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**memmert**  
Experts in Thermostatics

# Heating and drying ovens

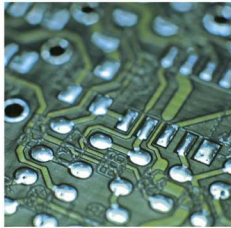
COMMUNICATION. COMFORT. SIMPLY GREAT.



UNIVERSAL OVEN U  
PASS-THROUGH OVEN UF TS  
PARAFFIN OVEN UNpa  
STERILISER S  
VACUUM OVEN VO  
BLANKET WARMER IFbw

100% ATMOSAFE. MADE IN GERMANY.

[www.memmert.com](http://www.memmert.com) | [www.atmosafe.net](http://www.atmosafe.net)



# 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 OVENS U****PAGE 4 - 8**

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

**PASS-THROUGH OVENS UF TS****PAGE 9 - 12**

In-line curing and tempering

**PARAFFIN OVENS UNpa****PAGE 13 - 16**

Tempering of embedding media like paraffin and wax

**STERILISERS S****PAGE 17 - 21**

Sterilising of instruments and laboratory glass

**VACUUM OVENS VO****PAGE 22 - 26**

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

**BLANKET WARMERS IFbw****PAGE 27 - 30**

Warming and keeping warm of non-sterile cloths and blankets

**ADDITIONAL INFORMATION****PAGE 31**



Universal Oven UN/UNm and UF/UFm with SingleDISPLAY

Universal Oven UNplus/UNmplus and UFplus/UFmplus  
with TwinDISPLAY

Natural convection or forced ventilation

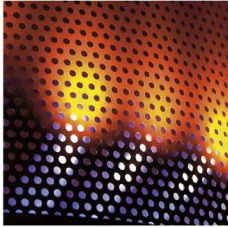
AtmoCONTROL software

Model sizes:

30 / 55 / 75 / 110 / 160 / 260 / 450 / 750 / 1060

+20 °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.



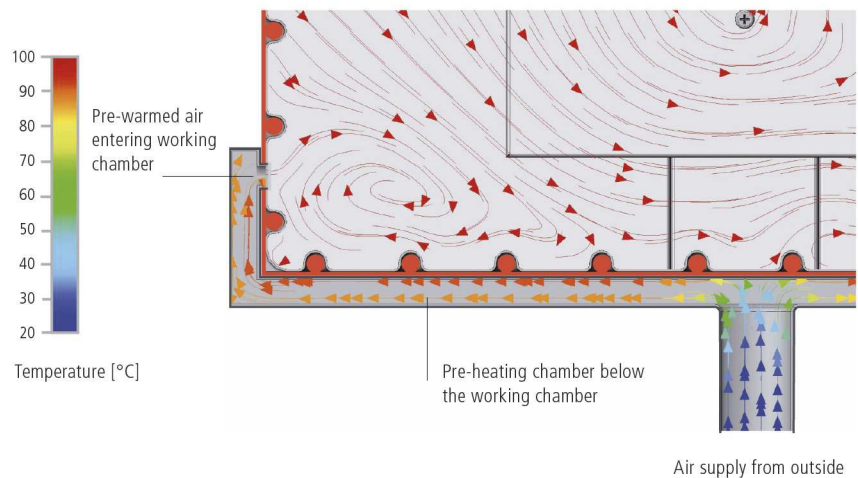
## Defined and programme-controlled fan speed

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/UFmplus appliances feature easy programming of temperature and air exchange rates with the AtmoCONTROL software.

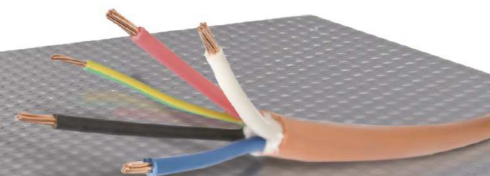
## Fresh air is preheated

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.



### The universal oven Um is a medical device:

Memmert universal ovens Um are a Class I medical device in accordance with the EU directive 93/42/EEC. In accordance with the intended use Memmert heating oven UNm (with option A6) or UNmplus may be used for heating fango, silicate and APS packs for physical therapy and keeping them warm.

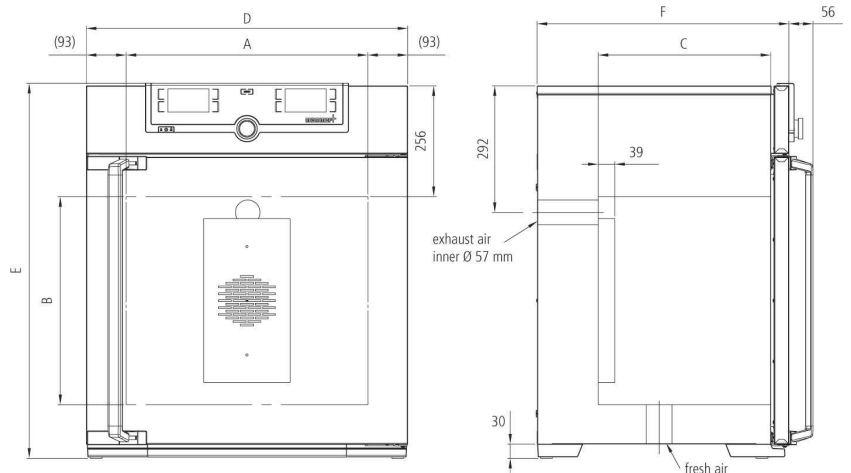


## UNIVERSAL OVENS U

according to DIN 12880:2007-05, EN 61010-1 (IEC 61010-1), EN 61010-2-010

Standard units are safety-approved and bear the test marks:  
(EAC not valid for medical devices)

- Interior:** Stainless steel, material 1.4301 (ASTM 304), with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath
- Housing:** Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY or TwinDISPLAY (TFT colour display) with touchscreen, fully insulated stainless steel door, (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 LAN, USB
- USB: only TwinDISPLAY



| Model sizes/Description           |   |            | 30   | 55   | 75   | 110  | 160  | 260  | 450  | 750  | 1060 |  |
|-----------------------------------|---|------------|--|------|------|------|------|------|------|------|------|--|
| Stainless steel interior          | Volume  | approx. l  | 32   | 53   | 74   | 108  | 161  | 256  | 449  | 749  | 1060 |  |
|                                   | Width   | (A) mm     | 400  |      |      | 560  |      | 640  | 1040 |      |      |  |
|                                   | Height  | (B) mm     | 320  | 400  | 560  | 480  | 720  | 800  | 720  | 1200 |      |  |
|                                   | Depth (less 39 mm for fan)  | (C) mm     | 250  | 330  |      | 400  |      | 500  | 600  |      | 850  |  |
|                                   | Max. number of grids/shelves  | number     | 3  | 4    | 6    | 5    | 8    | 9    | 8    | 14   |      |  |
|                                   | Max. loading per grid/shelf   | kg         | 20   |      |      |      |      |      | 30   |      | 60   |  |
|                                   | Max. loading of chamber   | kg         | 60   | 80   | 120  | 175  | 210  | 300  |      |      |      |  |
|                                   | Max. loading per slide-in drip tray                                     | kg         | 1,5  |      |      | 3    |      | 4    | 8    |      |      |  |
|                                   | Max. loading per bottom drip tray                                       | kg         | 1,5  |      |      | 3    |      | 4    | 8    |      |      |  |
| Textured stainless steel exterior | Width   | (D) mm     | 585  |      |      | 745  |      | 824  | 1224 |      |      |  |
|                                   | Height (size 450, 750, 1060 with castors)                               | (E) mm     | 704  | 784  | 944  | 864  | 1104 | 1183 | 1247 | 1726 |      |  |
|                                   | Depth (without door handle), door handle + 56 mm                        | (F) mm     | 434  | 514  |      | 584  |      | 684  | 784  |      | 1035 |  |
| Standard equipment                | Stainless steel grids, electropolished                                  | number     | 1  |      | 2    |      |      |      |      |      | 1    |  |
|                                   | Standard works calibration certificate (measuring point chamber center) | °C         | +160   |      |      |      |      |      |      |      |      |  |
| Temperature                       | Working temperature range   | °C         | at least 5 (UN/UNplus/UNm/UNmplus) or 10 (UF/UFplus/UFm/UFmplus) above ambient temperature to +300 |      |      |      |      |      |      |      |      |  |
|                                   | Setting temperature range   | °C         | +20 to +300  |      |      |      |      |      |      |      |      |  |
|                                   | Setting accuracy  | °C         | up to 99.9: 0.1 / from 100: 0.5  |      |      |      |      |      |      |      |      |  |
| 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   | 1700 | 1800 |      |      |      | -    |      |      |  |
|                                   | Electrical load at 400 V and 3 x 230 V w/o neutral, 50/60 Hz            | approx. W  | -  |      |      |      |      |      | 5800 | 7000 |      |  |
| 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. mm | 660  | 730  |      | 830  |      | 930  | 1330 |      | 1370 |  |
|                                   | Height  | approx. mm | 890  | 950  | 1130 | 1050 | 1300 | 1380 | 1440 | 1910 | 1970 |  |
|                                   | Depth   | approx. mm | 650  | 670  |      | 800  |      | 930  | 1050 |      | 1300 |  |

