m360 - PRODUCT CATALOGUE

06-2024

m360 SELECT SERIES

m360 MODIFICATIONS
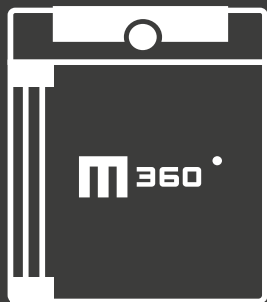
MADE IN GERMANY.

m360
SOLUTIONS FOR YOU

Content

m360
SELECT SERIES

CONSTANT CLIMATE CHAMBERS HPPCeco

CLIMATE CHAMBERS ICH

CLIMATE CHAMBERS ICHC

UNIVERSAL OVENS U

UNIVERSAL OVENS U

PASS-THROUGH OVENS UF TS

VACUUM OVENS VOcool

DISHWASHER UFdw

PLASTICINE OVEN UFPlplus

CONSTANT CLIMATE CHAMBERS HPPCeco

Interior:	stainless steel, mat. 1.4301 (ASTM 304), deep-drawn
Housing:	textured stainless steel 1.4016 (ASTM 430), rear zinc-plated steel 1.0037 (St37-2), intuitively operated TwinDISPLAY (TFT colour display) with touchscreen
Door:	Sizes 110 to 1060: fully insulated stainless steel doors with 2-point locking (compression door lock) and inner glass door, Sizes 1400 and 2200: stainless steel doors with glass sectors, fully heated inner glass panes integrated in the full-sight glass door with 2-point locking (compression door lock), sizes 750, 1060 and 1400 two leaves, size 2200 three leaves
Connection:	mains cable with plug (German type)
Installation:	Sizes 110 and 260: 4 adjustable appliance feet, Sizes 410 to 1060: on lockable castors, Sizes 1400 and 2200: on height-adjustable and lockable castors
Interfaces:	USB Ethernet LAN
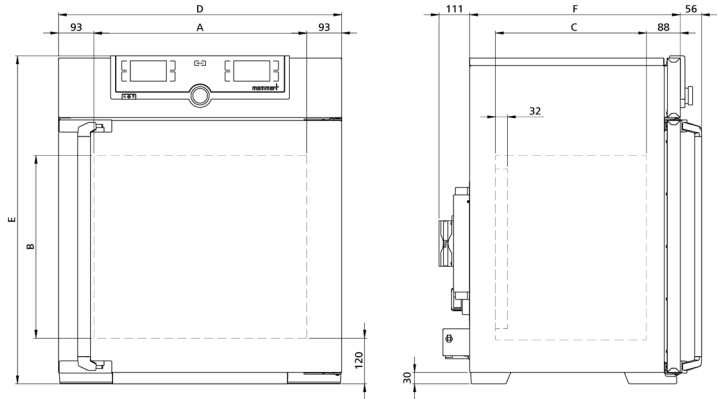
Model sizes/Description			110	260	410	750	1060	1400	2200
Stainless steel interior	Volume	l	108	256	384	749	1060	1360	2140
	Width (A)	mm	560	640		1040		1250	1972
	Height (B)	mm	480	800		1200		1450	
	Depth (less 32 mm for fan - Peltier) (C)	mm	400	500		600	850	750	
	Max. number of grids/shelves	number	5	9		14		28	42
	Max. loading per grid/shelf	kg		20		30	60	30	
	Max. loading of chamber	kg	150	200				250	330
	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	824		1224		1435	2157
	Height (sizes 410, 750, 1060, 1400 and 2200 with castors) (E)	mm	864	1183		1720		1913	
	Depth (without door handle, depth of handle +56 mm, +111 mm Peltier element) (F)	mm	555	655		755	1005	905	
Standard equipment	Standard works calibration certificate (measuring point chamber center)		+25 ℃ / 60 % rh, +40 ℃ / 75 % rh						
	Standard works calibration certificate (measuring point chamber center)	℃	5 %CO$_2$						
	Stainless steel grid, electropolished	number	2					4	6
	Water tank including connection hose		●						
	Door-open-recognition		●						

Model sizes/Description				110	260	410	750	1060	1400	2200
Temperature	Working temperature range without light, without humidity	°C		0 (at least 20 below ambient temperature) up to +70						
	Working temperature range without light, with humidity	°C		+5 (at least 20 below ambient temperature) up to +70					+15 (at least 10 below ambient temperature) up to +60 2024	
	Working temperature range with light, without or with humidity	°C		+15 to +40				-		
	Setting temperature range without light, with humidity	°C		+5 to +70				+15 to +60		
	Setting temperature range with light, with humidity	°C		+5 to +70				-		
	Setting temperature range with light, without humditiy	°C		0 to +70				-		
	Setting temperature range without light, without humidity	°C		0 to +70						
	Setting accuracy	°C		0.1						
Humidity	Setting range humidity without light	% rh		10 to 90					10 to 80	
	Setting range humidity with light	% rh		10 to 90				-		
	Setting accuracy	% rh		0.5						
CO₂	Setting range CO₂	% CO₂		0 to 20						
	Setting accuracy CO₂	% CO₂		0,1						
	Variation in time CO₂	% CO₂		± 0,2						
Further data	Electrical load at 230 V, 50/60 Hz	W		420	700			1400		2000
	Electrical load at 115 V, 50/60 Hz	W		420	700			1400		-
	Peltier elements in the rear	number		1	2			4		6
Packing data	Net weight	kg		64	101	142	213	259	347	474
	Gross weight (packed in carton)	kg		87	140	192	279	339	525	718
	Width	mm		830	930		1330	1370	1560	2300
	Height	mm		1050	1380	1930	1910	1970	2200	
	Depth	mm		800	930		1050	1300	1190	
Order No. Constant Climate Chambers				HPP110Ceco	HPP260Ceco	HPP410Ceco	HPP750Ceco	HPP1060Ceco	HPP1400Ceco	HPP2200Ceco

Options	110	260	410	750	1060	1400	2200
Temperature restriction; Temperature: +60 °C	A8					-	
Chamber modification for the application of reinforced perforated stainless steel shelves or stainless steel grids (bearing rails mounted in the working chamber - standard with 1060) - includes replacement of standard grids by reinforced grids	-			K1	-		
Light module cold white 6,500 K: LED light strips arranged on the side walls of the interior, 10 for model 110, 14 for model 260/410/750, programme controlled dimming from 0 to 100 % (in 1 % steps), ramp programming in combination with temperature and humidity	T7				-		
Light module cold white 6,500 K + warm white 2,700 K: LED light strips - 10 stripes for model 110, 14 for model 260/410/750 - (5 resp. 7 alternating cold white light strips and 5 resp. 7 warm white light strips) on the side walls of the interior, programme-controlled dimming from 0 to 100 % (in 1 % steps), ramp programming in combination with temperature and humidity	T8				-		
Light module warm white 2,700 K: light strips arranged on the side walls of the interior, 10 strips for model 110, 14 for model 260/410/750, programme-controlled dimming from 0 to 100 % (in 1 % steps), ramp programming in combination with temperature and humidity	T9				-		
Interior socket (can only be ordered with limited temperature range - max. +60 °C), ampacity 230 V / 2,2A / 500W, can be switched off with the On/Off switch, cannot be switched individually, moisture tight IP68 (requires option A8 against surcharge) (max. one per appliance)	R3				-		
Entry port with 23 mm clear diameter, can be closed, standard position (F0 and F2 not for model size 260 with light module; F0 - F3 not for model size 110 with light module) — left centre/centre	F0				-		
— left centre/top	F1				-		
— right centre/centre	F2				-		
— right centre/top	F3				-		

Options		110	260	410	750	1060	1400	2200
Entry port with 23 mm clear diameter, can be closed, individual position (please state position)	left	F4						
	right	F5						
	rear	F6					-	
Entry port (silicone), 40 mm clear diameter, moisture tight, can be closed by silicone stopper, at the back (please state location)		F7					-	
Entry port (silicone), 40 mm clear diameter, moisture tight, can be closed by silicone stopper, standard position rear		D8						
4 - 20 mA current loop interface	Temperature controller actual value (-10 to +80 °C = 4 - 20 mA)	V3						
	CO$_2$ controller, actual value (0 to 25 % CO$_2$ = 4 - 20 mA)	V9						
	Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring - price per sensor	V6						
	Humidity controller, actual value (0 to 100 % rh = 4 - 20 mA)	V7						
Compressed air dehumidification (efficient dehumidification of the interior by means of compressed air). Standard works calibration certificate (measuring point chamber centre) at +10 °C with 10 % rh		C9					-	
Door with lock and key (safety lock)	One lock	B6					-	
	Two locks (one each door)	-					B62	-
	Three locks (one each door)	-						B63
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)		H6						
Process-dependent programmable door lock	One	D4					-	
	Two (one each door)	-					D42	-
	Three (one each door)	-						D43
Door-open-recognition	One	V5					-	
	Two (one each door)	-					V52	-
	Three (one each door)	-						V53
MobileALERT, notification by SMS in case of any error or alarm of the device (requires option H6)		C3						
MobileALERT for 2 alarm notifications; notification by SMS. temperature and humidity alarm (requires option H6)		C4						
Castor frame (2-part), height 140 mm		R9		-				

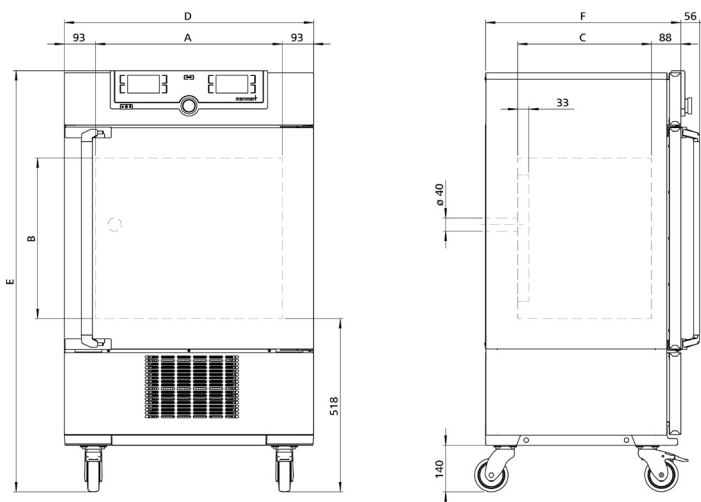| Accessories	110	260	410	750	1060	1400	2200
Stainless steel grid, electropolished	E20165	E28891		E20182	B41251	B38955	
Reinforced stainless steel grid, electropolished, max. loading 60 kg; size 750 with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	E29767	E29766		B32190	B32550	-	
Perforated stainless steel shelf	B00325	B29725		B00328	-		
Reinforced stainless steel shelf, max. loading 60 kg; with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	-			B32191	B32549	-	
Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (may affect the temperature distribution, requires option K1)	-			B32763	-		
Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution, not in connection with option K1 for sizes 450/750)	E02073	B29726		E02075	B32599	-	
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution, requires option K1)	-			B34055	-		
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution, not in connection with option K1 for sizes 450/750)	B04359	B29722		B04362	B29769	-	
Holder for water tank (sizes 110 - 750: 2.5 litres, sizes 1060/1400/2200: 10 litres) for mounting on the rear of the appliance. Standard equipment for sizes 410, 750, 1060, 1400 and 2200	B49092		-				
Central water supply with filter cartridges for connection to the domestic water supply. Product information on demand	ZWVR6						
Central water supply without filter cartridges for connection to the domestic water supply (only for demineralised water with a conductivity of 5 to 10 µS/cm and a pH value between 5 and 7). Product information on demand	ZWVR7						

Accessories	110	260	410	750	1060	1400	2200
Flush-fit unit (stainless steel frame covering gap between oven and wall opening), with air slots	B29734	B29738	B42116	B29742		-	
Flush-fit unit (stainless steel frame covering gap between oven and wall opening), without air slots	B29735	B29739	B42117	B29743		-	
Stacking set (4 pcs) for stacking of appliances of same size	B29744		-				
Set of height adjustable feet (4 pcs)	B29768		-				
Subframe, adjustable in height (height 500 mm)	B29749	B29751	-				
Subframe, on castors (height 560 mm)	B29750		-				
Subframe, adjustable in height, height 130 mm	B33661	B33664	-				
External measuring instrument with sensors for daylight and UV-light. Product information on demand	B04713					-	
External measuring instrument with additional measuring head for temperature and humidity measurement. Product information on demand	B04714						

Accessories | Software and Connectivity	110	260	410	750	1060	1400	2200
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). Respective IQ/OQ documents available in German and English language (without surcharge)	FDAQ1						
Integration of additional units (up to max. 31 units) into an already existent FDA-software licence	FDAQ2						
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						
Ethernet connection cable 5 m for computer interface	E06189						
USB-Ethernet adapter	E06192						

CLIMATE CHAMBERS ICH

Interior:	stainless steel, mat. 1.4301 (ASTM 304), deep-drawn
Housing:	textured stainless steel 1.4016 (ASTM 430), rear zinc-plated steel 1.0037 (St37-2), intuitively operated TwinDISPLAY (TFT colour display) with touchscreen
Door:	fully insulated stainless steel doors with 2-point locking (compression door lock) and inner glass door, from size 450 two leaves
Connection:	mains cable with plug (German type)
Installation:	on lockable castors
Interfaces:	USB Ethernet LAN

Model sizes/Description				450	450L
Stainless steel interior	Volume		l	449	
	Width	(A)	mm	1040	
	Height	(B)	mm	720	
	Depth (less 33 mm for fan)	(C)	mm	600	
	Max. number of grids/shelves		number	14	
	Max. loading per grid/shelf		kg	30	
	Max. loading of chamber		kg	200	
	Max. loading per slide-in drip tray		kg	8	
	Max. loading per bottom drip tray		kg	8	
Textured stainless steel exterior	Width	(D)	mm	1224	
	Height (with castors)	(E)	mm	1224	
	Depth (without door handle, depth of handle +56 mm)	(F)	mm	785	
Standard equipment	Standard works calibration certificate (measuring point chamber center)		°C	+10 °C , +37 °C , +30 °C / 60 % rh	
	Stainless steel grid, electropolished		number	2	
	Entry port (silicone), 40 mm clear diameter, moisture tight, can be closed by a silicone stopper, standard position at the back			●	
	Water tank including connection hose			●	
	Door-open-recognition			-	●
Temperature	Working temperature range without humidity ICH		°C	-10 to +60	
	Working temperature range ICH /ICH L with humidity and/or light		°C	+10 to +60	
	Working temperature range ICH L without humidity		°C	0 to +60	
	Setting temperature range ICH		°C	-10 to +60	
	Setting temperature range ICH L		°C	0 to +60	
	Setting accuracy		°C	0.1	
Humidity	Setting range humidity		% rh	10 to 80	
	Setting accuracy		% rh	0.5	
Light	Illumination unit (only ICH L) acc. ICH Q1B, option 2; separately switchable via controller, one box; number of fluorescent lights with cold white light (size 110: 3, size 260/750: 4), number of fluorescent lights with UV lamps (all sizes: 2)			-	●
Further data	Electrical load at 230/115 V, 50/60 Hz ICH		W	1350	1550

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Model sizes/Description			450	450L
Packing data	Net weight	kg	220	
	Gross weight (packed in carton)	kg	285	
	Width	mm	1330	
	Height	mm	2150	
	Depth	mm	1700	
Order No. Climate Chambers ICH = Climate chamber ICH L = Climate chamber with light			ICH450	ICH450L

| Options		450	450L
Voltage 115 V, 50/60 Hz		X2	
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 (ICH)		K1	-
Alternative light boxes (replace the standard lighting; have to be ordered together with the chamber); number of fluorescent lamps: size 110: 5, sizes 260/750: 6, with cold white light according to ICH guideline Q1B, option 2 (only ICH L)	one box	-	T81
Alternative light boxes (replace the standard lighting; have to be ordered together with the chamber); number of fluorescent UV lamps: size 110: 5, sizes 260/750: 6, with UV-A radiation according to ICH guideline Q1B, option 2 (only ICH L)	one box	-	T01
Interior socket, ampacity 230V / 2,2A / 500W, can be switched off with the On/Off switch, cannot be switched individually, moisture tight IP68 (not for IICH110L) (max. one per appliance)		R3	
Entry port with 23 mm clear diameter, can be closed, standard position (F1 and F3 not for models ICH L)	left centre/centre	F0	-
	left centre/top	F1	-
	right centre/top	F3	-
Entry port (silicone), 40 mm clear diameter, moisture tight, can be closed by silicone stopper, at the back (please state location). Not for models ICH L		F7	-
4 - 20 mA current loop interface	Humidity controller, actual value (0 to 100 % rh = 4 - 20 mA)	V7	
	Temperature controller actual value (-20 to +70 ºC = 4 - 20 mA)	V3	
	Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring (max. 3) - price per sensor (-20 to +70 ºC = 4 - 20 mA)	V6	
Fan speed monitoring with switching off the heating and with alarm in case of failure		V4	
Compressed air dehumidification (efficient dehumidification of the interior by means of compressed air). Standard works calibration certificate (measuring point chamber centre) at +10 ºC with 10 % rh		C9	
Door with lock and key (safety lock)		B6	
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)		H6	
Door-open-recognition, shuts down humidity, light (standard with ICH L)		V5	-
MobileALERT, notification by SMS in case of any error or alarm of the device (requires option H6)		C3	

Accessories	450	450L
Stainless steel grid, electropolished	E20182	
Reinforced stainless steel grid, electropolished, max. loading 60 kg; size 750 with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	B32190	-
Perforated stainless steel shelf	B00328	
Reinforced stainless steel shelf, max. loading 60 kg; with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	B32191	-
Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (may affect the temperature distribution, requires option K1)	B32763	
Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution, not in connection with option K1 for sizes 450/750)	E02075	
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution, not in connection with option K1 for sizes 450/750)	B04362	
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution, requires option K1)	B34055	
Central water supply with filter cartridges for connection to the domestic water supply. Product information on demand	ZWVR6	
Central water supply without filter cartridges for connection to the domestic water supply (only for demineralised water with a conductivity of 5 to 10 µS/cm and a pH value between 5 and 7). Product information on demand	ZWVR7	
External measuring instrument with sensors for daylight and UV-light. Product information on demand (only ICH L)	-	B04713
External measuring instrument with additional measuring head for temperature and humidity measurement. Product information on demand	B04714	

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

June-2024   11

Accessories | Software and Connectivity	450	450L
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). Respective IQ/OQ documents available in German and English language (without surcharge)	FDAQ1	
Integration of additional units (up to max. 31 units) into an already existent FDA-software licence	FDAQ2	
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	
Ethernet connection cable 5 m for computer interface	E06189	
USB-Ethernet adapter	E06192	

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

CLIMATE CHAMBERS ICHC

Interior:	stainless steel, mat. 1.4301 (ASTM 304), deep-drawn
Housing:	textured stainless steel 1.4016 (ASTM 430), rear zinc-plated steel 1.0037 (St37-2), intuitively operated TwinDISPLAY (TFT colour display) with touchscreen
Door:	fully insulated stainless steel doors with 2-point locking (compression door lock) and inner glass door, size 750: two leaves
Connection:	mains cable with plug (German type)
Installation:	on lockable castors
Interfaces:	USB Ethernet LAN
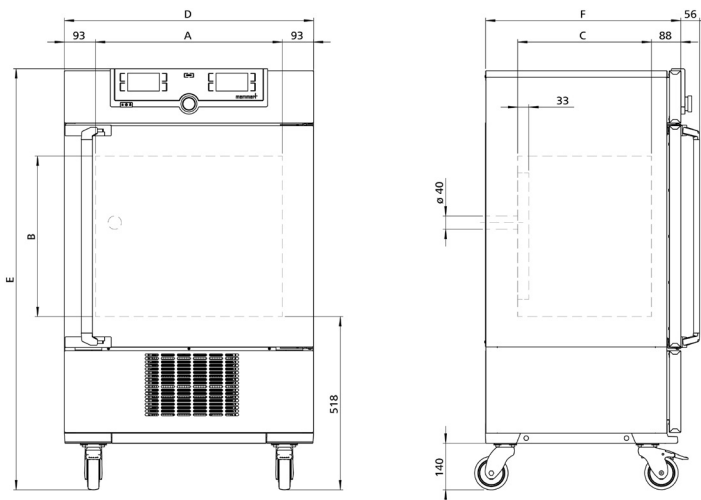
Model sizes/Description				110	260	750
Stainless steel interior	Volume		l	108	256	749
	Width	(A)	mm	560	640	1040
	Height	(B)	mm	480	800	1200
	Depth (less 33 mm for fan)	(C)	mm	400	500	600
	Max. number of grids/shelves		number	5	9	14
	Max. loading per grid/shelf		kg	20		30
	Max. loading of chamber		kg	150	200	
	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	824	1224
	Height (with castors)	(E)	mm	1233	1552	1950
	Depth (without door handle, depth of handle +56 mm)	(F)	mm	585	685	785
Standard equipment	Standard works calibration certificate (measuring point chamber center)			+10 °C , +37 °C , +30 °C / 60 % rh		
	Standard works calibration certificate (measuring point chamber center)		°C	5 %CO_2		
	Stainless steel grid, electropolished		number	2		
	Entry port (silicone), 40 mm clear diameter, moisture tight, can be closed by a silicone stopper, standard position at the back			●		
	Water tank including connection hose			●		
	CO_2 connection set: hose with coupling and clamp			●		
	Door-open-recognition			●		
Temperature	Working temperature range without humidity		°C	0 to +60		
	Working temperature range with humidity		°C	+10 to +60		
	Setting temperature range		°C	0 to +60		
	Setting accuracy		°C	0.1		
Humidity	Setting range humidity		% rh	10 to 80		
	Setting accuracy		% rh	0.5		
CO_2	Setting range CO_2		%CO_2	0 to 20		
	Setting accuracy CO_2		%CO_2	0.1		
	Variation in time CO_2		%CO_2	± 0,2		
Further data	Electrical load at 230/115 V, 50/60 Hz ICH		W	1350		

