memmert
Experts in Thermostatics

Heating and drying ovens

COMMUNICATION. COMFORT, SIMPLY GREAT.

UNIVERSAL OVEN U

PASS-THROUGH OVEN UFP TS

PARAFFIN OVEN UNpa

STERILISER S

VACUUM OVEN VO

COOLED VACUUM OVEN VOcool

100% ATMOSAFE. MADE IN GERMANY.

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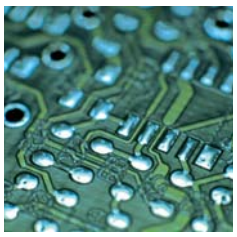

Simply boundless. Boundlessly simple.

Drying, heating, ageing, testing, sterilising, burning-in, testing, curing, storing. 100% AtmoSAFE.

From very small to very large! 32 litres or 749 litres chamber volume? Standard applications or high demand for functionality, programming and documentation? In any case, all Memmert heating and drying ovens feature user-friendliness and state-of-the-art communication interfaces as a basic. Each individual appliance 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 heating and drying oven is 100% AtmoSAFE.

UNIVERSAL OVEN U PAGE 4 TO 5

TECHNICAL DATA PAGE 6 TO 7

Drying, burning-in, ageing, vulcanising, degasing, curing, burn-in testing, conditioning, heated storage

PASS-THROUGH OVEN UFP TS PAGE 8 TO 9

TECHNICAL DATA PAGE 10 TO 11

In-line curing and tempering

HOT AIR STERILISER S PAGE 12 TO 13

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Sterilising of instruments and laboratory glass

PARAFFIN OVEN UNpa PAGE 16 TO 17

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Tempering of embedding media like paraffin and wax

VACUUM OVEN VO PAGE 20 TO 21

TECHNICAL DATA PAGE 22 TO 23

Drying, burning-in, ageing, curing, degassing, conditioning, oxygen-free storing

COOLED VACUUM OVEN VOcool PAGE 24 TO 25

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Drying, burning-in, ageing, curing, degassing, conditioning, oxygen-free storing

OPTIONS AND ACCESSORIES PAGE 28 TO 29

Available for all products of GENERATION 2012 and 2003

GENERATION 2012 PAGE 30 TO 31

Functions of SingleDISPLAY and TwinDISPLAY models
AtmoCONTROL software

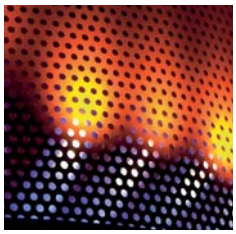
GENERATION 2012

Universal Oven UN and UF with SingleDISPLAY
Universal Oven UNplus and UFplus with Twin DISPLAY
Natural convection or forced ventilation
AtmoCONTROL software

Model sizes:
30 / 55 / 75 / 110 / 160 / 260 / 450 / 750
+30° C up to +300° C

UNIVERSAL OVENS U The all-round genius among the heating ovens cover a multitude of applications, ideally at temperatures above +50 °C. Without compromises! Thanks to two model variants and eight sizes, optionally with natural or forced convection, industry, science and research institutes will find a heating and drying oven which combines top precision and safety with optimal operating comfort.

AtmoSAFE

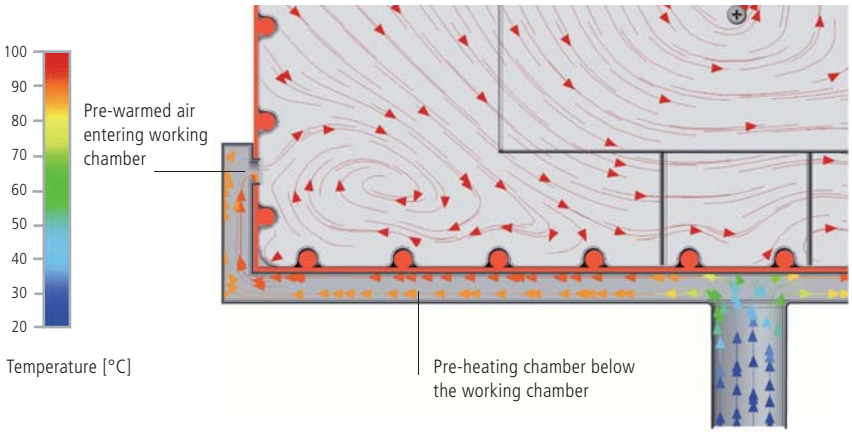


Defined and programme-controlled fan speed

Air exchange rates and air flap position can be controlled electronically at the ControlCOCKPIT. More inlet and outlet openings lead to a higher air exchange and reduced drying times. Various applications recommend or even require controlled ventilation. When drying powder, sand or corn, reducing the ventilation prevents undesired swirls. Other applications like testing of wires or cables demand for defined air exchange rates. UFplus appliances feature easy programming of temperature and air exchange rates with the AtmoCONTROL software.

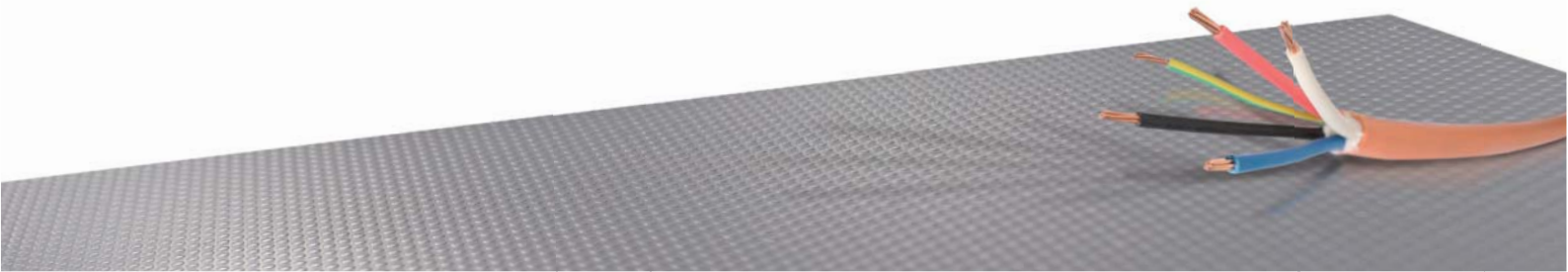
Fresh air is preheated

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



Intended purpose as a medical device:

Heating ovens UF and UFplus are applied for heating of non-sterile fabrics and covers.



UNIVERSAL OVENS U

according to 12 880: 2007-05, EN 61010-1 (IEC 61010-1), 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 (sizes 30 and 55: 1 grid, sizes 75 – 750: 2 grids)

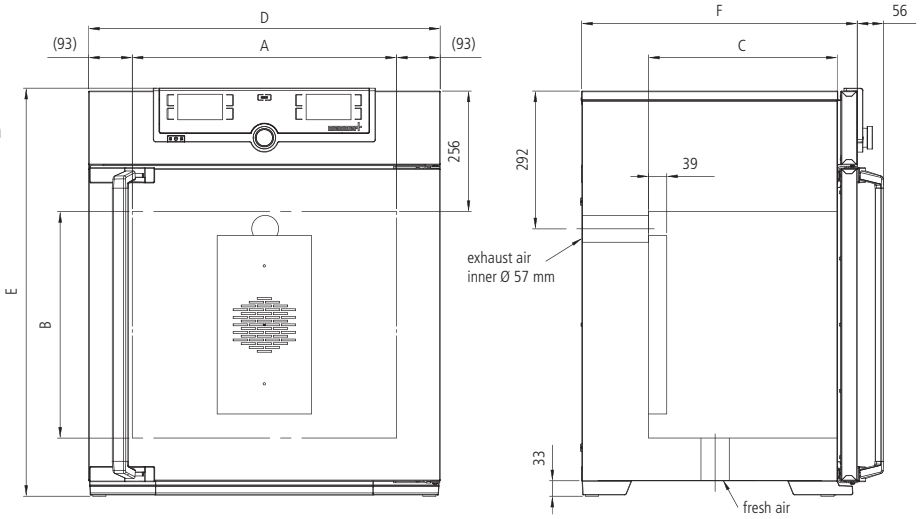
Housing: Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY or TwinDISPLAY with Multi-Touchscreen (from size 450 two leaves)

