison compressor technology and Peltier technology

Reduction in energy consumption up to 90 %

■ Compressor technology

■ Peltier technology

Temperature	Compressor technology	Peltier technology
5 °C	225 Watt	150 Watt
20 °C	225 Watt	25 Watt
30 °C	225 Watt	50 Watt
60 °C	150 Watt	100 Watt

GENERATION 2012
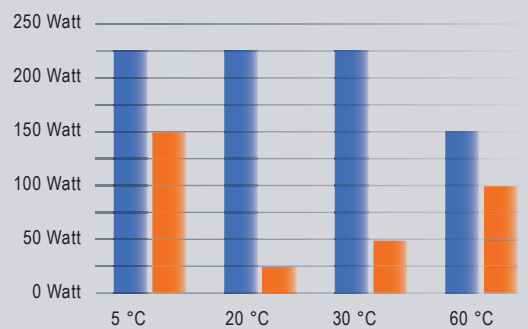
PELTIER COOLED INCUBATOR IPP

according to 12 880: 2007-05

CE

Standard equipment

Interior:	Stainless steel, material 1.4301 (ASTM 304), deep-drawn
Internals:	Stainless steel grids (sizes 30 and 55: 1, sizes 110 to 750: 2)
Housing:	Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY or TwinDISPLAY with Multi-Touchscreen;
Double doors:	Outside stainless steel, fully insulated, inside glass (size 750 two-leaves)
Connection:	Mains cable with plug
Installation:	4 feet; size 450 and 750 on castors
Interfaces:	Ethernet / LAN USB (only TwinDISPLAY)

Number of Peltier elements in the rear:
Sizes 30 to 55: 1
Size 110: 2
Size 260: 3
Size 750: 6

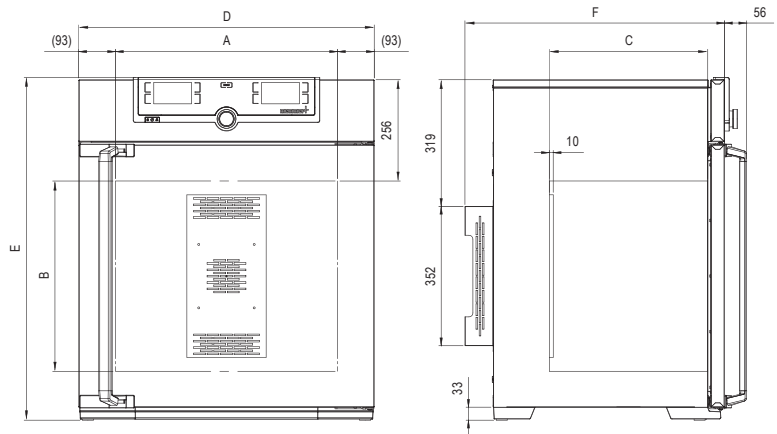| Model sizes/Description				30	55	110	260	750
Stainless steel interior	Volume		approx. l	32	53	108	256	749
	Width	(A)	mm	400	400	560	640	1040
	Height	(B)	mm	320	400	480	800	1200
	Depth (less 10 mm for fan – Peltier)	(C)	mm	250	330	400	500	600
	Stainless steel grids (standard equipment)		number	1	1	2	2	2
	Max. number of grids		number	3	4	5	9	14
	Max. loading per grid		kg			30		
	Max. loading of chamber		kg	60	80	175	300	300
Textured stainless steel exterior	Width	(D)	mm	585	585	745	824	1224
	Height (size 750 with castors)	(E)	mm	707	787	867	1186	1726
	Depth (without door handle), door handle + 56 mm	(F)	mm	524	604	674	774	874
Further data	Power consumption at 230/115 V, 50/60 Hz		approx. W	125	175	350	525	1050
	Working temperature range without light	°C				0 to +70		
	Working temperature range with light	°C				+10 to +40		
	Setting temperature range	°C				0 to +70		
	Setting accuracy	K				0,1		
Packing data	Net weight		approx. kg	51	62	86	103	234
	Gross weight (packed in carton)		approx. kg	62	74	100	121	284
	Width		approx. cm	69	70	83	93	134
	Height		approx. cm	86	94	104	134	189
	Depth		approx. cm	66	73	79	89	99
Order No. Peltier cooled Incubators IPP = Peltier cooled Incubators plus = Model with TwinDISPLAY				**IPP30** **IPP30plus**	**IPP55** **IPP55plus**	**IPP110** **IPP110plus**	**IPP260** **IPP260plus**	**IPP750** **IPP750plus**

