TECHLABSYSTEMS





Heating and drying ovens

COMMUNICATION. COMFORT. SIMPLY GREAT.



Simply boundless. Boundlessly simple.

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

From very small to very large! 32 litres or 1060 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 complies with the strict requirements of DIN 12880:2007-05 and is equipped with a maximum of safety functions. Each individual Memmert heating and drying oven is 100% AtmoSAFE.



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

Model sizes: 30 / 55 / 75 / 110 / 160 / 260 / 450 / 750 / 1060 +30 °C up to +300 °C

UNIVERSAL OVEN U The all-round genius among the heating ovens covers a multitude of applications, ideally at temperatures above +50 °C. Without compromises! Thanks to two model variants and nine 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.





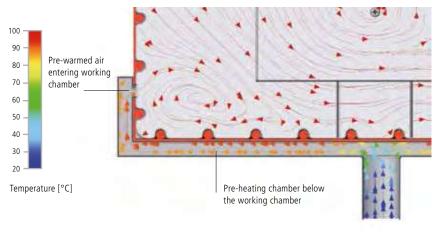
Defined and programme-controlled fan speed

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.

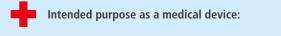
Other applications like testing of wires or cables demand for defined air exchange rates. UFplus appliances feature easy programming of temperature and air exchange rates with the AtmoCONTROL software.

Fresh air is preheated

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



Air supply from outside



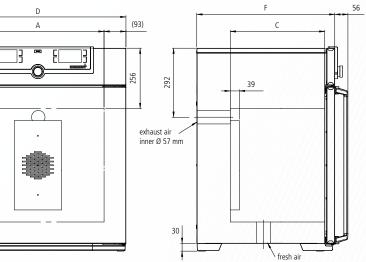
Heating ovens UF (with extended overtemperature protection – option A6) and UFplus are applied for heating of non-sterile fabrics and covers.

UNIVERSAL OVENS U

according to DIN 12880:2007-05, EN 61010-1 (IEC 61010-1), 61010-2-010 Standard units are safety-approved and bear the test marks:

۲t ndard equipr nent

Standard equipment (93) 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, 55 and 1060: 1 grid, sizes 75 – 750: 2 grids) Housing: Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY or TwinDISPLAY (TFT colour display) with 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, 750 and 1060 mounted on lockable castors Interfaces: Ethernet				-		_
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Interfaces: Ethernet USB (only TwinDISPLAY)	Connection:				_	_
	Installation:					_
	Interfaces:					



Model sizes/D	escription			30	55	75	110	160	260	450	750	1060
Stainless steel	Volume		approx. I	32	53	74	108	161	256	449	749	1060
interior	Width	(A)	mm	400	400	400	560	560	640	1040	1040	1040
	Height	(B)	mm	320	400	560	480	720	800	720	1200	1200
	Depth (less 39 mm for fan)	(C)	mm	250	330	330	400	400	500	600	600	850
	Stainless steel grids (standard equipment)		number		1				2			1
	Max. number of grids/shelves		number	3	4	6	5	8	9	8	14	14
	Max. loading per grid/shelf		kg			2	20			3	0	60
	Max. loading of chamber		kg	60	80	120	175	210		3(00	
Textured	Width	(D)	mm	585	585	585	745	745	824	1224	1224	1224
stainless steel exterior	Height (size 450, 750, 1060 with castors)	(E)	mm	704	784	944	864	1104	1183	1247	1726	1726
	Depth (without door handle), door handle + 56 mm	(F)	mm	434	514	514	584	584	684	784	784	1035
urther data	Electrical load at 230 V, 50/60 Hz		approx. W	W 1600 2000 2500 2800 3200 3400 -						-		
	Electrical load at 115 V, 50/60 Hz		approx. W	x.W 1600 1700 1800 -								
	Electrical load at 400 V and 3 x 230 V w/o neutral, 50/60 Hz		approx. W	pprox. W – 5800						70	7000	
	Working-temperature range		°C	â	at least 5 (U	N/UNplus) a	at least 10 (I	JF/UFplus) a	above ambie	ent tempera	ture to +300)
	Setting temperature range		°C					+20 to +30	0			
	Setting accuracy		°C				up to 99.	9: 0.1 / from	n 100: 0.5			
Packing data	Net weight		approx. kg	45	57	66	74	96	110	161	217	252
	Gross weight (packed in carton)		approx. kg	61	76	85	99	122	161	227	288	416
	Width		approx. cm	66	73	73	83	83	93	133	133	137
	Height		approx. cm	89	95	113	105	130	138	144	191	197
	Depth		approx. cm	65	67	67	80	80	93	105	105	130
	iversal Ovens			UN30	UN55	UN75	UN110	UN160	UN260	UN450	UN750	- //
	al Oven convection air circulation			UN30plus	UN55plus	UN75plus	UN110plus	UN160plus	UN260plus	UN450plus	UN750plus	-
	vith TwinDISPLAY			UF30	UF55	UF75	UF110	UF160	UF260	UF450	UF750	UF1060
				UF30plus	UF55plus	UF75plus	UF110plus	UF160plus	UF260plus	UF450nlus	IIE750nlus	UE1060nl

