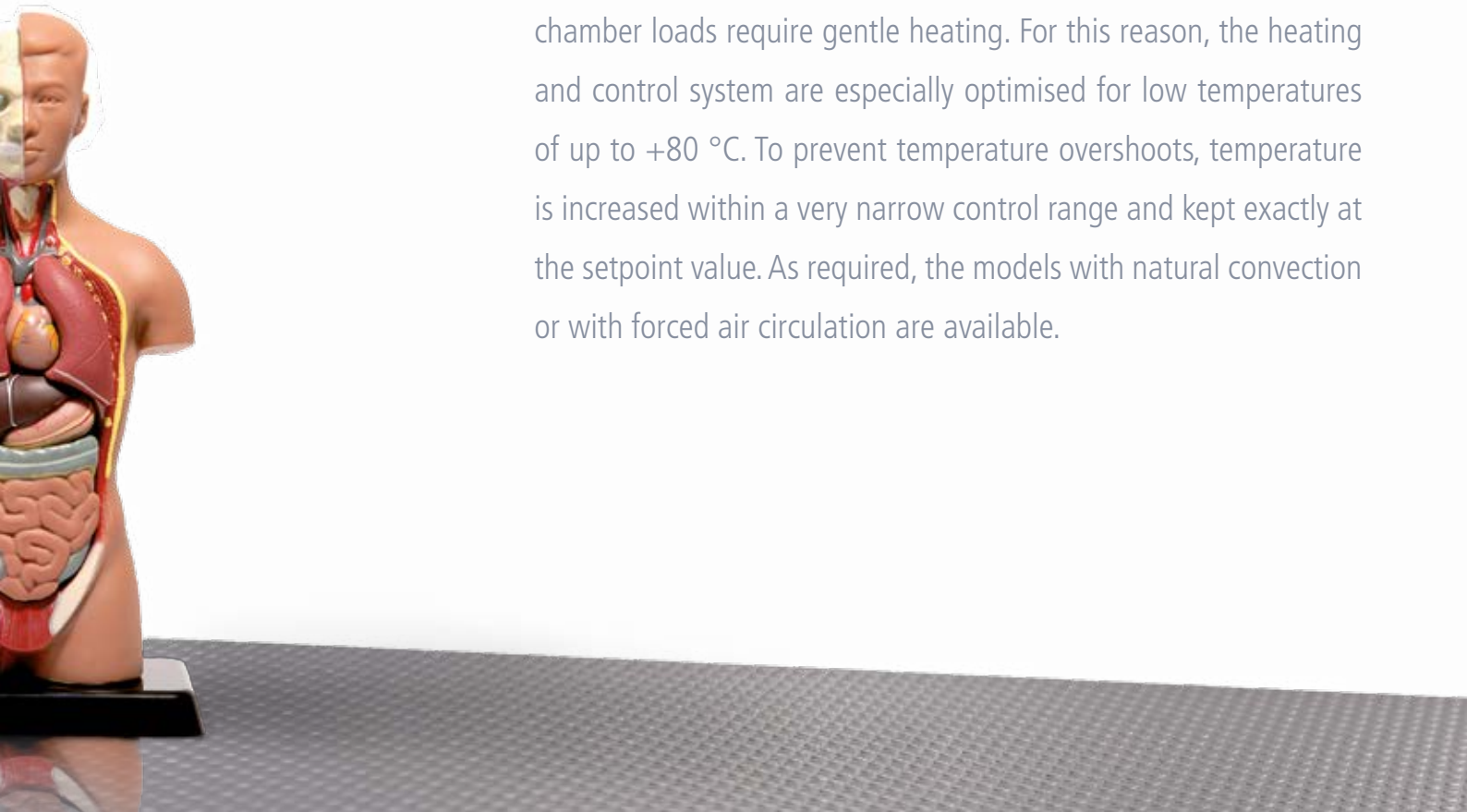


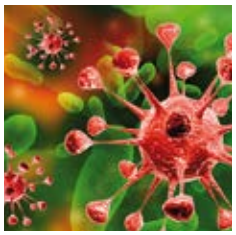
Incubator IN/INm and IF/IFm with SingleDISPLAY
Incubator INplus/INmplus and IFplus/IFmplus with TwinDISPLAY
Natural convection or forced air circulation
AtmoCONTROL software