Optionen	30	55	110	260	750
Chamber modification for the application of reinforced perforated stainless steel shelves or stainless steel grids (bearing rails mounted in the working chamber) – includes replacement of 2 standard grids by 2 reinforced grids	–	–	–	–	K1
Light module cold white 5.500 Kelvin: light strips arranged on the side walls of the interior, 10 strips for model 110, 14 for model 260, illumination strength 10.000 Lux, programme-controlled dimming from 0 to 100 % (in 10 % steps), ramp programming in combination with temperature and humidity	–	–	T7		–
Light module cold white 5.500 Kelvin + warm white 2.700 Kelvin: LEDlight strips (5 resp. 7 alternating cold white light strips and 5 resp. 7 warm white light strips) on the side walls of the interior, illumination strength 10.000 Lux, programme-controlled dimming from 0 to 100 % (in 10 % steps), ramp programming in combination with temperature and humidity	–	–	T8		–
Interior socket, ampacity 230 V/2.2 A, can be switched off with the On/Off switch, cannot be switched individually	R3				
Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap and silicone stopper, standard positions left centre/centre left centre top right centre/centre right centre top	F0 F1 F2 F3				
Entry port, 23 mm clear diameter for introducing connections at the side, can be closed by flap and silicone stopper, (please, state location) left right rear	F4 F5 F6				
Other port (14 mm dia.), in special positions in the back wall (please, state location)	D6				
Other port (38 mm dia.), in special positions in the back wall (please, state location)	F7				
4 – 20 mA current loop interface (-10 to +80 °C ≙ 4 – 20 mA) Temperature controller, actual value Temperature of a Pt100 sensor positioned flexibly in chamber (max. 1 SingleDISPLAY, max. 3 TwinDISPLAY)	V3 V6				
Works calibration certificate for 3 temperatures: +5 °C, +37 °C, +60 °C	D00129				

Accessories	30	55	110	260	750
Stainless steel grid (standard equipment)	E28884	E20164	E20165	E28891	E20182
Reinforced stainless steel grid, max. loading 60 kg (from size 750 only in connection with option K1)	–	–	E29767	E29766	E20185
Perforated stainless steel shelf	B29727	B03916	B00325	B29725	B00328
Reinforced perforated stainless steel shelf, max. loading 60 kg (from size 750 only in connection with option K1)	–	–	B29777	B29724	B00844
Stainless steel tray (non-perforated) 15 mm rim (may affect the temperature distribution)	E02070	E02072	E02073	E29726	E02075
Bottom drip tray (may affect the temperature distribution)	B04356	B04358	B04359	B29722	B04362
Guarantee extension by 1 year	GA1Q5			GA2Q5	

GENERATI●N 2012

Storage cooled incubator IPS*
with SingleDISPLAY
AtmoCONTROLsoftware

Model sizes:
260 / 750
+14 °C to +45 °C

STORAGE COOLED INCUBATOR IPS Save energy and reduce the strain on the climate at the same time! If microbiological cultures, BOB5 samples, drinks containers or cosmetics need to be stored over a long period at constant temperatures, storage cooled incubators IPS with energy-efficient Peltier technology are the perfect choice: absolute reliability, precision, durability and eco-friendliness.

* available as Generation 2012 appliance as of 1st quarter 2013

Considerable potential for savings in acquisition and operating costs

Temperature changes are not always necessary for long-term storage or incubating. So why design heating, cooling and controlling systems for rapid heating up and cooling down times? The performance of the IPS was tailor-made for permanent operation at constant temperatures close to room temperature. The advantage: Acquisition costs and operating costs are considerably reduced in comparison to conventional cooled incubators with compressor technology, as well as to a large Peltier-cooled incubator.

Ideal for high ambient temperatures

Thanks to Peltier elements integrated for cooling the working chamber, the chamber load won't break into sweat even at high ambient temperatures. Constant and precise incubation at room temperature is guaranteed.

Low in vibration and durable for absolutely safe long-term storage

Like the cooled incubator IPP, the IPS offers all the advantages of Peltier technology to the user. Its interior chamber that is completely insulated from the environment minimises the risk of drying out of the samples. It is practically noise-free and not only reduces stress on the chamber load but also soothes the nerves of employees thanks to its quiet operation.

Glimpse into a Memmert storage incubator:
Peltier elements guarantee perfect climate inside the chamber.