## Universal Ovens

U = Universal Oven

N = Natural convection

F = Forced air circulation

m = Medical device

plus = Model with TwinDISPLAY

|           |           |           |            |            |            |            |            |             |
|-----------|-----------|-----------|------------|------------|------------|------------|------------|-------------|
| UN30      | UN55      | UN75      | UN110      | UN160      | UN260      | UN450      | UN750      | -           |
| UN30m     | UN55m     | UN75m     | UN110m     | UN160m     | UN260m     | UN450m     | UN750m     | -           |
| UN30plus  | UN55plus  | UN75plus  | UN110plus  | UN160plus  | UN260plus  | UN450plus  | UN750plus  | -           |
| UN30mplus | UN55mplus | UN75mplus | UN110mplus | UN160mplus | UN260mplus | UN450mplus | UN750mplus | -           |
| UF30      | UF55      | UF75      | UF110      | UF160      | UF260      | UF450      | UF750      | UF1060      |
| UF30m     | UF55m     | UF75m     | UF110m     | UF160m     | UF260m     | UF450m     | UF750m     | UF1060m     |
| UF30plus  | UF55plus  | UF75plus  | UF110plus  | UF160plus  | UF260plus  | UF450plus  | UF750plus  | UF1060plus  |
| UF30mplus | UF55mplus | UF75mplus | UF110mplus | UF160mplus | UF260mplus | UF450mplus | UF750mplus | UF1060mplus |

| 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 with SingleDISPLAY   |  |    |    |     | A6                   |     |     |     |      |
| Full-sight glass door (4-layer insulating glass) Temperature-range up to max. 250 °C   |  |    |    |     | B0                   |     |     |     |      |
| Full-sight glass door (4-layer insulating glass borsilicat) Temperature-range up to max. 300 °C  |  |    |    |     | B1                   |     |     |     |      |
| 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 standard grids by reinforced grids   |  |    |    |     | -                    | K1  |     |     | -    |
| Fresh-air filter (filtration efficiency 80 %) mounted at the appliance bottom (for UF/UFplus/UFm/UFmplus). For sizes 30 - 260 castor frame R9 or subframe necessary  |  |    |    |     | R8                   |     |     |     |      |
| Interior lighting for observing the load   |  |    |    |     | R0                   |     |     |     |      |
| Interior socket (can only be ordered with limited temperature range - max. +70 °C) ampacity 230 V, 2.2 A, can be switched off with the On/Off switch, cannot be switched individually, moisture tight IP68 (option A8 necessary)   |  |    |    |     | R3                   |     |     |     |      |
| Interior nearly gastight   |  |    |    |     | K2                   |     |     |     |      |
| Interior nearly gastight 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<br>left centre/top<br>right centre/centre<br>right centre/top   |    |    |     | F0<br>F1<br>F2<br>F3 |     |     |     |      |
| Entry port, 23 mm clear diameter, can be closed by flap, in special positions (please state location)  | left<br>right<br>rear  |    |    |     | F4<br>F5<br>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                   |     |     |     |      |
| Entry port, 57 mm clear diameter, can be closed by flap, in special positions in the back wall (please, state location)  |  |    |    |     | F8                   |     |     |     |      |
| Entry port, 100 mm clear diameter, can be closed by flap, in special positions in the back wall (please, state location)   | -  |    | F9 |     |                      |     |     |     |      |
| 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 for external temperature monitoring (max. 1 SingleDISPLAY, max. 3 TwinDISPLAY) - price per sensor |    |    |     | V6                   |     |     |     |      |
| Fan speed monitoring with switching off the heating and with alarm in case of failure - optional for UFplus/UFmplus only   |  |    |    |     | V4                   |     |     |     |      |
| Works calibration certificate for 3 temperatures: +100 °C, +160 °C, +220 °C  |  |    |    |     | D00128               |     |     |     |      |
| Works calibration certificate for one (freely selectable) temperature value according to customer specification  |  |    |    |     | D00109               |     |     |     |      |
| Door with lock and key (safety lock)   |  |    |    |     | B6                   |     |     |     |      |
| Door hinged on the left  |  |    |    |     | B8                   |     |     | -   |      |
| Potential-free contact (24 V/2 A) with socket, according 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 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 | 2 contacts<br>4 contacts   |    |    |     | H72                  |     |     | H74 |      |
|  |  |    |    |     | -                    |     |     |     |      |
| Process-dependent programmable 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                   |     |     |     |      |

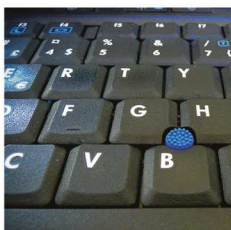
| Options  | 30     | 55     | 75     | 110    | 160    | 260    | 450    | 750    | 1060   |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Flexible Pt100 temperature sensor, positioned flexibly in chamber or load, for local temperature measurement (up to 3 additional 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  | H8     |        |        |        |        |        |        |        |        |
| MobileALERT, notification by SMS in case of any error or alarm of the device. Requires option H6   | C3     |        |        |        |        |        |        |        |        |
| Temperature restriction; Temperatures: +60, +70, +80, +95, +100, +120, +160, +180, +200 or +250 °C (Please, indicate upon ordering)  | A8     |        |        |        |        |        |        |        |        |
| Castor frame (2-part), height 140 mm   | R9     |        |        |        |        |        | -      |        |        |
| Accessories  | 30     | 55     | 75     | 110    | 160    | 260    | 450    | 750    | 1060   |
| Stainless steel grid, electropolished  | E28884 | E20164 |        | E20165 |        | E28891 | E20182 |        | B41251 |
| Additional reinforced stainless steel grid, electropolished, 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 |        | E29766 | B32190 |        | B32550 |
| Perforated stainless steel shelf   | B29727 | B03916 |        | B00325 |        | B29725 | B00328 |        | 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  | -      |        |        |        |        |        | B32191 |        | -      |
| Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution) - cannot be used in connection with option K1  | E02070 | E02072 |        | E02073 |        | E29726 | E02075 |        | B32599 |
| Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (can be used only in connection with option K1)   | -      |        |        |        |        |        | B32763 |        | -      |
| Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution) - cannot be used in connection with option K1  | B04356 | B04358 |        | B04359 |        | B29722 | B04362 |        | B29769 |
| Stainless steel bottom drip tray, 15 mm rim (can be used only in connection with option K1)  | -      |        |        |        |        |        | B34055 |        | -      |
| Wall bracket for wall mounting   | B29755 | B29756 | B29757 | B29758 | B29759 | -      |        |        |        |
| Guarantee extension by 1 year  | GA1Q5  |        |        |        |        | GA2Q5  |        |        |        |
| USB-Ethernet adapter   |        |        |        |        |        | E06192 |        |        |        |
| Ethernet connection cable 5 m 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 (only for units with TwinDISPLAY)   |        |        |        |        |        | B33170 |        |        |        |
| USB stick with documentation software AtmoCONTROL and operation manual for products with SingleDISPLAY (the standard equipment of appliances with TwinDISPLAY includes one USB stick with AtmoCONTROL). When reordering please specify serial number   |        |        |        |        |        | B33172 |        |        |        |
| Set of height adjustable feet (4 pcs)  | B29768 |        |        |        |        |        | -      |        |        |
| Stacking set (4 pcs) for stacking of appliances of same size   | B29744 |        |        |        | -      |        |        |        |        |
| Plug-in tube extension (outer diam. 60.3 mm, inner 57 mm), straight, for exhaust air ducting (if necessary for connection by hose)   |        |        |        |        |        | B29718 |        |        |        |
| Plug-in tube extension (outer diam. 60.3 mm, inner 57 mm), angled, for exhaust air ducting (if necessary for connection by hose)   |        |        |        |        |        | B29719 |        |        |        |
| Flush-fit unit (stainless steel frame covering gap between oven and wall opening), with air slots  | B29728 | B29730 | B29732 | B29734 | B29736 | B29738 | B29740 | B29742 |        |
| Flush-fit unit (stainless steel frame covering gap between oven and wall opening), without air slots   | 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 |        | B29749 |        | B29751 | B29753 | -      |        |
| Subframe, on castors (size 30 to 75: height 660 mm, size 110 to 160: height 560 mm)  | B29746 | B29748 |        | B29750 |        | -      |        |        |        |
| Subframe, adjustable in height, height 130 mm, for example for units with fresh air filter   | B33657 | B33659 |        | B33661 |        | B33664 | -      |        |        |
| Software conforming to FDA AtmoCONTROL. 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). Base licence for the control of one unit (only for units with TwinDISPLAY). Respective IQ/OQ documents available in German and English language (without surcharge)  | FDAQ1  |        |        |        |        |        |        |        |        |
| Integration of one additional unit (up to max. 15 units) into an already existent FDA-software licence (only for units with TwinDISPLAY)   | FDAQ2  |        |        |        |        |        |        |        |        |
| IQ document with device-specific works test data, OQ/PQ check list as support for validation by customer   | D00124 |        |        |        |        |        |        |        |        |
| IQ/OQ document with device-specific works test data for one free-selectable temperature value, incl. temperature distribution survey at Memmert for 9 measuring points (size 30), 27 measuring points (sizes 55 - 1060) to DIN 12880:2007-05. PQ check list as support for validation by customer. Price for further temperature values and validation at customer site on demand (GER, AT, CH only) | D00125 | D00127 |        |        |        |        |        |        |        |



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

Model sizes:  
160 / 260 / 450 / 750  
+20 °C to +250 °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, EN 61010-1 (IEC 61010-1), EN 61010-2-010

Standard units are safety-approved and bear the test marks:



**Interior:** Stainless steel, mat. 1.4301 (ASTM 304), with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath

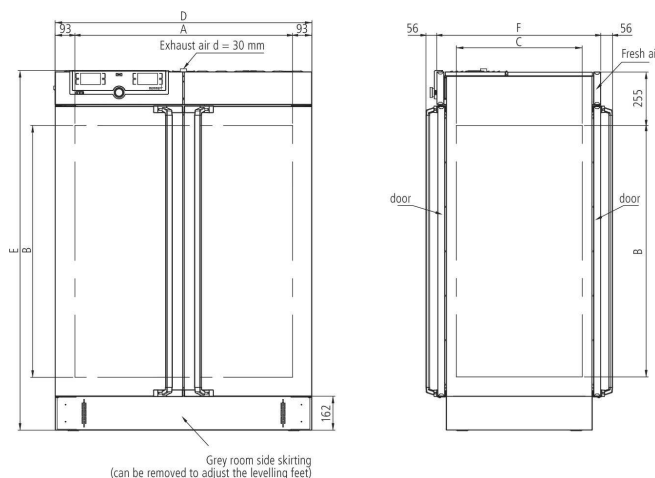
**Housing:** Textured stainless steel, intuitively operated TwinDISPLAY (TFT colour displays) with touchscreen, fully insulated stainless steel door on both sides (from model size 450 two leaves), pass-through version