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

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







As little air circulation as possible in the incubator

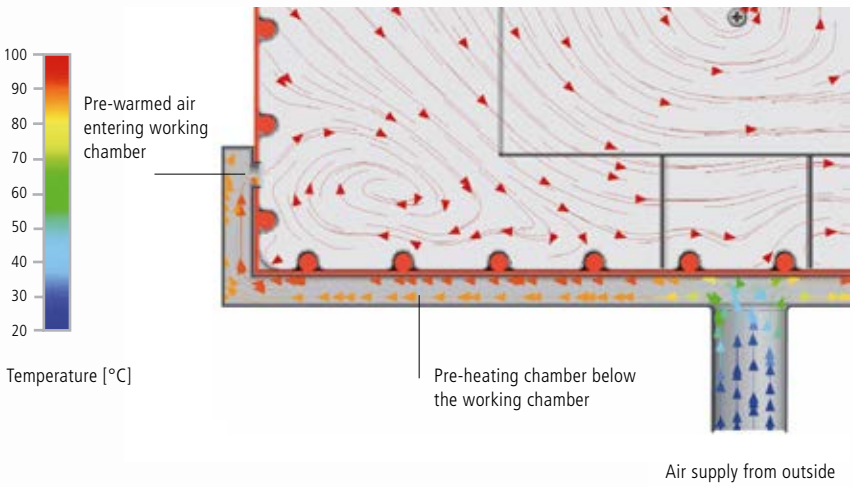
Forced air convection may destroy the protective layer from moist air that is generated during incubation over the samples. This would lead to dehydration of the culture. In a Memmert incubator, the perfect combination of all-round surface heating and temperature control system ensures that incubation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

Sterilisation

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

Fresh air is preheated

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



Memmert incubator Im is a medical device:

The incubator Im is a Class I medical device in accordance with the EU directive 93/42/EEC. In accordance with the intended use incubators INmplus and IFmplus may be used for warming of rinsing solutions and infusions as well as of contrast agents. Incubators IFm (with extended overtemperature protection – option A6) and IFmplus are used for warming non-sterile cloths and blankets. Incubators INm (with option A6) are intended for heating fango, silicate and APS packs for physical therapy and keeping them warm.

INCUBATORS I

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:
(EAC not valid for medical devices)

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, electropolished (size 30 and 55: 1, size 75 to 750: 2)

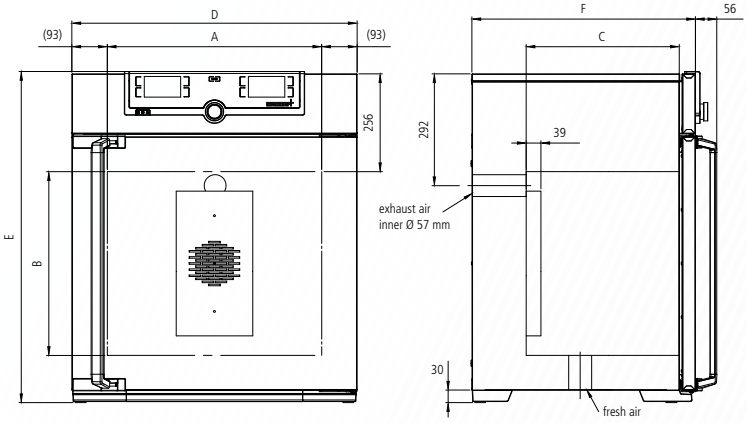
Housing: Textured stainless steel, rear zinc-plated steel, intuitively operated SingleDISPLAY or TwinDISPLAY (TFT colour display) with touchscreen; inner glass door, outside fully insulated stainless steel door (from size 450 two leaves)

Fresh air: Admixture of pre-heated fresh air by electronically adjusted airflap

Connection: Mains cable with plug (German type)

Installation: 4 feet; size 450 and 750 mounted on lockable castors

Interfaces: Ethernet LAN, USB (only TwinDISPLAY)



