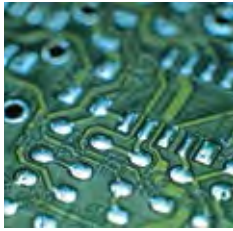

TECHLAB SYSTEMS



Heating and drying ovens

COMMUNICATION. COMFORT. SIMPLY GREAT.





Simply boundless. Boundlessly simple.

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

From very small to very large! 32 litres or 1060 litres chamber volume? Standard applications or high demand for functionality, programming and documentation? In any case, all Memmert heating and drying ovens feature user-friendliness and state-of-the-art communication interfaces as a basic. Each individual appliance complies with the strict requirements of DIN 12880:2007-05 and is equipped with a maximum of safety functions. Each individual Memmert heating and drying oven is 100% AtmoSAFE.

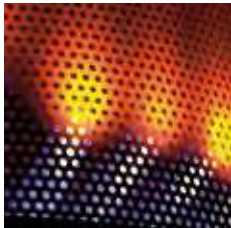


Universal Oven UN and UF with SingleDISPLAY
Universal Oven UNplus and UFplus with TwinDISPLAY
Natural convection or forced ventilation
AtmoCONTROL software

Model sizes:

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

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



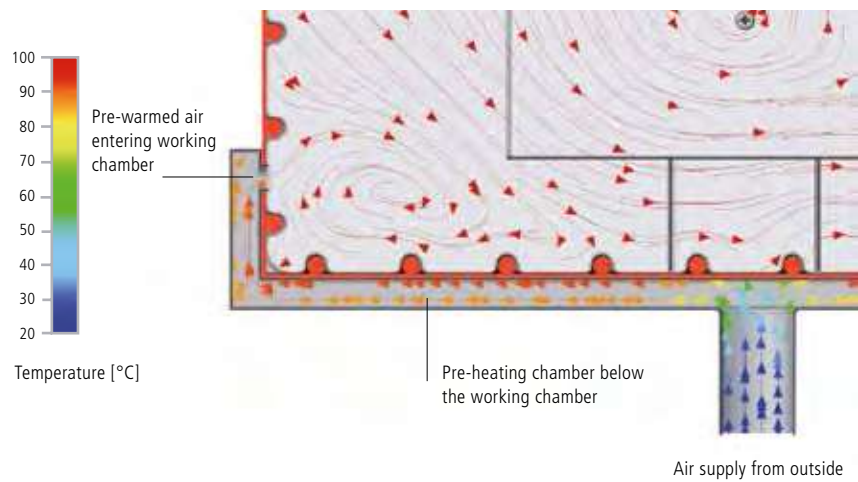
Defined and programme-controlled fan speed

Air exchange rates and air flap position can be controlled electronically at the ControlCOCKPIT. More inlet and outlet openings lead to a higher air exchange and reduced drying times. Various applications recommend or even require controlled ventilation. When drying powder, sand or corn, reducing the ventilation prevents undesired swirls.

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

Fresh air is preheated

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



Intended purpose as a medical device:

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



UNIVERSAL OVENS U

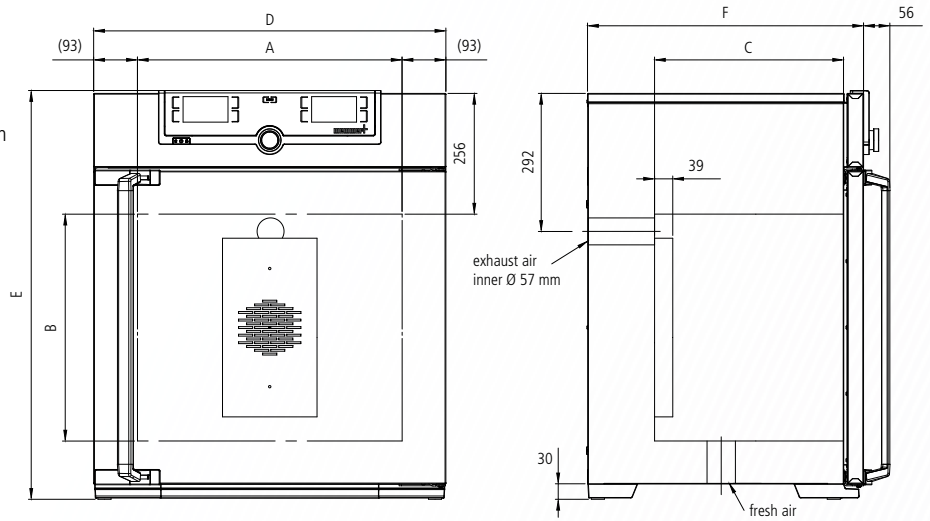
according to DIN 12880:2007-05, EN 61010-1 (IEC 61010-1), 61010-2-010
 Standard units are safety-approved and bear the test marks:



Standard equipment

- Interior:** Stainless steel, material 1.4301 (ASTM 304), with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath
- Internals:** Stainless steel grids (sizes 30, 55 and 1060: 1 grid, sizes 75 – 750: 2 grids)
- Housing:** Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY or TwinDISPLAY (TFT colour display) with touchscreen (from size 450 two leaves)
- Fresh air:** Admixture of pre-heated fresh air by electronically adjustable air flap
- Connection:** Mains cable with plug (German type) CEE plug for 400 V
- Installation:** 4 feet; sizes 450, 750 and 1060 mounted on lockable castors

- Interfaces:**
 - Ethernet
 - 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 | 400 | 400 | 560 | 560 | 640 | 1040 | 1040 | 1040 | |
| | Height (B) | mm | 320 | 400 | 560 | 480 | 720 | 800 | 720 | 1200 | 1200 | |
| | Depth (less 39 mm for fan) (C) | mm | 250 | 330 | 330 | 400 | 400 | 500 | 600 | 600 | 850 | |
| | Stainless steel grids (standard equipment) | number | 1 | | | 2 | | | | | 1 | |
| | Max. number of grids/shelves | number | 3 | 4 | 6 | 5 | 8 | 9 | 8 | 14 | 14 | |
| | Max. loading per grid/shelf | kg | 20 | | | | | | | 30 | | 60 |
| | Max. loading of chamber | kg | 60 | 80 | 120 | 175 | 210 | 300 | | | | |
| Textured stainless steel exterior | Width (D) | mm | 585 | 585 | 585 | 745 | 745 | 824 | 1224 | 1224 | 1224 | |
| | Height (size 450, 750, 1060 with castors) (E) | mm | 704 | 784 | 944 | 864 | 1104 | 1183 | 1247 | 1726 | 1726 | |
| | Depth (without door handle), door handle + 56 mm (F) | mm | 434 | 514 | 514 | 584 | 584 | 684 | 784 | 784 | 1035 | |
| 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 | | |
| | Working-temperature range | °C | at least 5 (UN/UNplus) at least 10 (UF/UFplus) 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 | | | | | | | | | |
| Packing data | Net weight | approx. kg | 45 | 57 | 66 | 74 | 96 | 110 | 161 | 217 | 252 | |
| | Gross weight (packed in carton) | approx. kg | 61 | 76 | 85 | 99 | 122 | 161 | 227 | 288 | 416 | |
| | Width | approx. cm | 66 | 73 | 73 | 83 | 83 | 93 | 133 | 133 | 137 | |
| | Height | approx. cm | 89 | 95 | 113 | 105 | 130 | 138 | 144 | 191 | 197 | |
| | Depth | approx. cm | 65 | 67 | 67 | 80 | 80 | 93 | 105 | 105 | 130 | |
| Order No. Universal Ovens U = Universal Oven N = Natural convection F = Forced air circulation plus = Model with TwinDISPLAY | | | UN30 | UN55 | UN75 | UN110 | UN160 | UN260 | UN450 | UN750 | – | |
| | | | UN30plus | UN55plus | UN75plus | UN110plus | UN160plus | UN260plus | UN450plus | UN750plus | – | |
| | | | UF30 | UF55 | UF75 | UF110 | UF160 | UF260 | UF450 | UF750 | UF1060 | |
| | | | UF30plus | UF55plus | UF75plus | UF110plus | UF160plus | UF260plus | UF450plus | UF750plus | UF1060plus | |