Model sizes/Description			110	260	750
Packing data	Net weight	kg	114	160	249
	Gross weight (packed in carton)	kg	142	217	319
	Width	mm	880	930	1330
	Height	mm	1410	1760	2150
	Depth	mm	810	930	1050

Order No. Climate Chambers
ICH = Climate chamber
ICH L = Climate chamber with light

	110	260	750
	ICH110C	ICH260C	ICH750C

Options		110	260	750
Voltage 115 V, 50/60 Hz			X2	
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 (ICH)		-		K1
Entry port with 23 mm clear diameter, can be closed, standard position (F1 and F3 not for models ICH L)	left centre/centre		F0	
	left centre/top		F1	
	right centre/top		F3	
Entry port (silicone), 40 mm clear diameter, moisture tight, can be closed by silicone stopper, at the back (please state location)		-		F7
4 - 20 mA current loop interface	Temperature controller actual value (-20 to +70 °C = 4 - 20 mA)		V3	
	Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring (max. 3) - price per sensor (-20 to +70 °C = 4 - 20 mA)		V6	
	Humidity controller, actual value (0 to 100 % rh = 4 - 20 mA)		V7	
	CO$_2$ controller, actual value (0 to 25 % CO$_2$ = 4 - 20 mA)		V9	
Fan speed monitoring with switching off the heating and with alarm in case of failure			V4	
Compressed air dehumidification (efficient dehumidification of the interior by means of compressed air). Standard works calibration certificate (measuring point chamber centre) at +10 °C with 10 % rh			C9	
Door with lock and key (safety lock)			B6	
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)			H6	
MobileALERT, notification by SMS in case of any error or alarm of the device (requires option H6)			C3	

Accessories	110	260	750
Stainless steel grid, electropolished	E20165	E28891	E20182
Reinforced stainless steel grid, electropolished, max. loading 60 kg; size 750 with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	E29767	E29766	B32190
Perforated stainless steel shelf	B00325	B29725	B00328
Reinforced stainless steel shelf, max. loading 60 kg; with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	-		B32191
Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (may affect the temperature distribution, requires option K1)	-		B32763
Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution, not in connection with option K1 for sizes 450/750)	E02073	B29726	E02075
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution, requires option K1)	-		B34055
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution, not in connection with option K1 for sizes 450/750)	B04359	B29722	B04362
Holder for water tank (2.5 litres) for mounting on the rear of the appliance. Standard equipment for size 750	E32172		-
Central water supply with filter cartridges for connection to the domestic water supply. Product information on demand	ZWVR6		
Central water supply without filter cartridges for connection to the domestic water supply (only for demineralised water with a conductivity of 5 to 10 µS/cm and a pH value between 5 and 7). Product information on demand	ZWVR7		
External measuring instrument with additional measuring head for temperature and humidity measurement. Product information on demand	B04714		

Accessories	Software and Connectivity	110	260	750
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). Respective IQ/OQ documents available in German and English language (without surcharge)	FDAQ1		
Integration of additional units (up to max. 31 units) into an already existent FDA-software licence	FDAQ2		
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		

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Accessories | Software and Connectivity	110	260	750
Ethernet connection cable 5 m for computer interface		E06189	
USB-Ethernet adapter		E06192	

UNIVERSAL OVENS U

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 1.4016 (ASTM 430), rear zinc-plated steel 1.0037 (St37-2), intuitively operated SingleDISPLAY or TwinDISPLAY (TFT colour display) with touchscreen
Door:	fully insulated stainless steel doors with 2-point locking (compression door lock), from size 450 two leaves
Connection:	mains cable with plug (German type) CEE plug for 400 V
Installation:	Size 250: 4 adjustable appliance feet, Sizes 400 to 2500: on lockable castors
Interfaces:	USB Ethernet LAN

USB: only TwinDISPLAY
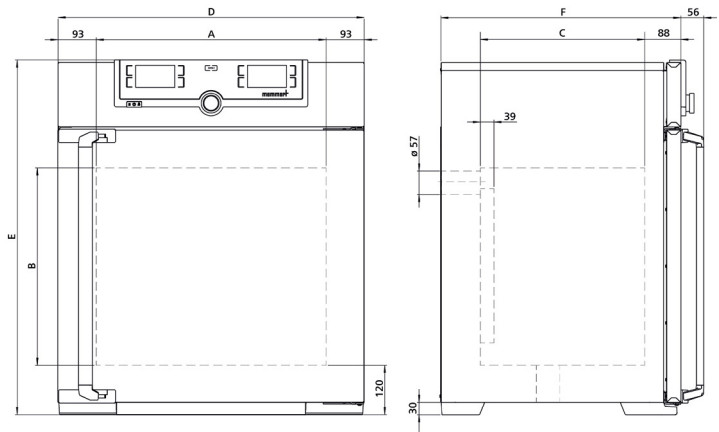
Model sizes/Description				250	400	600	1550	2500
Stainless steel interior	Volume		l	256	384	600	1550	2554
	Width	(A)	mm	800	640		1040	1680
	Height	(B)	mm	640	1200	1680	1520	
	Depth (less 39 mm for fan)	(C)	mm	500			1000	
	Max. number of grids/shelves		number	7	14	20	18	
	Max. loading per grid/shelf		kg	20	30	20	30	60
	Max. loading of chamber		kg	300				
	Max. loading per slide-in drip tray		kg	4	8			
	Max. loading per bottom drip tray		kg	4	8			
Textured stainless steel exterior	Width	(D)	mm	984	824		1224	1861
	Height (sizes 450, 750, 1060 with castors)	(E)	mm	1023	1720	2200	1982	1983
	Depth (without door handle, depth of handle +56 mm)	(F)	mm	684			1186	
Standard equipment	Standard works calibration certificate (measuring point chamber center)		°C	+160				
	Stainless steel grid, electropolished		number	2				
Temperature	Working temperature range		°C	at least 5 (UNplus) 10 (UFplus) above ambient temperature up 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		W	3350		-		
	Electrical load at 400 V and 3 x 230V w/o neutral, 50/60 Hz		W	-		6500	7000	8000
Packing data	Net weight		kg	110	161	135	217	675
	Gross weight (packed in carton)		kg	161	227	296	288	1020
	Width		mm	1090	930		1336	1980
	Height		mm	1360	1930	2320	2264	2260
	Depth		mm	930			1430	
Order No. Universal Ovens				UN250plus	UN400plus	-		
U = Universal Oven N = Natural convection F = Forced air circulation plus = Model with TwinDISPLAY				UF250plus	UF400plus	UF600plus	UF1550plus	UF2500plus

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Options	250	400	600	1550	2500
Voltage 115 V, 50/60 Hz	X2		-		
Temperature restriction; Temperatures: +60, +70, +80, +95, +100, +120, +160, +180, +200 or +250 ℃ (Please indicate upon ordering)	A8				
Full-sight glass door (4-layer insulating glass) Temperature-range up to max. +250 ℃ (requires option A8 against surcharge)	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			-	K1
Interior lighting for observing the load	R0				
Interior socket (can only be ordered with limited temperature range - max. +60 ℃), ampacity 230 V / 2,2A / 500W, can be switched off with the On/Off switch, cannot be switched individually, moisture tight IP68 (requires option A8 against surcharge) (max. one per appliance)	R3				
Interior nearly gastight - technical clarification required for combination with other options	K2			-	
Interior nearly gastight with possibility for gas inlet/outlet through 2 tubes with ball valves - technical clarification required for combination with other options	K3			-	
Entry port with 23 mm clear diameter, can be closed, standard position — left centre/centre	F0				
Entry port with 23 mm clear diameter, can be closed, standard position — left centre/top	F1				
Entry port with 23 mm clear diameter, can be closed, standard position — right centre/centre	F2				
Entry port with 23 mm clear diameter, can be closed, standard position — right centre/top	F3				
Entry port with 23 mm clear diameter, can be closed, individual position (please state position) — left	F4				
Entry port with 23 mm clear diameter, can be closed, individual position (please state position) — right	F5				
Entry port with 23 mm clear diameter, can be closed, individual position (please state position) — 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 with 57 mm clear diameter, can be closed by flap, individual positions in the back wall (please state position, not possible for devices with forced air circulation of sizes 30-75)	F8				
Entry port with 100 mm clear diameter, can be closed by flap, individual positions in the back wall (please state position, not possible for devices with forced air circulation of size 75)	F9				
4 - 20 mA current loop interface (0 to +310 ℃ = 4 - 20 mA) — Temperature controller, actual value	V3				
4 - 20 mA current loop interface (0 to +310 ℃ = 4 - 20 mA) — 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 (for UFplus)	V4		-		
Door with lock and key (safety lock)	B6				
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)	H6				
Potential-free contact (24 V/2 A) with socket, 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 — 2 contacts	H72				
Process-dependent programmable door lock (only for units with TwinDISPLAY)	D4				
Door-open-recognition (only for units with TwinDISPLAY)	V5				
Flexible Pt100 temperature sensor, positioned flexibly in chamber or load, for local temperature measurement (up to 1 additional sensor is possible). The measured temperature will 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		-		
Fresh-air filter (filtration efficiency 80 %) mounted at the device bottom (for devices with forced air circulation, sizes 30 - 260 require castor frame R9 or subframe)	R8			-	

Accessories	250	400	600	1550	2500
Reinforced stainless steel shelf, max. loading 60 kg; with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	-			B50539	B58583
Reinforced stainless steel grid, electropolished, max. loading 60 kg; from size 450 with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	-	E29766		B58238	B57167
Stainless steel grid, electropolished	E20167	E28891		-	
Perforated stainless steel shelf	B00326	B29725		-	
Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution)	-	B29726		-	

Accessories	250	400	600	1550	2500
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution)	-	B29722		-	
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				
Set of height adjustable feet (4 pcs)	B29768	-			

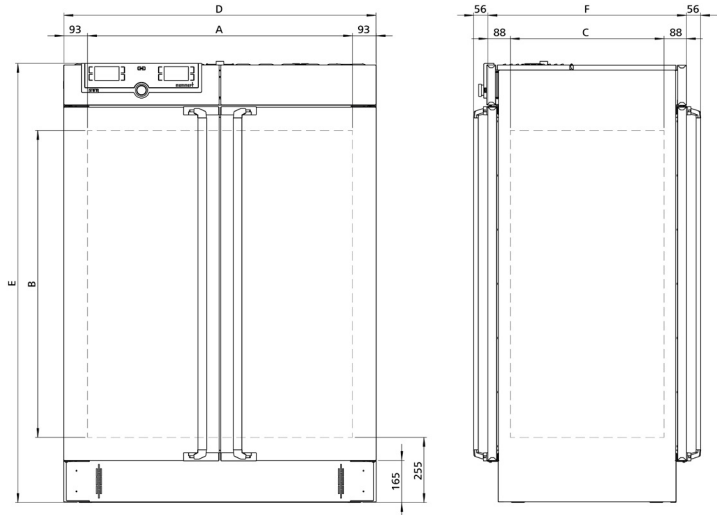| Accessories | Software and Connectivity	250	400	600	1550	2500
Software conforming to FDA AtmoCONTROL. Meets the requirements for the use of electronically stored data sets and electronic signatures as laid down in Regulation 21 CFR Part 11 of the US Food and Drug Administration (FDA). Base licence 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. 31 units) into an already existent FDA-software licence (only for units with TwinDISPLAY)	FDAQ2				
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				
Ethernet connection cable 5 m for computer interface	E06189				
USB-Ethernet adapter	E06192				

B29718

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

PASS-THROUGH OVENS UF TS

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 1.4016 (ASTM 430), intuitively operated TwinDISPLAY (TFT colour display) with touchscreen
Door:	fully insulated stainless steel doors with 2-point locking (compression door lock)
Connection:	mains cable with plug (German type) CEE plug for 400 V
Installation:	4 adjustable appliance feet
Interfaces:	USB Ethernet LAN

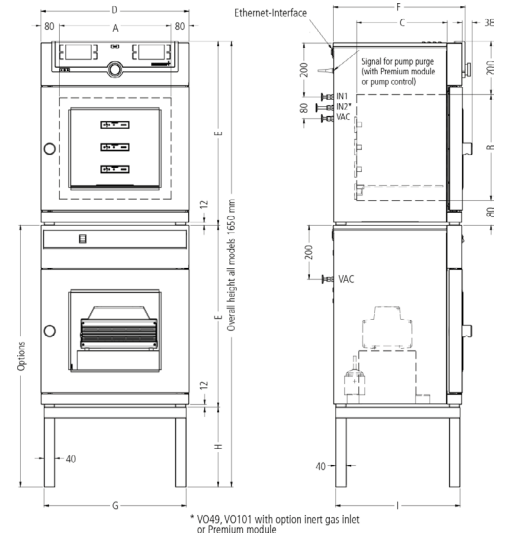| Model sizes/Description				1250
Stainless steel interior	Volume		l	1248
	Width	(A)	mm	1040
	Height	(B)	mm	1200
	Depth	(C)	mm	1000
	Max. number of grids/shelves		number	14
	Max. loading per grid/shelf		kg	30
	Max. loading of chamber		kg	300
	Max. loading per slide-in drip tray		kg	8
	Max. loading per bottom drip tray		kg	8
Textured stainless steel exterior	Width	(D)	mm	1224
	Height	(E)	mm	1714
	Depth (without door handle, depth of handle 2x +56 mm)	(F)	mm	1181
Standard equipment	Standard works calibration certificate (measuring point chamber center)		°C	+ 160
	Stainless steel grid, electropolished		number	2
Temperature	Working temperature range		°C	at least 10 above ambient temperature up 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 400 V and 3 x 230V w/o neutral, 50/60 Hz		W	7000
Packing data	Net weight		kg	372
	Gross weight (packed in carton)		kg	600
	Width		mm	1330
	Height		mm	1920
	Depth		mm	1050
Order No. Pass-Through Ovens				UF1250TS

Options	1250
Temperature restriction; Temperatures: +60, +70, +80, +95, +100, +120, +160, +180 or +200 °C (Please indicate upon ordering)	A8
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 with 23 mm clear diameter, can be closed, standard position　　　　　　　　　　　　　　　left centre/centre	F0
left centre/top	F1
right centre/centre	F2
right centre/top	F3
Entry port with 23 mm clear diameter, can be closed, individual position (please state position)　　　　　　left	F4
right	F5
Locking mechanism to prevent simultaneous opening of doors for contamination protection in case of wall installation (requires option V5)	D5
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. 3) - price per sensor	V6
Door with lock (safety lock); per side	B6
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)	H6
Potential-free contact (24 V/2 A) with socket, 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　　　　　　2 contacts	H72
Process-dependent electromagnetic door lock (both sides)	D4
Door-open-recognition; per side	V5
Flexible Pt100 temperature sensor, positioned flexibly in chamber or load, for local temperature measurement (up to 1 additional sensor is possible). The measured temperature will 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

Accessories	1250
Stainless steel grid, electropolished	B58903
Perforated stainless steel shelf	B58948
Flush-fit unit set (stainless steel frame covering gap between oven and wall opening), without air slots - technical clarification required	B33207

Accessories	Software and Connectivity	1250
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). Respective IQ/OQ documents available in German and English language (without surcharge)	FDAQ1
Integration of additional units (up to max. 31 units) into an already existent FDA-software licence	FDAQ2
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
Ethernet connection cable 5 m for computer interface	E06189
USB-Ethernet adapter	E06192

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

VACUUM OVENS VOcool

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 1.4016 (ASTM 430), rear zinc-plated steel 1.0037 (St37-2), intuitively operated TwinDISPLAY (TFT colour display) with touchscreen
Door:	full-sight glass door, inside spring-loaded, 15mm thick glazed panel in safety glass, outside with anti-splitter screen
Connection:	mains cable with plug (German type)
Installation:	4 adjustable appliance feet
Interfaces:	USB Ethernet LAN

* VO49, VO101 with option inert gas inlet or Premium module

Model sizes/Description				29	49	101
Stainless steel interior	Volume		l	29	49	101
	Width	(A)	mm	385		545
	Height	(B)	mm	305	385	465
	Depth	(C)	mm	250	330	400
	Max. number of thermoshelves		number	1		
	Max. loading of chamber		kg	40	60	
	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
Standard equipment	Standard works calibration certificate			+ 80 °C / 20 mbar		
	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		
Temperature	Working temperature range		°C	+5 to +90		
	Setting temperature range		°C	+5 to +90		
	Setting accuracy		°C	0.1		
	Temperature variation in time (aluminium thermoshelf)		K	≤ ± 0,3		
	Temperature uniformity (surface) at +80 °C/20 mbar (aluminium thermoshelf)		K	≤ ± 0,5		
Pressure (vacuum)	Adjustment range pressure		mbar	5 to 1100		
	Permitted final vacuum		mbar	0.01		
	Maximum leakage rate		bar/h	0.01		
Further data	Electrical load at 230 V, 50/60 Hz		W	500	600	750
Packing data	Net weight		kg	66	95	130
	Gross weight (packed in carton)		kg	87	116	160
	Packed dimensions (Width, Height, Depth)			660/870/590		830/1050/800
	Net weight pump module without/with pump		kg	25/41	30/46	41/57
	Gross weight pump module without/with pump (packed in carton)		kg	46/62	51/67	66/82
	Packed dimensions pump module (Width, Height, Depth)		mm	660/870/590		830/1050/800
Order No. Vacuum Ovens				VO29cool	VO49cool	VO101cool

| Options	29	49	101
Premium module: comprises the inert gas inlet, extra connectors for thermoshelves, 1 (size 29), 2 (sizes 49/101)		T5	
4 - 20 mA current loop interface (requires option T5) — Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring - price per sensor		V6	
Temperature controller, actual value (0 to +100 °C = 4 - 20 mA)		V3	
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)		H6	
MobileALERT, notification by SMS in case of any error or alarm of the device (requires option H6)		C3	
MobileALERT for 2 alarm notifications; notification by SMS. temperature and vacuum alarm (requires option T5 and H6)	-	C4	

Accessories	29	49	101
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
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	
Noise-insulated vacuum pump module without pump (exterior dimensions and -material No. s. vacuum oven) with anti-vibration 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
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 Nl./min = 3,0 m³/h and autom. purge control, 230 V, 50 Hz. Max. guarantee period 2 years (requires acessories B39410 and B04026)		E07509	

Accessories | Software and Connectivity	29	49	101
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 additional units (up to max. 31 units) into an already existent FDA-software licence		FDAQ2	
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	
Ethernet connection cable 5 m for computer interface		E06189	
USB-Ethernet adapter		E06192	