Options	30	55	75	110	160	260	450	750	1060
Voltage 115 V, 50/60 Hz				X2				- /	
Extended overtemperature protection by additionally integrated Pt100 sensor for independent temperature monitoring for models UN/UF					A6				
Full-sight glass door (4-layer insulating glass) – temperature-range up to max. 250 °C					BO				
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				-			К	1	-
Fresh-air filter (filtration efficiency 80 %) mounted at the bottom (for UF/UFplus) (for sizes 30 – 260 castor frame or subframe necessary – see page 29)					R8				
Interior lighting for observing the load					RO				
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 (option A8 necessary – see page 28)					R3				
Interior nearly gastight					K2				
Ditto, with possibility for gas inlet/outlet through 2 tubes with ball valves					К3				
Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap, standard positions left centre/centre right centre/centre right centre top					F0 F1 F2 F3				
Entry port, 23 mm clear diameter, for introducing connections, 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				
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 for external temperature monitoring (max. 1 SingleDISPLAY, max. 3 TwinDISPLAY)					V3 V6				
Fan speed monitoring with switching off the heating and with alarm in case of failure – optional for UFplus only					V4				
Works calibration certificate for 3 temperatures: +100 °C, +160 °C, +220 °C Standard works calibration certificate (measuring point chamber centre)					D00128				

 at +160 °C

 Accessories

 30
 55
 75
 110
 160
 260
 450
 750
 1060

Accessories	30	55	/5	110	160	260	450	/50	1060									
Stainless steel grid (standard equipment)	E28884 E20164		E20164 E20165		E28884 E20164 E20165		E28891	E20	182	B32550								
Additional reinforced stainless steel grid, max. loading 60 kg; from size 450 with guide bars and fixing screws (only in connection with option K1). Please consider max. loading of chamber	-			_		– E29767		– E29767 E2976		– E29767 E		– E2		E29767		66 B32190		-
Perforated stainless steel shelf	B29727	BOB	916	B00	325	B29725	B00	328	B32549									
Additional reinforced stainless steel shelf, max. loading 60 kg; with guide bars and fixing screws (only in connection with option K1). Please consider max. loading of chamber							B32	191	-									
Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution) – cannot be used in connection with option K1	E02070 E02072		E02072 E02073		E02072		E02073		E02	075	B32599							
Max. loading per slide-in drip tray (kg)		1.5		3 4				8										
Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (can be used only in connection with option K1)							B32	763	-//									
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution) – cannot be used in connection with option K1	B04356	356 B04358		B04358		56 B04358		B04356 B04358		6 B04358 B04359		B29722	B04	362	B29769			
Max. loading per bottom drip tray (kg)	1.5				3	4 8		8										
Stainless steel bottom drip tray, 15 mm rim (can be used only in connection with option K1)							B34	055	-									
Wall bracket for wall mounting	B29755 B29756 B29757 B29758 B29759			B29759														
Guarantee extension by 1 year			GA1Q5		GA2Q5													

Further options/accessories see pages 28 - 30



Pass-through oven UF TS TwinDISPLAY Forced convection AtmoSAFE standard software

Model sizes: 160 / 260 / 450 / 750 +30 °C to +300 °C

PASS-THROUGH OVEN UF TS Pass-through ovens UF 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)