Fresh air: Admixture of pre-heated fresh air by electronically adjustable air flap

Connection: Mains cable with plug (German Type) CEE plug for 400 V

Installation: 4 feet; sizes 450 and 750 mounted 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							
	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 (without door handle), door handle + 56 mm	(F)	mm	434	514	514	584	584	684	784	784
Further data	Electrical load at 230 V, 50/60 Hz		approx. W	1600	2000	2500	2800	3200	3400	–	
	Electrical load at 115 V, 50/60 Hz		approx. W	1600	2000	2400	2400	2400	2400	–	
	Electrical load at 400 V and 3 x 230 V w/o neutral, 50/60 Hz		approx. W	–						5800	7000
	Working-temperature range		°C	at least 5 K (UN/UNplus) at least 10 K (UF/UFplus) above ambient temperature to +300							
	Setting temperature range		°C	+20 to +300							
	Setting accuracy		K	up to 99.9 °C: 0.1 / from 100 °C: 0.5							
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. Universal Ovens
U = Universal Oven
N = Natural convection
F = Forced air circulation
plus = Model with TwinDISPLAY

UN30	UN55	UN75	UN110	UN160	UN260	UN450	UN750
UN30plus	UN55plus	UN75plus	UN110plus	UN160plus	UN260plus	UN450plus	UN750plus
UF30	UF55	UF75	UF110	UF160	UF260	UF450	UF750
UF30plus	UF55plus	UF75plus	UF110plus	UF160plus	UF260plus	UF450plus	UF750plus

Options	30	55	75	110	160	260	450	750
Full-sight glass door (4 insulating glass)	B0							
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	
Fresh-air filter (filtration efficiency 80 %) mounted at the bottom (for UF/UFplus)	R8							
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 – max. +70 °C) current carrying ampacity 230 V, 2.2 A can be switched off with the On/Off switch, cannot be switched individually	R3							
Interior nearly gastight	K2							
Ditto, with possibility for gas inlet/outlet through 2 tubes with ball valves	K3							
Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap, 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 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 at the back (please, state location)	D6							
Entry port, 38 mm clear diameter, can be closed by flap, in special positions at the back (please, state location)	F7							
Entry port, 57 mm clear diameter, can be closed by flap, in special positions at the back (please, state location)	F8							
Entry port, 100 mm clear diameter, can be closed by flap, in special positions at the back (please, state location)	F9							
Entry port, 120 mm clear diameter, can be closed by flap, in special positions at the back (please, state location)	D7							
4 – 20 mA current loop interface (0 to +310 °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							
Fan speed monitoring – optional for UFplus only	V4							
Works calibration certificate for 3 temperatures: +100 °C, +160 °C, +220 °C	D00128							

Accessories	30	55	75	110	160	260	450	750
Stainless steel grids (standard equipment)	E28884	E20164		E20165		E28891	E20182	
Reinforced stainless steel grid, max. loading 60 kg (from size 450 only in connection with option K1)	–			E29767		E29766	E20185	
Perforated stainless steel shelf	B29727	B03916		B00325		B29725	B00328	
Reinforced perforated stainless steel shelves, max. loading 60 kg (from size 450 only in connection with option K1)	–			B29777		B29724	B00844	
Stainles 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		

Pass-through oven UFP TS
Forced convection
"Celsius" standard software

Model sizes:
600 / 800
+30 °C to +220 °C

FEED-THROUGH OVEN UFP TS Pass-through ovens UFP TS are based on a standard heating oven and feature all technological highlights like product specific heating and perfectly adjusted control technology. Thanks to an additional side feed-through, curing of lead frames and adhesive bonds or tempering of components can be controlled automatically within a running production process.

High feed-through thanks to in-line capability

Temperature control processes in a Memmert pass-through oven can be controlled fully electronically. The synchronised loading of parts is done by means of belt input and output at the side. To increase the feed-through for endless loading, turn pulleys can be installed in the chamber on request. Windows at the front and rear enable simple loading by hand, and also allow the temperature control process to be permanently observed. Another advantage not to be missed out: constant temperatures inside the temperature-control chamber as it does not have to be opened for loading.

In-line capable pass-through oven (belt input and output at the side)

Customer-specific solutions myAtmoSAFE

In the position of an expansion of the R&D departments of customers, the customisation department at Memmert provides support for complex applications and finds tailor-made solutions. Many customers are supported from development to production.

PASS-THROUGH OVENS UFP TS

according to 12 880: 2007-05

CE

Standard equipment

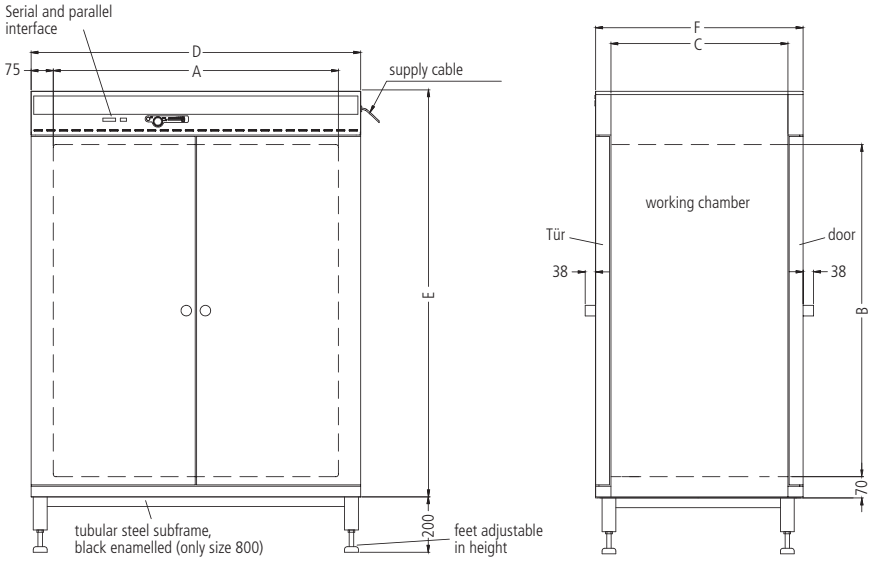
Interior: Stainless steel, mat. 1.4301 (ASTM 304), deep-drawn

Internals: 2 stainless steel grids

Housing: Textured stainless steel, aesthetic functional glass-stainless steel operating panel with multi-function display and input module, fully insulated stainless steel door on both sides, two leaves, pass-through version, with feet

Connection: Mains cable with plug (CEE plug for 400 V)

Interfaces: printer interface, USB, Optional Ethernet LAN



Model sizes/Description				600	800
Stainless steel interior	Volume		approx. l	256	749
	Width	(A)	mm	800	1040
	Height	(B)	mm	640	1200
	Depth	(C)	mm	500	600
	Provision for grids or perforated shelves		number	7	14
	Max. loading per grid		kg	30	
	Max. loading of chamber		kg	80	160
Textured stainless steel exterior	Width	(D)	mm	950	1190
	Height	(E)	mm	910	1482
	Depth (without door handle, depth of handle 38 mm)	(F)	mm	610	710
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 Pt100 with warning indication			double	
	Temperature range		°C	+30 to +220	
	Temperature variation in time (to DIN 12 880: 2007-05)		K	≤ ± 0.5	
	Temperature uniformity in chamber (to DIN 12 880: 2007-05)		K	≤ ± 2.5	
Monitor	Microprocessor temperature monitor acting as overtemperature protection (protection class 3.1), with Pt100 incorporating fault diagnostics with visual and acoustic alarm			□	□
	Digital over- and undertemperature monitor			□	□
	Temperature monitoring band automatically linked to the setpoint (ASF)			□	□
	Relay for cut-off of heating in case of fault			□	□
	Mechanical temperature limiter (TB)			□	□
	Acoustic alarm: Over- and undertemperature			□	□
Timer functions	Real-time/weekly programmer with group function (e.g. Monday – Friday), programme operation with up to 40 ramps for temperature (MEMoryCard XL)			□	□
Documentation	Internal log memory 1024 kB as ring memory for all setpoints and actual values of temperature, errors, settings with real-time and date; capacity approx. 6 months at 1 min. intervals			□	□
	Parallel printer interface for printing logging files, suitable for all PCL3-compatible ink jet printers (USB available via converter, see options for all appliances of Generation 2003)			□	□
	"Celsius" software for control and documentation of temperature			□	□
Setup	Calibration (no separate PC required), temperature: 3-point calibration on controller			□	□
	Setting of language for dialogue and display D / UK / E / F / I			□	□
Further data	Electrical load at 230 V (size 600), at 400 V 3ph N (size 800), 50/60 Hz		approx. W	2400	4800