GENERATION 2012

STORAGE COOLED INCUBATOR IPS

according to 12 880: 2007-05

CE

Standard equipment

Interior:	Stainless steel, material 1.4301 (ASTM 304), deep-drawn
Internals:	2 stainless steel grids
Housing:	Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY with Multi-Touchscreen
Double doors:	Outside stainless steel, fully insulated, inside glass (size 750 two-leaves)
Connection:	Mains cable with plug
Installation:	4 feet; size 450 and 750 on castors
Interfaces:	Ethernet / LAN
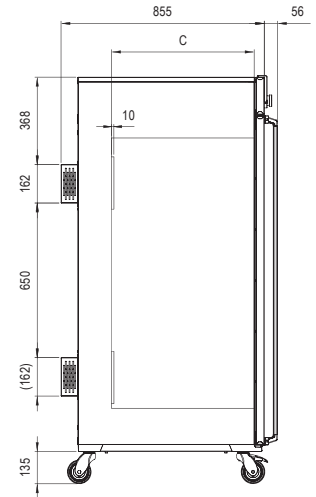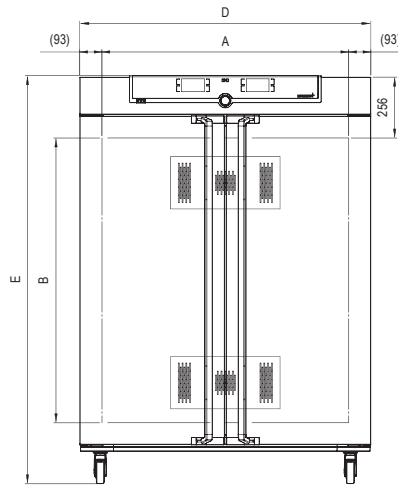
Model sizes/Description				260	750
Stainless steel interior	Volume		approx. l	256	749
	Width	(A)	mm	640	1040
	Height	(B)	mm	800	1200
	Depth (less 10 mm for fan – Peltier)	(C)	mm	500	600
	Stainless steel grids (standard equipment)		number	2	2
	Max. number of grids		number	9	14
	Max. loading per grid		kg	30	30
	Max. loading of chamber		kg	300	300
Textured stainless steel exterior	Width	(D)	mm	824	1224
	Height (size 750 with castors)	(E)	mm	1186	1726
	Depth (without door handle), door handle + 56 mm	(F)	mm	774	874
Further data	Power consumption at 230/115 V, 50/60 Hz		approx. W	525	1050
	Working temperature range/Setting temperature range		°C	+14 to +45	
	Setting accuracy		K	0.1	
Packing data	Net weight		approx. kg	96	206
	Gross weight (packed in carton)		approx. kg	114	256
	Width		approx. cm	93	134
	Height		approx. cm	134	189
	Depth		approx. cm	79	99
Order No. Storage cooled Incubators				**IPS260**	**IPS750**

Optionen	260	750
Chamber modification for the application of reinforced perforated stainless steel shelves or stainless steel grids (bearing rails mounted in the working chamber) – includes replacement of 2 standard grids by 2 reinforced grids	–	K1
Interior socket, ampacity 230 V/2.2A, can be switched off with the On/Off switch, cannot be switched individually	R3	
Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap and silicone stopper, standard positions left centre/centre left centre top right centre/centre right centre top	F0 F1 F2 F3	
Other port, 23 mm clear diameter, can be closed by flap, in special positions (please, state location) left right rear	F4 F5 F6	
Entry port, 14 mm clear diameter, can be closed by flap, in special positions in the back wall (please, state location)	D6	
Entry port, 38 mm clear diameter, can be closed by flap, in special positions in the back wall (please, state location)	F7	
4 – 20 mA current loop interface (0 to +70 °C ≙ 4 – 20 mA) Temperature controller, actual value Temperature of a Pt100 sensor positioned flexibly in chamber (max. 3)	V3 V6	
Works calibration certificate for a freely selectable temperature value	D00131	

Accessories	260	750
Stainless steel grid (standard equipment)	E28891	E20182
Reinforced stainless steel grid, max. loading 60 kg (from size 750 only in connection with option K1)	E29766	E20185
Perforated stainless steel shelf	B29725	B00328
Reinforced perforated stainless steel shelf, max. loading 60 kg (from size 750 only in connection with option K1)	B29724	B00844
Stainless steel tray (non-perforated) 15 mm rim (may affect the temperature distribution)	E29726	E02075
Bottom drip tray (may affect the temperature distribution)	B29722	B04362
Guarantee extension by 1 year	GA2Q5	