| Options | 30 | 55 | 75 | 110 | 160 | 260 | 450 | 750 | 1060 | |
|---|----|----|----|-----|-----|----------------------|-----|-----|------|--|
| Voltage 115 V, 50/60 Hz | X2 | | | | | | – | | | |
| Extended overtemperature protection by additionally integrated Pt100 sensor for independent temperature monitoring for models UN/UF | | | | | | A6 | | | | |
| Full-sight glass door (4-layer insulating glass) – temperature-range up to max. 250 °C | | | | | | B0 | | | | |
| Chamber modification for the application of reinforced perforated stainless steel shelves or stainless steel grids (bearing rails mounted in the working chamber) – includes replacement of 2 standard grids by 2 reinforced grids | | | | | | – | K1 | – | | |
| Fresh-air filter (filtration efficiency 80 %) mounted at the bottom (for UF/UFplus) (for sizes 30 – 260 castor frame or subframe necessary – see page 29) | | | | | | R8 | | | | |
| Interior lighting for observing the load | | | | | | R0 | | | | |
| Interior socket (can only be ordered with limited temperature-range – max. +70 °C) current carrying ampacity 230 V, 2.2 A can be switched off with the On/Off switch, cannot be switched individually (option A8 necessary – see page 28) | | | | | | R3 | | | | |
| Interior nearly gastight | | | | | | K2 | | | | |
| Ditto, with possibility for gas inlet/outlet through 2 tubes with ball valves | | | | | | K3 | | | | |
| Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap, standard positions | | | | | | F0 F1 F2 F3 | | | | |
| Entry port, 23 mm clear diameter, for introducing connections, can be closed by flap in special positions (please, state location) | | | | | | F4 F5 F6 | | | | |
| Entry port, 14 mm clear diameter, can be closed by flap, in special positions at the back (please, state location) | | | | | | D6 | | | | |
| Entry port, 38 mm clear diameter, can be closed by flap, in special positions at the back (please, state location) | | | | | | F7 | | | | |
| Entry port, 57 mm clear diameter, can be closed by flap, in special positions at the back (please, state location) | | | | | | F8 | | | | |
| Entry port, 100 mm clear diameter, can be closed by flap, in special positions at the back (please, state location) | | | | | | F9 | | | | |
| 4 – 20 mA current loop interface (0 to +310 °C \pm 4 – 20 mA) Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring (max. 1 SingleDISPLAY, max. 3 TwinDISPLAY) | | | | | | V3 V6 | | | | |
| Fan speed monitoring with switching off the heating and with alarm in case of failure – optional for UFplus only | | | | | | V4 | | | | |
| Works calibration certificate for 3 temperatures: +100 °C, +160 °C, +220 °C Standard works calibration certificate (measuring point chamber centre) at +160 °C | | | | | | D00128 | | | | |

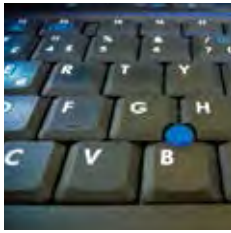
| Accessories | 30 | 55 | 75 | 110 | 160 | 260 | 450 | 750 | 1060 |
|--|--------|--------|--------|--------|--------|--------|--------|-----|------|
| Stainless steel grid (standard equipment) | E28884 | E20164 | | E20165 | E28891 | E20182 | B32550 | | |
| Additional reinforced stainless steel grid, max. loading 60 kg; from size 450 with guide bars and fixing screws (only in connection with option K1). Please consider max. loading of chamber | | – | | E29767 | E29766 | B32190 | – | | |
| 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 | | |
| Max. loading per slide-in drip tray (kg) | | 1.5 | | 3 | 4 | 8 | | | |
| Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (can be used only in connection with option K1) | | | – | | | 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 | | |
| Max. loading per bottom drip tray (kg) | | 1.5 | | 3 | 4 | 8 | | | |
| 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 | | |