Model sizes/Description			600	800
Packing data	Net weight	approx. W	94	180
	Gross weight in Triwall carton	approx. kg	115	248
	Width	approx. cm	110	132
	Height	approx. cm	114	184
	Depth	approx. cm	84	91
Standard accessories	Stainless steel grids	number	2	
	Works calibration certificate at +160 °C (measuring point chamber centre)	approx. cm	□	□
Order No. Pass-Through Ovens			**UFP600TS**	**UFP600TS**

Options		600	800
Adjustable temperature limiter, protection Class 2, instead of controller (Class 3.1)		A5	
Full-sight glass door (triple insulating glass) (extra cost for each side)		B0	
Reinforced chamber (max. loading up to 300 kg (involves narrower reinforced grids) includes replacement of 2 standard grids by 2 reinforced grids		K1	
Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap, 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, in special positions (please, state location)	left right	F4 F5	
Process-dependent electromagnetic door lock (both sides)		D4	
Locking mechanism with SPS control to prevent simultaneous opening of doors for contamination protection in case of wall installation		D5	
Works calibration certificate for 3 temperatures: +100 °C, +160 °C, +220 °C		D00128	

Accessories	600	800
Stainless steel grids	E20167	E20182
Reinforced stainless steel grid, max. loading 60 kg (model 750 only in connection with option K1)	E20183	E20185
Perforated stainless steel shelves	B00326	B00328
Stainles steel tray (non-perforated) 15 mm rim (may affect the temperature distribution)	E02068	E02075
Bottom drip tray (may affect the temperature distribution)	B04359	B04362
Flush-fit unit (stainless steel frame covering gap between oven and wall opening) – technical clarification necessary	B03190	B03188

GENERATION 2012

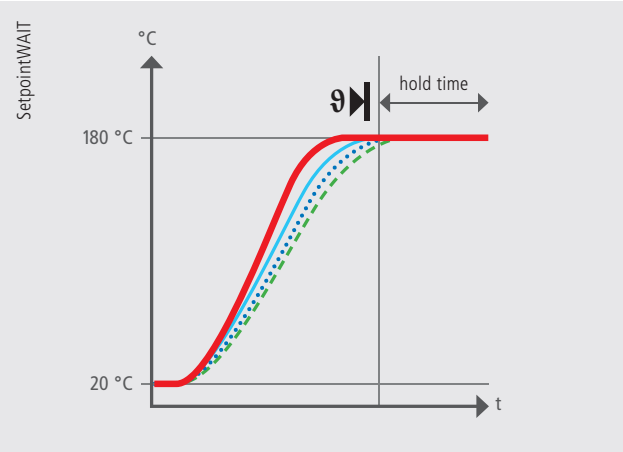
Steriliser SN and SF with SingleDISPLAY
Steriliser SNplus and SFplus with TwinDISPLAY
Natural convection or forced ventilation
AtmoCONTROL software

Model sizes:
30 / 55 / 75 / 110 / 160 / 260 / 450 / 750
+30 °C to +250 °C

STERILISER S Medicine has the goal of protecting and saving lives. Therefore, disinfection of receptacles and instruments is not enough. The setpoint-dependent programme resume function SetpointWAIT of Memmert hot air sterilisers guarantees precise sterilisation times and the complete killing off of even the most resistant microorganisms. The appliances comply with all relevant national and international standards and requirements for medical devices and can be validated without problems.

SetpointWAIT function

Exactly timed temperature control helps to save lives when it comes to sterilisation of instruments and laboratory equipment. Therefore, the SetpointWAIT function guarantees that the sterilisation time does not start before the compensation time is reached. When measuring with additional freely positionable Pt100 sensors (optional), reaching the set temperature at all measuring points on the chamber load is decisive for the continuation of the programme. Up to three measurements can be displayed directly on the ControlCOCKPIT or one measurement on an external measuring device or a 4 – 20 mA interface.



When the SetpointWAIT function is activated, the hold time does not start until the temperature within a very narrow tolerance range is reached at all measuring points

Temperature of the Pt100 sensor inside the chamber

Temperature of the flexible Pt100 sensors inside the chamber

Validation without problems

Particularly thanks to the SetpointWait function, Memmert hot air sterilisers comply with all strict requirements on quality assurance and can therefore be validated without problems. Besides the possibility to measure the temperature directly at the load inside the chamber (optional), the appliances completely document the entire process. In combination with the User-ID-Key for TwinDISPLAY appliances, the process-controlled, electromagnetic door locking mechanism (optional) is the icing on the cake in terms of safety.

Intended purpose as a medical device:

Hot air sterilisers SN/SF and SNplus/SFplus are applied for sterilisation of medical materials. The appliances comply with all relevant national and international standards and requirements for medical devices and are also suited without restriction for the special application of depyrogenisation with hot air.

GENERATION 2012

STERILISER S

according to 12 880: 2007-05, EN 61010-1 (IEC 61010-1), 61010-2-010 and 61010-2-40

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 (sizes 30 and 55: 1 grid, sizes 75 – 750: 2 grids)

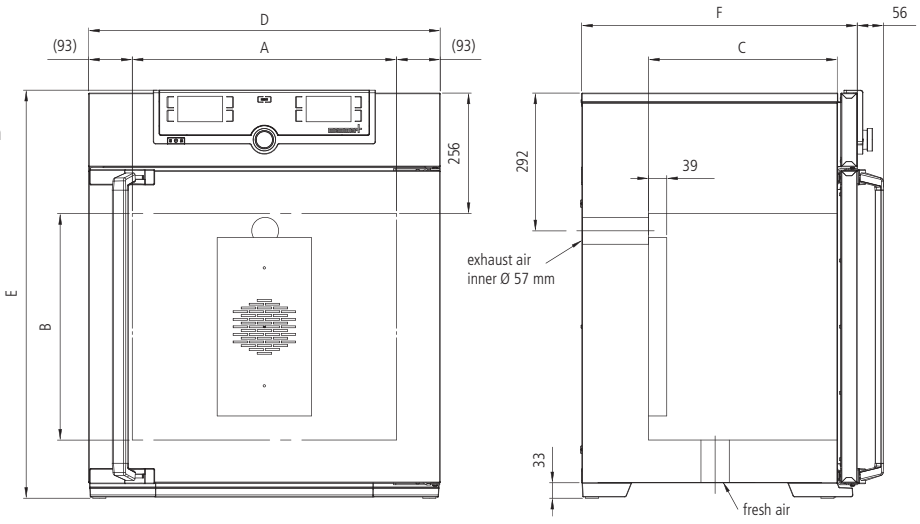
Housing: Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY or TwinDISPLAY with Multi-Touchscreen (from size 450 two leaves)

Fresh air: Admixture of pre-heated fresh air by electronically adjustable air flap