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

DISHWASHER UFdw

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 1.4016 (ASTM 430), rear zinc-plated steel 1.0037 (St37-2), intuitively operated SingleDISPLAY or TwinDISPLAY (TFT colour display) with touchscreen
Door:	fully insulated stainless steel doors with 2-point locking (compression door lock), size 750: two leaves
Connection:	mains cable with plug (German type) CEE plug for 400 V
Installation:	on lockable castors
Interfaces:	USB Ethernet □ LAN □
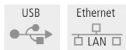
USB: only TwinDISPLAY
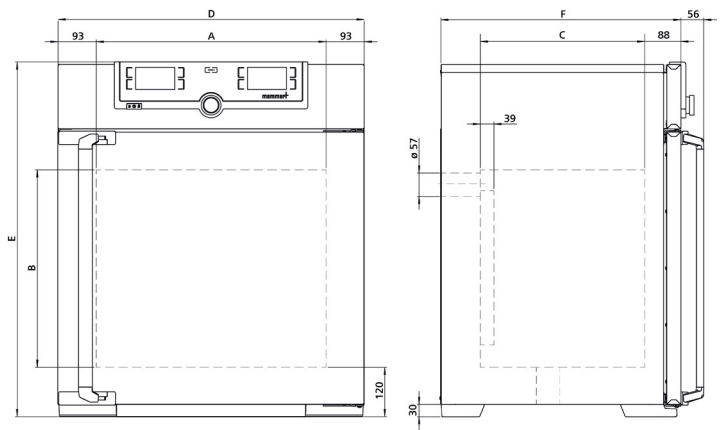
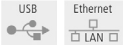| Model sizes/Description				750
Stainless steel interior	Volume		l	749
	Width	(A)	mm	1040
	Height	(B)	mm	1200
	Depth (less 39 mm for fan)	(C)	mm	600
	Max. number of grids/shelves		number	14
	Max. loading per grid/shelf		kg	30
	Max. loading of chamber		kg	300
	Max. loading per slide-in drip tray		kg	8
	Max. loading per bottom drip tray		kg	8
Textured stainless steel exterior	Width	(D)	mm	1224
	Height (sizes 450, 750, 1060 with castors)	(E)	mm	1720
	Depth (without door handle, depth of handle +56 mm)	(F)	mm	784
Standard equipment	Standard works calibration certificate (measuring point chamber center)		°C	+80
	CO_2 connection set: hose with coupling and clamp			●
Temperature	Working temperature range		°C	at least 10 above ambient temperature up to +100
	Setting temperature range		°C	+20 to +100
	Setting accuracy		°C	up to 99.9: 0.1 / from 100: 0.5
Further data	Electrical load at 400 V and 3 x 230V w/o neutral, 50/60 Hz		W	4800
Packing data	Net weight		kg	217
	Gross weight (packed in carton)		kg	288
	Width		mm	1330
	Height		mm	1910
	Depth		mm	1050
Order No. Universal Ovens U = Universal Oven N = Natural convection F = Forced air circulation plus = Model with TwinDISPLAY				UF750dw

Options	750
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)	H6
Potential-free contact (24 V/2 A) with socket, 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 2 contacts	H72
Process-dependent programmable door lock	D4
Door-open-recognition	V5

Accessories	750
Additional loading set consisting of 8 grids as well as 6 place settings and 3 grid baskets for cups/glasses, made of stainless steel, material 1.4301 (ASTM 304)	B51799
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

Accessories	Software and Connectivity	750
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. 31 units) into an already existent FDA-software licence (only for units with TwinDISPLAY)	FDAQ2
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
Ethernet connection cable 5 m for computer interface	E06189
USB-Ethernet adapter	E06192

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

PLASTICINE OVEN UFPlplus

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 1.4016 (ASTM 430), rear zinc-plated steel 1.0037 (St37-2), intuitively operated SingleDISPLAY or TwinDISPLAY (TFT colour display) with touchscreen

Door: fully insulated stainless steel doors with 2-point locking (compression door lock), from size 450 two leaves

Connection: mains cable with plug (German type) CEE plug for 400 V

Installation: Size 260: 4 adjustable appliance feet, Sizes 450 to 1060: on lockable castors

Interfaces:

USB: only TwinDISPLAY

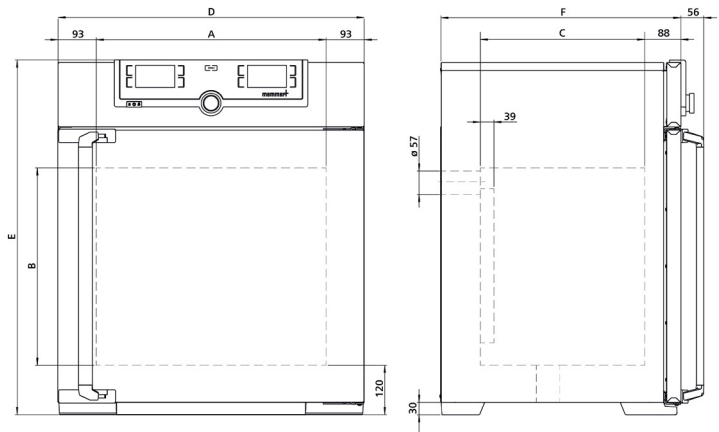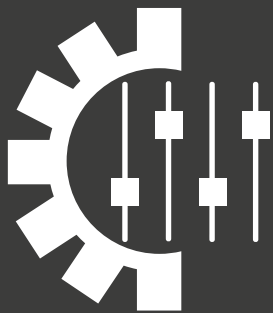| Model sizes/Description				260	450	750	1060
Stainless steel interior	Volume		l	256	449	749	1060
	Width	(A)	mm	640	1040		
	Height	(B)	mm	800	720	1200	
	Depth (less 39 mm for fan)	(C)	mm	500	600		850
	Max. number of grids/shelves		number	9	8	14	
	Max. loading per grid/shelf		kg	20	30		60
	Max. loading of chamber		kg	300			
	Max. loading per slide-in drip tray		kg	4	8		
	Max. loading per bottom drip tray		kg	4	8		
Textured stainless steel exterior	Width	(D)	mm	824	1224		
	Height (sizes 450, 750, 1060 with castors)	(E)	mm	1183	1247	1720	
	Depth (without door handle, depth of handle +56 mm)	(F)	mm	684	784		1035
Standard equipment	Standard works calibration certificate (measuring point chamber center)		°C	+37			
	CO$_2$ connection set: hose with coupling and clamp		number	2			
	Door-open-recognition			-	●		
Temperature	Working temperature range		°C	at least 10 above ambient temperature up to +80			
	Setting temperature range		°C	+20 to +80			
	Setting accuracy		°C	up to 99.9: 0.1 / from 100: 0.5			
Further data	Electrical load at 230 V, 50/60 Hz		W	840	-		
	Electrical load at 115 V, 50/60 Hz		W	840	-		
	Electrical load at 400 V and 3 x 230V w/o neutral, 50/60 Hz		W	-	1450	1725	
Packing data	Net weight		kg	110	161	217	260
	Gross weight (packed in carton)		kg	161	227	288	424
	Width		mm	930	1330		1370
	Height		mm	1380	1440	1910	1970
	Depth		mm	930	1050		1300
Order No. Universal Ovens U = Universal Oven N = Natural convection F = Forced air circulation plus = Model with TwinDISPLAY				UF260Plplus	UF450Plplus	UF750Plplus	UF1060Plplus

Options	260	450	750	1060
Voltage 115 V, 50/60 Hz	X2	-		
Full-sight glass door (4-layer insulating glass)	B0			
Interior nearly gastight with possibility for gas inlet/outlet through 2 tubes with ball valves - technical clarification required for combination with other options	K3			
Entry port with 23 mm clear diameter, can be closed, standard position — left centre/centre	F0			
right centre/centre ... left centre/top	F1			
right centre/centre	F2			
right centre/top	F3			
Entry port with 23 mm clear diameter, can be closed, individual position (please state position) — 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 with 57 mm clear diameter, can be closed by flap, individual positions in the back wall (please state position, not possible for devices with forced air circulation of sizes 30-75)	F8			
Entry port with 100 mm clear diameter, can be closed by flap, individual positions in the back wall (please state position, not possible for devices with forced air circulation of size 75)	F9			
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. 1 SingleDISPLAY, max. 3 TwinDISPLAY) - price per sensor	V6			
Fan speed monitoring with switching off the heating and with alarm in case of failure (for UFplus)	V4			
Door with lock and key (safety lock)	B6			
Door hinged on the left	B8	-		
Potential-free contact for combination error message (e.g. supply failure, sensor fault, fuse)	H6			
Potential-free contact (24 V/2 A) with socket, 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 — 2 contacts	H72			
Process-dependent programmable door lock (only for units with TwinDISPLAY)	D4			
Flexible Pt100 temperature sensor, positioned flexibly in chamber or load, for local temperature measurement (up to 1 additional sensor is possible). The measured temperature will 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	-		
Fresh-air filter (filtration efficiency 80 %) mounted at the device bottom (for devices with forced air circulation, sizes 30 - 260 require castor frame R9 or subframe)	R8			

Accessories	260	450	750	1060
Reinforced stainless steel grid, electropolished, max. loading 60 kg; with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	B42444	B42447		B42450
Reinforced stainless steel shelf, max. loading 60 kg; with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	B42445	B42448		B42451
Stainless steel grid, electropolished	E28891	-		B41251
Reinforced stainless steel grid, electropolished, max. loading 60 kg; from size 450 with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	E29766	B32190		B32550
Perforated stainless steel shelf	B29725	-		
Reinforced stainless steel shelf, max. loading 60 kg; with guide bars and fixing screws (requires option K1). Please consider max. loading of chamber	-	B32191		B32549
Stainless steel slide-in drip tray, 15 mm rim, with guide bars and fixing screws (may affect the temperature distribution, requires option K1)	-	B32763		-
Stainless steel slide-in drip tray, 15 mm rim (may affect the temperature distribution, not in connection with option K1 for sizes 450/750)	B29726	-		B32599
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution, requires option K1)	-	B34055		-
Stainless steel bottom drip tray, 15 mm rim (may affect the temperature distribution, not in connection with option K1 for sizes 450/750)	B29722	-		B29769
Plug-in tube extension (outer diam. 60.3 mm, inner 57 mm), straight, for exhaust air ducting (if necessary for connection by hose)	B29718			

Accessories	260	450	750	1060
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	B29738	B29740	B29742	
Flush-fit unit (stainless steel frame covering gap between oven and wall opening), without air slots	B29739	B29741	B29743	
Set of height adjustable feet (4 pcs)	B29768	-		
Subframe, adjustable in height (size 30 to 75: height 600 mm, from size 110: height 500 mm)	B29751	B29753	-	
Subframe, adjustable in height, height 130 mm	B33664	-		

Accessories | Software and Connectivity	260	450	750	1060
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. 31 units) into an already existent FDA-software licence (only for units with TwinDISPLAY)	FDAQ2			
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			
Ethernet connection cable 5 m for computer interface	E06189			
USB-Ethernet adapter	E06192			

m360
MODIFICATIONS

CONSTANT CLIMATE CHAMBERS HPPeco

Options	Mechanics	110	260	410	750	1060	1400	2200
Door handlebar	Reinforced ; price per door	-	-	Q4m	Q4m	Q4m	Q4m	Q4m
Door hinge	Exchange	B8m	B8m	B8m	-	-	-	-
Door hinge	Max. opening angle 120° ; price per door	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m
Door hinge	Max. opening angle 95° ; price per door	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m
Entry port	Inner diameter 14mm — back panel	N0m	N0m	N0m	N0m	N0m	N0m	N0m
Entry port	Inner diameter 14mm — side panel	N1m	N1m	N1m	N1m	N1m	N1m	N1m
Entry port	Inner diameter 23mm — back panel	-	-	-	-	-	N2m	N2m
Entry port	Inner diameter 38mm — back panel	N4m	N4m	N4m	N4m	N4m	N4m	N4m
Entry port	Inner diameter 38mm — side panel	N5m	N5m	N5m	N5m	N5m	N5m	N5m
Entry port	Inner diameter 57mm — back panel	N6m	N6m	N6m	N6m	N6m	N6m	N6m
Entry port	Inner diameter 57mm — side panel	N7m	N7m	N7m	N7m	N7m	N7m	N7m
Entry port	Inner diameter 80mm — back panel	N8m	N8m	N8m	N8m	N8m	N8m	N8m
Entry port	Inner diameter 80mm — side panel	N9m	N9m	N9m	N9m	N9m	N9m	N9m
Entry port	Inner diameter 100mm — back panel	N10m	N10m	N10m	N10m	N10m	N10m	N10m
Entry port	Inner diameter 100mm — side panel	N11m	N11m	N11m	N11m	N11m	N11m	N11m
Entry port	Inner diameter 120mm — back panel	N12m	N12m	N12m	N12m	N12m	N12m	N12m
Entry port	Inner diameter 120mm — side panel	N13m	N13m	N13m	N13m	N13m	N13m	N13m
Entry port	Inner diameter 40mm ; Silicone — back panel	-	-	-	-	-	N20m	N20m
Entry port	Inner diameter 80mm ; Silicone — back panel	N21m	N21m	N21m	N21m	N21m	N21m	N21m
Entry port	Inner diameter 120mm ; Silicone — back panel	N22m	N22m	N22m	N22m	N22m	N22m	N22m
ESD modification	M3m	M3m	M3m	M3m	M3m	-	-
Heavy-duty	Interior modification option K1	-	K1	-	-	-	-	-
Heavy-duty frame	Interior fittings ; requires base frame at extra cost	-	M11m	-	-	-	-	-
Heavy-duty frame	Interior fittings	-	-	-	M22m	-	-	-
Heavy-duty frame	Interior fittings	-	-	-	-	M31m	-	-
Heavy-duty frame	Base frame ; requires option R9 for appliances size 260 at extra cost	-	M10m	-	-	-	-	-
Heavy-duty frame	Base frame	-	-	-	M20m	-	-	-
Heavy-duty frame	Base frame	-	-	-	-	M30m	-	-
Heavy-duty frame	Grid ; price per grating ; requires base frame and interior fittings at extra cost	-	M12m	-	-	-	-	-
Heavy-duty frame	Grid	-	-	-	M23m	-	-	-
Heavy-duty frame	Grid	-	-	-	-	M32m	-	-
Levelling castors	Max. height: 102mm ; requires option R9 for appliances up to and including size 260 at extra cost	M4m	M4m	M4m	M4m	M4m	M4m	M4m
Levelling feet	Max. height: 140mm ; requires option R9 for appliances up to and including size 260 at extra cost	M5m	M5m	M5m	M5m	M5m	M5m	M5m
Maintenance flap	Electronics box	M1m	M1m	M1m	-	-	-	-
Metal outer door	Inspection window ; heated	-	-	B3m	B3m	B3m	-	-
Metal outer door	Inspection window ; non-heated	B0m	B0m	B0m	B0m	B0m	-	-
Seal	Housing ; ESD protection ; temperature resistance: 180 °C	Q3m	Q3m	Q3m	Q3m	Q3m	-	-
Seal	Viton ; housing ; temperature resistance: 250 °C	Q2m	Q2m	Q2m	Q2m	Q2m	-	-
Telescopic slides	Grid ; price per grid	M6m	-	-	-	-	-	-
Telescopic slides	Perforated sheet ; price per perforated sheet	M7m	-	-	-	-	-	-

Options	Electronics	110	260	410	750	1060	1400	2200
Control unit	External	E4m	E4m	E4m	E4m	E4m	E4m	E4m
Control box	External	E5m	E5m	E5m	E5m	E5m	E5m	E5m
Door	Electric lock ; safety switch	E7m	E7m	-	-	-	-	-
Exhaust air flap	Rear panel	E6m	E6m	E6m	E6m	E6m	E6m	E6m
Interface 4-20mA	Humidity	V7m	V7m	V7m	V7m	V7m	V7m	V7m

Options | Electronics		110	260	410	750	1060	1400	2200
Lighting | Grid ; LED light strips ; cool white 6,500 K	first grid		J17m			-	J17m	
	additional grid		J17mx			-	J17mx	
Lighting | Grid ; LED light strips ; cool white 6,500 K + warm white 2,700 K	first grid		J18m			-	J18m	
	additional grid		J18mx			-	J18mx	
Lighting | Grid ; LED light strips ; warm white 2,700 K	first grid		J19m			-	J19m	-
	additional grid		J19mx			-	J19mx	
Lighting | Grid reinforced ; LED light strips ; cool white 6,500 K ; requires option K1 at extra charge, except from size 1060	first grid	-			J27m		-	
	additional grid	-			J27mx		-	
Lighting | Grid reinforced ; LED light strips ; cool white 6,500 K + warm white 2,700 K ; requires option K1 at extra charge, except from size 1060	first grid	-			J28m		-	
	additional grid	-			J28mx		-	
Lighting | Grid reinforced ; LED light strips ; warm white 2,700 K ; requires option K1 at extra charge, except from size 1060	first grid	-			J29m		-	
	additional grid	-			J29mx		-	
Lighting | Interior K1 modification ; LED light strips ; cool white 6,500 K ; requires option K1 at extra charge, except from size 1060	first grid	-			J07m			
	additional grid	-			J07mx			
Lighting | Interior K1 modification ; LED light strips ; cool white 6,500 K + warm white 2,700 K ; requires option K1 at extra charge, except from size 1060	first grid	-			J08m			
	additional grid	-			J08mx			
Lighting | Interior K1 modification ; LED light strips ; warm white 2,700 K ; requires option K1 at extra charge, except from size 1060	first grid	-			J09m			
	additional grid	-			J09mx			
4 - 20 mA current loop interface	Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring (max. 3) - price per sensor				V6			
Parameter monitoring | CO$_2$; temperature resistance: +70 °C					U2m			
Parameter monitoring | O$_2$; temperature resistance: +200 °C					U0m			
Potential-free contact | Message TARGET-value reached					H5m			
Potential-free contact | Programmable ; only for appliances with TwinDISPLAY	2 contacts (A, B)				H7m2			
	4 contacts (A, B, C, D)	-			H7m4			
PT100 sensor | Freely positionable ; Connection socket on the rear of the appliance					H4m			
PT100 sensor | Freely positionable	1 sensor				H8m			
	2 sensors				H8m2			
	3 sensors				H8m3			
Signal lamp | Control panel ; red, yellow, green ; requires option H6 and H72 at extra cost				E0m			-	
Signal lamp | Top cover ; 3 lights (red, yellow, green) ; requires option H6 and H72 at extra cost				E1m			-	
Signal lamp | Top cover ; one multi-coloured light ; requires option H6 and H72 at extra cost				E2m			-	
Socket outlet | Interior ; separately switchable ; temperature resistance: +60 °C ; requires option A8 at extra cost					R4m			
Socket outlet | Interior ; separately switchable ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost					R44m			
Socket outlet | Interior ; switchable via appliance ; temperature resistance: +60 °C ; requires option A8 at extra cost					R3m			
Socket outlet | Interior ; switchable via appliance ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost					R33m			

Accessories	110	260	410	750	1060	1400	2200
Connection cable | 5m ; 230V				B58607			
Floor grid | Heavy-duty	E36692	E36704		B31972	E40438	-	
Grid | Reinforced ; max. load 60kg			-			B59004	
Perforated sheet			-			B59007	

Accessories	110	260	410	750	1060	1400	2200
Perforated sheet | Reinforced ; max. load 100kg ; requires option K1	-	B58460		B58461	B58462	-	
Perforated sheet | Reinforced ; max. load 80kg	-	B57086		B52092		-	
Plug | Ø23mm ; silicone ; temperature resistance: 200°C				E05387			
Plug | Ø37-40mm ; silicone ; temperature resistance: 200°C				E07479			
Plug | Ø57mm ; silicone ; temperature resistance: 200°C				E05389			
Plug | Ø100mm ; silicone ; temperature resistance: 200°C				E05386			
Plug | Ø14mm ; silicone sponge ; temperature resistance: 180°C				E05790			
Plug | Ø23mm ; silicone sponge ; temperature resistance: 180°C				E05361			
Plug | Ø37-40mm ; silicone sponge ; temperature resistance: 180°C				E05362			
Plug | Ø57mm ; silicone sponge ; temperature resistance: 180°C				E07865			
Plug | Ø80mm ; silicone sponge ; temperature resistance: 180°C				E05625			
Plug | Ø100mm ; silicone sponge ; temperature resistance: 180°C				E07866			
Plug | Ø120mm ; silicone sponge ; temperature resistance: 180°C				E05920			
Stacking frame	B57998	B58000		-			
Telescopic slide | Grid ; price per grid ; requires option K1	-	B43102		B43093	B43100	-	
Telescopic slide | Perforated sheet ; price per perforated sheet ; requires option K1	-	B51618		B44476	B56888	-	