**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

**Interfaces:**



| Model sizes/Description           |   |            | 160   | 260     | 450     | 750     |
|-----------------------------------|---|------------|---|---------|---------|---------|
| Stainless steel interior          | Volume  | approx. l  | 161   | 256     | 449     | 749     |
|                                   | Width   | (A) mm     | 560   | 640     | 1040    |         |
|                                   | Height  | (B) mm     | 720   | 800     | 720     | 1200    |
|                                   | Depth   | (C) mm     | 400   | 500     | 600     |         |
|                                   | Max. number of grids/shelves  | number     | 8   | 9       | 8       | 14      |
|                                   | Max. loading per grid/shelf   | kg         | 20  |         | 30      |         |
|                                   | Max. loading of chamber   | kg         | 210   | 300     |         |         |
|                                   | Max. loading per slide-in drip tray                                     | kg         | 3   | 4       | 8       |         |
|                                   | Max. loading per bottom drip tray                                       | kg         | 3   | 4       | 8       |         |
| Textured stainless steel exterior | Width   | (D) mm     | 745   | 825     | 1224    |         |
|                                   | Height  | (E) mm     | 1233  | 1314    | 1233    | 1714    |
|                                   | Depth (without door handle, depth of handle 2 x 56 mm)                  | (F) mm     | 582   | 682     | 782     |         |
| Standard equipment                | Stainless steel grids, electropolished                                  | number     | 2   |         |         |         |
|                                   | Standard works calibration certificate (measuring point chamber center) | °C         | +160  |         |         |         |
| Temperature                       | Working temperature range   | °C         | at least 10 above ambient temperature to +250 |         |         |         |
|                                   | Setting temperature range   | °C         | +20 to +250                                   |         |         |         |
|                                   | Setting accuracy  | °C         | up to 99.9: 0.1 / from 100: 0.5               |         |         |         |
| Further data                      | Electrical load at 230 V, 50/60 Hz                                      | approx. W  | 3200  | 3400    | -       |         |
|                                   | Electrical load at 115 V, 50/60 Hz                                      | approx. W  | 1800  |         | -       |         |
|                                   | Electrical load at 400 V and 3 x 230 V w/o neutral, 50/60 Hz            | approx. W  | -   |         | 5800    | 7000    |
| Packing data                      | Net weight  | approx. kg | 120   | 138     | 213     | 260     |
|                                   | Gross weight (packed in carton)   | approx. kg | 146   | 189     | 279     | 331     |
|                                   | Width   | approx. mm | 830   | 930     | 1330    |         |
|                                   | Height  | approx. mm | 1300  | 1380    | 1450    | 1920    |
|                                   | Depth   | approx. mm | 800   | 930     | 1050    |         |
| Order No. Pass-Through Ovens      |   |            | UF160TS                                       | UF260TS | UF450TS | UF750TS |

| Options   | 160  | 260 | 450                  | 750 |
|---|--|-----|----------------------|-----|
| Voltage 115 V, 50/60 Hz   |  |     | X2                   |     |
| Full-sight glass door (4 layer insulating glass) - extra cost per side - Temperature-range up to max. 250 °C  |  |     | 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 standard grids by 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<br>left centre/top<br>right centre/centre<br>right centre/top   |     | F0<br>F1<br>F2<br>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<br>right  |     | F4<br>F5             |     |
| 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 +260 °C = 4 - 20 mA)   | Temperature controller, actual value<br>Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring (max. 3) - price per sensor |     | V3<br>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   |  |     | D00128               |     |
| Works calibration certificate for one (freely selectable) temperature value according to customer specification   |  |     | D00109               |     |
| Door with lock (safety lock); per side  |  |     | B6                   |     |
| Door hinged on the left; price per side   |  | B8  |                      | -   |
| Potential-free contact (24 V/2 A) with socket, according 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 free-selectable functions to be activated (e.g. activation of audible and visual signals, exhaust motors, fans, stirrers, etc.); max. 2 contacts on 1-phase appliances; max. 4 contacts on 3-phase appliances | 2 contacts<br>4 contacts   | -   | H72                  | H74 |
| Process-dependent electromagnetic door lock (both sides)  |  |     | D4                   |     |
| Door-open-recognition; per side   |  |     | 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                   |     |
| 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                 |  |     | H8                   |     |
| MobileALERT, notification by SMS in case of any error or alarm of the device. Requires option H6  |  |     | C3                   |     |
| Temperature restriction; Temperatures: +60, +70, +80, +95, +100, +120, +160, +180 or +200 °C (Please, indicate upon ordering)   |  |     | A8                   |     |

| Accessories  | 160    | 260    | 450    | 750    |
|--|--------|--------|--------|--------|
| Stainless steel grid, electropolished  | E20165 | E28891 |        | E20182 |
| Additional reinforced stainless steel grid, electropolished, max. loading 60 kg; with guide bars and fixing screws (only in connection with option K1). Please consider max. loading of chamber  |        | -      |        | B32190 |
| Perforated stainless steel shelf   | B00325 | B29725 |        | B00328 |
| 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  |        | -      |        | B32191 |
| Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution) - cannot be used in connection with option K1  | E02073 | E29726 |        | E02075 |
| Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (can be used only in connection with option K1)   |        | -      |        | B32763 |
| Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution) - cannot be used in connection with option K1  | B04359 | B29722 |        | B04362 |
| Stainless steel bottom drip tray, 15 mm rim (can be used only in connection with option K1)  |        | -      |        | B34055 |
| 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  |        |
| USB-Ethernet adapter   |        |        | E06192 |        |
| Ethernet connection cable 5 m 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   |        |        | B33170 |        |
| Set of height adjustable feet (4 pcs)  |        | B29768 |        | -      |
| FDA conforming software AtmoCONTROL (FDA edition). 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). Base licence for the control of one unit. Respective IQ/OQ documents available in German and English language (without surcharge) |        |        |        | FDAQ1  |
| Integration of additional units (up to max. 15 units) into an already existent FDA-software licence  |        |        |        | FDAQ2  |
| IQ document with device-specific works test data, OQ/PQ check list as support for validation by customer   |        |        |        | D00124 |
| IQ/OQ document with device-specific works test data for one free-selectable temperature value, incl. temperature distribution survey at Memmert for 27 measuring points to DIN 12880:2007-05. PQ check list as support for validation by customer. Price for further temperature values and validation at customer site on demand (GER, AT, CH only)                         |        |        |        | D00127 |



Paraffin oven UNpa with TwinDISPLAY  
AtmoCONTROL software

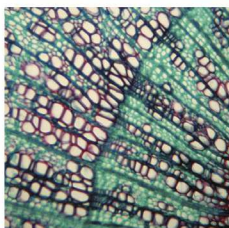
Model sizes:  
30 / 55 / 75 / 110 / 160  
+20 °C to +80 °C

**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.



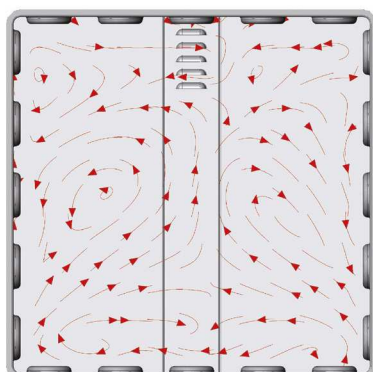
## Safe warming of paraffin

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 ovens 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 DIN 12880:2007-05, EN 61010-1 (IEC 61010-1), EN 61010-2-010

Standard units are safety-approved and bear the test marks:



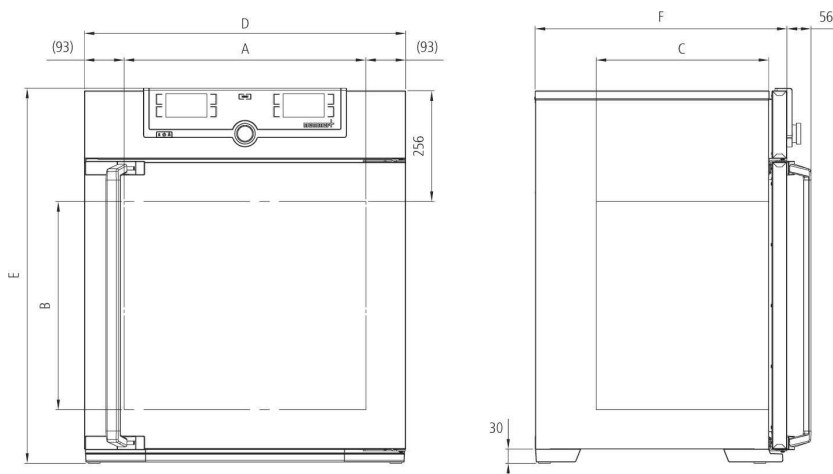
**Interior:** Stainless steel, material 1.4301 (ASTM 304), with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath, nearly gastight

**Housing:** Textured stainless steel, rear zinc-plated steel, intuitively operated TwinDISPLAY (TFT colour display) with touchscreen, fully insulated stainless steel door