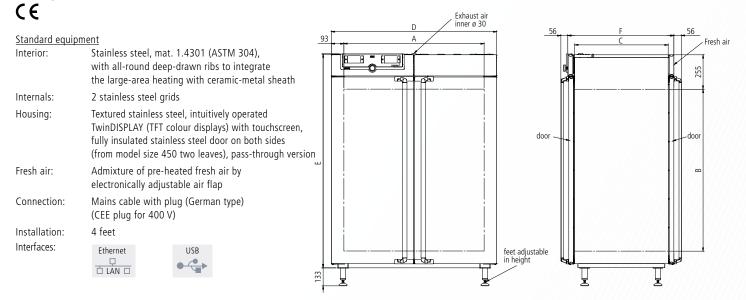


Customer-specific solutions myAtmoSAFE

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 UF TS

according to DIN 12880:2007-05



Model sizes/Description			160	260	450	750	
Stainless steel interior	Volume	approx. I	161	256	449	749	
	Width (A)	mm	560	640	1040	1040	
	Height (B)	mm	720	800	720	1200	
	Depth (C)	mm	400	500	600	600	
	Stainless steel grids (standard equipment)	number			2		
	Max. number of grids/shelves	number	8	9	8	14	
	Max. loading per grid/shelf	kg	2	0	30		
	Max. loading of chamber	kg	210		300		
Textured stainless	Width (D)	mm	745	824	1224	1224	
steel exterior	Height (E)	mm	1104	1183	1247	1726	
	Depth (without door handle, depth of handle 2 x 56 mm) (F)	mm	584	684	784	784	
Further data	Electrical load at 230 V, 50/60 Hz	approx. W	3200	3400		-//////	
	Electrical load at 115 V, 50/60 Hz	approx. W	18	00		-//////	
	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 10 above ambient temperature to +3				
	Setting temperature range	°C					
	Setting accuracy	°C	up	to 99.9: 0.	1 / from 100	: 0.5	
Packing data	Net weight	approx. kg	120	138	213	260	
	Gross weight (packed in carton)	approx. kg	146	189	279	331	
	Width	approx. cm	83	93	133	133	
	Height	approx. cm	130	138	145	192	
	Depth	approx. cm	80	93	105	105	

Order No. Pass-Through Ovens

UF160TS UF260TS UF450TS UF750TS

Optionen		160	260	450	750	
Voltage 115 V, 50/60 Hz	>	(2				
Extended overtemperature protection by additionally integrated Pt100 sensor for independent temperature monitoring			A	.6		
Full-sight glass door (4-layer insulating glass) – per side – temperature-range up to max. 250 °C			В	0		
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			K	.1		
righ	ft centre/centre left centre top ht centre/centre right centre top	F1 F2				
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					
Process-dependent electromagnetic door lock (both sides)		D4				
Locking mechanism to prevent simultaneous opening of doors for contamination protection in case of wall installation		D5				
4 – 20 mA current loop interface (0 to +310 °C ≙ 4 – 20 mA) Temperature controll Temperature of a Pt100 sensor positioned flexibly in chamber for external tempera (max. 1 SingleDISPLAY, max. 3 TwinDISPLAY) -	V6					
Fan speed monitoring with switching off the heating and with alarm in case of failure	V4					
Works calibration certificate for 3 temperatures: +100 °C, +160 °C, +220 °C Standard works calibration certificate (measuring point chamber centre) at +160 °C	D00128					

Accessories	160	260	450	750
Stainless steel grid (standard equipment)	E20165	E28891	E20	182
Additional reinforced stainless steel grid, max. loading 60 kg; with guide bars and fixing screws (only in connection with option K1). Please consider max. loading of chamber			B32	190
Perforated stainless steel shelf	B00325	B29725	B00	328
Additional reinforced perforated stainless steel shelf, max. loading 60 kg; with guide bars and fixing screws (only in connection with option K1). Please consider max. loading of chamber			B32	191
Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution) – cannot be used in connection with option K1	E02073	E29726	E02	075
Max. loading per slide-in drip tray (kg)	3	4	8	3
Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (can be used only in connection with option K1)	-		B32	763
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution) – cannot be used in connection with option K1	B04359	B29722	B04	362
Max. loading per bottom drip tray (kg)	3	4	8	3
Stainless steel bottom drip tray, 15 mm rim (can be used only in connection with option K1)	-		B34	055
Flush-fit unit set (stainless steel frame covering gap between oven and wall opening), without air slots – technical clarification required	B33204	B33205	B33206	B33207
Guarantee extension by 1 year	GA1Q5		GA2Q5	

SOFTWARE AtmoCONTROL

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.