Model sizes/Description				30	55	75	110	160	260	450	750
Stainless steel interior	Volume		approx. l	32	53	74	108	161	256	449	749
	Width	(A)	mm	400	400	400	560	560	640	1040	1040
	Height	(B)	mm	320	400	560	480	720	800	720	1200
	Depth (less 39 mm for fan)	(C)	mm	250	330	330	400	400	500	600	600
	Stainless steel grids, electropolished (standard equipment)		number	1		2					
	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		
Textured stainless steel exterior	Width	(D)	mm	585	585	585	745	745	824	1224	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	514	584	584	684	784	784
Further data	Electrical load at 230 V, 50/60 Hz		approx. W	1600	1000	1250	1400	1600	1700	1800	2000
	Electrical load at 115 V, 50/60 Hz		approx. W	800	900					1500	1800
	Working-temperature range		°C	min. 5 (IN/INplus/INm/INmplus) 10 (IF/IFplus/IFm/IFmplus) above ambient temperature up to +80							
	Setting temperature range		°C	+20 to +80							
	Setting accuracy		°C	0.1							
Packing data	Net weight		approx. kg	48	57	66	76	96	110	161	217
	Gross weight (packed in carton)		approx. kg	64	76	85	101	122	161	227	288
	Width		approx. cm	66	73	73	83	83	93	133	133
	Height		approx. cm	89	95	113	105	130	138	144	191
	Depth		approx. cm	65	67	67	80	80	93	105	105

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

30	55	75	110	160	260	450	750
IN30 IN30m	IN55 IN55m	IN75 IN75m	IN110 IN110m	IN160 IN160m	IN260 IN260m	IN450 IN450m	IN750 IN750m
IN30plus IN30mplus	IN55plus IN55mplus	IN75plus IN75mplus	IN110plus IN110mplus	IN160plus IN160mplus	IN260plus IN260mplus	IN450plus IN450mplus	IN750plus IN750mplus
IF30 IF30m	IF55 IF55m	IF75 IF75m	IF110 IF110m	IF160 IF160m	IF260 IF260m	IF450 IF450m	IF750 IF750m
IF30plus IF30mplus	IF55plus IF55mplus	IF75plus IF75mplus	IF110plus IF110mplus	IF160plus IF160mplus	IF260plus IF260mplus	IF450plus IF450mplus	IF750plus IF750mplus

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 IN/IF/INm/IFm	A6							
Chamber modification for the appplication of reinforced perforated stainless steel shelves or stainless steel grids (bearing rails mounted in the working chamber) – includes replacement of 2 standard grids by 2 reinforced grids	–						K1	
Interior lighting for observing the load	R0							
Interior socket can only be ordered with limited temperature range up to max. +70 °C, ampacity 230 V/2.2 A, can be switched off with the On/Off switch, cannot be switched individually, moisture tight IP68 (only with SingleDISPLAY)	R3							
Entry port, 23 mm clear diameter, for introducing connections at the side, can be closed by flap and silicone stopper, standard positions								
left centre/centre	F0							
left centre top	F1							
right centre/centre	F2							
right centre top	F3							
Entry port, 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							
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 90 °C ≙ 4 to 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)	V6							
Fan speed monitoring with switching off the heating and with alarm in case of failure optional only for IFplus/IFmplus	V4							
Works calibration certificate for 3 temperatures: +37 °C, +52 °C, +70 °C Standard works calibration certificate (measuring point chamber centre) at +37 °C	D00126							

Accessories	30	55	75	110	160	260	450	750
Stainless steel grid, electropolished (standard equipment)	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	
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	
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	
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		

Further options/accessories see pages 24 - 26.
Not all options/accessories are combinable with each other. Please contact us for individual combination requests.

SOFTWARE AtmoCONTROL

AtmoCONTROL – The innovative control and logging software

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



Drag, drop & go!