**Connection:** Mains cable with plug (German type)

**Installation:** 4 feet

**Interfaces:**



| Model sizes/Description           |   |            | 30  | 55     | 75     | 110     | 160     |
|-----------------------------------|---|------------|---|--------|--------|---------|---------|
| Stainless steel interior          | Volume  | approx. l  | 32  | 53     | 74     | 108     | 161     |
|                                   | Width   | (A) mm     | 400   |        |        | 560     |         |
|                                   | Height  | (B) mm     | 320   | 400    | 560    | 480     | 720     |
|                                   | Depth   | (C) mm     | 250   | 330    |        | 400     |         |
|                                   | Max. number of grids/shelves  | number     | 3   | 4      | 6      | 5       | 8       |
|                                   | Max. loading per grid/shelf   | kg         | 20  |        |        |         |         |
|                                   | Max. loading of chamber   | kg         | 60  | 80     | 120    | 175     | 210     |
|                                   | Max. loading per slide-in drip tray                                     | kg         | 1,5   |        |        | 3       |         |
|                                   | Max. loading per bottom drip tray                                       | kg         | 1,5   |        |        | 3       |         |
| Textured stainless steel exterior | Width   | (D) mm     | 585   |        |        | 745     |         |
|                                   | Height  | (E) mm     | 704   | 784    | 944    | 864     | 1104    |
|                                   | Depth (without door handle), door handle + 56 mm                        | (F) mm     | 434   | 514    |        | 584     |         |
| Standard equipment                | Stainless steel grids, electropolished                                  | number     | 1   |        | 2      |         |         |
|                                   | Standard works calibration certificate (measuring point chamber center) | °C         | +80   |        |        |         |         |
| Temperature                       | Working temperature range   | °C         | at least 5 above ambient temperature to +80 |        |        |         |         |
|                                   | Setting temperature range   | °C         | +20 to +80                                  |        |        |         |         |
|                                   | Setting accuracy  | °C         | 0.1   |        |        |         |         |
| 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  | 1700   | 1800   |         |         |
| Packing data                      | Net weight  | approx. kg | 45  | 55     | 66     | 75      | 96      |
|                                   | Gross weight (packed in carton)   | approx. kg | 61  | 74     | 85     | 100     | 122     |
|                                   | Width   | approx. mm | 660   | 730    |        | 830     |         |
|                                   | Height  | approx. mm | 890   | 950    | 1130   | 1050    | 1300    |
|                                   | Depth   | approx. mm | 650   | 670    |        | 800     |         |
| Order No. Paraffin Ovens          |   |            | UN30pa                                      | UN55pa | UN75pa | UN110pa | UN160pa |

| Options   | 30   | 55 | 75     | 110 | 160 |
|---|--|----|--------|-----|-----|
| Voltage 115 V, 50/60 Hz   |  |    | X2     |     |     |
| Full-sight glass door (4-layer insulating glass)  |  |    | B0     |     |     |
| Entry port, 23 mm clear diameter, for introducing connections at the side, gastight, 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, gas tight, can be closed by flap and silicone stopper, in special positions (please, state location)  | left   |    | F4     |     |     |
|   | right  |    | F5     |     |     |
|   | rear   |    | F6     |     |     |
| Entry port (silicone), 40 mm clear diameter, 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 for external temperature monitoring (max. 3) - price per sensor |    | V6     |     |     |
| Gas inlet/outlet through 2 tubes with ball valves   |  |    | K3     |     |     |
| Works calibration certificate for 3 temperatures: +37 °C, +52 °C, +70 °C  |  |    | D00126 |     |     |
| Works calibration certificate for one (freely selectable) temperature value according to customer specification   |  |    | D00109 |     |     |
| Door with lock and key (safety lock)  |  |    | B6     |     |     |
| Door hinged on the left   |  |    | B8     |     |     |
| Potential-free contact (24 V/2 A) with socket, according 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 free-selectable functions to be activated (e.g. activation of audible and visual signals, exhaust motors, fans, stirrers, etc.)   | 2 contacts   |    | H72    |     |     |
| Process-dependent programmable door lock  |  |    | D4     |     |     |
| Door-open-recognition   |  |    | 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     |     |     |
| 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 |  |    | H8     |     |     |
| MobileALERT, notification by SMS in case of any error or alarm of the device. Requires option H6  |  |    | C3     |     |     |
| Castor frame (2-part), height 140 mm  |  |    | R9     |     |     |
| Temperature restriction; Temperatures: +60, +70, +80, +95, +100, +120, +160, +180 or +200 °C (Please, indicate upon ordering)   |  |    | A8     |     |     |

| Accessories  | 30     | 55     | 75     | 110    | 160    |
|--|--------|--------|--------|--------|--------|
| Stainless steel grid, electropolished  | E28884 | E20164 |        | E20165 |        |
| Perforated stainless steel shelf   | B29727 | B03916 |        | B00325 |        |
| Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution)  | E02070 | E02072 |        | E02073 |        |
| Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution)  | B04356 | B04358 |        | B04359 |        |
| Wall bracket for wall mounting   | B29755 | B29756 | B29757 | B29758 | B29759 |
| Guarantee extension by 1 year  |        |        | GA1Q5  |        |        |
| USB-Ethernet adapter   |        |        | E06192 |        |        |
| Ethernet connection cable 5 m 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   |        |        | B33170 |        |        |
| Set of height adjustable feet (4 pcs)  |        |        | B29768 |        |        |
| Stacking set (4 pcs) for stacking of appliances of same size   |        |        | B29744 |        | -      |
| Flush-fit unit (stainless steel frame covering gap between oven and wall opening), with air slots  | B29728 | B29730 | B29732 | B29734 | B29736 |
| Flush-fit unit (stainless steel frame covering gap between oven and wall opening), without air slots   | B29729 | B29731 | B29733 | B29735 | B29737 |
| Subframe, adjustable in height (size 30 to 75: height 600 mm, size 110 to 450: height 500 mm)  | B29745 |        | B29747 |        | B29749 |
| Subframe, on castors (size 30 to 75: height 660 mm, size 110 to 160: height 560 mm)  | B29746 |        | B29748 |        | B29750 |
| Subframe, adjustable in height, height 130 mm, for example for units with fresh air filter   | B33657 |        | B33659 |        | B33661 |
| FDA conforming software AtmoCONTROL (FDA edition). 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). Base licence for the control of one unit. Respective IQ/OQ documents available in German and English language (without surcharge)                         |        |        | FDAQ1  |        |        |
| Integration of additional units (up to max. 15 units) into an already existent FDA-software licence  |        |        | FDAQ2  |        |        |
| IQ document with device-specific works test data, OQ/PQ check list as support for validation by customer   |        |        | D00124 |        |        |
| IQ/OQ document with device-specific works test data for one free-selectable temperature value, incl. temperature distribution survey at Memmert for 9 measuring points (size 30), 27 measuring points (sizes 55 - 1060) to DIN 12880:2007-05. PQ check list as support for validation by customer. Price for further temperature values and validation at customer site on demand (GER, AT, CH only) | D00125 |        |        | D00127 |        |



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  
 +20 °C to +250 °C

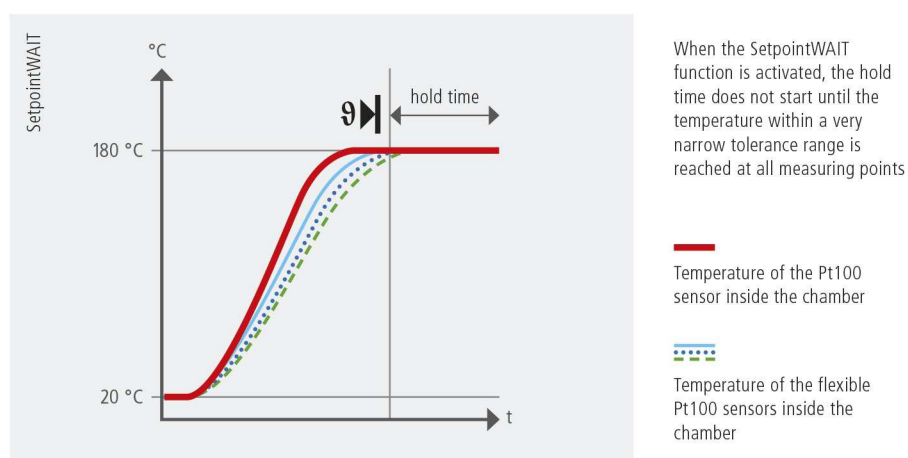
**STERILISER S** Medicine has the goal of protecting and saving lives. Therefore, disinfection of receptacles and instruments is not enough. The setpoint-dependent programme resume function SetpointWAIT of Memmert hot air sterilisers guarantees precise sterilisation times and the complete killing off of even the most resistant microorganisms. All Memmert sterilisers are classified as class IIb medical device.





## 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.



## 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 door locking mechanism (optional) is the icing on the cake in terms of safety.



### The steriliser SN/SF/SNplus/SFplus is a medical device:

All Memmert sterilisers are classified as class IIb medical device. The appliances may be used for sterilising medical material through dry heat at atmospheric pressure. They are also suited without restriction for the special application of depyrogenisation with hot air.