SPECIAL EQUIPMENT – GENERATION 2012

Options – For all appliances	30	55	75	110	160	260	450	750
Door with lock (safety lock)				B6				
Door hinged on the left				B8				
Potential-free contact (24 V/2 A) with socket to NAMUR NE 28 for external monitoring (indicates when setpoint is reached)				H5				
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)				H6				
Potential-free contact (24 V/2 A) with socket to NAMUR NE 28, for signal generation, controlled by programme segment, for a total of 3 freely selectable functions to be activated (e.g. activation of audible and visual signals, exhaust motors, fans, stirrers, etc. (only for units with TwinDISPLAY) 2 contacts				H72				
Process-dependent electromagnetic door lock (only for units with TwinDISPLAY)				D4				
Door-open-recognition (only for units with TwinDISPLAY)				V5				
Flexible Pt100 for positioning in chamber or in load with socket, 4-pin, according to NAMUR NE 28, for external temperature recording (load temperature) max. 3 sensors				H4				
Additional Pt100 temperature sensor, positioned flexibly in chamber or load, for local temperature measurement (up to 3 additional sensors are possible). The measured temperature can, if required, be indicated on the display, recorded in the integral ring store, and can be documented via the AtmoCONTROL software or on an attached printer.				H8				
MobileALERT, notification by SMS in case of any error or alarm of the device. Require soption H6 "floating contact for alarm"				C3				
Temperature restriction (for UN/UF/UNplus/UFplus) Temperatures: 60, 70, 80, 95, 100, 120, 160, 180, 200, 220 or 250°C (Please, indicate upon ordering)				A8				

Accessories – For all appliances	30	55	75	110	160	260	450	750
USB-Ethernet adapter				E06192				
USB connection cable for computer interface				E06189				
USB User-ID stick (with User-ID licence): Oven-linked authorisation licence (User-ID-programme) on Memory-stick, prevents undesired manipulation by unauthorised third parties. When reordering please specify serial number				E29778				
USB stick with documentation software AtmoCONTROL and operation manual for products with SingleDISPLAY, standard for appliances with TwinDISPLAY				E29780				
Set of height adjustable feet (4 pcs)				B29768				
Stacking set (4 pcs) for stacking of appliances of same size (not for models 160, 260, 450 and 750)		B29744			–	–	–	–
Plug-in tube extension (outer diam. 60,3 mm, inner 57 mm), straight, for exhaust air ducting (if necessary for connection by hose), only models U, I, /S				B29718				
Plug-in tube extension (outer diam. 60,3 mm, inner 57 mm), angled, for exhaust air ducting (if necessary for connection by hose), only models U, I, /S				B29719				
Flush-fit unit (stainless steel frame covering gap between oven and wall opening), with air slots – technical clarification required	B29728	B29730	B29732	B29734	B29736	B29738	B29740	B29742
Flush-fit unit (stainless steel frame covering gap between oven and wall opening), without air slots – technical clarification required	B29729	B29731	B29733	B29735	B29737	B29739	B29741	B29743
Subframe, adjustable in height (size 30 to 75: height 600 mm, size 110 to 450: height 500 mm)	B29745	B29747	B29747	B29749	B29749	B29751	B29753	–
Subframe, on castors (size 30 to 75: height 660 mm, size 110 to 450: height 560 mm)	B29746	B29748	B29748	B29750	B29750	–	–	–
Castor frame (2-part), height 140 mm	B29762	B29763	B29763	B29764	B29764	B29765	–	–
IQ check list with works test data for chamber as support for validation by customer				D00124				
OQ check list with works test data for one free-selectable humidity and temperature value incl. temperature distribution survey for 27 measuring points (9 for size 30) to DIN 12 880: 2007-05 as support for validation by customer	D00125			D00127				
External measuring instrument with sensors for daylight and UV-light (product information on demand)				B04713				
Ditto with additional measuring head for temperature and humidity measurement (product information on demand)				B04714				