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

Programme functions SingleDISPLAY and TwinDISPLAY

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

Additional functions TwinDISPLAY

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

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

Options for models U, UF TS, UNpa, S, I, ICP, IPP, IPS, HPP, ICH	30	55	75	110	160	260	400	450	750	1060	1400	50 / 105 / 150 / 240
Door with lock (safety lock); for models UF TS per side; standard with SN/SF and SNplus/SFplus 450 and 750 (not for models ICOmed)	B6											–
Door hinged on the left; for models UF TS per side	B8						–					B8
Potential-free contact (24 V/2 A) with socket to NAMUR NE 28 for external monitoring (indicates when setpoint is reached); models ICOmed: when set points of temperature and CO_2 are reached	H5											
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)	H6											
Potential-free contact (24 V/2 A) with socket to NAMUR NE 28, for signal generation, controlled by programme segment, for free-selectable functions to be activated (e.g. activation of audible and visual signals, exhaust motors, fans, stirrers, etc.). Only for units with TwinDISPLAY; max. 2 contacts on 1-phase appliances; max. 4 contacts on 3-phase appliances (not for models ICOmed)												
2 contacts	H72											–
4 contacts	–							H74				–
Process-dependent door lock (only for units with TwinDISPLAY); for models UF TS see page 11 of oven brochure; not for models ICOmed	D4											–
Door-open-recognition, incl. alarm, shuts down fan and after 30 sec. also heating (only for units with TwinDISPLAY); for models UF TS per side; standard with ICOmed, ICH C, ICH L	V5											–
Flexible Pt100 for positioning in chamber or in load with socket, 4-pin, according to NAMUR NE 28, for external temperature recording (load temperature) max. 3 sensors; not for models ICOmed	H4											–
Flexible Pt100 temperature sensor, positioned flexibly in chamber or load, for local temperature measurement (up to 3 additional sensors are possible). The measured temperature can, if required, be indicated on the display, recorded in the integral data store, and can be documented via the AtmoCONTROL software. Not for models ICOmed	H8											–
MobileALERT, notification by SMS in case of any error or alarm of the device. Requires option H6 "floating contact for alarm"	C3											
MobileALERT for up to 4 alarm notifications; standard: temperature and CO_2 alarm, additionally humidity alarm (when equipped with option K7) and O_2 alarm (when equipped with option T6)	–											C4
Temperature restriction (for UN/UF/UNplus/UFplus/UNm/UFm/UNmplus/ UFmplus and models UF TS); Temperatures: +60, +70, +80, +95, +100, +120, +160, +180, +200, +220 or +250 °C (Please, indicate upon ordering)	A8						–	A8				–
Castor frame (2-part), height 140 mm (not for models UF TS, ICP, ICH, ICH L, ICH C, ICOmed)	R9						–					

Not all options/accessories are combinable with each other. Please contact us for individual combination requests.

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

Accessories for models U, UF TS, UNpa, S, I, ICP, IPP, IPS, HPP, ICH	30	55	75	110	160	260	400	450	750	1060	1400	50 / 105 / 150 / 240
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)	B33171											
Set of height adjustable feet (4 pcs) not available for ICP, ICH, ICH L, ICH C – standard on models ICOmed	B29768						–					
Stacking set (4 pcs) for stacking of appliances of same size (not for models 160, 260, 450, 750, 1060, 1400, ICH110, ICH110L, ICH110C, ICP55, ICP110)	B29744				–							B29744 / –
Stacking set (consisting of stacking corners, one connecting plate for the rear, two wall brackets) for stacking two units ICO150med or ICO240med	–											B42114 (150) B42115 (240)
Plug-in tube extension (outer diam. 60.3 mm, inner 57 mm), straight, for exhaust air ducting (if necessary for connection by hose), only models U, I, S not for models UF TS	B29718										–	
Plug-in tube extension (outer diam. 60.3 mm, inner 57 mm), angled, for exhaust air ducting (if necessary for connection by hose), only models U, I, S not for models UF TS	B29719										–	
Flush-fit unit (stainless steel frame covering gap between oven and wall opening), with air slots	B29728	B29730	B29732	B29734	B29736	B29738	B42116	B29740	B29742	B42118	–	
Flush-fit unit (stainless steel frame covering gap between oven and wall opening), without air slots for models UF TS see page 11 of oven brochure; not for models ICOmed	B29729	B29731	B29733	B29735	B29737	B29739	B42117	B29741	B29743	B42119	–	
Subframe, adjustable in height (size 30 to 75: height 600 mm, size 110 to 450: height 500 mm); not for models ICOmed, UF TS and HPP400	B29745	B29747		B29749		B29751	–	B29753		–		
Subframe, on castors (size 30 to 75: height 660 mm, size 110 to 160: height 560 mm); not for models ICOmed and UF TS	B29746	B29748		B29750						–		
Subframe, adjustable in height, height 130 mm, for example for units with fresh air filter; not for models ICOmed and UF TS	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)	FDAQ1											
Integration of additional units (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. Further temperature values and validation at customer site on demand	D00125					D00127					–	
IQ/OQ document with device-specific works test data for one free-selectable temperature and humidity value, incl. temperature distribution survey at Memmert for 27 measuring points (26 measuring points on model HPP1400) to DIN 12880:2007-05, PQ check list as support for validation by customer (models HPP and ICH). Validation at customer site on demand	–			D00136	–	D00136	–		D00136	–	D00136	–
IQ/OQ document with device-specific works test data for one free-selectable temperature, humidity and light 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 (models HPP with light and ICH L). Validation at customer site on demand	–			D00137	–	D00137	–		D00137			–
IQ/OQ document with device-specific works test data for one free-selectable CO_2, humidity and temp. value, incl. temp. distribution survey at Memmert for 27 measuring points to DIN 12880:2007-05, PQ check list as support for validation by customer (models ICH C and ICOmed, on models ICOmed a free-selectable humidity value is only possible with option K7). Validation at customer site on demand	–			D38897	–	D38897	–		D38897	–		D38897
IQ/OQ document with device-specific works test data for one free-selectable CO_2 and 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 (model ICOmed). Validation at customer site on demand	–											D38898
External measuring instrument with sensors for daylight and UV-light. Product information on demand (models HPP, ICH L, IPPplus)	B04713									–	B04713	–
Ditto with additional measuring head for temperature and humidity measurement. Product information on demand (models HPP, ICH L, IPPplus)	B04714									–	B04714	–