## STERILISERS S

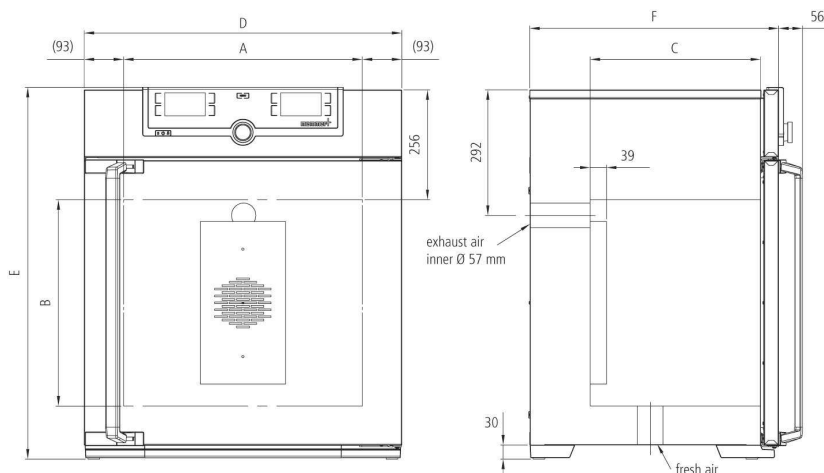
according to DIN 12880:2007-05, EN 61010-1 (IEC 61010-1), EN 61010-2-010 and EN 61010-2-40

Standard units are safety-approved and bear the test marks:



- Interior:** Stainless steel, material 1.4301 (ASTM 304), with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath
- Housing:** Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY or TwinDISPLAY (TFT colour display) with touchscreen, fully insulated stainless steel door (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 mounted on lockable castors
- Interfaces:** Ethernet LAN, USB

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   |      |      | 560  |      | 640  | 1040 |      |  |
|                                   | Height  | (B) mm     | 320   | 400  | 560  | 480  | 720  | 800  | 720  | 1200 |  |
|                                   | Depth (less max. 39 mm for fan)   | (C) mm     | 250   | 330  |      | 400  |      | 500  | 600  |      |  |
|                                   | Max. number of grids/shelves  | number     | 3   | 4    | 6    | 5    | 8    | 9    | 8    | 14   |  |
|                                   | Max. loading per grid/shelf   | kg         | 20  |      |      |      |      |      |      | 30   |  |
|                                   | Max. loading of chamber   | kg         | 60  | 80   | 120  | 175  | 210  | 300  |      |      |  |
|                                   | Max. loading per slide-in drip tray                                     | kg         | 1,5   |      |      | 3    |      | 4    | 8    |      |  |
|                                   | Max. loading per bottom drip tray                                       | kg         | 1,5   |      |      | 3    |      | 4    | 8    |      |  |
| Textured stainless steel exterior | Width   | (D) mm     | 585   |      |      | 745  |      | 824  | 1224 |      |  |
|                                   | Height (size 450, 750 with castors)                                     | (E) mm     | 704   | 784  | 944  | 864  | 1104 | 1183 | 1247 | 1726 |  |
|                                   | Depth (without door handle), door handle + 56 mm                        | (F) mm     | 434   | 514  |      | 584  |      | 684  | 784  |      |  |
| Standard equipment                | Stainless steel grids, electropolished                                  | number     | 1   |      | 2    |      |      |      |      |      |  |
|                                   | Standard works calibration certificate (measuring point chamber center) | °C         | +160  |      |      |      |      |      |      |      |  |
| Temperature                       | Working temperature range   | °C         | at least 5 (SN/SNplus) 10 (SF/SFplus) above ambient temperature to +250 |      |      |      |      |      |      |      |  |
|                                   | Setting temperature range   | °C         | +20 to +250   |      |      |      |      |      |      |      |  |
|                                   | Setting accuracy  | °C         | up to 99.9: 0.1 / from 100: 0.5   |      |      |      |      |      |      |      |  |
| 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  | 1700 | 1800 |      |      |      |      | -    |  |
|                                   | Electrical load at 400 V and 3 x 230 V w/o neutral, 50/60 Hz            | approx. W  | -   |      |      |      |      |      | 5800 | 7000 |  |
| Packing data                      | Net weight  | approx. kg | 46  | 57   | 66   | 74   | 96   | 110  | 161  | 217  |  |
|                                   | Gross weight (packed in carton)   | approx. kg | 62  | 76   | 85   | 99   | 122  | 161  | 227  | 288  |  |
|                                   | Width   | approx. mm | 660   | 730  |      | 830  |      | 930  | 1330 |      |  |
|                                   | Height  | approx. mm | 890   | 950  | 1130 | 1050 | 1300 | 1380 | 1440 | 1910 |  |
|                                   | Depth   | approx. mm | 650   | 670  |      | 800  |      | 930  | 1050 |      |  |

### 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 |
|--|--------------------------------------|--|----|-----|--------|-----|-----|-----|
| Voltage 115 V, 50/60 Hz  | X2                                   |  |    |     |        |     | -   |     |
| Extended overtemperature protection by additionally integrated Pt100 sensor for independent temperature monitoring for models with SingleDISPLAY   |                                      |  |    |     | A6     |     |     |     |
| Full-sight glass door (4-layer insulating glass)   |                                      |  |    |     | B0     |     |     |     |
| Interior lighting for observing the load   |                                      |  |    |     | 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 standard grids by reinforced grids   | -                                    |  |    |     |        | K1  |     |     |
| Fresh-air filter (filtration efficiency 80 %) mounted at the appliance bottom (for SF/SFplus). For sizes 30 - 260 castor frame or subframe necessary   |                                      |  |    |     | 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, 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 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 +260 °C = 4 - 20 mA)  | Temperature controller, actual value |  |    |     | V3     |     |     |     |
|  |                                      | Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring (max. 1 SingleDISPLAY, max. 3 TwinDISPLAY) - price per sensor |    |     |        | V6  |     |     |
| Fan speed monitoring with switching off the heating and with alarm in case of failure - optional for SFplus only   |                                      |  |    |     | V4     |     |     |     |
| Works calibration certificate for 3 temperatures: +160 °C, +180 °C, +250 °C  |                                      |  |    |     | D00132 |     |     |     |
| Works calibration certificate for one (freely selectable) temperature value according to customer specification  |                                      |  |    |     | D00109 |     |     |     |
| Door with lock and key (safety lock); standard with 450 and 750  |                                      |  |    |     | B6     |     |     |     |
| Door hinged on the left  | B8                                   |  |    |     |        | -   |     |     |
| Potential-free contact (24 V/2 A) with socket, according 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 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 | 2 contacts                           |  |    |     | H72    |     |     |     |
|  | 4 contacts                           | -  |    |     | H74    |     |     |     |
| Process-dependent programmable 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     |     |     |     |
| 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  |                                      |  |    |     | H8     |     |     |     |
| MobileALERT, notification by SMS in case of any error or alarm of the device. Requires option H6   |                                      |  |    |     | C3     |     |     |     |
| Castor frame (2-part), height 140 mm   | R9                                   |  |    |     |        | -   |     |     |

| Accessories   | 30     | 55     | 75 | 110    | 160 | 260    | 450    | 750    |
|---|--------|--------|----|--------|-----|--------|--------|--------|
| Stainless steel grid, electropolished   | E28884 | E20164 |    | E20165 |     | E28891 | E20182 |        |
| Additional reinforced stainless steel grid, electropolished, 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 |     | E29766 | B32190 |        |
| Perforated stainless steel shelf  | B29727 | B03916 |    | B00325 |     | B29725 | B00328 |        |
| 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                               |        | -      |    |        |     |        |        | B32191 |

| Accessories  | 30     | 55     | 75     | 110    | 160    | 260    | 450    | 750    |
|--|--------|--------|--------|--------|--------|--------|--------|--------|
| Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution) - cannot be used in connection with option K1  | E02070 | E02072 |        | E02073 |        | E29726 |        | E02075 |
| Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (can be used only in connection with option K1)   |        |        |        | -      |        |        |        | B32763 |
| Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution) - cannot be used in connection with option K1  | B04356 | B04358 |        | B04359 |        | B29722 |        | B04362 |
| Stainless steel bottom drip tray, 15 mm rim (can be used only in connection with option K1)  |        |        |        | -      |        |        |        | B34055 |
| Wall bracket for wall mounting   | B29755 | B29756 | B29757 | B29758 | B29759 |        |        | -      |
| Guarantee extension by 1 year  |        |        | GA1Q5  |        |        |        |        | GA2Q5  |
| USB-Ethernet adapter   |        |        |        | E06192 |        |        |        |        |
| Ethernet connection cable 5 m 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 (only for units with TwinDISPLAY)   |        |        |        | B33170 |        |        |        |        |
| USB stick with documentation software AtmoCONTROL and operation manual for products with SingleDISPLAY (the standard equipment of appliances with TwinDISPLAY includes one USB stick with AtmoCONTROL). When reordering please specify serial number   |        |        |        | B33172 |        |        |        |        |
| Set of height adjustable feet (4 pcs)  |        |        |        | B29768 |        |        |        | -      |
| Stacking set (4 pcs) for stacking of appliances of same size   |        |        | B29744 |        |        | -      |        |        |
| Plug-in tube extension (outer diam. 60.3 mm, inner 57 mm), straight, for exhaust air ducting (if necessary for connection by hose)   |        |        |        | B29718 |        |        |        |        |
| Plug-in tube extension (outer diam. 60.3 mm, inner 57 mm), angled, for exhaust air ducting (if necessary for connection by hose)   |        |        |        | B29719 |        |        |        |        |
| Flush-fit unit (stainless steel frame covering gap between oven and wall opening), with air slots  | B29728 | B29730 | B29732 | B29734 | B29736 | B29738 | B29740 | B29742 |
| Flush-fit unit (stainless steel frame covering gap between oven and wall opening), without air slots   | 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 |        | B29749 | B29751 | B29753 | -      |
| Subframe, on castors (size 30 to 75: height 660 mm, size 110 to 160: height 560 mm)  | B29746 |        | B29748 |        | B29750 |        |        | -      |
| Subframe, adjustable in height, height 130 mm, for example for units with fresh air filter   | B33657 |        | B33659 |        | B33661 | B33664 |        | -      |
| Software conforming to FDA AtmoCONTROL. 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). Base licence for the control of one unit (only for units with TwinDISPLAY). Respective IQ/OQ documents available in German and English language (without surcharge)  |        |        |        | FDAQ1  |        |        |        |        |
| Integration of one additional unit (up to max. 15 units) into an already existent FDA-software licence (only for units with TwinDISPLAY)   |        |        |        | FDAQ2  |        |        |        |        |
| IQ document with device-specific works test data, OQ/PQ check list as support for validation by customer   |        |        |        | D00124 |        |        |        |        |
| IQ/OQ document with device-specific works test data for one free-selectable temperature value, incl. temperature distribution survey at Memmert for 9 measuring points (size 30), 27 measuring points (sizes 55 - 1060) to DIN 12880:2007-05. PQ check list as support for validation by customer. Price for further temperature values and validation at customer site on demand (GER, AT, CH only) | D00125 |        |        |        | D00127 |        |        |        |