Connection: Mains cable with plug (German Type) CEE plug for 400 V

Installation: 4 feet; sizes 450 and 750 mounted 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 max. 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							
	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 (without door handle), door handle + 56 mm	(F)	mm	434	514	514	584	584	684	784	784
Further data	Electrical load at 230 V , 50/60 Hz		approx. W	1600	2000	2500	2800	3200	3400	–	–
	Electrical load at 115 V , 50/60 Hz		approx. W	1600	2000	2400	2400	2400	2400	–	–
	Electrical load at 400 V and 3 x 230 V w/o neutral, 50/60 Hz		approx. W	–	–	–	–	–	–	5800	7000
	Working-temperature range		°C	at least 5 K (SN/SNplus) 10 K (SF/SFplus) above ambient temperature to +250							
	Setting temperature range		°C	+20 to +250							
	Setting accuracy		K	up to 99.9 °C: 0.1 / from 100 °C: 0.5							
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. Sterilisers
S = Steriliser
N = Natural convection
F = Forced air circulation
plus = Model with TwinDISPLAY

SN30	SN55	SN75	SN110	SN160	SN260	SN450	SN750
SN30plus	SN55plus	SN75plus	SN110plus	SN160plus	SN260plus	SN450plus	SN750plus
SF30	SF55	SF75	SF110	SF160	SF260	SF450	SF750
SF30plus	SF55plus	SF75plus	SF110plus	SF160plus	SF260plus	SF450plus	SF750plus

Options	30	55	75	110	160	260	450	750
Full-sight glass door (4 insulating glass)	B0							
Interior lighting (up to size 260: 15 W, sizes 450/750: 2 x 15 W)	R0							
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	
Fresh-air filter (filtration efficiency 80 %) mounted at the appliance bottom (for SF/SFplus)	R8							
Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap, standard positions left centre/centre	F0							
left centre top	F1							
right centre/centre	F2							
right centre top	F3							
Entry port, 23 mm clear diameter for introducing connections at the side, can be closed by flap in special positions (please, state location) left	F4							
right	F5							
rear	F6							
Entry port, 14 mm clear diameter, can be closed by flap, in special positions at the back (please, state location)	D6							
Entry port, 38 mm clear diameter, can be closed by flap, in special positions at the back (please, state location)	F7							
4 – 20 mA current loop interface (0 to +310 °C ≙ 4 – 20 mA) Temperature controller actual value	V3							
Temperature of a Pt100 sensor positioned flexibly in chamber (max. 1 SingleDISPLAY, max. 3 TwinDISPLAY)	V6							
Fan speed monitoring – optional for SFplus only	V4							
Works calibration certificate for 3 temperatures: +160 °C, +180 °C, +250 °C	D00132							

Accessories	30	55	75	110	160	260	450	750
Stainless steel grids (standard equipment)	E28884	E20164		E20165		E28891	E20182	
Reinforced stainless steel grid, max. loading 60 kg (from size 450 only in connection with option K1)	–			E29767		E29766	E20185	
Perforated stainless steel shelves	B29727	B03916		B00325		B29725	B00328	
Reinforced stainless steel grid, max. loading 60 kg (from size 450 only in connection with option K1)	–			B29777		B29724	B00844	
Stainles 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		

GENERATION 2012

Paraffin oven UNpa with TwinDISPLAY
AtmoCONTROL software

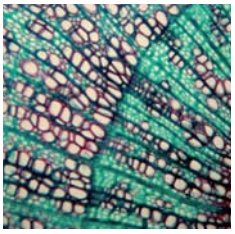
Model sizes:
30 / 55 / 75 / 110 / 160
+30 °C to +80 °C

PARAFFIN OVEN UNpa Five model sizes, five times high-precision temperature control of the embedding medium paraffin in science and research. The range of functions and thermal safety of paraffin ovens UNpa are designed specifically for absolutely reliable sample preparation in the laboratory. The benefits for the user: an optimal cost/benefit ratio for an appliance that guarantees, for many years, precise and even temperature control for embedding media without any loss in quality whatsoever.

AtmoSAFE

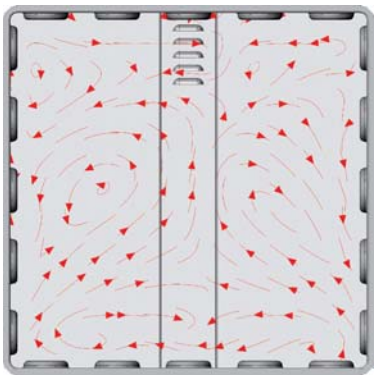
Safe warming of paraffin

Thanks to its high capillarity, liquid paraffin is an ideal embedding medium. This property, however, may lead to oily residue in tiny cavities. For this reason, the interior chamber of paraffin ovens UNpa is designed almost gas tight. There is definitely no danger of ignition of residue or damage to mechanical and electronic components.

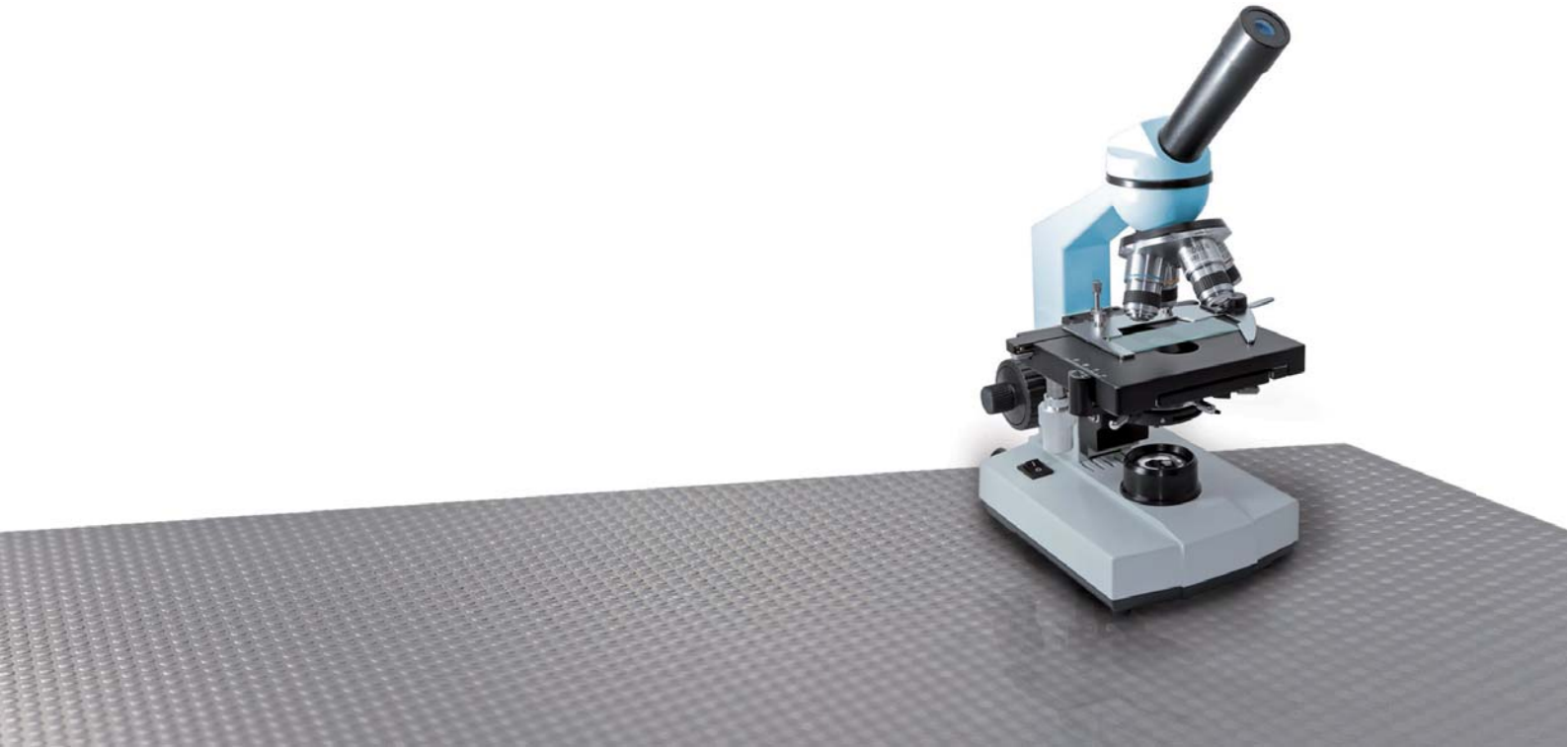


Absolutely uniform temperature distribution

Due to the almost gas tight chamber, no outside air is exchanged. Therefore, the advantages of the uniform temperature distribution by the large surface all-round heating system applied in Memmert heating chambers come fully into play. Also without forced convection, the perfect interaction of the control system and heating unit ensures unparalleled temperature homogeneity and stability.