HUMIDITY CHAMBERS HCP

Options	Electronics	50	105	150	240
Control unit	External		E4m		

Accessories	50	105	150	240
Connection cable	5m ; 230V		B58607		
Plug	Ø23mm ; silicone ; temperature resistance: 200°C		E05387		
Plug	Ø37-40mm ; silicone ; temperature resistance: 200°C		E07479		
Plug	Ø57mm ; silicone ; temperature resistance: 200°C		E05389		
Plug	Ø100mm ; silicone ; temperature resistance: 200°C		E05386		
Plug	Ø14mm ; silicone sponge ; temperature resistance: 180°C		E05790		
Plug	Ø23mm ; silicone sponge ; temperature resistance: 180°C		E05361		
Plug	Ø37-40mm ; silicone sponge ; temperature resistance: 180°C		E05362		
Plug	Ø57mm ; silicone sponge ; temperature resistance: 180°C		E07865		
Plug	Ø80mm ; silicone sponge ; temperature resistance: 180°C		E05625		
Plug	Ø100mm ; silicone sponge ; temperature resistance: 180°C		E07866		
Plug	Ø120mm ; silicone sponge ; temperature resistance: 180°C		E05920		

CLIMATE CHAMBERS ICH

Options	Mechanics	110	260	750
Door handlebar	Reinforced ; price per door		-	Q4m
Door hinge	Exchange		B8m	-
Door hinge	Max. opening angle 120° ; price per door		Q1m	
Door hinge	Max. opening angle 95° ; price per door		Q0m	
Entry port	Inner diameter 14mm — back panel		N0m	
Entry port	Inner diameter 14mm — side panel		N1m	
Entry port	Inner diameter 23mm — back panel		N2m	
Entry port	Inner diameter 23mm — side panel		N3m	
Entry port	Inner diameter 38mm — back panel		N4m	
Entry port	Inner diameter 38mm — side panel		N5m	
Entry port	Inner diameter 57mm — back panel		N6m	
Entry port	Inner diameter 57mm — side panel		N7m	
Entry port	Inner diameter 80mm — back panel		N8m	
Entry port	Inner diameter 80mm — side panel		N9m	
Entry port	Inner diameter 100mm — back panel		N10m	
Entry port	Inner diameter 100mm — side panel		N11m	
Entry port	Inner diameter 120mm — back panel		N12m	
Entry port	Inner diameter 120mm — side panel		N13m	
Heavy-duty	Interior modification option K1	-	K1	-
Levelling castors	Max. height: 102mm ; requires option R9 for appliances up to and including size 260 at extra cost		M4m	
Levelling feet	Max. height: 140mm ; requires option R9 for appliances up to and including size 260 at extra cost		M5m	
Metal outer door	Inspection window ; heated		-	B3m
Metal outer door	Inspection window ; non-heated		B0m	
Seal	Housing ; ESD protection ; temperature resistance: 180 °C		Q3m	
Seal	Viton ; housing ; temperature resistance: 250 °C		Q2m	

Options	Electronics	110	260	750
Control unit	External		E4m	
Control box	External		E5m	
Door	Electric lock ; safety switch		E7m	-
Exhaust air flap	Rear panel		E6m	
Interface 4-20mA	Humidity		V7m	
Lighting	Interior		R0m	
Parameter monitoring	CO_2 ; temperature resistance: +70 °C		U2m	
Parameter monitoring	O_2 ; temperature resistance: +200 °C		U0m	
Potential-free contact	Message TARGET-value reached		H5m	
Potential-free contact	Programmable ; only for appliances with TwinDISPLAY — 2 contacts (A, B)		H7m2	
Potential-free contact	Programmable ; only for appliances with TwinDISPLAY — 4 contacts (A, B, C, D)		-	H7m4
PT100 sensor	Freely positionable ; Connection socket on the rear of the appliance		H4m	
PT100 sensor	Freely positionable — 1 sensor		H8m	
PT100 sensor	Freely positionable — 2 sensors		H8m2	
PT100 sensor	Freely positionable — 3 sensors		H8m3	
Signal lamp	Control panel ; red, yellow, green ; requires option H6 and H72 at extra cost		E0m	
Signal lamp	Top cover ; 3 lights (red, yellow, green) ; requires option H6 and H72 at extra cost		E1m	
Signal lamp	Top cover ; one multi-coloured light ; requires option H6 and H72 at extra cost		E2m	
Socket outlet	Interior ; separately switchable ; temperature resistance: +60 °C ; requires option A8 at extra cost		R4m	
Socket outlet	Interior ; separately switchable ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost		R44m	
Socket outlet	Interior ; switchable via appliance ; temperature resistance: +60 °C ; requires option A8 at extra cost		R3m	
Socket outlet	Interior ; switchable via appliance ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost		R33m	

Accessories	110	260	750
Connection cable	5m ; 230V		B58607	
Floor grid	Heavy-duty	E36692	E36704	B31972
Perforated sheet	Reinforced ; max. load 100kg ; requires option K1	-	B58460	B58461
Perforated sheet	Reinforced ; max. load 80kg	-	B57086	B52092
Plug	Ø23mm ; silicone ; temperature resistance: 200°C		E05387	
Plug	Ø37-40mm ; silicone ; temperature resistance: 200°C		E07479	
Plug	Ø57mm ; silicone ; temperature resistance: 200°C		E05389	
Plug	Ø100mm ; silicone ; temperature resistance: 200°C		E05386	
Plug	Ø14mm ; silicone sponge ; temperature resistance: 180°C		E05790	
Plug	Ø23mm ; silicone sponge ; temperature resistance: 180°C		E05361	
Plug	Ø37-40mm ; silicone sponge ; temperature resistance: 180°C		E05362	
Plug	Ø57mm ; silicone sponge ; temperature resistance: 180°C		E07865	
Plug	Ø80mm ; silicone sponge ; temperature resistance: 180°C		E05625	
Plug	Ø100mm ; silicone sponge ; temperature resistance: 180°C		E07866	
Plug	Ø120mm ; silicone sponge ; temperature resistance: 180°C		E05920	

ENVIRONMENTAL TEST CHAMBERS CTC / TTC

Options	Electronics		CTC256	TTC256
PT100 sensor	Freely positionable ; Connection socket on the rear of the appliance		H4m	-
PT100 sensor	Freely positionable	1 sensor	H8m	-

Accessories	CTC256	TTC256
Floor grid	Heavy-duty	E41309	
Plug	Ø23mm ; silicone ; temperature resistance: 200°C	E05387	
Plug	Ø37-40mm ; silicone ; temperature resistance: 200°C	E07479	
Plug	Ø57mm ; silicone ; temperature resistance: 200°C	E05389	
Plug	Ø100mm ; silicone ; temperature resistance: 200°C	E05386	
Plug	Ø14mm ; silicone sponge ; temperature resistance: 180°C	E05790	
Plug	Ø23mm ; silicone sponge ; temperature resistance: 180°C	E05361	
Plug	Ø37-40mm ; silicone sponge ; temperature resistance: 180°C	E05362	
Plug	Ø57mm ; silicone sponge ; temperature resistance: 180°C	E07865	
Plug	Ø80mm ; silicone sponge ; temperature resistance: 180°C	E05625	
Plug	Ø100mm ; silicone sponge ; temperature resistance: 180°C	E07866	
Plug	Ø120mm ; silicone sponge ; temperature resistance: 180°C	E05920	

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

UNIVERSAL OVENS U

Options	Mechanics	30	55	75	110	160	260	450	750	1060
Door handlebar	Reinforced ; price per door	-	-	-	-	-	-	-	Q4m	Q4m
Door hinge	Max. opening angle 120° ; price per door	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m
Door hinge	Max. opening angle 95° ; price per door	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m
Door lock	Magnetic ; temperature resistance: 200 °C ; requires option A8 at extra cost	M0m	M0m	M0m	M0m	M0m	M0m	-	-	-
Entry port	Inner diameter 14mm — side panel	N51m	N51m	N51m	N51m	N51m	N51m	N51m	N51m	N51m
Entry port	Inner diameter 38mm — side panel	N56m	N56m	N56m	N56m	N56m	N56m	N56m	N56m	N56m
Entry port	Inner diameter 57mm — back panel	F8m	F8m	-	-	-	-	-	-	-
Entry port	Inner diameter 57mm — side panel	N59m	N59m	N59m	N59m	N59m	N59m	N59m	N59m	N59m
Entry port	Inner diameter 80mm — back panel	N60m	N60m	N60m	N60m	N60m	N60m	N60m	N60m	N60m
Entry port	Inner diameter 80mm — side panel	N61m	N61m	N61m	N61m	N61m	N61m	N61m	N61m	N61m
Entry port	Inner diameter 100mm — back panel	F9m	F9m	-	-	-	-	-	-	-
Entry port	Inner diameter 100mm — side panel	N63m	N63m	N63m	N63m	N63m	N63m	N63m	N63m	N63m
Entry port	Inner diameter 120mm — back panel	N64m	N64m	N64m	N64m	N64m	N64m	N64m	N64m	N64m
Entry port	Inner diameter 120mm — side panel	N65m	N65m	N65m	N65m	N65m	N65m	N65m	N65m	N65m
ESD modification	-	-	-	M3m	M3m	M3m	M3m	M3m	M3m
Filter holder (one filter)	Air inlet ; filter available separately as an accessory ; requires a base frame or option R9 for appliances up to and including size 260	R81m	R81m	R81m	R81m	R81m	R81m	R81m	R81m	R81m
Filter holder (two filters)	Air inlet ; filter available separately as an accessory ; requires a base frame or option R9 for appliances up to and including size 260	R82m	R82m	R82m	R82m	R82m	R82m	R82m	R82m	R82m
Heavy-duty	Interior modification option K1	-	-	-	-	K1	K1	-	-	-
Heavy-duty frame	Interior fittings ; requires base frame at extra cost	-	-	-	-	M11m	M11m	-	-	-
		-	-	-	-	-	-	M21m	-	-
		-	-	-	-	-	-	-	M22m	-
		-	-	-	-	-	-	-	-	M31m
Heavy-duty frame	Base frame ; requires option R9 for appliances size 260 at extra cost	-	-	-	-	M10m	M10m	-	-	-
		-	-	-	-	-	-	M20m	M20m	-
		-	-	-	-	-	-	-	-	M30m
Heavy-duty frame	Grid ; price per grating ; requires base frame and interior fittings at extra cost	-	-	-	-	M12m	M12m	-	-	-
		-	-	-	-	-	-	M23m	M23m	-
		-	-	-	-	-	-	-	-	M32m
Insulation	Modification for particle reduction	M2m	M2m	M2m	M2m	M2m	M2m	M2m	M2m	M2m
Levelling castors	Max. height: 102mm ; requires option R9 for appliances up to and including size 260 at extra cost	M4m	M4m	M4m	M4m	M4m	M4m	M4m	M4m	M4m
Levelling feet	Max. height: 140mm ; requires option R9 for appliances up to and including size 260 at extra cost	M5m	M5m	M5m	M5m	M5m	M5m	M5m	M5m	M5m
Maintenance flap	Electronics box	-	-	-	M1m	M1m	M1m	-	-	-
Seal	Housing ; ESD protection ; temperature resistance: 180 °C ; requires option A8 at extra cost	Q3m	Q3m	Q3m	Q3m	Q3m	Q3m	Q3m	Q3m	Q3m
Seal	Viton ; housing ; temperature resistance: 250 °C ; requires option A8 at extra cost	Q2m	Q2m	Q2m	Q2m	Q2m	Q2m	Q2m	Q2m	Q2m
Telescopic slides	Grid ; price per grid	-	M6m	M6m	M6m	M6m	-	-	-	-
Telescopic slides	Perforated sheet ; price per perforated sheet	-	M7m	M7m	M7m	M7m	-	-	-	-

Options	Electronics	30	55	75	110	160	260	450	750	1060
Control unit	External	E4m	E4m	E4m	E4m	E4m	E4m	E4m	E4m	E4m
Control box	External	-	-	-	E5m	E5m	E5m	E5m	E5m	E5m
Door	Electric lock ; safety switch	-	-	-	E7m	E7m	E7m	-	-	-

Options	Electronics	30	55	75	110	160	260	450	750	1060
Interface 4-20mA | Humidity ; requires option U1m at extra cost	V7m								
Exhaust air extraction | Rapid cooling fan	-		E3m						
Parameter monitoring | CO₂ ; temperature resistance: +70 °C ; requires option A8 at extra cost	U2m								
Parameter monitoring | Humidity ; temperature resistance +180°C ; requires option A8 at extra cost	U1m								
Parameter monitoring | O₂ ; temperature resistance: +200 °C ; requires option A8 at extra cost	U0m								
Potential-free contact | Message TARGET-value reached	H5m								
Potential-free contact | Programmable ; only for appliances with Twin-DISPLAY 4 contacts (A, B, C, D)	-					H7m4			
PT100 sensor | Freely positionable ; Connection socket on the rear of the appliance	H4m								
PT100 sensor | Freely positionable 2 sensors	H8m2								
3 sensors	H8m3								
Signal lamp | Control panel ; red, yellow, green ; requires option H6 and H72 at extra cost	-			E0m					
Signal lamp | Top cover ; 3 lights (red, yellow, green) ; requires option H6 and H72 at extra cost	-			E1m					
Signal lamp | Top cover ; one multi-coloured light ; requires option H6 and H72 at extra cost	-			E2m					
Socket outlet | Interior ; separately switchable ; temperature resistance: +60 °C ; requires option A8 at extra cost	R4m								
Socket outlet | Interior ; separately switchable ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost	R44m								
Socket outlet | Interior ; switchable via appliance ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost	R33m								

Accessories	30	55	75	110	160	260	450	750	1060
Air filter | Supply air opening ; filter class: F7 ; requires option R81m / R82m	E07438								
Air filter | Supply air opening ; filter class: H13 ; requires option R81m / R82m	E07439								
Connection cable | 5m ; 230V	B58607						-		
Exhaust air | Rear wall ; condensate drainage	B37684								
Floor grid | Heavy-duty	E50944	E46407		E36692		E36704		B31972	E40438
Perforated sheet | Reinforced ; max. load 100kg ; requires option K1	-					B58460		B58461	B58462
Perforated sheet | Reinforced ; max. load 80kg	-					B57086		B52092	-
Plug | Ø23mm ; silicone ; temperature resistance: 200°C	E05387								
Plug | Ø37-40mm ; silicone ; temperature resistance: 200°C	E07479								
Plug | Ø37-40mm ; silicone ; temperature resistance: 300°C	E07699								
Plug | Ø57mm ; silicone ; temperature resistance: 200°C	E05389								
Plug | Ø100mm ; silicone ; temperature resistance: 200°C	E05386								
Plug | Ø23mm ; silicone ; temperature resistance: 300°C	E07698								
Plug | Ø57mm ; silicone ; temperature resistance: 300°C	E07700								
Plug | Ø80mm ; silicone ; temperature resistance: 300°C	E07701								
Plug | Ø100-120mm ; silicone ; temperature resistance: 300°C	E07702								

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Accessories	30	55	75	110	160	260	450	750	1060
Stacking frame	-	B50598		B50599		B50600	-		
Telescopic slide | Grid ; price per grid ; requires option K1	-					B43102	B43093		B43100
Telescopic slide | Perforated sheet ; price per perforated sheet ; requires option K1	-					B51618	B44476		B56888

VACUUM OVENS VO

Options | Mechanics	29	49	101
Door hinge | Exchange		B8m	
Door lock | Magnetic ; temperature resistance: 200 °C		M0m	
Entry port | DN16 ISO-KF		N30m	
Entry port | DN25 ISO-KF		N31m	
Entry port | DN40 ISO-KF		N32m	
Entry port | DN50 ISO-KF		N33m	

Options | Electronics		29	49	101
Control unit | External			E4m	
Door | Opening detection			V5m	
Lighting | Interior			R0m	
Potential-free contact | Programmable ; only for appliances with TwinDISPLAY	1 contact (A)		H7m	
	2 contacts (A, B)		H7m2	
	3 contacts (A, B, C)		H7m3	
PT100 sensor | Freely positionable			H8m	
Signal lamp | Control panel ; red, yellow, green ; requires option H6 and H72 at extra cost		-		E0m
Signal lamp | Top cover ; 3 lights (red, yellow, green) ; requires option H6 and H72 at extra cost		-		E1m
Signal lamp | Top cover ; one multi-coloured light ; requires option H6 and H72 at extra cost			E2m	

Accessories	29	49	101
Connection cable | 5m ; 230V		B58607	
Stapelgestell | Nivellierbar		B50577	B59029

INCUBATORS I

Options	Mechanics	30	55	75	110	160	260	450	750
Door handlebar	Reinforced ; price per door				-				Q4m
Door hinge	Max. opening angle 120° ; price per door				Q1m				
Door hinge	Max. opening angle 95° ; price per door				Q0m				
Door lock	Magnetic ; temperature resistance: 200 °C				M0m			-	
Entry port	Inner diameter 14mm — side panel				N51m				
Entry port	Inner diameter 38mm — side panel				N56m				
Entry port	Inner diameter 57mm — back panel	F8m				-			
Entry port	Inner diameter 57mm — side panel				N59m				
Entry port	Inner diameter 80mm — back panel				N60m				
Entry port	Inner diameter 80mm — side panel				N61m				
Entry port	Inner diameter 100mm — back panel	F9m				-			
Entry port	Inner diameter 100mm — side panel				N63m				
Entry port	Inner diameter 120mm — back panel				N64m				
Entry port	Inner diameter 120mm — side panel				N65m				
ESD modification			-		M3m				
Filter holder (one filter)	Air inlet ; filter available separately as an accessory ; requires a base frame or option R9 for appliances up to and including size 260				R81m				
Filter holder (two filters)	Air inlet ; filter available separately as an accessory ; requires a base frame or option R9 for appliances up to and including size 260				R82m				
Heavy-duty	Interior modification option K1				-		K1		-
Heavy-duty frame	Interior fittings ; requires base frame at extra cost				-		M11m	-	
Heavy-duty frame	Interior fittings ; requires base frame at extra cost					-		M21m	-
Heavy-duty frame	Interior fittings ; requires base frame at extra cost						-		M22m
Heavy-duty frame	Base frame ; requires option R9 for appliances size 260 at extra cost	-	M20m			-		M20m	
Heavy-duty frame	Base frame ; requires option R9 for appliances size 260 at extra cost				-		M10m	-	
Heavy-duty frame	Grid ; price per grating ; requires base frame and interior fittings at extra cost				-		M12m	-	
Heavy-duty frame	Grid ; price per grating ; requires base frame and interior fittings at extra cost					-		M23m	
Insulation	Modification for particle reduction				M2m				
Levelling castors	Max. height: 102mm ; requires option R9 for appliances up to and including size 260 at extra cost				M4m				
Levelling feet	Max. height: 140mm ; requires option R9 for appliances up to and including size 260 at extra cost				M5m				
Maintenance flap	Electronics box		-			M1m		-	
Seal	Housing ; ESD protection ; temperature resistance: 180 °C				Q3m				
Seal	Viton ; housing ; temperature resistance: 250 °C				Q2m				
Telescopic slides	Grid ; price per grid	-			M6m			-	
Telescopic slides	Perforated sheet ; price per perforated sheet	-			M7m			-	

Options	Electronics	30	55	75	110	160	260	450	750
Control unit	External				E4m				
Control box	External		-				E5m		
Door	Electric lock ; safety switch		-			E7m		-	
Interface 4-20mA	Humidity ; requires option U1m at extra cost				V7m				
Exhaust air extraction	Rapid cooling fan	-				E3m			
Parameter monitoring	CO$_2$; temperature resistance: +70 °C				U2m				
Parameter monitoring	Humidity ; temperature resistance +180°C				U1m				
Parameter monitoring	O$_2$; temperature resistance: +200 °C				U0m				
Potential-free contact	Message TARGET-value reached				H5m				