Vacuum oven VO with TwinDISPLAY  
AtmoCONTROL software

Model sizes:

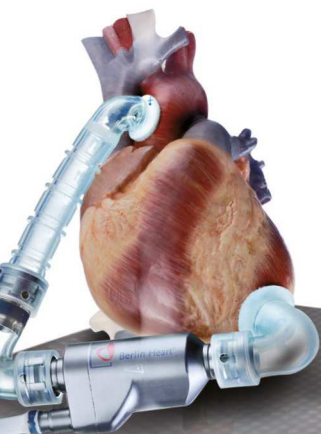
29 / 49 / 101

+20 °C to +200 °C

5 mbar to 1100 mbar

Accessories: lower pump chamber and  
energy-efficient vacuum pump

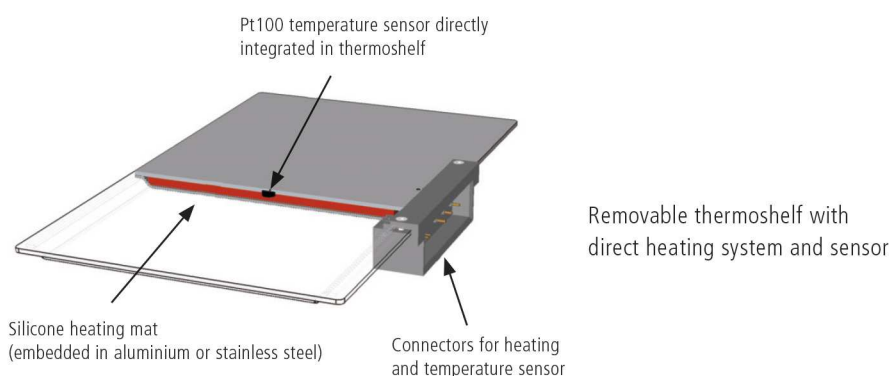
**VACUUM OVEN VO** The high-performance turbo dryer impresses with its many intelligent Memmert features for gentle drying and precise, rapid temperature control: digital pressure control, directly heated and individually controllable thermoshelves, and simple programming via ControlCOCKPIT or AtmoCONTROL software. Combined together, the speed-controlled vacuum pump and the vacuum oven VO are an unbeatable energy-efficient pairing. The pump fits neatly inside the matching lower chamber.





## Unique precision: Memmert VO direct heating

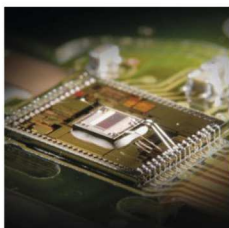
Available only from Memmert: multi-level sensing and heating. For really short heating-up and processing times, heating is provided via individually positionable thermoshelves with integrated shelf heating and sensors. The separate control circuits react precisely to different loads or humidity levels and ensure the setpoint temperature is consistently maintained. Due to the direct contact between the heating and the chamber load, there is practically no loss of heat. Each thermoshelf can be calibrated individually.



Multi-level sensing and heating

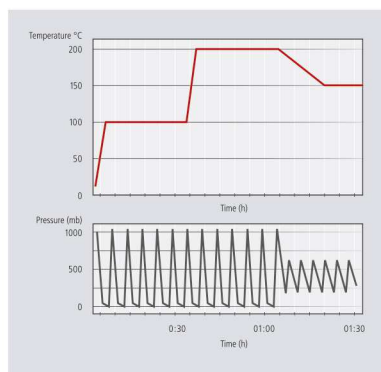
## Optional vacuum pump saves around 70 % energy

The speed-controlled chemically resistant Memmert vacuum pump is automatically detected by each vacuum oven VO. Thanks to intelligent speed control, it controls the setpoint with great precision. The energy efficiency is also obvious, with measurements showing energy savings of around 70 % in ramp mode compared with vacuum pumps that are not controlled; it is even possible to achieve higher savings at constant vacuum levels. The final vacuum level of up to 2 mbar favours a wide range of applications, while pump control (based on individual requirements) significantly extends the service life of membranes. If another vacuum pump or a central vacuum supply is connected, vacuum control is achieved via solenoid valves.



## Turbo drying thanks to vacuum cycles

Digitally controlled vacuum cycles, during which the working chamber is intermittently vented at short intervals, can achieve further significant reductions in drying times. The AtmoCONTROL software makes it quick and easy to program ramps with different temperature and vacuum setpoints.



Example of ramp programming

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## Convenience in a package: the Premium Module

The basic version of the vacuum oven VO features a thermoshelf and two thermoshelf connectors (VO29: 1 thermoshelf connector). The Premium Module includes the option for switching to inert gas, a programmable, digitally controlled gas inlet with flow reduction; there is also the MobileALERT option with separate error messages for temperature and pressure as well as (depending on the appliance size) additional thermoshelves and thermoshelf connectors (see the technical data for details).

## VACUUM OVENS VO

according to DIN 12880:2007-05, EN 61010-1 (IEC 61010-1)

Standard units are safety-approved and bear the test marks:



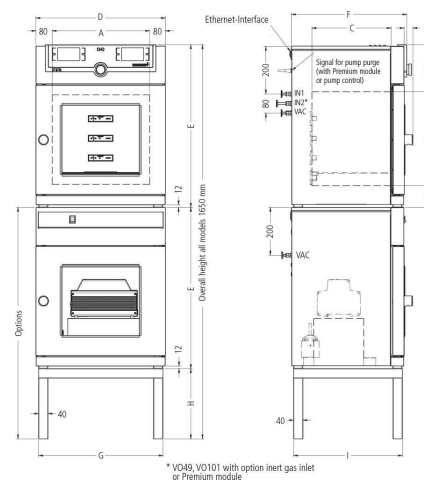
**Interior:** Stainless steel interior, material 1.4404 (ASTM 316 L), hermetically welded, with removable mountings at the sides for cleaning, including thermoshelf guide bars, as well as mounting on top to avoid turbulences

**Housing:** Textured stainless steel, rear zinc-plated steel, intuitively operated TwinDISPLAY (TFT colour displays) with touchscreen, safety glass door with inner bullet-proof glass and external anti-splinter screen

**Connection:** Mains cable with plug (German type)

**Installation:** 4 feet

**Interfaces:** USB Ethernet  
 



| Model sizes/Description           |  |            | 29   | 49              | 101             |
|-----------------------------------|--|------------|--|-----------------|-----------------|
| Stainless steel interior          | Volume   | approx. l  | 29   | 49              | 101             |
|                                   | Width  | (A) mm     | 385  |                 | 545             |
|                                   | Height   | (B) mm     | 305  | 385             | 465             |
|                                   | Depth  | (C) mm     | 250  | 330             | 400             |
|                                   | Distance between thermoshelves   | mm         | 75   |                 | 95              |
|                                   | Maximum load per oven  | approx. kg | 40   | 60              |                 |
|                                   | Max. number of thermoshelves   | number     | 1  | 2               |                 |
|                                   | Max. number of thermoshelves (with premium module)   | number     | 2  | 4               |                 |
| Max. loading per thermoshelf      | kg   | 20         |  |                 |                 |
| Textured stainless steel exterior | Width  | (D) mm     | 550  |                 | 710             |
|                                   | Height   | (E) mm     | 607  | 687             | 767             |
|                                   | 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   |            |  | ●               |                 |
| Standard equipment                | 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 20 mbar pressure): a separate certificate is prepared for each thermoshelf ordered and shipped together with the vacuum oven   | °C         | ●  |                 |                 |
| Temperature                       | Temperature sensors Pt100 Class A in 4-wire circuit individually for each thermoshelf  |            | ●  |                 |                 |
|                                   | Working temperature range  | °C         | at least 5 above ambient temperature to +200 |                 |                 |
|                                   | Setting temperature range  | °C         | +20 to +200                                  |                 |                 |
|                                   | Setting accuracy   | °C         | 0.1 for setpoint and actual value            |                 |                 |
|                                   | Temperature variation in time (to DIN 12880:2007-05) (aluminium thermoshelf)   | K          | ≤ ± 0.3                                      |                 |                 |
|                                   | Temperature uniformity (surface) at +160 °C/20 mbar (aluminium thermoshelf)  | K          | ≤ ± 2  |                 |                 |
| Pressure (vacuum)                 | Vacuum connection with small flange DN16, and gas inlet with small flange DN 16  |            | ●  |                 |                 |
|                                   | Digital electronic pressure control for a speed-controlled vacuum pump. Tubing for vacuum, air and inert gas are made of material 1.4571 (ASTM 316 Ti). Adjustable from 5 mbar up to 1100 mbar. Programmable, digitally controlled inlet for air                               |            | ●  |                 |                 |
|                                   | Pump control: optimised rinsing procedures for the pump membranes as well as signal output for pump ON/OFF   |            | ●  |                 |                 |
|                                   | 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   |                 |                 |
| Control technology                | Digital over- and undertemperature monitor   |            | ●  |                 |                 |
|                                   | Temperature monitoring band automatically linked to the setpoint (ASF)   |            | ●  |                 |                 |
|                                   | Monitor relay for reliable heating cut-off in case of fault  |            | ●  |                 |                 |
|                                   | Mechanical temperature limiter (TB)  |            | ●  |                 |                 |
|                                   | Multi-Level-Overtemperature-Protection (MLOP) for each thermoshelf   |            | ●  |                 |                 |
| Further data                      | Subframe tubular steel (extra cost), black enamelled (for stacking unit consisting of vacuum oven and pump module, total height: 1650 mm, see sketch of oven dimensions G/H/I) Width/Height/Depth  | mm         | 529/450/<br>383                              | 529/290/<br>463 | 689/130/<br>533 |