Air flow with
natural convection



PARAFFIN OVENS UNpa

according to 12 880: 2007-05, EN 61010-1 (IEC 61010-1), 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

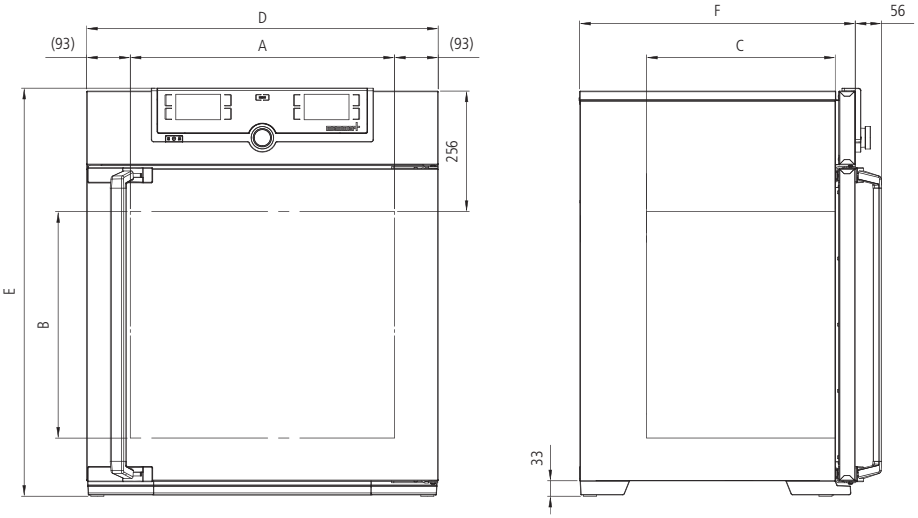
Internals: Stainless steel grids (sizes 30 and 55: 1 grid, sizes 75 – 160: 2 grids)

Housing: Textured stainless steel, rear zinc-plated steel, intuitively operated TwinDISPLAY with Multi-Touchscreen, fully insulated stainless steel door

Connection: Mains cable with plug

Installation: 4 feet

Interfaces: USB, Ethernet LAN



Model sizes/Description				30	55	75	110	160
Stainless steel interior	Volume		approx. l	32	53	74	108	161
	Width	(A)	mm	400	400	400	560	560
	Height	(B)	mm	320	400	560	480	720
	Depth	(C)	mm	250	330	330	400	400
	Stainless steel grids (standard equipment)		number	1	1	2	2	2
	Max. number of grids		number	3	4	6	5	8
	Max. loading per grid		kg	30				
	Max. loading of chamber		kg	60	80	120	175	210
Textured stainless steel exterior	Width	(D)	mm	585	585	585	745	745
	Height	(E)	mm	707	787	947	867	1107
	Depth (without door handle), door handle + 56 mm	(F)	mm	434	514	514	584	584
Further data	Electrical load at 230 V, 50/60 Hz		approx. W	1600	2000	2500	2800	3200
	Electrical load at 115 V, 50/60 Hz		approx. W	1600	2000	2400	2400	2400
	Working-temperature range		°C	at least 5 K above ambient temperature to +80				
	Setting temperature range		°C	+20 to +80				
	Setting accuracy		K	0.1				
Packing data	Net weight		approx. kg	44	55	64	72	80
	Gross weight (packed in carton)		approx. kg	55	67	76	86	96
	Width		approx. cm	69	70	70	83	83
	Height		approx. cm	86	94	111	104	127
	Depth		approx. cm	66	73	73	79	79
Order No. Paraffin ovens				**UN30pa**	**UN55pa**	**UN75pa**	**UN110pa**	**UN160pa**

Options	30	55	75	110	160
Full-sight glass door (4 insulating glass)			B0		
Entry port, 23 mm clear diameter, for introducing connections at the side, gas tight, 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, 23 mm clear diameter for introducing connections at the side, gas tight, can be closed by flap and silicone stopper, in special positions (please, state location)					
left			F4		
right			F5		
rear			F6		
Entry port, 40 mm clear diameter, for introducing connections, gas tight, can be closed by flap and silicone stopper, in special positions at the back (please, state location)			F7		
4 – 20 mA current loop interface (0 to +90 °C ≙ 4 – 20 mA)					
Temperature controller actual value			V3		
Temperature of a Pt100 sensor positioned flexibly in chamber (max. 3 TwinDISPLAY)			V6		
Works calibration certificate for 3 temperatures: +37 °C, +52 °C, +70 °C			D00126		

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

Vacuum oven VO
"Celsius" standard software

Model sizes:
200 / 400 / 500
+20 °C to +200 °C
10 mbar to 1100 mbar

VACUUM OVEN VO Memmert vacuum ovens show their full potential with short heating up times, high precision temperature control and turbo drying. At the same time, heat and oxygen sensible materials are treated with incomparable care. Memmert is the only manufacturer worldwide that offers digital pressure control. As addition to the Vacuum oven, Memmert offers a special controllable pump for installation in a lower chamber, the pump module, installed on the outside of the vacuum oven.

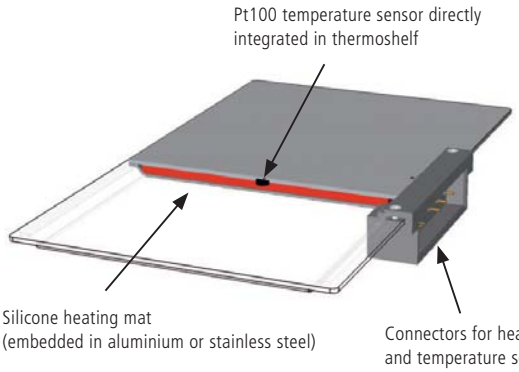
Customised models for every application

As much function as needed, as much customisation as possible! The basic model of the vacuum oven features a thermoshelf, two thermoshelf connectors as well as an USB interface, "Celsius" software and MEMoryCARD. The vacuum oven can be customised with additional functions for individual applications.

- **OPTION INERT GAS INLET:** Programmable and digitally controlled inlet for inert gas with flow rate reduction
- **PUMP CONTROL OPTION:** Optimised rinsing of the pump membrane as well as signal output for switching the pump ON/OFF according to requirements
- **PREMIUM MODULE:** The options for switching to inert gas and pump control as well as additional connection (VO 200) or two further connections (VO 400, VO 500) for thermoshelves and one additional thermoshelf (for VO 400, VO 500), drip tray and interface for printer

Multi-Level-Heating

Each of the thermoshelves that can be inserted as required is equipped with separate large surface heating and its own sensors (Multi-Level-Sensing MLS). The separate control circuits react precisely to different loads and humidity values and maintain the pre-set temperature equally on all the levels used. Due to the direct contact between the heating system and the chamber load, there is practically no loss of heat and heating and process times are reduced by some 75 % compared to a conventional heating system of the interior walls.



Removable thermoshelf with direct heating system and sensor

Repeat function with turbo effect

User-friendly ramp programming saves effort and guarantees reliable processes. Thanks to programming of vacuum cycles, the drying time can be considerably further reduced. Up to 40 ramps with different set temperature and vacuum values can be directly programmed on the device or via the MEMoryCard. When using the "Celsius" software, the number of ramps is practically unlimited.

VACUUM OVEN VO

according to 12 880: 2007-05, EN 61010 (IEC 61010) Standard ovens are safety-approved and bear the test marks:

Standard equipment

Interior: Stainless steel interior, material 1.4404 (ASTM 316 L), hermetically welded, with removable mountings at the sides for cleaning, including thermoshelf guide bars, as well as mounting on top to avoid turbulences.