Not all options/accessories are combinable with each other. Please contact us for individual combination requests.

MODEL VARIANTS

SingleDISPLAY ControlCOCKPIT with one TFT display	TwinDISPLAY ControlCOCKPIT with two TFT displays
AVAILABLE APPLIANCES **UN/UNm / UF/UFm / IN/INm / IF/IFm / SN / SF / IPP / IPS**	**AVAILABLE APPLIANCES** **UNplus/UNmplus / UFplus/UFmplus / UF TS / UNpa** **INplus/INmplus / IFplus/IFmplus / SNplus / SFplus** **ICOmed / IPPplus / ICP / HPP / ICH**
One high-resolution TFT colour display with touch-sensitive buttons for selection of functions	Two high-resolution TFT colour displays with touch-sensitive buttons for selection of functions
Available parameters on the ControlCOCKPIT: Temperature (Celsius or Fahrenheit), fan speed, exhaust air flap position, programme time	Available parameters on the ControlCOCKPIT: Temperature (Celsius or Fahrenheit), fan speed, exhaust air flap position, programme time, relative humidity, illumination, CO_2
One temperature sensor Pt100 DIN class A in a 4-wire circuit	Two Pt100 sensors DIN class A in a 4-wire circuit for mutual monitoring, taking over functions in case of an error
	HeatBALANCE function for application specific adjustment of heat output distribution (balance) between the upper and lower heating groups in an adjustment range between -50 % and +50 % (not valid for models 30, HPP110, IPP110plus, ICP, ICH)
AtmoCONTROL software for reading out, managing and organising the data logger via Ethernet interface (temporary trial version can be downloaded). USB stick with AtmoCONTROL software available as accessory (on demand)	AtmoCONTROL software on a USB stick for programming, managing and transferring programmes via Ethernet interface or USB port
	ControlCOCKPIT with USB port for uploading programmes, reading out protocol logs, activating the User-ID function
	Displaying of already logged protocol data on the ControlCOCKPIT (max 10,000 values correspond to approx. 1 week)
Ethernet interface on the rear of the appliance for reading out the protocol log and for online logging	Ethernet interface on the rear of the appliance for reading out the protocol log and for uploading programmes and for online logging
Double overtemperature protection: Electronic temperature monitoring with freely adjustable monitoring temperature, for models U, I, S with option A6 TWW/TWB (protection class 3.1 or 2), mechanical temperature limiter TB acc. to DIN 12880	Multiple overtemperature protection: Electronic temperature monitoring TWW/TWB (protection class 3.1 or 2 resp. 3.3 for units with active cooling) and mechanical temperature limiter TB (protection class 1) acc. to DIN 12880, AutoSAFETY automatically adjusts to the set value within a freely adjustable tolerance range. Setting individual MIN / MAX values for over/undertemperature alarm and also for all other parameters such as relative humidity, CO_2

PID microprocessor control with integrated auto-diagnostic system

Structured stainless steel housing, scratch-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