Options | Electronics		30	55	75	110	160	260	450	750
Potential-free contact | Programmable ; only for appliances with TwinDISPLAY	2 contacts (A, B)	H7m2							
	4 contacts (A, B, C, D)	-						H7m4	
PT100 sensor | Freely positionable ; Connection socket on the rear of the appliance		H4m							
PT100 sensor | Freely positionable	2 sensors	H8m2							
	3 sensors	H8m3							
Signal lamp | Control panel ; red, yellow, green ; requires option H6 and H72 at extra cost		-		E0m					
Signal lamp | Top cover ; 3 lights (red, yellow, green) ; requires option H6 and H72 at extra cost		-		E1m					
Signal lamp | Top cover ; one multi-coloured light ; requires option H6 and H72 at extra cost		-		E2m					
Socket outlet | Interior ; separately switchable ; temperature resistance: +60 °C ; requires option A8 at extra cost		R4m							
Socket outlet | Interior ; separately switchable ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost		R44m							
Socket outlet | Interior ; switchable via appliance ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost		R33m							

Accessories	30	55	75	110	160	260	450	750
Air filter | Supply air opening ; filter class: F7 ; requires option R81m / R82m	E07438							
Air filter | Supply air opening ; filter class: H13 ; requires option R81m / R82m	E07439							
Connection cable | 5m ; 230V	B58607							
Exhaust air | Rear wall ; condensate drainage	B37684							
Floor grid | Heavy-duty	E50944	E46407		E36692		E36704	B31972	
Perforated sheet | Reinforced ; max. load 100kg ; requires option K1	-					B58460	B58461	
Perforated sheet | Reinforced ; max. load 80kg	-					B57086	B52092	
Plug | Ø23mm ; silicone ; temperature resistance: 200°C	E05387							
Plug | Ø37-40mm ; silicone ; temperature resistance: 200°C	E07479							
Plug | Ø57mm ; silicone ; temperature resistance: 200°C	E05389							
Plug | Ø100mm ; silicone ; temperature resistance: 200°C	E05386							
Plug | Ø14mm ; silicone sponge ; temperature resistance: 180°C	E05790							
Plug | Ø23mm ; silicone sponge ; temperature resistance: 180°C	E05361							
Plug | Ø37-40mm ; silicone sponge ; temperature resistance: 180°C	E05362							
Plug | Ø57mm ; silicone sponge ; temperature resistance: 180°C	E07865							
Plug | Ø80mm ; silicone sponge ; temperature resistance: 180°C	E05625							
Plug | Ø100mm ; silicone sponge ; temperature resistance: 180°C	E07866							
Plug | Ø120mm ; silicone sponge ; temperature resistance: 180°C	E05920							
Stacking frame	-	B50598		B50599		B50600	-	
Telescopic slide | Grid ; price per grid ; requires option K1	-					B43102	B43093	
Telescopic slide | Perforated sheet ; price per perforated sheet ; requires option K1	-					B51618	B44476	

CO$_2$ INCUBATORS ICO

Options	Electronics	50	105	150	240
Control unit	External	E4m
Door	Electric lock	D4m

Accessories	50	105	150	240
Connection cable	5m ; 230V	B58607
Plug	Ø23mm ; silicone ; temperature resistance: 200°C	E05387
Plug	Ø37-40mm ; silicone ; temperature resistance: 200°C	E07479
Plug	Ø57mm ; silicone ; temperature resistance: 200°C	E05389
Plug	Ø100mm ; silicone ; temperature resistance: 200°C	E05386
Plug	Ø14mm ; silicone sponge ; temperature resistance: 180°C	E05790
Plug	Ø23mm ; silicone sponge ; temperature resistance: 180°C	E05361
Plug	Ø37-40mm ; silicone sponge ; temperature resistance: 180°C	E05362
Plug	Ø57mm ; silicone sponge ; temperature resistance: 180°C	E07865
Plug	Ø80mm ; silicone sponge ; temperature resistance: 180°C	E05625
Plug	Ø100mm ; silicone sponge ; temperature resistance: 180°C	E07866
Plug	Ø120mm ; silicone sponge ; temperature resistance: 180°C	E05920

COMPRESSOR-COOLED INCUBATORS ICP

Options	Mechanics		110	260	450	750
Door handlebar	Reinforced ; price per door			-		Q4m
Door hinge	Exchange		B8m		-	
Door hinge	Max. opening angle 120° ; price per door			Q1m		
Door hinge	Max. opening angle 95° ; price per door			Q0m		
Entry port	Inner diameter 14mm	back panel		N0m		
	side panel		N1m		
Entry port	Inner diameter 23mm	back panel		N2m		
	side panel		N3m		
Entry port	Inner diameter 38mm	back panel		N4m		
	side panel		N5m		
Entry port	Inner diameter 57mm	back panel		N6m		
	side panel		N7m		
Entry port	Inner diameter 80mm	back panel		N8m		
	side panel		N9m		
Entry port	Inner diameter 100mm	back panel		N10m		
	side panel		N11m		
Entry port	Inner diameter 120mm	back panel		N12m		
	side panel		N13m		
Heavy-duty	Interior modification option K1		-	K1	-	
Levelling castors	Max. height: 102mm ; requires option R9 for appliances up to and including size 260 at extra cost			M4m		
Levelling feet	Max. height: 140mm ; requires option R9 for appliances up to and including size 260 at extra cost			M5m		
Metal outer door	Inspection window ; heated			-		B3m
Metal outer door	Inspection window ; non-heated		B0m		-	B0m
Seal	Housing ; ESD protection ; temperature resistance: 180 °C			Q3m		
Seal	Viton ; housing ; temperature resistance: 250 °C			Q2m		

Options	Electronics		110	260	450	750
Control unit	External			E4m		
Control box	External			E5m		
Door	Electric lock ; safety switch		E7m		-	
Exhaust air flap	Rear panel			E6m		
Interface 4-20mA	Humidity ; requires option U1m at extra cost			V7m		
Compressed air drying	Dehumidification module ; requires option U1m at extra cost			C9m		
Lighting	Interior			R0m		
Parameter monitoring	CO$_2$; temperature resistance: +70 °C			U2m		
Parameter monitoring	Humidity ; temperature resistance +180°C			U1m		
Potential-free contact	Message TARGET-value reached			H5m		
Potential-free contact	Programmable ; only for appliances with TwinDISPLAY	2 contacts (A, B)		H7m2		
	4 contacts (A, B, C, D)	-		H7m4	
PT100 sensor	Freely positionable ; Connection socket on the rear of the appliance			H4m		
PT100 sensor	Freely positionable	1 sensor		H8m		
	2 sensors		H8m2		
	3 sensors		H8m3		
Signal lamp	Control panel ; red, yellow, green ; requires option H6 and H72 at extra cost			E0m		
Signal lamp	Top cover ; 3 lights (red, yellow, green) ; requires option H6 and H72 at extra cost			E1m		
Signal lamp	Top cover ; one multi-coloured light ; requires option H6 and H72 at extra cost			E2m		
Socket outlet	Interior ; separately switchable ; temperature resistance: +60 °C ; requires option A8 at extra cost			R4m		
Socket outlet	Interior ; separately switchable ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost			R44m		

Options | Electronics	110	260	450	750
Socket outlet | Interior ; switchable via appliance ; temperature resistance: +60 °C ; requires option A8 at extra cost	R3m			
Socket outlet | Interior ; switchable via appliance ; UK ; temperature resistance: +40 °C ; requires option A8 at extra cost	R33m			

Accessories	110	260	450	750
Connection cable | 5m ; 230V	B58607			
Floor grid | Heavy-duty	E36692	E36704	B31972	
Perforated sheet | Reinforced ; max. load 100kg ; requires option K1	-	B58460	B58461	
Perforated sheet | Reinforced ; max. load 80kg	-	B57086	B52092	
Plug | Ø23mm ; silicone ; temperature resistance: 200°C	E05387			
Plug | Ø37-40mm ; silicone ; temperature resistance: 200°C	E07479			
Plug | Ø57mm ; silicone ; temperature resistance: 200°C	E05389			
Plug | Ø100mm ; silicone ; temperature resistance: 200°C	E05386			
Plug | Ø14mm ; silicone sponge ; temperature resistance: 180°C	E05790			
Plug | Ø23mm ; silicone sponge ; temperature resistance: 180°C	E05361			
Plug | Ø37-40mm ; silicone sponge ; temperature resistance: 180°C	E05362			
Plug | Ø57mm ; silicone sponge ; temperature resistance: 180°C	E07865			
Plug | Ø80mm ; silicone sponge ; temperature resistance: 180°C	E05625			
Plug | Ø100mm ; silicone sponge ; temperature resistance: 180°C	E07866			
Plug | Ø120mm ; silicone sponge ; temperature resistance: 180°C	E05920			

PELTIER-COOLED INCUBATORS IPPeco

Options	Mechanics	30	55	110	260	410	750	1060	1400	2200
Door handlebar	Reinforced ; price per door	-	-	-	-	Q4m	Q4m	Q4m	Q4m	Q4m
Door hinge	Exchange	B8m	B8m	B8m	B8m	B8m	B8m	-	-	-
Door hinge	Max. opening angle 120° ; price per door	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m	Q1m
Door hinge	Max. opening angle 95° ; price per door	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m	Q0m
Entry port	Inner diameter 14mm — back panel	D6m	D6m	D6m	D6m	D6m	D6m	D6m	D6m	D6m
Entry port	Inner diameter 14mm — side panel	N51m	N51m	N51m	N51m	N51m	N51m	N51m	N51m	N51m
Entry port	Inner diameter 23mm — back panel	-	-	-	-	-	-	-	F6m	F6m
Entry port	Inner diameter 38mm — side panel	N56m	N56m	N56m	N56m	N56m	N56m	N56m	N56m	N56m
Entry port	Inner diameter 38mm — back panel	-	-	-	-	-	-	-	F7m	F7m
Entry port	Inner diameter 57mm — back panel	F8m	F8m	F8m	F8m	F8m	F8m	F8m	F8m	F8m
Entry port	Inner diameter 57mm — side panel	N59m	N59m	N59m	N59m	N59m	N59m	N59m	N59m	N59m
Entry port	Inner diameter 80mm — back panel	N60m	N60m	N60m	N60m	N60m	N60m	N60m	N60m	N60m
Entry port	Inner diameter 80mm — side panel	N61m	N61m	N61m	N61m	N61m	N61m	N61m	N61m	N61m
Entry port	Inner diameter 100mm — back panel	F9m	F9m	F9m	F9m	F9m	F9m	F9m	F9m	F9m
Entry port	Inner diameter 100mm — side panel	N63m	N63m	N63m	N63m	N63m	N63m	N63m	N63m	N63m
Entry port	Inner diameter 40mm ; Silicone — back panel	-	-	-	-	-	-	-	N20m	N20m
Entry port	Inner diameter 80mm ; Silicone — back panel	-	-	-	-	-	-	-	N21m	N21m
Entry port	Inner diameter 120mm ; Silicone — back panel	N22m	N22m	N22m	N22m	N22m	N22m	N22m	N22m	N22m
Entry port	Inner diameter 120mm — back panel	N64m	N64m	N64m	N64m	N64m	N64m	N64m	N64m	N64m
Entry port	Inner diameter 120mm — side panel	N65m	N65m	N65m	N65m	N65m	N65m	N65m	N65m	N65m
ESD modification		-	-	M3m	M3m	M3m	M3m	M3m	-	-
Heavy-duty	Interior modification option K1	-	-	-	K1	-	-	-	-	-
Heavy-duty frame	Interior fittings ; requires base frame at extra cost	-	-	-	M11m	-	-	-	-	-
		-	-	-	-	-	M22m	-	-	-
		-	-	-	-	-	-	M31m	-	-
Heavy-duty frame	Base frame ; requires option R9 for appliances size 260 at extra cost	-	-	-	M10m	-	-	-	-	-
		-	-	-	-	-	M20m	-	-	-
		-	-	-	-	-	-	M30m	-	-
Heavy-duty frame	Grid ; price per grating ; requires base frame and interior fittings at extra cost	-	-	-	M12m	-	-	-	-	-
		-	-	-	-	-	M23m	-	-	-
		-	-	-	-	-	-	M32m	-	-
Levelling castors	Max. height: 102mm ; requires option R9 for appliances up to and including size 260 at extra cost	M4m	M4m	M4m	M4m	M4m	M4m	M4m	M4m	M4m
Levelling feet	Max. height: 140mm ; requires option R9 for appliances up to and including size 260 at extra cost	M5m	M5m	M5m	M5m	M5m	M5m	M5m	M5m	M5m
Maintenance flap	Electronics box	-	-	-	M1m	-	-	-	-	-
Metal outer door	Inspection window ; heated	-	-	-	-	B3m	B3m	B3m	-	-
Metal outer door	Inspection window ; non-heated	B0m	B0m	B0m	B0m	B0m	B0m	B0m	-	-
Seal	Housing ; ESD protection ; temperature resistance: 180 °C	Q3m	Q3m	Q3m	Q3m	Q3m	Q3m	Q3m	-	-
Seal	Viton ; housing ; temperature resistance: 250 °C	Q2m	Q2m	Q2m	Q2m	Q2m	Q2m	Q2m	-	-
Telescopic slides	Grid ; price per grid	-	M6m	M6m	-	-	-	-	-	-
Telescopic slides	Perforated sheet ; price per perforated sheet	-	M7m	M7m	-	-	-	-	-	-

Options	Electronics	30	55	110	260	410	750	1060	1400	2200
Control unit	External	E4m	E4m	E4m	E4m	E4m	E4m	E4m	E4m	E4m
Control box	External	-	-	-	E5m	E5m	E5m	E5m	E5m	E5m

Options	Electronics	30	55	110	260	410	750	1060	1400	2200
Door	Electric lock ; safety switch	-	-	E7m						
Exhaust air flap	Rear panel	E6m								
Interface 4-20mA	Humidity ; requires option U1m at extra cost	-	-	V7m						
Lighting	Grid ; LED light strips ; cool white 6,500 K — first grid	-	-	J17m				-	J17m	
Lighting	Grid ; LED light strips ; cool white 6,500 K — additional grid	-	-	J17mx				-	J17mx	
Compressed air drying	Dehumidification module ; requires option U1m at extra cost	C9m							-	
Lighting	Grid ; LED light strips ; cool white 6,500 K + warm white 2,700 K — first grid	-	-	J18m				-	J18m	
Lighting	Grid ; LED light strips ; cool white 6,500 K + warm white 2,700 K — additional grid	-	-	J18mx				-	J18mx	
Lighting	Grid ; LED light strips ; warm white 2,700 K — first grid	-	-	J19m				-	J19m	-
Lighting	Grid ; LED light strips ; warm white 2,700 K — additional grid	-	-	J19mx				-	J19mx	
Lighting	Grid reinforced ; LED light strips ; cool white 6,500 K ; requires option K1 at extra charge, except from size 1060 — first grid	-					J27m	-		
Lighting	Grid reinforced ; LED light strips ; cool white 6,500 K ; requires option K1 at extra charge, except from size 1060 — additional grid	-					J27mx	-		
Lighting	Grid reinforced ; LED light strips ; cool white 6,500 K + warm white 2,700 K ; requires option K1 at extra charge, except from size 1060 — first grid	-					J28m	-		
Lighting	Grid reinforced ; LED light strips ; cool white 6,500 K + warm white 2,700 K ; requires option K1 at extra charge, except from size 1060 — additional grid	-					J28mx	-		
Lighting	Grid reinforced ; LED light strips ; warm white 2,700 K ; requires option K1 at extra charge, except from size 1060 — first grid	-					J29m	-		
Lighting	Grid reinforced ; LED light strips ; warm white 2,700 K ; requires option K1 at extra charge, except from size 1060 — additional grid	-					J29mx	-		
Lighting	Interior K1 modification ; LED light strips ; cool white 6,500 K ; requires option K1 at extra charge, except from size 1060 — first grid	-	-	J07m						
Lighting	Interior K1 modification ; LED light strips ; cool white 6,500 K ; requires option K1 at extra charge, except from size 1060 — additional grid	-		J07mx						
Lighting	Interior K1 modification ; LED light strips ; cool white 6,500 K + warm white 2,700 K ; requires option K1 at extra charge, except from size 1060 — first grid	-	-	J08m						
Lighting	Interior K1 modification ; LED light strips ; cool white 6,500 K + warm white 2,700 K ; requires option K1 at extra charge, except from size 1060 — additional grid	-		J08mx						
Lighting	Interior K1 modification ; LED light strips ; warm white 2,700 K ; requires option K1 at extra charge, except from size 1060 — first grid	-	-	J09m						
Lighting	Interior K1 modification ; LED light strips ; warm white 2,700 K ; requires option K1 at extra charge, except from size 1060 — additional grid	-		J09mx						
4 - 20 mA current loop interface — Temperature of a Pt100 sensor positioned flexibly in chamber for external temperature monitoring (max. 1 SingleDISPLAY, max. 3 TwinDISPLAY) - price per sensor	V6								
Heavy-duty	Interior modification option K1	-				K1	-			
Parameter monitoring	CO$_2$; temperature resistance: +70 °C	U2m								
Parameter monitoring	Humidity ; temperature resistance +180°C	U1m								
Parameter monitoring	O$_2$; temperature resistance: +200 °C	U0m								
Potential-free contact	Message TARGET-value reached	H5m								
Potential-free contact	Programmable ; only for appliances with TwinDISPLAY — 2 contacts (A, B)	H7m2								
Potential-free contact	Programmable ; only for appliances with TwinDISPLAY — 1 contact (A)	H7m								
Potential-free contact	Programmable ; only for appliances with TwinDISPLAY — 4 contacts (A, B, C, D)	-						H7m4		
PT100 sensor	Freely positionable ; Connection socket on the rear of the appliance	H4m								

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

June-2024   47

Options | Electronics		30	55	110	260	410	750	1060	1400	2200
PT100 sensor | Freely positionable	1 sensor	H8m								
	2 sensors	H8m2								
	3 sensors	H8m3								
Signal lamp | Control panel ; red, yellow, green ; requires option H6 and H72 at extra cost		E0m								
Signal lamp | Top cover ; 3 lights (red, yellow, green) ; requires option H6 and H72 at extra cost		E1m								
Signal lamp | Top cover ; one multi-coloured light ; requires option H6 and H72 at extra cost		E2m								
Socket outlet | Interior ; separately switchable ; temperature resistance: +60 ℃ ; requires option A8 at extra cost		R4m								
Socket outlet | Interior ; separately switchable ; UK ; temperature resistance: +40 ℃ ; requires option A8 at extra cost		R44m								
Socket outlet | Interior ; switchable via appliance ; temperature resistance: +60 ℃ ; requires option A8 at extra cost		R3m								
Socket outlet | Interior ; switchable via appliance ; UK ; temperature resistance: +40 ℃ ; requires option A8 at extra cost		R33m								

Accessories	30	55	110	260	410	750	1060	1400	2200
Connection cable | 5m ; 230V	B58607								
Floor grid | Heavy-duty	E50944	E46407	E36692	E36704		B31972	E40438	-	
Grid | Reinforced ; max. load 60kg	-							B59004	
Perforated sheet	-							B59007	
Perforated sheet | Reinforced ; max. load 100kg ; requires option K1	-			B58460		B58461	B58462	-	
Perforated sheet | Reinforced ; max. load 80kg	-			B57086		B52092		-	
Plug | Ø23mm ; silicone ; temperature resistance: 200℃	E05387								
Plug | Ø37-40mm ; silicone ; temperature resistance: 200℃	E07479								
Plug | Ø57mm ; silicone ; temperature resistance: 200℃	E05389								
Plug | Ø100mm ; silicone ; temperature resistance: 200℃	E05386								
Plug | Ø14mm ; silicone sponge ; temperature resistance: 180℃	E05790								
Plug | Ø23mm ; silicone sponge ; temperature resistance: 180℃	E05361								
Plug | Ø37-40mm ; silicone sponge ; temperature resistance: 180℃	E05362								
Plug | Ø57mm ; silicone sponge ; temperature resistance: 180℃	E07865								
Plug | Ø80mm ; silicone sponge ; temperature resistance: 180℃	E05625								
Plug | Ø100mm ; silicone sponge ; temperature resistance: 180℃	E07866								
Plug | Ø120mm ; silicone sponge ; temperature resistance: 180℃	E05920								
Stacking frame	-		B57998	B58000			-		
Telescopic slide | Grid ; price per grid ; requires option K1	-			B43102		B43093	B43100	-	
Telescopic slide | Perforated sheet ; price per perforated sheet ; requires option K1	-			B51618		B44476	B56888	-	

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

PERSONAL NOTES

**TECHNICAL
INFORMATIONS
MECHANICS**

Setup | Levelling castors

Setup | Levelling feet

Entry port | Moisture tight

Entry port | KF

Entry port | Silicone

Entry ports

Modification | ESD protection

Modification | Insulation protection

Heavy-duty | Base frame

Heavy-duty | Grid (for rack)