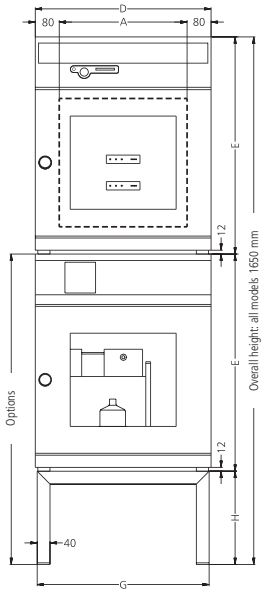
Internals: Thermoshelf, aluminium, eloxadised material 3.3547 (ASTM B209)

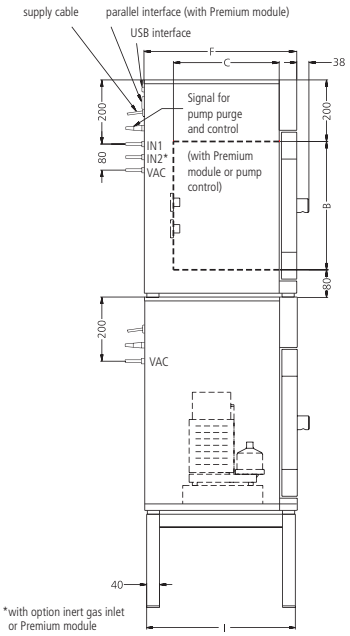
Housing: Textured stainless steel, rear zinc-plated steel, aesthetic functional glass-stainless steel operating panel with multifunction display and input module, safety glass door with inner bullet-proof glass and external anti-splinter screen)

Installation 4 feet

Connection: Mains cable with plug

Interfaces: printer interface, USB, Optional Ethernet LAN





Model sizes/Description				200	400	500
Stainless steel interior	Volume		approx. l	29	49	101
	Width	(A)	mm	385	385	545
	Height	(B)	mm	305	385	465
	Depth	(C)	mm	250	330	400
	Max. number of thermoshelves		number	3	4	4
	Distance between thermoshelves		mm	75	75	95
	Maximum load per shelf		approx. kg	20	20	20
	Maximum load per oven		approx. kg	40	60	60
Textured stainless steel housing (The dimensions also apply to the optional pump module)	Width	(D)	mm	550	550	710
	Height	(E)	mm	600	680	760
	Depth (without door handle, depth of handle 38 mm)	(F)	mm	400	480	550
	Safety glass door: Textured stainless steel frame with spring-loaded safety glass on inside and anti-splinter screen ESG on outside of door			□	□	□
Door seal	Endless Silicone profile seal			□	□	□
Temperature	Electronic microprocessor temperature controller with Pt100 and auto-diagnostic system			□	□	□
	Temperature sensor Pt100 Class A in 4-wire circuit individually for each thermoshelf			□	□	□
	Working-temperature range		°C	at least 5 K above ambient temperature to +200		
	Setting temperature range		°C	+20 to +200		
	Temperature variation in time (to DIN 12 880: 2007-05) (aluminium thermoshelf)		K	≤ ± 0.3		
	Temperature uniformity (surface) at +160 °C/50 mbar (aluminium thermoshelf)		K	≤ ± 2		
Pressure (vacuum)	Digital electronic pressure control (in programme operation up to 40 ramps, adjustable for each segment) for vacuum via solenoid valves. Tubing for vacuum, air and inert gas are made of material 1.4571 (ASTM 316 Ti). Adjustable from 10 mbar up to 1100 mbar. Digital display of actual pressure from 5 mbar up to 1100 mbar. Programmable, digitally controlled inlet for air. Integrated process control with programmable temperature and vacuum cycles enabling amongst others accelerated moisture reduction.			□	□	□
	Rapid air intake for door opening without alteration of selected vacuum setpoint			□	□	□
	Permitted final vacuum		mbar	0.01		
	Maximum leakage rate		bar/h	0.01		
Monitor	Microprocessor temperature monitor acting as overtemperature protection (protection class 3.1) with Pt100, incorporating fault diagnostics with visual and acoustic alarm			□	□	□
	Digital over- and undertemperature monitor			□	□	□
	Temperature monitoring band automatically linked to the setpoint (ASF)			□	□	□
	Multi-Level-Overtemperature-Protection (MLOP) for each thermoshelf			□	□	□
	Relay for reliable heating cut-off in case of fault			□	□	□

Model sizes/Description			200	400	500
	Mechanical temperature limiter (TB)		□	□	□
	Acoustic alarm: Over- and undertemperature		□	□	□
Timer functions	Real-time/weekly programmer with group function (e.g. Monday – Friday)		□	□	□
	Timer with residual running time: max. 40 ramps (each 1 min. up to 999 h) programmable through controller or MEMoryCard XL; programming via PC and free-of-charge software: unlimited number of ramps		□	□	□
Documentation	Internal log memory 1024 kB as ring memory for all setpoints, actual values, errors, settings with real-time and date; capacity up to 3 months at 1 min. intervals		□	□	□
	"Celsius" software for control and documentation of temperature and pressure		□	□	□
Setup	Calibration (no sep. PC required), temperature and pressure: 3-point calibration on controller		□	□	□
	Setting of language for dialogue and display D / UK / E / F / I		□	□	□
Connections	Vacuum connection with small flange DN16, and gas inlet with small flange DN 16		□	□	□
Further data	Electrical load (loading with max. number of thermoshelves), at 230 V, 50/60 Hz	approx. W	1200	2000	2400
Standard accessories	Removable interior mounting – stainless steel material 1.4404 (ASTM 316 L) – with integrated lateral guide bars for thermoshelves		□	□	□
	Connectors for thermoshelves	number	2		
	Thermoshelves - aluminium eloxadised, mat. 3.3547 (ASTM B209) - with integrated large-area heating including local temperature sensing (Pt100, 4-wire-circuit); individual overtemp. protection for each shelf. Further data see stainless steel number inner working chamber	number	1		
	Works calibration certificate (measuring point in the middle of the individual shelf for +160 °C at 50 mbar pressure): a separate certificate is prepared for each thermoshelf ordered and shipped together with the vacuum oven		□	□	□
Packing data / Vacuum oven	Net weight/Gross weight (packed in carton)	approx. kg	58/64	82/90	120/134
	Packed dimensions Width/Height/Depth	approx. cm	67/81/54	67/89/63	82/97/67
Packing data / Pump module	Net weight without/with pump	approx. kg	26/40	30/45	41/56
	Gross weight (packed in carton) without/with pump	approx. kg	32/46	38/53	57/69
	Packed dimensions Width/ Height/Depth	approx. cm	67/70/54	67/78/63	82/97/67
Order No. Vacuum ovens			**VO200**	**VO400**	**VO500**

Options	200	400	500
Inert gas inlet: programmable and digitally controlled inlet for inert gas with flow rate reduction		W5	
Pump control: optimised rinsing procedures for the pump membranes as well as signal output for pump ON/OFF (recommended in combination with PMP)		W8	
Premium Module: comprises the inert gas inlet, the pump control, one printer interface, extra connectors for thermoshelves, 1 (size 200), 2 (sizes 400/500), an additional thermoshelf (sizes 400/500) and a drip tray		T5	