| Model sizes/Description |   |            | 29          | 49    | 101          |
|-------------------------|---|------------|-------------|-------|--------------|
| Further data            | Electrical load (maximally equipped) at 230 V, 50/60 Hz       | approx. W  | 820         | 2020  | 2420         |
| Packing data            | Net weight vacuum oven  | approx. kg | 55          | 83    | 110          |
|                         | Gross weight vacuum oven (packed in carton)                   | approx. kg | 76          | 104   | 135          |
|                         | Packed dimensions Vacuum oven (Width, Height, Depth)          | approx. mm | 660/870/590 |       | 830/1050/800 |
|                         | Net weight pump module without/with pump                      | approx. kg | 25/41       | 30/46 | 41/57        |
|                         | Gross weight pump module without/with pump (packed in carton) | approx. kg | 46/62       | 51/67 | 66/82        |
|                         | Packed dimensions pump module (Width, Height, Depth)          | approx. mm | 660/870/590 |       | 830/1050/800 |
| Order No. Vacuum Ovens  |   |            | VO29        | VO49  | VO101        |

| Options  |   | 29 | 49     | 101 |
|--|---|----|--------|-----|
| Premium module: comprises the inert gas inlet (only size 49 and 101), extra connectors for thermoshelves, 1 (size 29), 2 (sizes 49/101), an additional thermoshelf (sizes 49/101)  |   |    | T5     |     |
| 4 - 20 mA current loop interface (only with option T5)   | Temperature actual value (0 to 210 °C = 4 - 20 mA)  | -  | V3     |     |
|  | Vacuum actual value (0 bis 1200 mbar = 4 - 20 mA)   | -  | W2     |     |
|  | Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring - price per sensor |    | V6     |     |
| Freely positioned control sensor, MIN and MAX alarm adjustable at ControlCOCKPIT, alarm values captured in internal data logger. Requires option T5  |   | -  | H9     |     |
| Potential-free contact (24 V/2 A) with socket, according to NAMUR NE 28 for combination error message (e.g. supply failure, sensor fault, fuse)  |   |    | H6     |     |
| 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     |     |
| Potential-free contact (24 V/2 A) with socket, according to NAMUR NE 28, 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.) |   |    | H7     |     |
| MobileALERT, notification by SMS in case of any error or alarm of the device. Requires option H6   |   |    | C3     |     |
| MobileALERT for 2 alarm notifications; temperature and vacuum alarm (only with option T5)  |   | -  | C4     |     |
| Temperature restriction; Temperatures: +60, +70, +80, +95, +100, +120, +160 or +180 °C (Please, indicate upon ordering)  |   |    | A8     |     |
| Works calibration certificate for one (freely selectable) temperature and pressure value (per thermoshelf) according to customer specification   |   |    | D00116 |     |

| Accessories  |  | 29     | 49     | 101    |
|--|--|--------|--------|--------|
| Additional thermoshelf - 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 | B00743 | B00744 |
| Additional thermoshelf - 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 |
| Subframe, tubular steel, black enamelled (for stacking unit consisting of vacuum oven and pump module, total height: 1650 mm, see "further data" and sketch of oven dimensions)  |  | E02030 | E02031 | E02037 |
| Works calibration certificate for 3 temperatures: +50 °C, +100 °C, +160 °C at 20 mbar pressure. Price per thermoshelf  |  |        | D00115 |        |
| Guarantee extension by 1 year  |  |        | 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   |  | PM29   | PM49   | PM101  |
| Noise-insulated vacuum pump module, as above, however with built-in pump, 230 V, 50/60 Hz  |  | PMP29  | PMP49  | PMP101 |
| Signal cable (3 m) for control of rotation speed and optimising pump performance by demand-controlled activation of purge of Memmert pump (not required with pump module)  |  |        | B39410 |        |
| Vacuum connecting hose (3 m) from oven to Memmert pump incl. optimised connection accessories (partially stainless steel), (not required with pump module)   |  |        | B04026 |        |
| Vacuum pump with chemically resistant 4x diaphragm, pump capacity at atm. pressures: approx. 50 NI./min = 3,0 m³/h and autom. purge control. Order No. B39410 and B04026 necessary. 230 V, 50 Hz. Max. guarantee period 2 years  |  |        | E07509 |        |
| USB-Ethernet adapter   |  |        | E06192 |        |
| Ethernet connection cable 5 m 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   |  |        | B33170 |        |
| FDA conforming software AtmoCONTROL (FDA edition). 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). Base licence for the control of one unit. Respective IQ/OQ documents available in German and English language (without surcharge)   |  |        | FDAQ1  |        |
| Integration of additional units (up to max. 15 units) into an already existent FDA-software licence  |  |        | FDAQ2  |        |
| IQ document with device-specific works test data, OQ/PQ check list as support for validation by customer   |  |        | D00124 |        |
| IQ/OQ document with device-specific works test data for one free-selectable temperature and vacuum value, incl. temperature distribution survey at Memmert for 5 measuring points per thermoshelf to DIN 12880:2007-05. PQ check list as support for validation by customer valid for one thermoshelf; dito further thermoshelves, price on demand. Price for validation at customer site on demand (GER, AT, CH only) |  |        | D00117 |        |



Blanket warmer IFbw with SingleDISPLAY  
Forced ventilation  
AtmoCONTROL software

Model sizes:  
110 / 260 / 450 / 750  
+20 °C to +80 °C

**BLANKET WARMER IFbw** In this special blanket warmer IFbw, blankets and cloths preheated to a precise temperature to keep patients warm are always close at hand. This minimises the risk of complications such as wound infections, cardiovascular disorders, cardiac arrhythmia or vascular disorders. The blanket warmer IFbw is a Class I medical device in accordance with EU Directive 93/42/EEC. Thanks to its stainless steel inside and outside surfaces, it is easy to clean.



## Elaborate safety functions

The Memmert blanket warmer IFbw has an impressive range of built-in safety features:

- The heating power is limited to 80 °C to prevent overheating the cotton fabrics if the chamber is overloaded
- Hermetically sealed interior
- Permanent air circulation
- Constant surface temperature monitoring with two additional Pt100 sensors
- Automatic door-open-recognition ensures that the heating and fan are turned off when the door is opened
- The power supply is cut by mechanical temperature limiters as soon as the temperature reaches 85 °C

## Temperature monitoring inside the chamber

Three Pt100 sensors monitor and limit the temperature in the chamber. The two surface sensors have been built into the appliance in such way that they retain full functionality even if the chamber is fully loaded.



### **The blanket warmer IFbw is a medical device:**

Memmert blanket warmers IFbw are a Class I medical device in accordance with the EU Directive 93/42/EEC. According to the intended purpose, Memmert blanket warmers are suitable for warming non-sterile blankets and cloths.



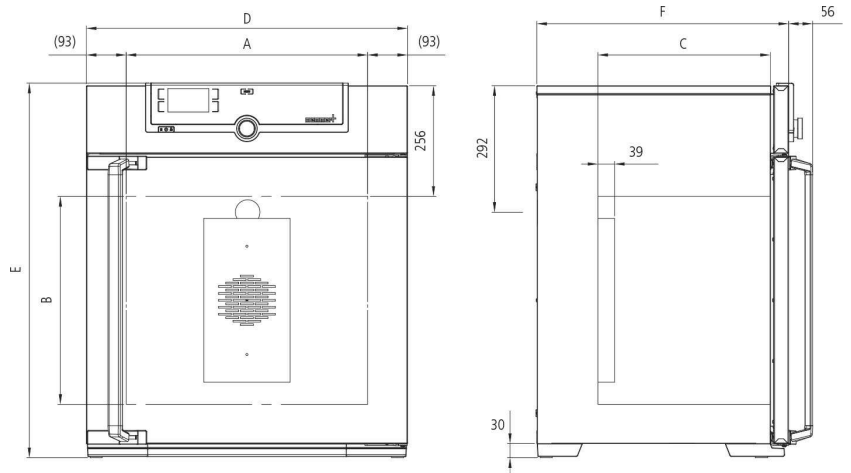
## BLANKET WARMERS IFbw

according to DIN 12880:2007-05, EN 61010-1 (IEC 61010-1), EN 61010-2-010

Standard units are safety-approved and bear the test marks:



- Interior:** Stainless steel, material 1.4301 (ASTM 304) with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath
- Housing:** Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY (TFT colour display) with touchscreen; outside fully insulated stainless steel door (from size 450 two leaves)
- Connection:** Mains cable with plug (German type)
- Installation:** 4 feet; size 450 and 750 mounted on lockable castors
- Interfaces:**