Heavy-duty | Interior frame

Telescopic slides | Sizes 55 to 160

Door | Limit opening angle

Door | Replace door stop

Door | Seals

Door | Handlebar

Door | Magnetic door lock

Door | Full-sight glass

Maintenance | Electronics box

Supply air | Filter system

Setup | Levelling castors

On request, the castors on Memmert appliances can be replaced with heavy-duty levelling castors. This allows the appliance to be moved to the desired installation location. On uneven surfaces, the levelling castors can be adjusted to level the floor.
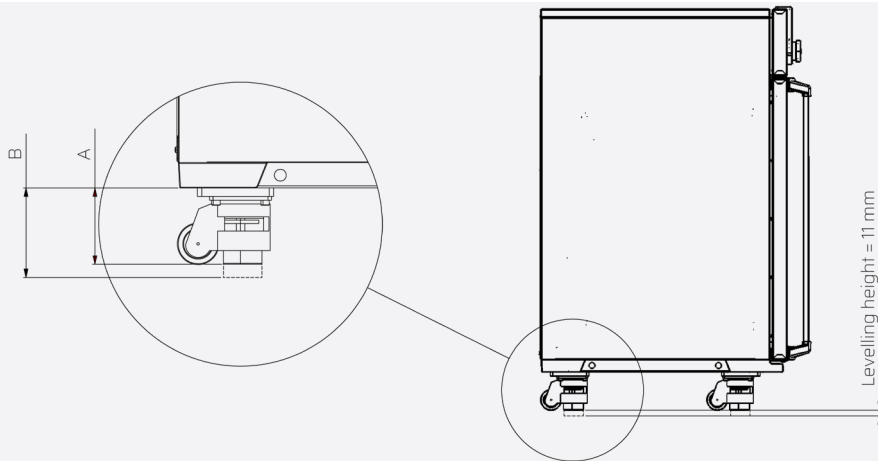
Model sizes/Description		Levelling castors
Description	Specification	Castor with levelling feet
Technical data	Technical feature	movable
	Maximum height mm	102
	Minimum height mm	91
Ordering information	Further options (only after technical clarification)	ESD protection design or cleanroom suitability after technical clarification
	Retrofitting (after technical clarification)	Retrofitting possible
	Required option (depending on device type)	R9
Order no.		M4m

Setup | Levelling feet

On request, the castors on Memmert appliances can be replaced with levelling feet. This ensures that users cannot move the appliance. On uneven surfaces, the levelling feet can be adjusted to compensate the unevenness in the floor.
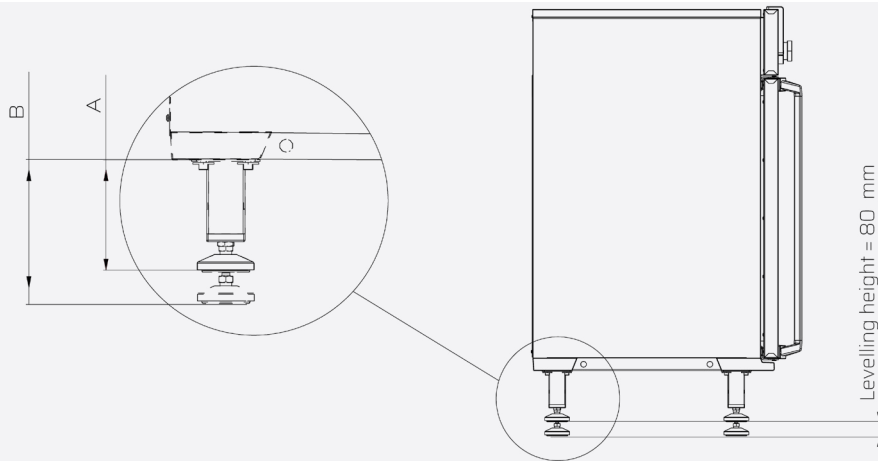
Model sizes/Description		Levelling feet
Description	Specification	Levelling feet
Technical data	Technical feature	not movable
	Maximum height mm	140
	Minimum height mm	60
Ordering information	Further options (only after technical clarification)	• Cleanroom suitability possible after technical clarification. • Customised heights on request
	Retrofitting (after technical clarification)	Retrofitting possible
	Required option (depending on device type)	R9
Order no.		M5m

Entry port | Moisture tight

Moisture-tight entry ports are mainly used, for example, to insert sensors into the appliance. This entry port is specially welded to prevent moisture escaping from the chamber and to ensure that the climate remains constant.

Model sizes/Description		Ø14	Ø23	Ø38	Ø57	Ø80	Ø100	Ø120
Description	Specification	Entry ports for appliances with humidity control or special sealing requirements						
Technical data	Clear diameter mm	14	23	38	57	80	100	120
	Technical feature	moisture tight						
	Side panel	- ●	- ●	- ●	- ●	- ●	- ●	- ●
	Back panel	● -	● -	● -	● -	● -	● -	● -
	Closure	Flap incl. plug				Slider incl. plug		
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible						
Order no.		N0m N1m	N2m N3m	N4m N5m	N6m N7m	N8m N9m	N10m N11m	N12m N13m

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Entry port | KF

These entry ports were specially designed for vacuum ovens. The entry ports are welded vacuum-tight. This means that measuring sensors can be inserted into the device without pressure loss during vacuum operation.

Area for entry port
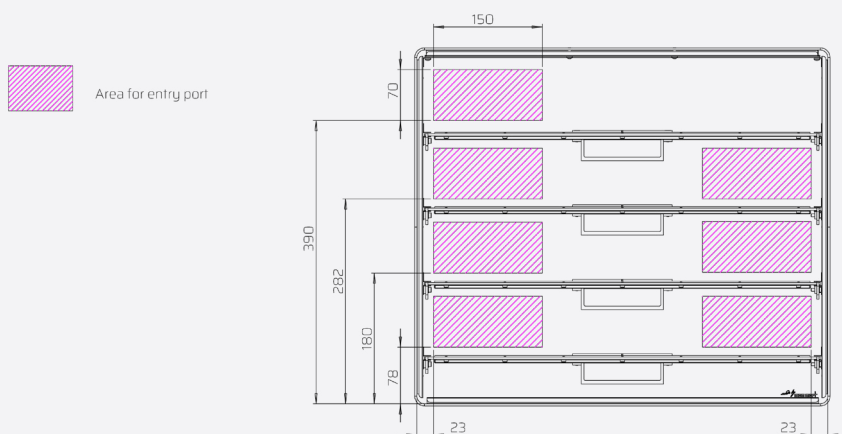
Model sizes/Description		DN16	DN25	DN40	DN50
Description	Specification	DN16	DN25	DN40	DN50
	Design	ISO-KF			
Technical data	Technical feature	pressure tight			
	Side panel	-			
	Back panel	●			
	Closure	ISO-KF small flange			
Ordering information	Further options (only after technical clarification)	• ISO-CF connection • further pressure-resistant connections, e.g. power supply • further sizes on request • further product series on request • Lateral insertion of an entry port on request			
	Retrofitting (after technical clarification)	Retrofitting possible			
	Product requirements	Vacuum oven VO			
Order no.		N30m	N31m	N32m	N33m

Entry port | Silicone

In addition to moisture tight entry seals, which are welded into the device, m360 offers plugged silicone entry ports in a moisture tight design.
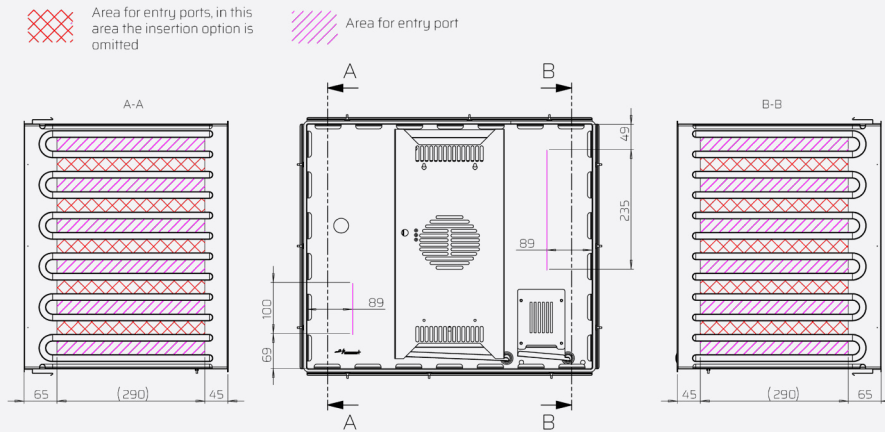
Model sizes/Description			ø40	ø80	ø120
Description	Specification		Silicone entry ports for appliances with humidity control or special sealing requirements		
Technical data	Clear diameter	mm	40	80	120
	Technical feature		moisture-tight		
	Side panel		-		
	Back panel		●		
	Closure		Plug		
	Material		Silicone		
Ordering information	Further options (only after technical clarification)		Lateral mounting on request		
	Retrofitting (after technical clarification)		Retrofitting possible		
Order no.			N20m	N21m	N22m

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Entry ports

Round entry ports are mainly used for the insertion measuring sensors. The Memmert standard portfolio offers side entry ports with a diameter of up to 23 mm. m360 manufactures special entry ports with wider diameters that can also be individually positioned. Depending on the design, round entry ports can be closed with an ear cap or slider.
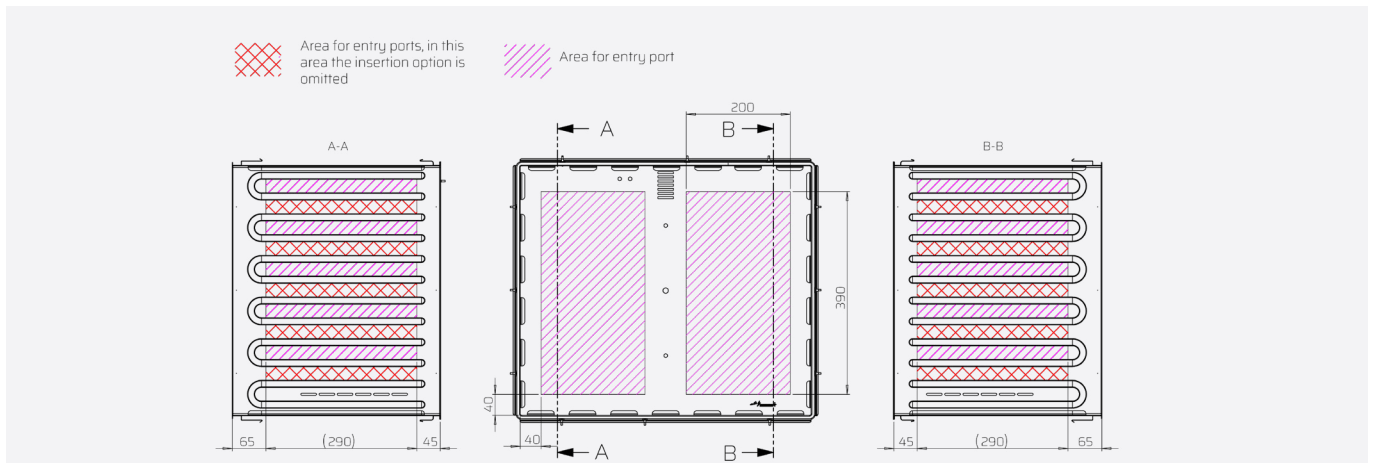
Legend:
- ⊠ Area for entry ports, in this area the insertion option is omitted
- ▨ Area for entry port

Model sizes/Description			Ø14	Ø23	Ø38	Ø57	Ø80	Ø100	Ø120
Description	Specification		Entry ports for devices without special sealing requirements						
Technical data	Clear diameter	mm	14	23	38	57	80	100	120
	Technical feature		Not welded = not moisture-tight						
	Side panel		- ●	- ●	- ●	- ●	- ●	- ●	- ●
	Back panel		● -	● -	● -	● -	● -	● -	● -
	Closure		Flap				Slider		
Ordering information	Further options (only after technical clarification)		Intermediate sizes from ø57mm possible						
	Additional information		Sealing plugs for entry ports available as accessories						
	Retrofitting (after technical clarification)		Retrofitting possible						
Order no.			D6m N51m	F6m F7m	N56m F8m	N59m N60m	N61m F9m	N63m N64m	N65m

Modification | ESD protection

m360 offers an ESD appliance modification as an accessory. In addition to replacing the standard seal with an ESD seal, the ESD modification package offers further safety precautions against build-up of electrostatic charge in the appliance, such as ESD- capable castors and earthing bolts.

Earthing cable

Earthing bolt on customer side

Copper door hinges

ESD-capable castors
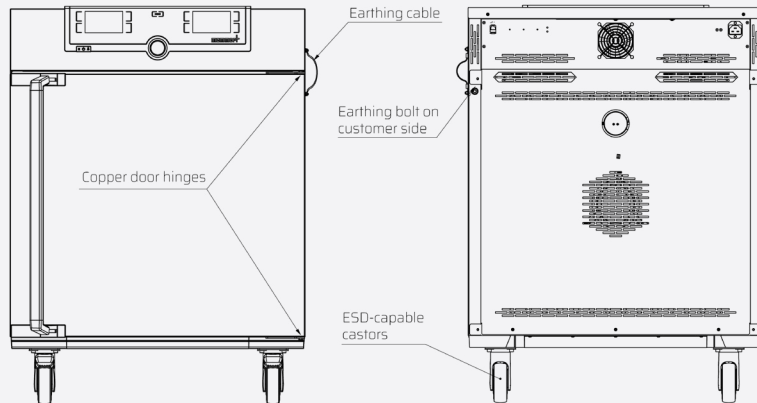
Model sizes/Description			110	160	260	450	750/1060
Description	Specification		ESD-safe equipment and connection options for earth connections				
	Design		Use of ESD-compatible components				
Technical data	Technical feature		ESD protection				
	Temperature resistance (additional option may be required)	°C	180				
Ordering information	Retrofitting (after technical clarification)		Retrofitting not possible				
	Restrictions		Appliance sizes without castors require an additional castor frame				
	Required option (depending on device type)		A8 R9				
Order no.			M3m				

Modification | Insulation protection

The Memmert appliances are often used in cleanrooms. In order to reduce the particle load in the interior of the appliance, the rock wool insulation can also be packed in aluminium foil.

Insulation

Insulation protection
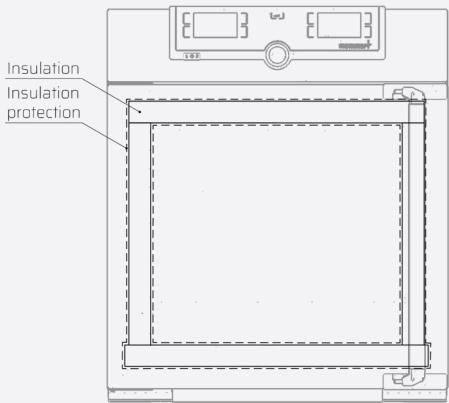
Model sizes/Description		Insulation protection
Description	Specification	Reduction of particle pollution through insulation wrapped in aluminium foil
Ordering information	Additional information	• No improvement in the ISO cleanroom class • Heat output of the appliances deviates from the standard
	Retrofitting (after technical clarification)	Retrofitting not possible
	Product requirements	Insulation material: rock wool/glass wool
Order no.		M2m

Heavy-duty | Base frame

Heavy components can exceed the maximum load of the appliance due to their high weight. A heavy-duty base frame is therefore recommended for particularly heavy loads. Since the feet of the shelf unit stand directly on the foundation of the installation location, no load is placed on the appliance.

Feed-throughs in the appliance base

Levelling feet

Heavy-duty floor grid
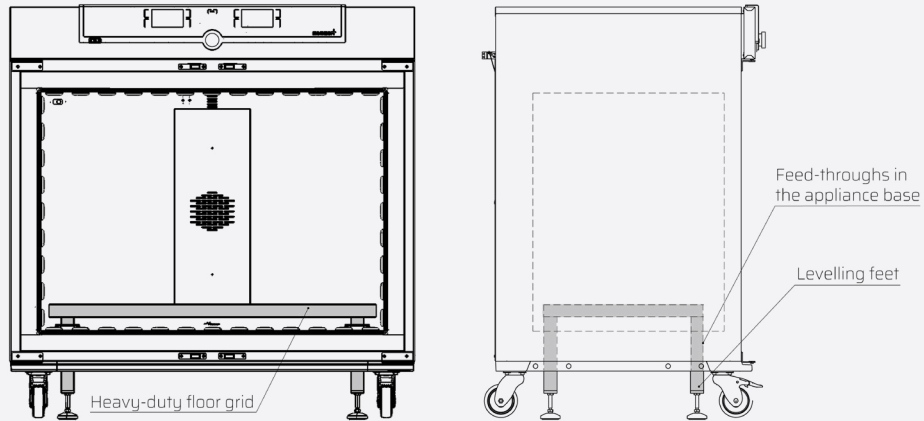
Model sizes/Description		260	450	750	1060
Description	Specification	Frame inside the interior, weight transfer to the floor.			
	Design	four entry ports on the base of the appliance			
Technical data	Position on the appliance	Interior			
	Technical feature	levelling feet			
	Max. Weight load frame　　　　　kg	800			
	Material	stainless steel 1.4301 (ASTM 304)			
Ordering information	Additional information	• Base frame for further heavy-duty interior fittings			
	Retrofitting (after technical clarification)	Retrofitting not possible			
	Extensions	M11m M12m	M21m M23m	M22m M23m	M31m M32m
Order no.		M10m	M20m		M30m

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Heavy-duty | Grid (for rack)

Extension of the slide-in levels for the heavy-duty interior frame.
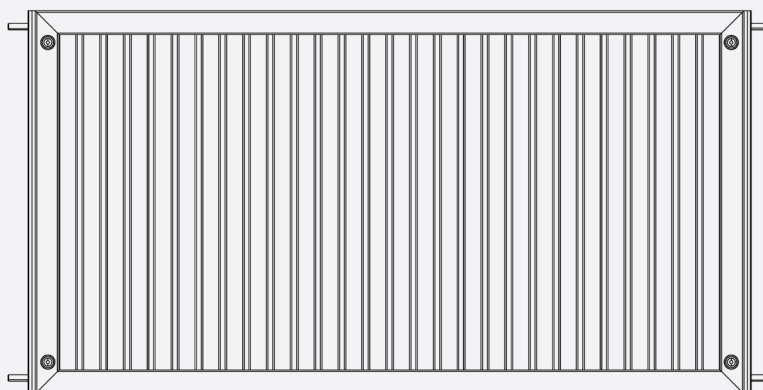
Model sizes/Description		260	450	750	1060
Description	Specification	Grid for heavy-duty interior frame			
Technical data	Position on the appliance	Interior			
	Max. Number of levels number	3		6	
	Max. Weight load per level kg	200			
	Material	stainless steel 1.4301 (ASTM 304)			
Ordering information	Retrofitting (after technical clarification)	Retrofitting not possible			
	Product requirements	Heavy-duty base frame with interior frame			
	Required option (depending on device type)	M10m M11m	M20m M21m	M20m M22m	M30m M31m
Order no.		M12m	M23m		M32m

Heavy-duty | Interior frame

The heavy-duty base frame of the appliance can be extended with a complete interior frame. Additional shelves can be used to increase the support surface in the interior considerably.