Accessories		200	400	500
Additional thermoshelves – aluminium eloxadised material W.-St. 3.3547 (ASTM B209) with integrated large-area heating including local temperature sensing (Pt100, 4-wire-circuit); individual overtemp. protection for each shelf MLOP (Multi-Level-Overtemperature-Control) and calibration certificate		B00741	B00734	B00744
Additional thermoshelves – stainless steel material 1.4404 (ASTM 316 L) for especially corrosive material with integrated large-area heating including local temperature sensing (Pt100, 4-wire-circuit); individual overtemp. protection for each shelf MLOP (Multi-Level-Overtemperature-Control) and calibration certificate		B00733	B00734	B00735
Removable bottom drip tray – stainless steel material 1.4404 (ASTM 316 L)		E04256	E04257	E04258
Subframe, tubular steel, black enamelled (for stacking unit consisting of vacuum oven and pump module, total height: 1650 mm, see sketch of oven dimensions) Width/ Height/ Depth (see sketch of oven dimensions) G/H/I	mm	E02030 529/450/ 383	E02031 529/290/ 463	E02037 689/130/ 533
Works calibration certificate for 3 temperatures: +50 °C, +100 °C, +160 °C at 50 mbar pressure			D00115	
Guarantee extension by 1 year (VO only)			GA2Q5	
Noise-insulated vacuum pump module without pump (exterior dimensions and material No. see vacuum oven) with antivibration metal plate at the bottom to accommodate the vacuum pump, incl. full-sight glass door. Socket, signal cable and connecting hose to the vacuum oven		PM 200	PM 400	PM 500
Noise-insulated vacuum pump module, as above, however with built-in pump, 230 V, 50 Hz, incl. energy-saving pump control (pump E04062 for VO 200 and pump E04063 for VO 400 and 500) W8 or T5 on VO necessary		PMP 200	PMP 400	PMP 500
Signal cable (3 m) for optimising pump performance by demand-controlled activation of purge of Memmert pump			B04027	
Vacuum connecting hose (3 m) from oven to Memmert pump incl. optimised connection accessories (partially stainless steel)			B04026	
Chemically resistant vacuum pump with PTFE double diaphragm, pump capacity at atm. pressures: approx. 34 Nl./min = 2,04 m³/h and autom. purge control from vacuum oven. Order No. B04027 and B04026 necessary. 230 V, 50/60 Hz (other voltages on request. Max. guarantee period 2 years		E04062	–	
Chemically resistant vacuum pump with PTFE double diaphragm, pump capacity at atm. pressures: approx. 60 Nl./min = 3,6 m³/h and autom. purge control from vacuum oven. Order No. B04027 and B04026 necessary. 230 V, 50/60 Hz (other voltages on request. Max. guarantee period 2 years		–	E04063	

Cooled vacuum oven VOcool
"Celsius" standard software

Model sizes:
200 / 400
+5 °C to +90 °C
10 mbar to 1100 mbar

COOLED VACUUM OVEN VOcool Freeze-drying, the most common means of drying starter cultures and probiotics is very energy-intensive. Furthermore, some bacterial strains do not survive the freezing process. Thanks to low temperature vacuum drying, unstable substances can be dried at moderate temperatures above zero without causing too much damage to the cell structure. Memmert is the first manufacturer worldwide that has developed a cooled vacuum oven for laboratory application.

AtmoSAFE

Fields of application

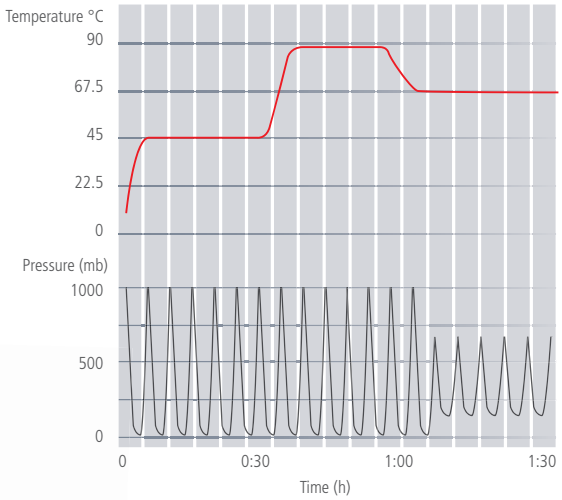
Thanks to low temperature vacuum drying in VOcool appliances, bacteria and starter cultures in the pharmaceutical and food industry can be gently dried. Additionally, the appliance offers the possibility to simulate programme-controlled transport and storage scenarios to determine the behaviour of active ingredients or volumes under different pressure and temperature conditions.

Unparalleled precision

The compact, energy-saving and extremely accurate Peltier-cooling unit guarantees a surface temperature distribution with an maximum deviation of ±1 K across the entire temperature range. Memmert is the only manufacturer worldwide that offers digital pressure control. Ramp programming of temperature and vacuum (-cycles) in combination with heating/cooling of thermoshelves allows for quick processes and nullifies residual humidity.

Maximum time savings

The interior of all Memmert vacuum ovens can be ventilated in cycles to remove humidity quicker with the exhaust air. Thanks to ramp programming of temperature and vacuum cycles, the drying process is optimised and drying times are considerably further reduced in comparison to conventional vacuum drying ovens.
Up to 40 ramps with different set temperature and vacuum values can be directly programmed on the device or via the MEMoryCard. When using the „Celsius" software, the number of ramps is practically unlimited.



Peltier-element

COOLED VACUUM OVENS VOcool

according to 12 880: 2007-05, EN 61010 (IEC 61010)

CE

Standard equipment

Interior: Stainless steel interior, material 1.4404 (ASTM 316 L), hermetically welded, with removable mountings at the sides for cleaning, including thermoshelf guide bars, as well as mounting on top to avoid turbulences.

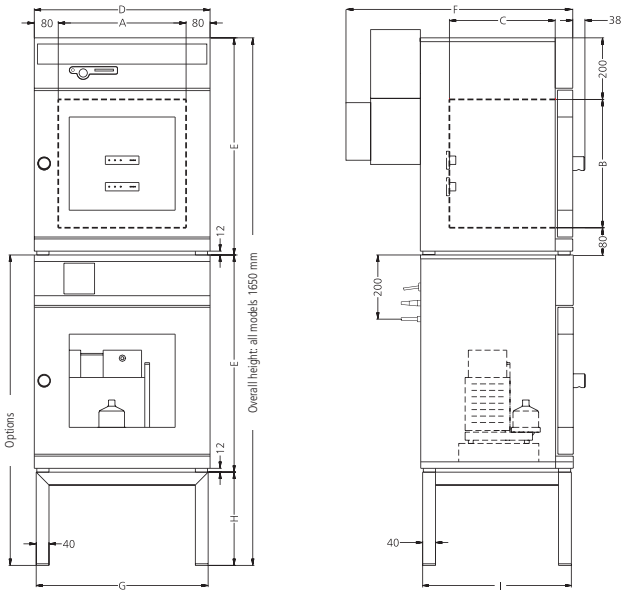
Internals: Thermoshelf, aluminium, eloxadised material 3.3547 (ASTM B209)

Housing: Textured stainless steel, rear zinc-plated steel, aesthetic functional glass-stainless steel operating panel with multifunction display and input module, safety glass door with inner bullet-proof glass and external anti-splinter screen)

Installation: 4 feet

Connection: Mains cable with plug

Interfaces: printer interface, USB, Optional Ethernet LAN



Model sizes/Description				200	400
Stainless steel interior	Volume		approx. l	29	49
	Width	(A)	mm	385	385
	Height	(B)	mm	305	385
	Depth	(C)	mm	250	330
	Maximum load per shelf		approx. kg	20	20
Textured stainless steel housing (The dimensions also apply to the optional pump module (extra cost))	Width	(D)	mm	550	550
	Height	(E)	mm	600	680
	Depth (without door handle, depth of handle 38 mm)	(F)	mm	650	730
	Safety glass door: Textured stainless steel frame with spring-loaded safety glass on inside and anti-splinter screen ESG on outside of door			□	□
Door seal	Endless Silicone profile seal			□	□
Temperature	Electronic microprocessor temperature controller with Pt100 and auto-diagnostic system			□	□
	Temperature sensor Pt100 Class A in 4-wire circuit individually for each thermoshelf			□	□
	Working-temperature range		°C	+5 to +90	
	Setting temperature range		°C	+5 to +90	
	Temperature variation in time (to DIN 12 880: 2007-05) (aluminium thermoshelf)		K	≤ ± 0.3	
	Temperature uniformity (surface) at +20 °C / 50 mbar		K	≤ ± 1	
Pressure (vacuum)	Digital electronic pressure control (in programme operation up to 40 ramps, adjustable for each segment) for vacuum via solenoid valves. Tubing for vacuum, air and inert gas are made of material 1.4571 (ASTM 316 Ti). Adjustable from 10 mbar up to 1100 mbar. Digital display of actual pressure from 5 mbar up to 1100 mbar. Programmable, digitally controlled inlet for air. Integrated process control with programmable temperature and vacuum cycles enabling amongst others accelerated moisture reduction.				
	Rapid air intake for door opening without alteration of selected vacuum setpoint			□	□
	Permitted final vacuum		mbar	0.01	
	Maximum leakage rate		bar/h	0.01	
Monitor	Microprocessor temperature monitor acting as overtemperature protection (protection class 3.1) with Pt100, incorporating fault diagnostics with visual and acoustic alarm			□	□
	Digital over- and undertemperature monitor			□	□
	Temperature monitoring band automatically linked to the setpoint (ASF)			□	□
	Multi-Level-Overtemperature-Protection (MLOP) for each thermoshelf			□	□
	Relay for reliable heating cut-off in case of fault			□	□
	Akustische Signalmeldungen: Temperaturüber/-unterschreitung			□	□