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.

Programme functions 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 functions 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 interface or USB port

SPECIAL EQUIPMENT FOR MODELS U, UF TS, UNpa, S, I, ICO, ICP, IPP, IPS, HPP, ICH

Options for models Modelle U, UF TS, UNpa, S, I, ICO, ICP, IPP, IPS, HPP, ICH	30	55	75	110	160	260	450	750	1060	50	105	150	240
Door with lock (safety lock); for models UF TS per side; standard with SN/SF and SNplus/SFplus 450 and 750 (not for models ICO)		B6											
Door hinged on the left; for models UF TS per side			В	8				-			8		
Potential-free contact (24 V/2 A) with socket to NAMUR NE 28 for external monitoring (indicates when setpoint is reached); models ICO: when set points of temperature and CO_2 are 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 free-selectable functions to be activated (e.g. activation of audible and visual signals, exhaust motors, fans, stirrers, etc.). Only for units with TwinDISPLAY; max. 2 contacts on 1-phase appliances; max. 4 contacts on 3-phase appliances (not for models ICO) 2 contacts					Н72								
4 contacts							H74						
Process-dependent door lock (only for units with TwinDISPLAY); for models UF TS see page 11; not for models ICO		D4							-				
Door-open-recognition (only for units with TwinDISPLAY); for models UF TS per side; standard with ICO, ICH C, ICH L							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; not for models ICO					H4						-	-	
Flexible 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 data store, and can be documented via the AtmoCONTROL software. Not for models ICO					H8						-	-	
MobileALERT, notification by SMS in case of any error or alarm of the device. Requires option H6 "floating contact for alarm"							С3						
MobileALERT for up to 4 alarm notifications; standard: temperature and CO_2 alarm, additionally humidity alarm (when equipped with option K7) and O_2^2 alarm (when equipped with option T6)	-				C	4							
Temperature restriction (for UN/UF/UNplus/UFplus and models UF TS) Temperatures: +60, +70, +80, +95, +100, +120, +160, +180, +200, +220 or +250 °C (Please, indicate upon ordering)	A8												
Castor frame (2-part), height 140 mm (not for models UF TS, ICP, ICH, ICH L, ICH C, ICO)			R	9						-			

MODEL VARIANTS

MODEL VARIANTS	
SingleDISPLAY	TwinDISPLAY
ControlCOCKPIT with one TFT display	ControlCOCKPIT with two TFT displays
AVAILABLE APPLIANCES	AVAILABLE APPLIANCES
UN / UF / IN / IF / SN / SF / IPP / IPS	UNplus / UFplus / UF TS / UNpa / INplus / IFplus / SNplus / SFplus ICO / IPPplus / ICP / HPP / ICH
One high-resolution TFT colour display with touch-sensitive buttons for selection of functions	Two high-resolution TFT colour displays with touch-sensitive buttons for selection of functions
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 % (not valid for models 30, HPP110, IPP110plus, ICP, ICH)
AtmoCONTROL software for reading out, managing and organising the data logger via Ethernet interface (temporary trial version can be downloaded). USB stick with AtmoCONTROL software available as accessory (on demand)	AtmoCONTROL software on a USB stick for programming, managing and transferring programmes via Ethernet interface or USB port
	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 online logging	Ethernet interface on the rear of the appliance for reading out the protocol log and for uploading programmes and for online logging
Double overtemperature protection: Electronic temperature monitoring with freely adjustable monitoring temperature, for models U, I, S with option A6 TWW/TWB (protection class 3.1 or 2), mechanical temperature limiter TB acc. to DIN 12880	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 12880, 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
PID microprocessor control with	integrated auto-diagnostic system
Structured stainless steel housing, scratch-resis	stant, robust and durable; rear of zinc-plated steel
	ar of the appliance for single-phase power specific systems and IEC standards
	rage capacity of at least 10 years
German, English, French, Spanish languag	ge settings available on the ControlCOCKPIT
Digital backwards counter with target time	e setting, adjustable from 1 minute to 99 days
	time does not start until the set temperature is reached at ded by the freely positionable Pt100 sensors inside the chamber
	for temperature and additional appliance ctly at the ControlCOCKPIT