Heavy-duty interior frame Heavy-duty grid

Feed-throughs in the appliance base

Levelling feet

Heavy-duty floor grid
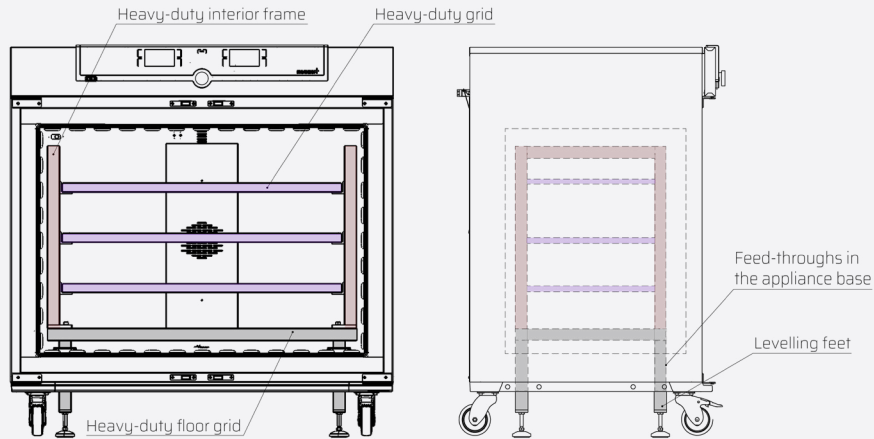
Model sizes/Description		260	450	750	1060
Description	Specification	Heavy-duty interior frame			
Technical data	Position on the appliance	Interior			
	Max. Number of levels number	3		6	
	Max. Weight load per level kg	200			
	Max. Weight load frame kg	800			
	Material	stainless steel 1.4301 (ASTM 304)			
Ordering information	Additional information	incl. one heavy-duty grid			
	Retrofitting (after technical clarification)	Retrofitting not possible			
	Product requirements	Heavy-duty base frame			
	Required option (depending on device type)	M10m	M20m		M30m
	Extensions	M12m	M23m		M32m
Order no.		M11m	M21m	M22m	M31m

Telescopic slides | Sizes 55 to 160

Telescopic slides enable Memmert appliances to be loaded more ergonomically. The pull-outs can be combined with grids and perforated shelves and each pull-out can carry a load of 60 kg. As a rule, three to four telescopic rails can be installed per appliance, but more pull-outs are possible after technical clarification.
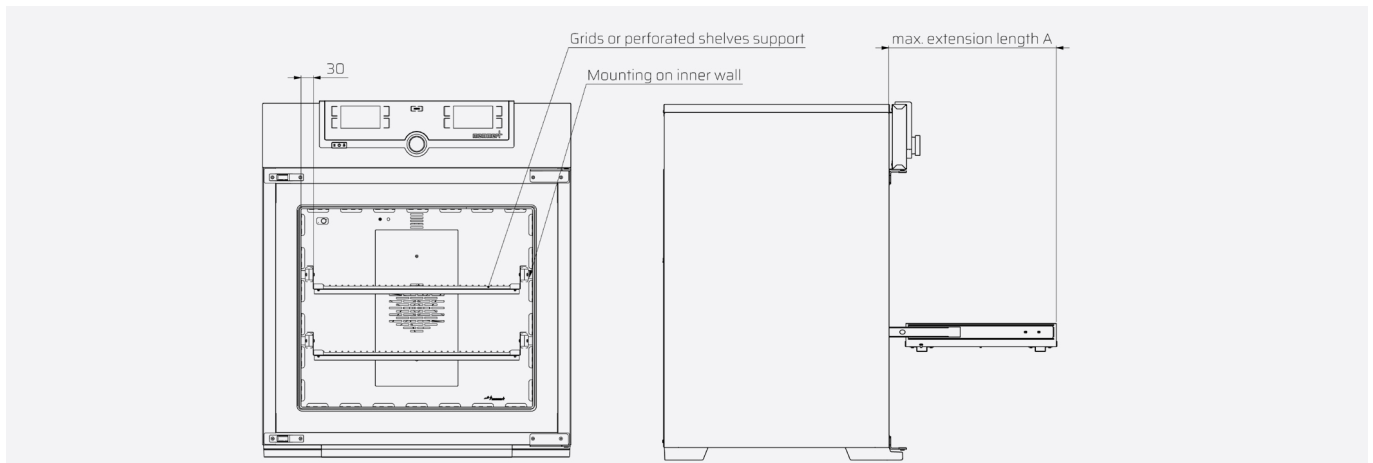
Model sizes/Description		55/75	110/160	55/75	110/160
Description	Specification		Telescopic slides		
	Design	Grid		Perforated sheet	
Technical data	Position on the appliance	Interior			
	Max. Weight load per level kg	60			
	Pull-out length A mm	265	310	265	310
	Material	stainless steel 1.4301 (ASTM 304)			
Ordering information	Additional information	• Quantity and position only after technical clarification • Mind the maximum weight load of the appliance			
	Retrofitting (after technical clarification)	Retrofitting not possible			
	Restrictions	Levels cannot be modified or changed afterwards.			
Order no.			M6m		M7m

Door | Limit opening angle

This equipment enables efficient use of space thanks to customisable opening angles of 95° or 120°, allowing the working range to be more flexible and functional.
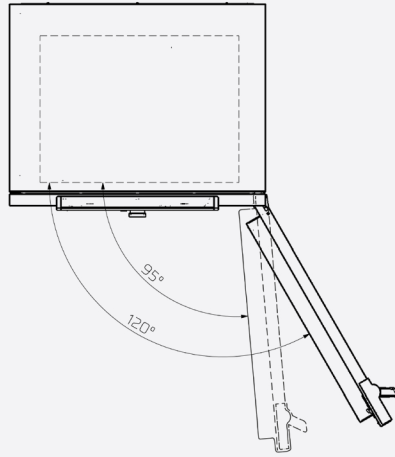
Model sizes/Description		all sizes	
Description	Specification	Limiting the door opening angle	
Technical data	Technical feature	95°	120°
Ordering information	Additional information	For appliances with double doors, the hinges can be combined as required	
	Retrofitting (after technical clarification)	Retrofitting possible	
Order no.		Q0m	Q1m

Door | Replace door stop

For ergonomic reasons or to save space on-site, it may be advisable for some cases to mount the door hinge on the left-hand side so that the door handle is on the right-hand side. m360 attaches the door handle to your desired side at the factory.
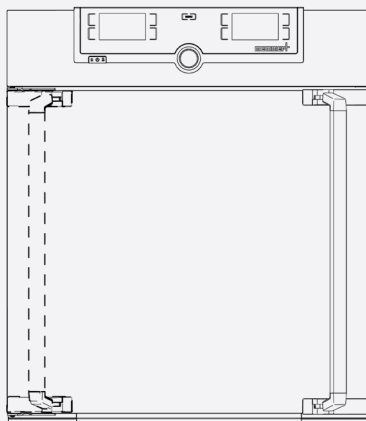
Model sizes/Description		30 to 410
Description	Specification	Moving the door hinge to the other side (left - right)
Ordering information	Additional information	For appliances with a glass inner door, the stop is also replaced
	Retrofitting (after technical clarification)	Retrofitting possible
	Product requirements	single-leaf door
Order no.		B8m

Door | Seals

For special applications, it may be necessary to replace the standard seal of a Memmert appliance with low-silicone seals. In this case, a low-silicone Viton seal is recommended, which is heat-resistant up to 250°C for long-term processes. ESD seals are conductive and therefore provide greater protection against electrostatic discharge.

Door seal
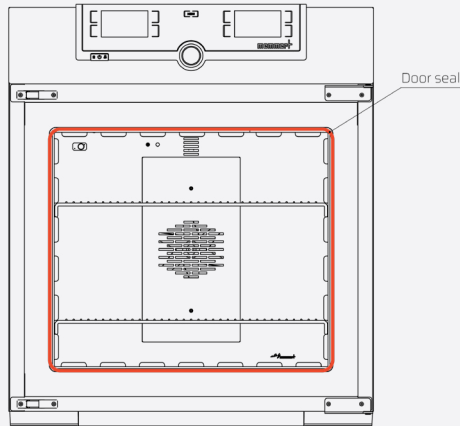
Model sizes/Description		ESD	Viton
Description	Specification	Replacing the standard seal	
	Design	ESD protection	Silicone-free Viton seal
Technical data	Temperature resistance (additional option may be required) °C	180	250
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible	
	Required option (depending on device type)	A8	
Order no.		Q3m	Q2m

Door | Handlebar

Particularly for XXL appliances, but also for smaller Memmert appliances that are opened and closed very frequently, it is advisable to replace the aluminium handlebar with a reinforced handlebar made of stainless steel.
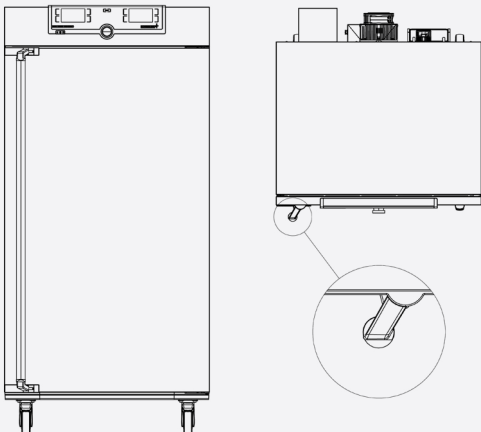
Model sizes/Description		from size 410
Description	Specification	Reinforced door handlebar
Technical data	Material	stainless steel 1.4301 (ASTM 304)
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible
	Product requirements	for appliances from size 410
Order no.		Q4m

Door | Magnetic door lock

Certain processes require the appliance door to be frequently opened. For more ergonomic handling, a magnetic closure is the perfect solution. Thanks to the magnet, the door closes automatically and can withstand constant load of opening and closing.

Appliance magnet — Door magnet
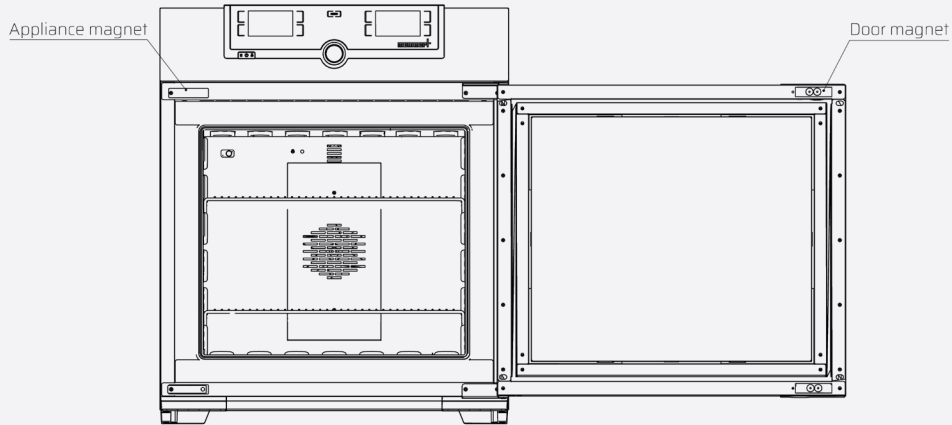
Model sizes/Description		
Description	Specification	Door lock
	Design	magnetic
Technical data	Temperature resistance (additional option may be required) °C	200
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible
	Product requirements	single-leaf door
	Required option (depending on device type)	A8
Order no.		M0m

Door | Full-sight glass

The full-sight glass door provides a direct view of the interior without having to open the oven. It is the ideal solution for laboratories and industry, offering maximum control over work processes.
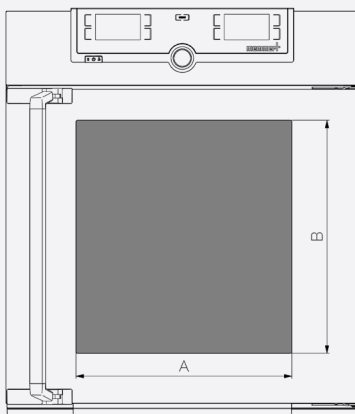
Model sizes/Description			110	260	410	750/1060	410	750/1060
Description	Specification		Outer door inspection window					
	Design		Unheated				Heated	
Technical data	Inspection window width	mm	388		241			
	Inspection window height	mm	425	744	1144			
Ordering information	Additional information		Inner glass door not applicable					
	Retrofitting (after technical clarification)		Retrofitting possible					
Order no.			B0m				B3m	

Maintenance | Electronics box

To save space or for certain applications in cleanrooms, appliances are often recessed into a wall. As a result, the cover of the electronics box can no longer be opened. With the „maintenance hatch" modification, the conventional appliance cover is replaced by a two-part cover.
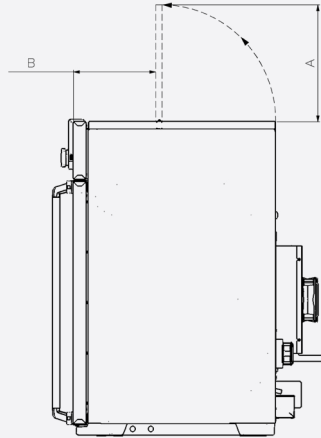
Model sizes/Description			
Description	Specification	Maintenance hatch	
Technical data	Position on the appliance	Electronic box	
	Distance front panel mm	237	
	Height flap mm	350	450
	Material	textured stainless steel 1.4016 (ASTM 430)	
Ordering information	Retrofitting (after technical clarification)	Retrofitting not possible	
	Product requirements	for appliances up to size 410	
Order no.		M1m	

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Supply air | Filter system

Supply air filter system for controlled air quality in the interior. Depending on the version, the air filter holders offer capacity for up to two filters. Depending on the requirements, the filter holder can be fitted with a suitable filter.

Supply air filter cartridge

Supply air double filter cartridge
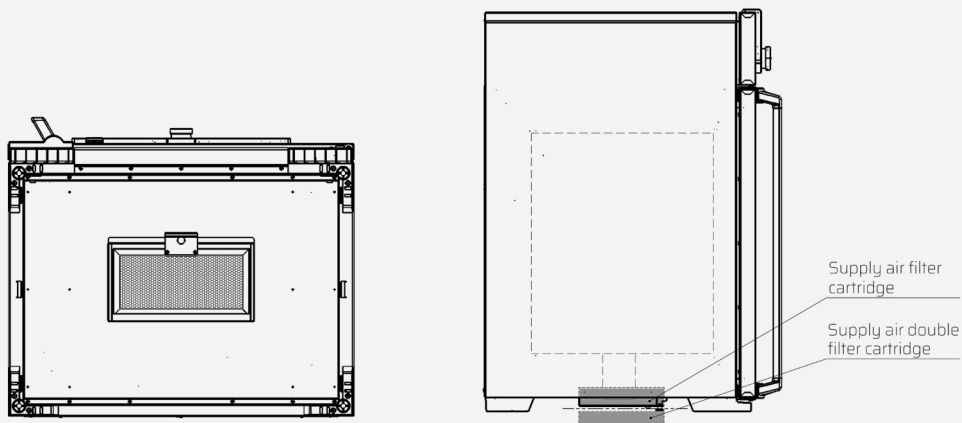
Model sizes/Description		Two Filter system	Single Filtersystem
Description	Specification	Filter holder for supply air opening	
	Design	2 Filter	1 Filter
Technical data	Material	stainless steel 1.4301 (ASTM 304)	
Ordering information	Additional information	Filter holder without filter	
	Retrofitting (after technical clarification)	Retrofitting possible	
	Required option (depending on device type)	R9	
	Extensions	E07439 E07438	
Order no.		R82m	R81m
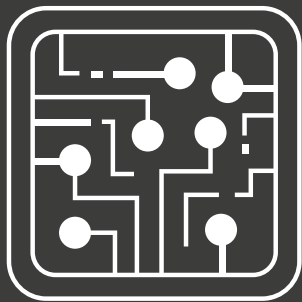
TECHNICAL INFORMATIONS ELECTRONICS

Exhaust air flap | Rear panel

Compressed air drying

External control cabinet

External control unit

Light | Lighting interior

Light | Lighting interior

Light | Lighting LED light strips - grid

Light | Lighting LED light strips - K1 extension

Exhaust air extraction | Rapid cooling fan

Sensors | Temperature

Sensors | Further parameters

Interfaces | Potential free contact

Interfaces | 4-20mA

Socket outlet | Interior

Signal lamp | Top cover

Signal lamp | Control panel

Door | Safety interlock

Door | CO_2 incubator locking

Exhaust air flap | Rear panel

The exhaust air flap enables precise regulation of the air exchange, resulting in an increased air exchange rate to ensure optimal air quality.
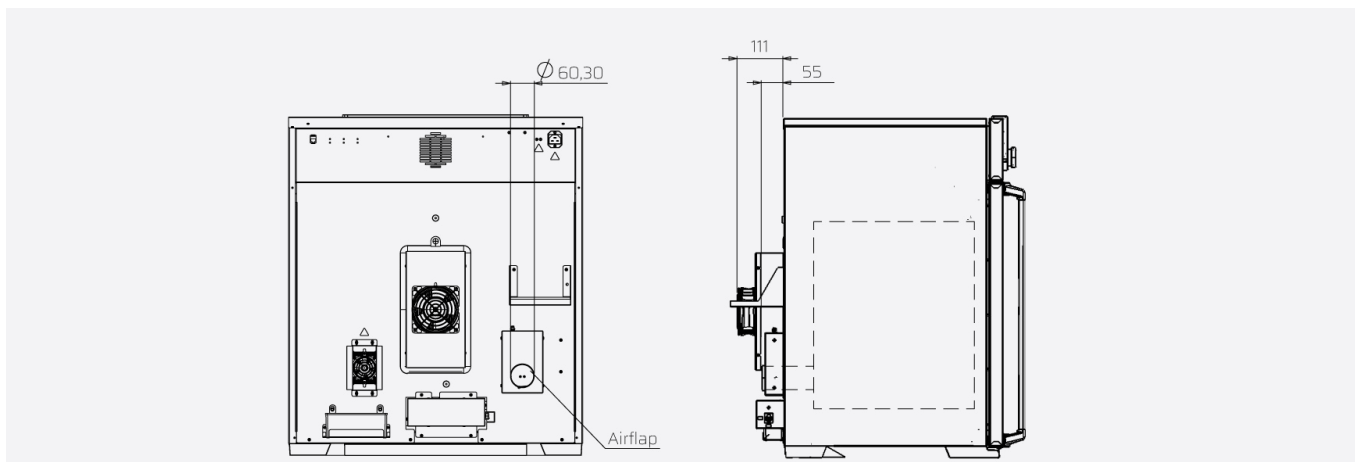
Airflap

Model sizes/Description		Exhaust air flap
Description	Specification	Electronically adjustable exhaust air flap
Technical data	Technical feature	Opening degree adjustable in 10% increments
	Option to control or programme the parameters	AtmoCONTROL AtmoWEB ControlCOCKPIT
Ordering information	Additional information	Programmable via AtmoCONTROL or AtmoWEB
	Retrofitting (after technical clarification)	Retrofitting possible
Order no.		E6m

Compressed air drying

This option extends the temperature-humidity operational range of the appliance. Thanks to the efficient dehumidification of the interior by means of a compressed air supply, it is possible to dehumidify the air in the appliance to a relative humidity of up to 10 % even at 10 °C.
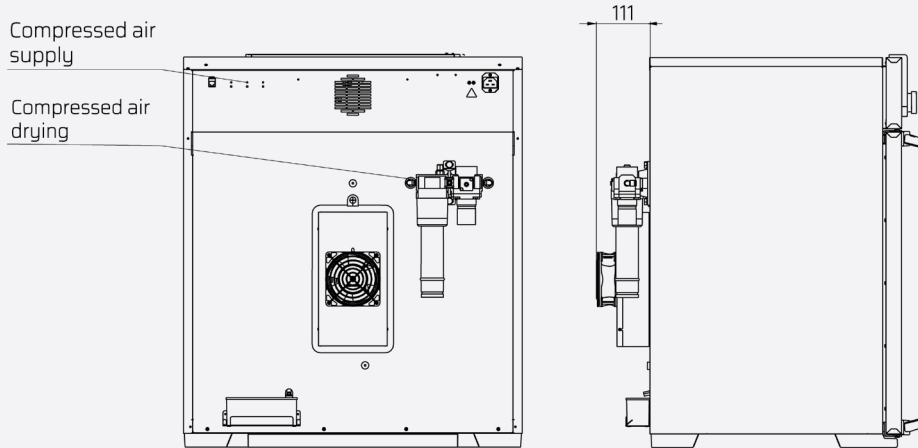
Model sizes/Description		Compressed air drying
Description	Specification	Efficient dehumidification of the interior using a compressed air supply (e.g. +10 °C with 10% rh)
Technical data	Working pressure depending on operating condition bar	0.2
	Max. permissible pressure bar	5
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible
	Required option (depending on device type)	U1m
Order no.		C9m

External control cabinet

This option offers a convenient and device-independent arrangement of all electronic components and the control unit, so that operation and maintenance can be carried out from a different location.