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

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

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



High feed-through thanks to in-line capability

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



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



Customer-specific solutions myAtmoSAFE

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



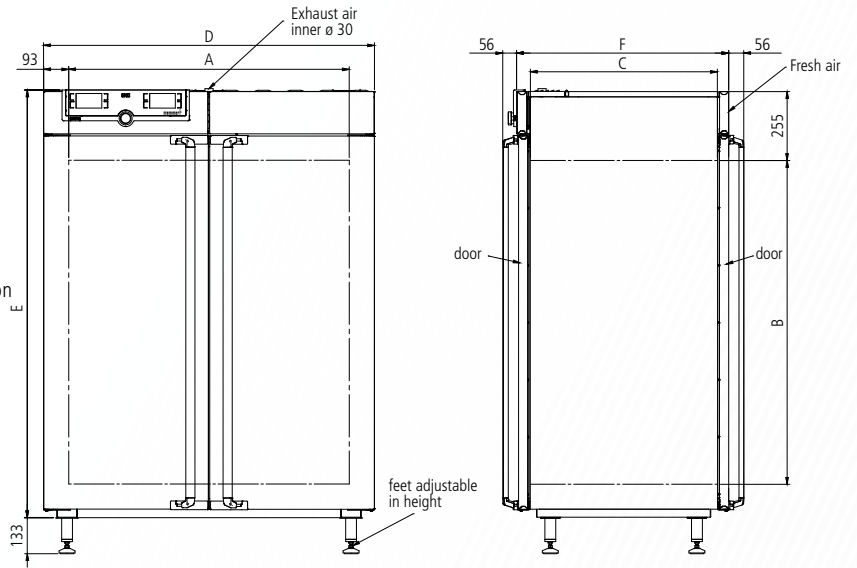
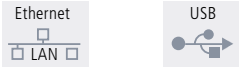
PASS-THROUGH OVENS UF TS

according to DIN 12880:2007-05



Standard equipment

- Interior: Stainless steel, mat. 1.4301 (ASTM 304), with all-round deep-drawn ribs to integrate the large-area heating with ceramic-metal sheath
- Internals: 2 stainless steel grids
- 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



| Model sizes/Description | | | 160 | 260 | 450 | 750 |
|-----------------------------------|--|------------|---|------|------|------|
| Stainless steel interior | Volume | approx. l | 161 | 256 | 449 | 749 |
| | Width | (A) mm | 560 | 640 | 1040 | 1040 |
| | Height | (B) mm | 720 | 800 | 720 | 1200 |
| | Depth | (C) mm | 400 | 500 | 600 | 600 |
| | Stainless steel grids (standard equipment) | number | 2 | | | |
| | Max. number of grids/shelves | number | 8 | 9 | 8 | 14 |
| | Max. loading per grid/shelf | kg | 20 | | 30 | |
| Max. loading of chamber | kg | 210 | 300 | | | |
| Textured stainless steel exterior | Width | (D) mm | 745 | 824 | 1224 | 1224 |
| | Height | (E) mm | 1104 | 1183 | 1247 | 1726 |
| | Depth (without door handle, depth of handle 2 x 56 mm) | (F) mm | 584 | 684 | 784 | 784 |
| Further data | Electrical load at 230 V, 50/60 Hz | approx. W | 3200 | 3400 | - | |
| | Electrical load at 115 V, 50/60 Hz | approx. W | 1800 | | - | |
| | Electrical load at 400 V and 3 x 230 V w/o neutral, 50/60 Hz | approx. W | - | | 5800 | 7000 |
| | Working-temperature range | °C | at least 10 above ambient temperature to +300 | | | |
| | Setting temperature range | °C | +20 to +300 | | | |
| | Setting accuracy | °C | up to 99.9: 0.1 / from 100: 0.5 | | | |
| Packing data | Net weight | approx. kg | 120 | 138 | 213 | 260 |
| | Gross weight (packed in carton) | approx. kg | 146 | 189 | 279 | 331 |
| | Width | approx. cm | 83 | 93 | 133 | 133 |
| | Height | approx. cm | 130 | 138 | 145 | 192 |
| | Depth | approx. cm | 80 | 93 | 105 | 105 |

Order No. Pass-Through Ovens

UF160TS UF260TS UF450TS UF750TS

| Optionen | 160 | 260 | 450 | 750 |
|--|--|-----|----------|----------------------|
| Voltage 115 V, 50/60 Hz | X2 | | – | |
| Extended overtemperature protection by additionally integrated Pt100 sensor for independent temperature monitoring | | | A6 | |
| Full-sight glass door (4-layer insulating glass) – 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 2 standard grids by 2 reinforced grids | | | K1 | |
| Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap, standard positions | left centre/centre left centre top right centre/centre right centre top | | | F0 F1 F2 F3 |
| Entry port, 23 mm clear diameter for introducing connections at the side, can be closed by flap, in special positions (please, state location) | left right | | | F4 F5 |
| Process-dependent electromagnetic door lock (both sides) | | | D4 | |
| Locking mechanism to prevent simultaneous opening of doors for contamination protection in case of wall installation | | | D5 | |
| 4 – 20 mA current loop interface (0 to +310 °C \pm 4 – 20 mA) | | | V3 V6 | |
| Temperature controller actual value Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring (max. 1 SingleDISPLAY, max. 3 TwinDISPLAY) – price per sensor | | | | |
| Fan speed monitoring with switching off the heating and with alarm in case of failure | | | V4 | |
| Works calibration certificate for 3 temperatures: +100 °C, +160 °C, +220 °C Standard works calibration certificate (measuring point chamber centre) at +160 °C | | | D00128 | |