Model sizes/Description			200	400
Timer functions	Real-time/weekly programmer with group function (e.g. Monday – Friday)		□	□
	Timer with residual running time: max. 40 ramps (each 1 min. up to 999 h) programmable through controller or MEMoryCard XL; programming via PC and free-of-charge software: unlimited number of ramps		□	□
Documentation	Internal log memory 1024 kB as ring memory for all setpoints, actual values, errors, settings with real-time and date; capacity up to 3 months at 1 min. intervals		□	□
	"Celsius" software for control and documentation of temperature and pressure		□	□
	Parallel interface		□	□
Setup	Calibration (no sep. PC required), temperature and pressure: 3-point calibration on controller		□	□
	Setting of language for dialogue and display D / UK / E / F / I		□	□
Connections	Vacuum connection with small flange DN16, and gas inlet with small flange DN 16		□	□
Further data	Electrical load (loading with max. number of thermoshelves), at 230 V, 50/60 Hz	approx. W	400	500
Standard accessories	Removable interior mounting - stainless steel material 1.4404 (ASTM 316 L) – with integrated lateral guide bars for thermoshelves		□	□
	Thermoshelves – aluminium eloxadised, mat. 3.3547 (ASTM B209) – with integral large-area heating/cooling incl. local temperature sensing (Pt100, 4-wire-circuit); individual overtemp. protection for each shelf. Further data see stainless steel inner working chamber	number	1	1
	Works calibration certificate(s) (measuring point in the middle of the individual shelf for +160 °C at 50 mbar pressure): a separate certificate is prepared for each thermoshelf ordered and shipped together with the vacuum oven		□	□
	Removable bottom drip-tray made of stainless steel No. 1.4404 (ASTM 316 L)		□	□
	Inert gas inlet: programmable and digitally controlled inlet for inert gas with flow rate reduction		□	□
	Pump control: optimised rinsing procedures for the pump membranes as well as signal output for pump ON/OFF (recommended in combination with PMP)		□	□
Packing data / Vacuum oven	Net weight/Gross weight (packed in carton)	approx. kg	68/78	92/106
	Packed dimensions Width/Height/Depth	approx. cm	67/70/79	67/78/63
Packing data / Pump module	Net weight without/with pump	approx. kg	26/40	30/45
	Gross weight (packed in carton) without/with pump	approx. kg	32/46	38/53
	Packed dimensions Width/ Height/Depth	approx. cm	67/70/54	67/78/63
Order No. Vacuum ovens, VOcool			**VO200cool**	**VO400cool**

Options	200	400
Extended temperature-range (0 °C to +90 °C)	A8	

Accessories		200	400
Removable bottom drip-tray made of stainless steel No. 1.4404 (ASTM 316 L)		E04256	E04257
Subframe, tubular steel, black enamelled (for stacking unit consisting of vacuum oven and pump module, total height: 1650 mm, see sketch of oven dimensions)		E02030	E02031
Width/ Height/ Depth (see sketch of oven dimensions) G/H/I	mm	529/450/383	529/290/463
Works calibration certificate for 3 temperatures: +5 °C, +30 °C, +90 °C at 50 mbar pressure		D00133	
Guarantee extension by 1 year (VOcool only)		GA2Q5	
Noise-insulated vacuum pump module without pump (exterior dimensions and -material No. s. vacuum oven) with antivibration metal plate at the bottom to accommodate the vacuum pump, incl. full-sight glass door. Socket, signal cable and connecting hose to the vacuum oven		PM 200	PM 400
Noise-insulated vacuum pump module, as above, however with built-in pump 230 V, 50 Hz, incl. energy-saving pump control (pump E04062 for VO 200 and pump E04063 for VO 400) W8 or T5 on VO necessary		PMP 200	PMP 400
Signal cable (3 m) for optimising pump performance by demand-controlled activation of purge of Memmert pump		B04027	
Vacuum connecting hose (3 m) from oven to Memmert pump incl. optimised connection accessories (partially stainless steel)		B04026	
Chemically resistant vacuum pump with PTFE double diaphragm, pump capacity at atm. pressures: approx. 34 Nl./min = 2,04 m³/h and autom. purge control from vacuum oven. Order No. B04027 and B04026 necessary. 230 V, 50/60 Hz (other voltages on request. Max. guarantee period 2 years		E04062	–
Chemically resistant vacuum pump with PTFE double diaphragm, pump capacity at atm. pressures: approx. 60 Nl./min = 3,6 m³/h and autom. purge control from vacuum oven. Order No. B04027 and B04026 necessary. 230 V, 50/60 Hz (other voltages on request. Max. guarantee period 2 years		–	E04063

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. Requires option 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

Model variations of Generation 2012

GENERATION 2012

SingleDISPLAY
ControlCOCKPIT with one TFT display

AVAILABLE APPLIANCES

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

Available parameters on the ControlCOCKPIT: Temperature (Celsius or Fahrenheit), fan speed, exhaust air flap position, programme time

One temperature sensor Pt100 DIN class A in a 4-wire circuit

Ethernet interface on the rear of the appliance for reading out the protocol log

Double overtemperature protection: Electronic temperature monitoring with freely adjustable monitoring temperature, mechanical temperature limiter TB acc. to DIN 12 880.

TwinDISPLAY
ControlCOCKPIT with two TFT displays

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, relative humidity, illumination, CO_2

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 and for uploading and implementing programmes and for online logging

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.

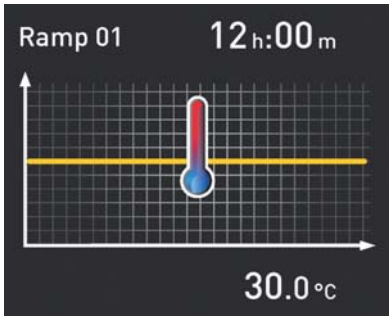
Adjustment of three calibration values for temperature and additional appliance specific parameters directly at the ControlCOCKPIT (e. g. relative humidity)

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.

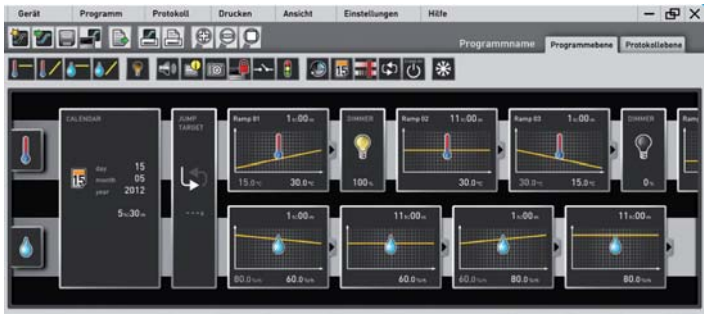


Programming functions for appliances with SingleDISPLAY and TwinDISPLAY

- 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



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Experts in Thermostatics

HEATING AND DRYING OVENS

- UNIVERSAL OVEN U
- PASS-THROUGH OVEN UFP TS
- PARAFFIN OVEN UNpa
- STERILISER S
- VACUUM OVEN VO
- COOLED VACUUM OVEN 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

- WATERBATH W
- OILBATH O

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