SPECIAL EQUIPMENT – GENERATION 2003

Options – For all appliances	Sizes: 200 / 400 / 500 / 600 / 700 / 800 108 / 153 / 246 256
Interface Ethernet instead of USB inclusive software	W4
RS232 interface instead of USB	W6
Computer interface RS485 (for networking a max. of 16 ovens) instead of RS232	V2
Door with lock (safety lock – not available for vacuum ovens)	B6
Interior socket, ampacity 230 V/2.2 A, can be switched off with the On/Off switch, cannot be switched individually, moisture tight IP68 not switchable switchable with on/off switch in front panel	R3 R4
Flexible Pt100 for positioning in chamber or in load with socket, 4-pin, according to NAMUR NE 28, for external temperature recording (load temperature)	H4
Additional Pt100 temperature sensor, positioned flexibly in chamber or load, for local temperature measurement (up to 3 additional sensors are possible). The measured temperature can, if required, be indicated on the multifunction display, recorded in the integral ring store, and can be documented via the "Celsius" software or on an attached printer. not available for VO, VOcool, TTC and CTC)	H8
Potential-free contact (24 V/2 A) with socket, according to NAMUR NE 28 for external monitoring (indicates when setpoint is reached)	H5
Ditto, according to NAMUR NE 28 for combination error message (e.g. supply failure, sensor fault, fuse)	H6
Ditto, triple, for signal generation, controlled by programme segment for a total of 3 freely selected functions to be activated (e.g. acoustic and visual signals, exhaust motors, fans, stirrers etc.) (not available with interior lighting)	H7
Temperature restriction (for UN/UF) Temperatures: 60, 70, 80, 95, 100, 120, 160, 180, 200, 220 or 250 °C (Please, indicate upon ordering)	A8

Accessories – For all appliances	Sizes: 200 / 400 / 500 / 600 / 700 / 800 108 / 153 / 246 256
USB connection cable for computer interface	E03643
Parallel/USB converter cable with integrated power supply unit to connect HP printers with USB interface to MEMMERT units	E05300
Documentation package consisting of parallel USB converter cable including PCL3-compatible HP colour inkjet printer with USB interface (HP OfficeJet 6000 or successor) for direct connection of printer to Memmert unit	B04432
Temperature profile write/read unit for programming via PC, for writing to and reading from the chip card, up to 40 ramps	E05284
Additional chip card, blank, formatted (32 kB MEMoryCard XL for a maximum of 40 ramps)	E04004
Oven-linked authorisation card (User-ID-Card) prevents undesired manipulation by unauthorised third parties. When reordering please specify serial number	E04159
Software conforming to FDA "Celsius FDA Edition" for up to 16 units. Meets the requirements for the use of electronically stored data sets and electronic signatures as laid down in Regulation 21 CFR Part 11 of the US Food and Drug Administration (FDA)	E05019
Integration of additional units (up to max. 16 units) into an already existent FDA-software licence	FDAQ4
IQ check list with works test data for chamber as support for validation by customer	D00103
OQ check list with works test data for one free-selectable humidity and temperature value incl. temperature distribution survey for 27 measuring points to DIN 12 880: 2007-05 as support for validation by customer	D00104
External measuring instrument with sensors for daylight and UV-light (product information on demand)	B04713
Ditto with additional measuring head for temperature and humidity measurement (product information on demand)	B04714

SingleDISPLAY
ControlCOCKPIT with one TFT display

TwinDISPLAY
ControlCOCKPIT with two TFT displays

AVAILABLE APPLIANCES

UN / UF / IN / IF / SN / SF / IPP / IPS

AVAILABLE APPLIANCES

UNplus / UFplus / UNpa / INplus / IFplus / SNplus / SFplus IPPplus / ICP / HPP / ICH

Available parameters on the ControlCOCKPIT: Temperature (Celsius or Fahrenheit), fan speed, exhaust air flap position, programme time	Available parameters on the ControlCOCKPIT: Temperature (Celsius or Fahrenheit), fan speed, exhaust air flap position, programme time, relative humidity, illumination, CO_2
One temperature sensor Pt100 DIN class A in a 4-wire circuit	Two Pt100 sensors DIN class A in a 4-wire circuit for mutual monitoring, taking over functions in case of an error
	HeatBALANCE function for application specific adjustment of heat output distribution (balance) between the upper and lower heating groups in an adjustment range between -50 % and + 50 %
	ControlCOCKPIT with USB port for uploading programmes, reading out protocol logs, activating the User-ID function
	Displaying of already logged protocol data on the ControlCOCKPIT (max 10,000 values correspond to approx. 1 week)
Ethernet interface on the rear of the appliance for reading out the protocol log	Ethernet interface on the rear of the appliance for reading out the protocol log and for uploading and implementing programmes and for online logging
Double overtemperature protection: Electronic temperature monitoring with freely adjustable monitoring temperature, mechanical temperature limiter TB acc. to DIN 12 880.	Multiple overtemperature protection: Electronic temperature monitoring TWW/TWB (protection class 3.1 or 2 resp. 3.3 for units with active cooling) and mechanical temperature limiter TB (protection class 1) acc. to DIN 12 880, AutoSAFETY automatically adjusts to the set value within a freely adjustable tolerance range. Setting individual MIN / MAX values for over/undertemperature alarm and also for all other parameters such as relative humidity, CO_2.