| Accessories | 160 | 260 | 450 | 750 |
|--|--------|--------|--------|--------|
| Stainless steel grid (standard equipment) | E20165 | E28891 | E20182 | |
| Additional reinforced stainless steel grid, max. loading 60 kg; with guide bars and fixing screws (only in connection with option K1). Please consider max. loading of chamber | – | | B32190 | |
| Perforated stainless steel shelf | B00325 | B29725 | B00328 | |
| Additional reinforced perforated stainless steel shelf, max. loading 60 kg; with guide bars and fixing screws (only in connection with option K1). Please consider max. loading of chamber | – | | 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 | |
| Max. loading per slide-in drip tray (kg) | 3 | 4 | 8 | |
| Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (can be used only in connection with option K1) | – | | 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 | |
| Max. loading per bottom drip tray (kg) | 3 | 4 | 8 | |
| 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 | | |

MODEL VARIANTS

| SingleDISPLAY ControlCOCKPIT with one TFT display | TwinDISPLAY ControlCOCKPIT with two TFT displays |
|---|---|
| <p>AVAILABLE APPLIANCES</p> <p>UN / UF / IN / IF / SN / SF / IPP / IPS</p> | <p>AVAILABLE APPLIANCES</p> <p>UNplus / UFplus / UF TS / UNpa / INplus / IFplus / SNplus / SFplus ICO / IPPplus / ICP / HPP / ICH</p> |
| <p>One high-resolution TFT colour display with touch-sensitive buttons for selection of functions</p> | <p>Two high-resolution TFT colour displays with touch-sensitive buttons for selection of functions</p> |
| <p>Available parameters on the ControlCOCKPIT: Temperature (Celsius or Fahrenheit), fan speed, exhaust air flap position, programme time</p> | <p>Available parameters on the ControlCOCKPIT: Temperature (Celsius or Fahrenheit), fan speed, exhaust air flap position, programme time, relative humidity, illumination, CO₂</p> |
| <p>One temperature sensor Pt100 DIN class A in a 4-wire circuit</p> | <p>Two Pt100 sensors DIN class A in a 4-wire circuit for mutual monitoring, taking over functions in case of an error</p> |
| | <p>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)</p> |
| <p>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)</p> | <p>AtmoCONTROL software on a USB stick for programming, managing and transferring programmes via Ethernet interface or USB port</p> |
| | <p>ControlCOCKPIT with USB port for uploading programmes, reading out protocol logs, activating the User-ID function</p> |
| | <p>Displaying of already logged protocol data on the ControlCOCKPIT (max 10,000 values correspond to approx. 1 week)</p> |
| <p>Ethernet interface on the rear of the appliance for reading out the protocol log and for online logging</p> | <p>Ethernet interface on the rear of the appliance for reading out the protocol log and for uploading programmes and for online logging</p> |
| <p>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</p> | <p>Multiple overtemperature protection: Electronic temperature monitoring TWW/TWB (protection class 3.1 or 2 resp. 3.3 for units with active cooling) and mechanical temperature limiter TB (protection class 1) acc. to DIN 12880, AutoSAFETY automatically adjusts to the set value within a freely adjustable tolerance range. Setting individual MIN / MAX values for over/undertemperature alarm and also for all other parameters such as relative humidity, CO₂</p> |
| <p>PID microprocessor control with integrated auto-diagnostic system</p> | |
| <p>Structured stainless steel housing, scratch-resistant, robust and durable; rear of zinc-plated steel</p> | |
| <p>High-temperature connectors on the rear of the appliance for single-phase power connection according to country specific systems and IEC standards</p> | |
| <p>Internal data logger with a storage capacity of at least 10 years</p> | |
| <p>German, English, French, Spanish language settings available on the ControlCOCKPIT</p> | |
| <p>Digital backwards counter with target time setting, adjustable from 1 minute to 99 days</p> | |
| <p>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</p> | |
| <p>Adjustment of three calibration values for temperature and additional appliance specific parameters directly at the ControlCOCKPIT</p> | |