| Model sizes/Description           |  |            | 110   | 260     | 450     | 750     |
|-----------------------------------|--|------------|---|---------|---------|---------|
| Stainless steel interior          | Volume   | approx. l  | 108   | 256     | 449     | 749     |
|                                   | Width  | (A) mm     | 560   | 640     | 1040    |         |
|                                   | Height   | (B) mm     | 480   | 800     | 720     | 1200    |
|                                   | Depth (less 39 mm for fan)                                     | (C) mm     | 400   | 500     | 600     |         |
|                                   | Max. number of grids/shelves                                   | number     | 5   | 9       | 8       | 14      |
|                                   | Max. loading per grid/shelf                                    | kg         | 20  |         | 30      |         |
|                                   | Max. loading of chamber  | kg         | 175   | 300     |         |         |
| Textured stainless steel exterior | Width  | (D) mm     | 745   | 824     | 1224    |         |
|                                   | Height (size 450, 750 with castors)                            | (E) mm     | 864   | 1183    | 1247    | 1726    |
|                                   | Depth (without door handle), door handle + 56mm                | (F) mm     | 584   | 684     | 784     |         |
| Standard equipment                | Stainless steel grids, electropolished                         | number     | 2   |         |         |         |
|                                   | Forced convection fix at 100%                                  |            | ●   |         |         |         |
|                                   | Works calibration certificate (measuring point chamber centre) | °C         | +37   |         |         |         |
|                                   | Door-open-recognition  |            | ●   |         |         |         |
| Temperature                       | Working temperature range                                      | °C         | min. 10 above ambient temperature up to +80 |         |         |         |
|                                   | Setting temperature range                                      | °C         | +20 to +80                                  |         |         |         |
|                                   | Setting accuracy   | °C         | 0.1   |         |         |         |
| Further data                      | Electrical load at 230 V, 50/60 Hz                             | approx. W  | 1400  | 1700    | 1800    | 2000    |
|                                   | Electrical load at 115 V, 50/60 Hz                             | approx. W  | 900   |         | 1500    | 1800    |
| Packing data                      | Net weight   | approx. kg | 74  | 110     | 161     | 217     |
|                                   | Gross weight (packed in carton)                                | approx. kg | 99  | 161     | 227     | 288     |
|                                   | Width  | approx. mm | 830   | 930     | 1330    |         |
|                                   | Height   | approx. mm | 1050  | 1380    | 1440    | 1910    |
|                                   | Depth  | approx. mm | 800   | 930     | 1050    |         |
| Order No. Blanket warmers         |  |            |   |         |         |         |
| I = Incubator                     |  |            |   |         |         |         |
| F = Forced convection             |  |            |   |         |         |         |
| bw = blanket warmer               |  |            |   |         |         |         |
|                                   |  |            | IF110bw                                     | IF260bw | IF450bw | IF750bw |

| Options   | 110 | 260 | 450    | 750 |
|---|-----|-----|--------|-----|
| Full-sight glass door (4-layer insulating glass)  |     |     | B0     |     |
| 4 - 20 mA current loop interface (0 to +90 °C = 4 - 20 mA) Temperature controller, actual value   |     |     | V3     |     |
| Works calibration certificate for one (freely selectable) temperature value according to customer specification   |     |     | D00109 |     |
| Door with lock and key (safety lock)  |     |     | B6     |     |
| Door hinged on the left   | B8  |     | -      |     |
| Potential-free contact (24 V/2 A) with socket, according 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     |     |
| 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     |     |
| MobileALERT, notification by SMS in case of any error or alarm of the device. Requires option H6  |     |     | C3     |     |
| Castor frame (2-part), height 140 mm  | R9  |     | -      |     |

| Accessories  | 110    | 260    | 450    | 750    |
|--|--------|--------|--------|--------|
| Stainless steel grid, electropolished  | E20165 | E28891 | E20182 |        |
| Perforated stainless steel shelf   | B00325 | B29725 | B00328 |        |
| Wall bracket for wall mounting   | B29758 |        | -      |        |
| Guarantee extension by 1 year  | GA1Q5  |        | GA2Q5  |        |
| USB-Ethernet adapter   |        |        | E06192 |        |
| Ethernet connection cable 5 m for computer interface   |        |        | E06189 |        |
| USB stick with documentation software AtmoCONTROL and operation manual. When reordering please specify serial number   |        |        | B33172 |        |
| Stacking set (4 pcs) for stacking of appliances of same size   | B29744 |        | -      |        |
| Flush-fit unit (stainless steel frame covering gap between oven and wall opening), with air slots  | B29734 | B29738 | B29740 | B29742 |
| Flush-fit unit (stainless steel frame covering gap between oven and wall opening), without air slots   | B29735 | B29739 | B29741 | B29743 |
| Subframe, adjustable in height (height 500 mm)   | B29749 | B29751 | B29753 | -      |
| Subframe, on castors (height 560 mm)   | B29750 |        | -      |        |
| Subframe, adjustable in height, height 130 mm, for example for units with fresh air filter   | B33661 | B33664 | -      |        |
| IQ document with device-specific works test data, OQ/PQ check list as support for validation by customer   |        |        | D00124 |        |
| IQ/OQ document with device-specific works test data for one free-selectable temperature value, incl. temperature distribution survey at Memmert for 27 measuring points to DIN 12880:2007-05. PQ check list as support for validation by customer. Price for further temperature values and validation at customer site on demand (GER, AT, CH only) |        |        | D00127 |        |

## MODEL VARIANTS

| SingleDISPLAY<br>ControlCOCKPIT with one TFT display   | TwinDISPLAY<br>ControlCOCKPIT with two TFT displays   |
|--|---|
| <b>AVAILABLE APPLIANCES</b><br>UN/UNm / UF/UFm / IN/INm / IF/IFm / IFbw / SN / SF / IPP / IPS  | <b>AVAILABLE APPLIANCES</b><br>UNplus/UNmplus / UFplus/UFmplus / UF TS / UNpa<br>INplus/INmplus / IFplus/IFmplus / SNplus / SFplus / VO<br>ICOMed / IPPplus / ICPeco / ICP / HPP / ICHeco / ICH / HCP   |
| 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 <sub>2</sub>   |
| 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 and also for all other parameters such as relative humidity, CO <sub>2</sub> |
| PID microprocessor control with integrated auto-diagnostic system  |   |
| Structured stainless steel housing, scratch-resistant, robust and durable; rear of zinc-plated steel   |   |
| 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, Polish, Czech, Hungarian language settings available on the ControlCOCKPIT   |   |
| Digital backwards counter with target time setting, adjustable from 1 minute to 99 days  |   |
| 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   |   |

## SOFTWARE AtmoCONTROL

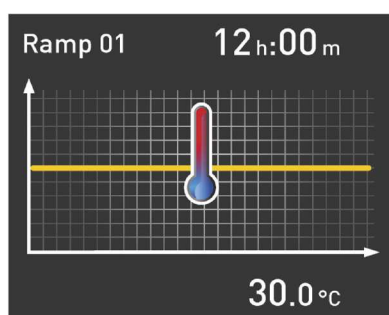
### AtmoCONTROL

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.

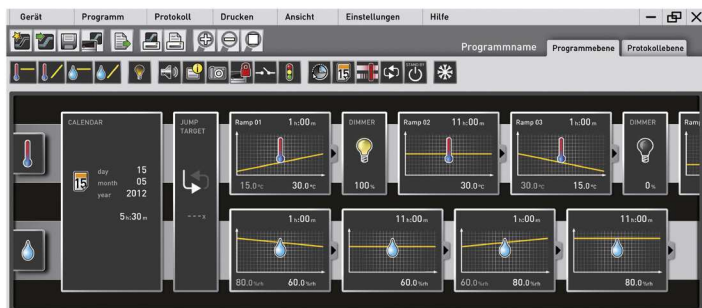


### Programme functions for appliances with SingleDISPLAY and TwinDISPLAY

- 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 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 interface or USB port



## Customisation department as a “development assistant”



## Customisation department

Memmert myAtmoSAFE meets any specific customer demand.

The customisation department adapts standard appliances to special needs. Their solutions are economic as well as technologically advanced and customers profit from the full guarantee period. Some customer-specific development projects, like the cooled vacuum oven VOcool or the climate chamber for keeping mice HPPLife even made their way into the standard product range.

If users want to make sure they chose the right appliance offering the right suit of parameters and functions, they can have their application tested in advance in the Memmert MPTC Test Centre.

### Customer-specific adjustment of standard models:

- Feed-throughs and ducts
- Special fittings for special applications (e.g. weighing equipment)
- Limiting temperatures in the heating and cooling range
- Air exchange rates
- Relative humidity
- Light intensity and spectrum
- (Wall) Frames
- Telescopic trays
- Heavy duty appliances, heavy duty bottom grids
- Special bases, stacking frames
- Central or integrated water supply
- Special model sizes
- Appliances for integration in the production lines

## 24 HOURS AT YOUR SERVICE

[www.memmert.com](http://www.memmert.com)

Here you can find the latest news concerning our company and products, as well as detailed descriptions of every single product. Additional information on the technologies used will support your sales arguments. In addition to this, data sheets, certificates, operating instructions and brochures are available for download. Service notifications can be submitted to our service team using the corresponding form.

### Dedicated login area for our trading partners

- Technical information:  
Service instructions, software download, wiring diagrams, maintenance schedules etc.
  - Marketing/sales information:  
Press releases, product photos, image photos, videos, order form for advertising material etc.
  - Download of price list and spare parts price list
  - Dates and registration form for sales and service trainings
- 

[www.atmosafe.net](http://www.atmosafe.net)

The Memmert expert platform AtmoSAFE.net contains application examples for our temperature control appliances in the fields of life science, medicine, automotive, electronics, pharmaceuticals, food, material testing and industry. In addition to this, general topics concerning research and industry are dealt with.

Applications: Incubating and breeding, drying under vacuum, heat drying, degassing under vacuum, determination of water and dry content, material testing, sample storage, conditioning, sterilisation, climate testing, stability and storage tests.

#### Our tip:

.....  
Please consider the Memmert customer information, which we regularly send exclusively to our trading partners. We inform you about campaigns, upcoming product launches, service offers and new application reports!

## PERSONAL NOTES





**memmert**  
Experts in Thermostatics



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YOUR MEMMERT PARTNER



#### HEATING AND DRYING OVENS

UNIVERSAL OVEN U

PASS-THROUGH OVEN UF TS

PARAFFIN OVEN UNpa

STERILISER S

VACUUM OVEN VO

BLANKET WARMER IFbw

#### INCUBATORS

INCUBATOR I

CO<sub>2</sub> INCUBATOR ICOfed

COMPRESSOR-COOLED INCUBATOR ICPeco/ICP

PELTIER-COOLED INCUBATOR IPP

COOLED STORAGE INCUBATOR IPS

#### CLIMATE CHAMBERS

CONSTANT CLIMATE CHAMBER HPP

HUMIDITY CHAMBER HCP

CLIMATE CHAMBER ICHeco/ICH

ENVIRONMENTAL TEST CHAMBER CTC/TTC

#### WATERBATHS / OILBATHS

WATERBATH W

OILBATH O

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