Structured stainless steel housing, rear of zinc-plated steel, ControlCOCKPIT for operation and adjustment of all parameters

High-temperature connectors on the rear of the appliance for single-phase power connection according to country specific systems and IEC standards

Internal data logger with a storage capacity of at least 10 years

German, English, French, Spanish language settings available on the ControlCOCKPIT

Digital timer, adjustable between 1 minute and 99 days, 23 hours

The SetpointWAIT function guarantees that the process time does not start until the set temperature is reached at all measuring points – optional for temperature values recorded by the freely positionable Pt100 sensors inside the chamber.

Adjustment of three calibration values for temperature and additional appliance specific parameters directly at the ControlCOCKPIT (e. g. relative humidity)

Software Generation 2012

GENERATI⬤N 2012

AtmoCONTROL
The innovative control and logging software

Parameters such as temperature and humidity as well as the process time can be set directly at the ControlCOCKPIT of Generation 2012 appliances. Ramp programming is done via the control and logging software AtmoCONTROL, which features a completely new software design.

Drag, drop & go!

Numerical and graphic programming of complex processes is a thing of the past. Today, programming is done via AtmoCONTROL by means of the mouse or touchpad on your notebook. Even the most complex ramp programmes are created within minutes. Simply drag & drop the graphical symbols for the desired parameters to the input field and change the values according to your wishes with a mouse click.
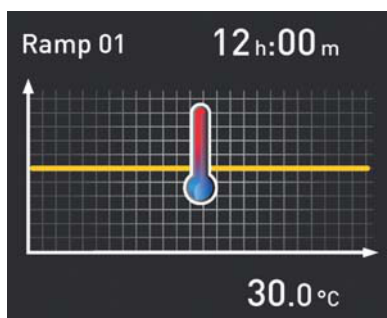
Programming functions for appliances with SingleDISPLAY and TwinDISPLAY

- Reading out, managing and organising the data logger
- Saving the log memory in various formats
- Online monitoring of up to 32 connected appliances
- Optical alarms when the alarm limits individually set at the ControlCOCKPIT are exceeded
- Automatic alarm to one or several e-mail addresses

Additional programming functions for appliances with TwinDISPLAY

- Intuitive programming and archiving of ramps and programme sequences
- Synchronous visualisation of the created programme sequence during programming
- Application-specific repeat functions (Loops) can be inserted within a temperature control programme in any place
- Simple creation of repeating weekly programmes
- Programming, managing, and transferring programmes via Ethernet or USB stick
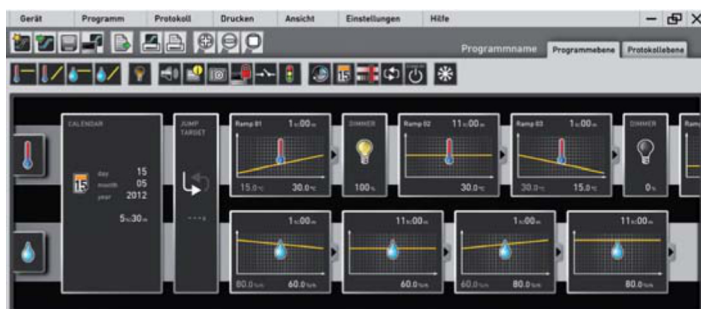
memmert
Experts in Thermostatics

HEATING AND DRYING OVENS

UNIVERSALS OVENS U

PASS-THROUGH OVENS UFP TS

PARAFFIN OVEN UNpa

STERILISERS S

VACUUM OVENS VO

COOLED VACUUM OVENS VOcool

INCUBATORS

INCUBATOR I

CO_2 INCUBATOR INCOmed

COMPRESSOR-COOLED INCUBATOR ICP

PELTIER COOLED INCUBATOR IPP

STORAGE COOLED INCUBATOR IPS

CLIMATE CHAMBERS

CONSTANT CLIMATE CHAMBER HPP

HUMIDITY CHAMBER HCP

CLIMATE CHAMBER ICH

ENVIRONMENTAL TEST CHAMBER CTC/TTC

WATERBATHS / OILBATHS

WATERBATHS W

OILBATHS O