177

604

825

Controller unit +
switch cabinet

Mounting options for wall
mounting

Device connection: sensors and options

Appliance connection:
Power supply

Device connection: heating or cooling technology
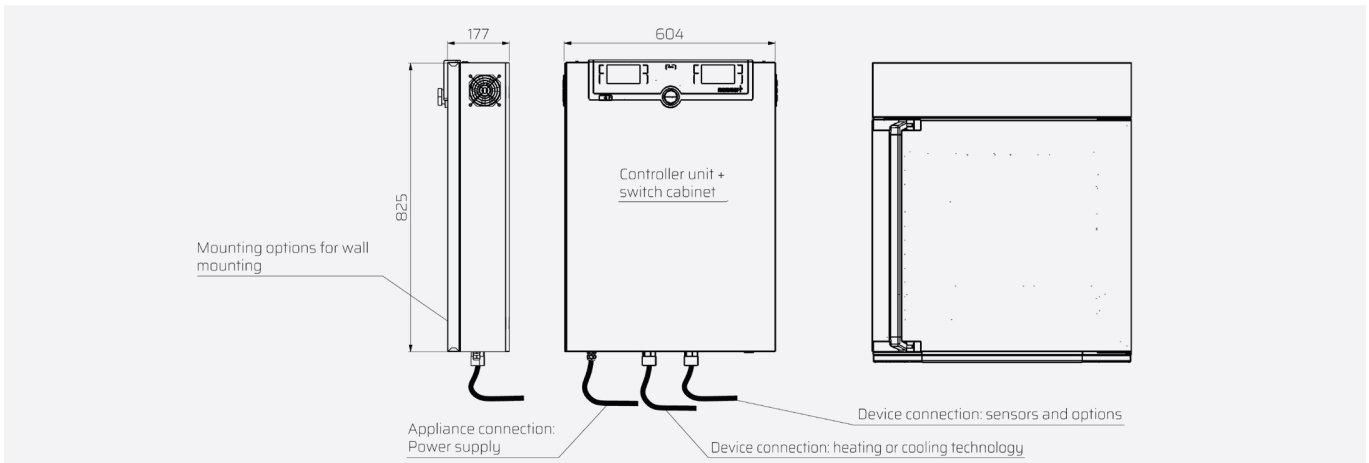
Model sizes/Description		External control cabinet
Description	Specification	External units for electronic components
Technical data	Protection class	IP20
	Technical feature	Connection cable 3m
Ordering information	Further options (only after technical clarification)	Alternative lengths of connection cables possible
	Retrofitting (after technical clarification)	Retrofitting not possible
Order no.		E5m

External control unit

Equipping the Memmert oven with an external control unit allows the oven to be conveniently controlled remotely from any other position in the room. This ensures flexible and efficient operation.
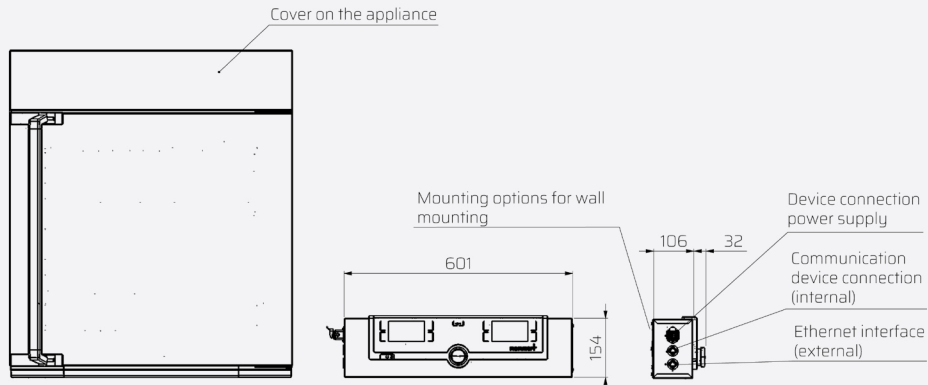
Model sizes/Description		External control unit
Description	Specification	External unit for regulator module
Technical data	Protection class	IP20
	Technical feature	Connection cable 3m
Ordering information	Further options (only after technical clarification)	Alternative lengths of connection cables possible
	Retrofitting (after technical clarification)	Retrofitting possible
Order no.		E4m

Light | Lighting interior

To provide a better view of the load inside the appliance chamber, m360 offers special lighting for monitoring the load. The lights can be switched on manually as well as being switched on continuously.
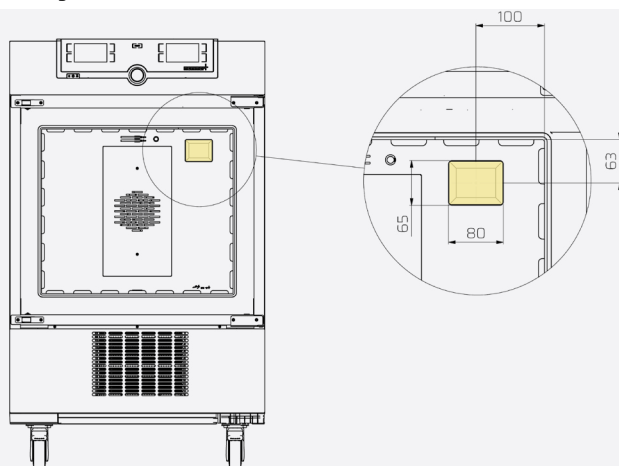
Model sizes/Description		110 - 260	450 - 750
Description	Specification	Interior lighting for observation	
	Design	1 light	2 lights
Technical data	Position on the appliance	Interior	
	Technical feature	switchable: ON/OFF	
	Option to control or programme the parameters	AtmoCONTROL AtmoWEB ControlCOCKPIT	
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible	
Order no.		R0m	

Light | Lighting interior

Thanks to the special m360 solution, lighting is now available for the vacuum oven. The light replaces the thermoshelf and illuminates the interior of the vacuum chamber to ensure optimum viewing of the process from the outside.
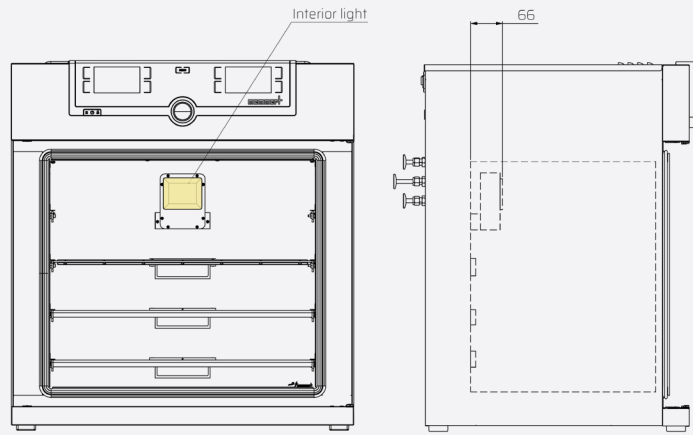
Model sizes/Description		Vacuum oven VO
Description	Specification	Interior lighting for observation
Technical data	Position on the appliance	Flange socket
	Option to control or programme the parameters	AtmoCONTROL AtmoWEB ControlCOCKPIT
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible
	Product requirements	Vacuum oven VO
	Restrictions	at least one slot for a thermoshelf is not available (depending on product size)
Order no.		R0m

Light | Lighting LED light strips - grid

For certain applications, such as plant or mushroom cultivation, it is vital to illuminate the load from above. The m360 LED grid offers this feature. The light can be dimmed in 1% increments and is available in warm white, cool white and a combination of both. Certain sequences can be programmed via AtmoCONTROL, e.g. a day/night simulation.

Cable duct

LED light strips on the grid

Model sizes/Description			Cold white + warm white		Cold white		Warm white	
Description	Specification		Dimmable LED light strips (0-100% in 1% increments)					
	Design		Mounting on the grid					
Technical data	Position on the appliance		Grid	Reinforced grid	Grid	Reinforced grid	Grid	Reinforced grid
	Colour temperature		6500 + 2700		6500		2700	
	Protection class		IP44					
	Limited working temperature range	°C	+15 to +40					
	Option to control or programme the parameters		AtmoCONTROL AtmoWEB ControlCOCKPIT					
Ordering information	Retrofitting (after technical clarification)		Retrofitting possible					
	Product requirements		TwinDISPLAY					
Order no.			J18m	J28m	J17m	J27m	J19m	J29m

LED equipment per model size			110	260	410	750	1060	1400	2200
Equipment	Max. Number of illuminated levels	number	2	3				5	6
	LED light strips per slide-in level	number	5					3	

Light | Lighting LED light strips - K1 extension

The m360 solution combines LED lighting with the storage of heavy loads. Mounted LED light strips on the K1 heavy-duty extension provide light-intensive illumination and enable precise control in 1% increments. Available as warm white, cool white or combined. Programmable sequences with AtmoCONTROL, such as day/night simulation.
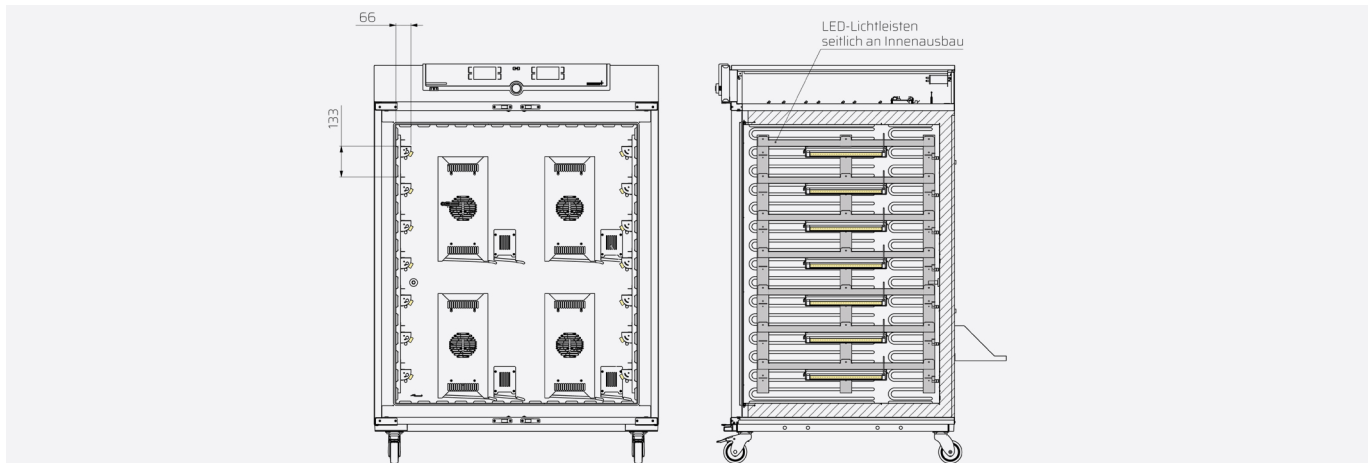
Model sizes/Description		Cold white	Warm white	Cold white + warm white
Description	Specification	Dimmable LED light strips (0-100% in 1% increments)		
	Design	Mounting on the K1 extension		
Technical data	Colour temperature	6500	2700	2700 + 6500
	Protection class	IP44		
	Limited working temperature range °C	+15 to +40		
	Option to control or programme the parameters	AtmoCONTROL AtmoWEB ControlCOCKPIT		
Ordering information	Additional information	K1 extension only required for appliance sizes 410 and 750		
	Retrofitting (after technical clarification)	Retrofitting possible		
	Product requirements	TwinDISPLAY		
	Required option (depending on device type)	K1		
Order no.		J07m	J09m	J08m

LED equipment per model size		410	750	1060	1400	2200
Equipment	Max. Number of illuminated levels number	7			8	9
	LED light strips per slide-in level number	2				

Exhaust air extraction | Rapid cooling fan

A rapid cooling fan has two functions: On the one hand, it cools the appliance many times faster after a tempering process without having to open the door. On the other hand, the fan increases the air exchange rate of the appliance. The rapid cooling fan can be adjusted in 10 per cent increments depending on the exhaust air flap and can be controlled via a controller on the exhaust air flap, but also via the AtmoCONTROL software.
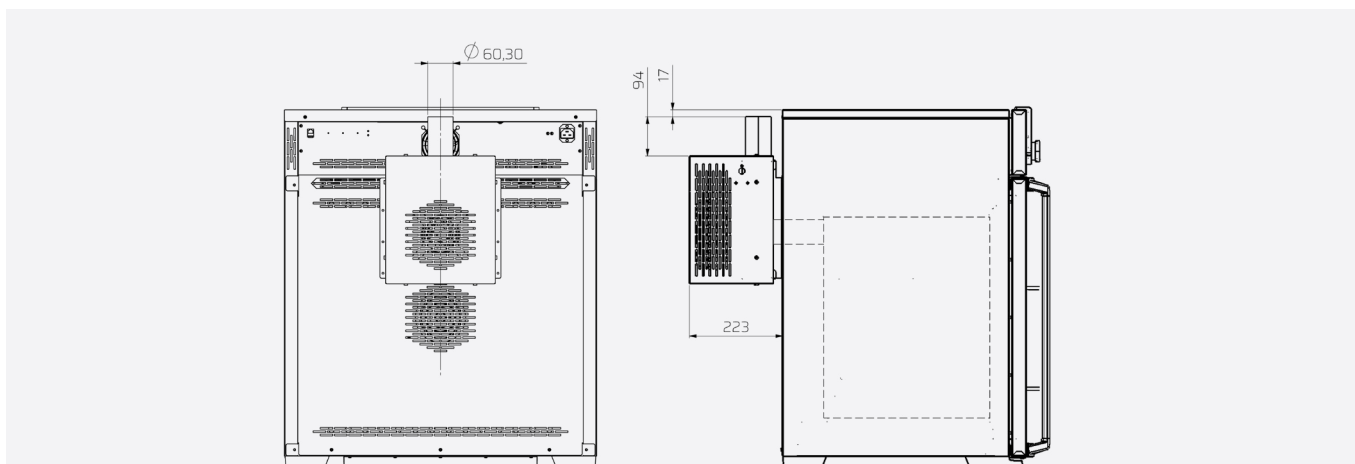
Model sizes/Description		Rapid cooling fan
Description	Specification	Efficient extraction of exhaust air
	Design	Adjustable via exhaust air flap in 10% increments
Technical data	Position on the appliance	rear position
	Technical feature	Hose connection ø60.3mm
	Option to control or programme the parameters	AtmoCONTROL AtmoWEB ControlCOCKPIT
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible
	Product requirements	Exhaust air opening
	Restrictions	Performance data deviate from the standard appliances
Order no.		E3m

Sensors | Temperature

With additional, freely positionable temperature sensors, users have the option of measuring not only the air temperature, but also the temperature of the charging material or water in a tray, for example.
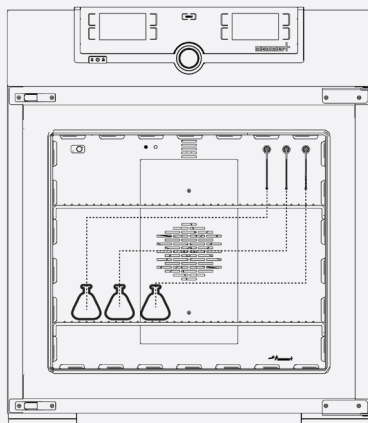
Model sizes/Description		Flexible temperature sensors			
Description	Specification	PT100 can be flexibly positioned in the interior			
	Design	Connection socket (4-pin) on the rear of the appliance	Temperature indication on the display		
Technical data	Max. Quantity number	1		2	3
	Option to evaluate the parameters	Interface for external systems	AtmoCONTROL AtmoWEB ControlCOCKPIT		
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible			
Order no.		H4m	H8m	H8m2	H8m3

Sensors | Further parameters

In special applications, it is necessary to monitor a parameter such as relative humidity, although the device cannot actively control the parameter. In this case, m360 can, for example, install a humidity sensor in a UF device, which displays and logs the relative humidity. However, it is still not possible to control the humidity parameter. The m360 team of experts will be happy to advise you.
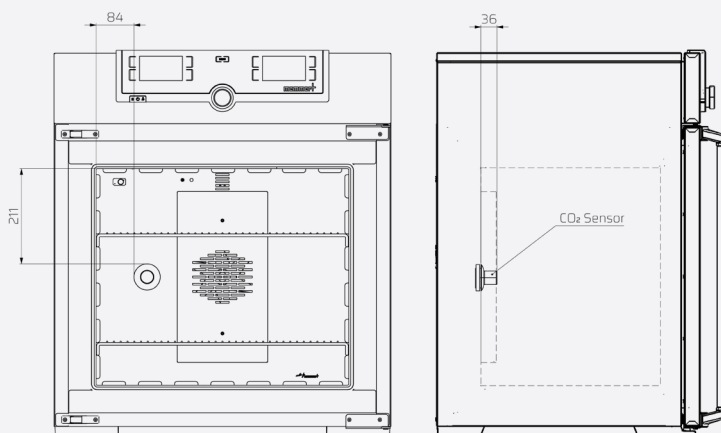
Model sizes/Description		CO2	Humidity	O2
Description	Specification	Measuring sensors for non-adjustable parameters		
Technical data	Position on the appliance	Interior		
	Technical feature	CO_2	Feuchte	O_2
	Measuring range of the sensor	0 to 20 %CO_2	0 to 100 %rh	0 to 25 %O_2
	Option to evaluate the parameters	AtmoCONTROL AtmoWEB ControlCOCKPIT		
	Temperature resistance (additional option may be required) °C	70	180	200
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible		
	Product requirements	TwinDISPLAY		
	Restrictions	Parameters are displayed and logged on the appliance display. They cannot be controlled.		
	Required option (depending on device type)	A8		
Order no.		U2m	U1m	U0m

Interfaces | Potential free contact

Potential-free contacts are available for all UF/IF appliances in the Memmert standard portfolio. The m360 team of experts has developed a specialconfi-guration for the other product models. Using the AtmoCONTROL appliance software, a dependency can be programmed for options H7 / H72/ H74 and an additional signal is sent to the potential-free contact, e.g. the command to activate ventilation when 300 °C is reached. With the H5option, an interface is mounted on the rear panel of the appliance where external devices, e.g. for humidity monitoring, can be connected.

Potential-free contacts
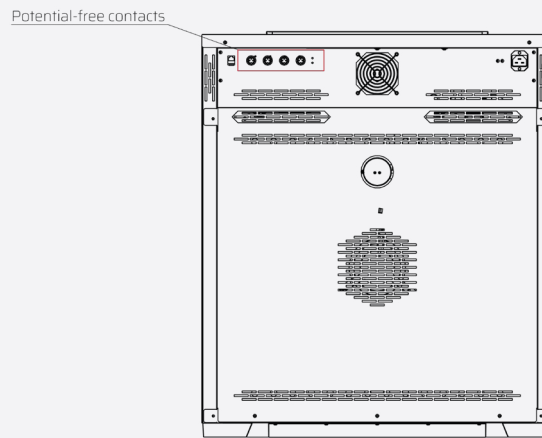
Model sizes/Description		Potential free contact				
Description	Specification	Potential free switching contact (24V / 2A)				
	Design	programmable				Target value reached
Technical data	Max. Quantity number	1	2	3	4	1
	Option to control or programme the parameters	AtmoCONTROL				-
	Option to evaluate the parameters	AtmoWEB Interface for external systems				Interface for external systems
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible				
	Product requirements	TwinDISPLAY				-
Order no.		H7m	H7m2	H7m3	H7m4	H5m

Interfaces | 4-20mA

To log the relative humidity in the appliance via an external system, a 4-20mA interface can be installed to output the actual value.
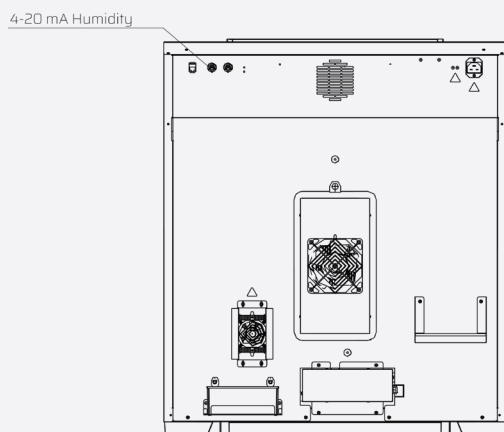
4-20 mA Humidity

Model sizes/Description		4-20mA interface
Description	Specification	Parameter evaluation humidity via 4-20mA
	Design	0 to 100% rh = 4-20mA
Technical data	Technical feature	Humidity
	Option to evaluate the parameters	Interface for external systems
Ordering information	Additional information	An additional option may be required for devices without a humidity sensor
	Retrofitting (after technical clarification)	Retrofitting possible
Order no.		V7m

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Socket outlet | Interior

Many users connect additional appliances to their Memmert oven, e.g. shaking devices or scales. If you cannot have a entry port installed and would like more than one interior socket for your appliance, you may contact m360.
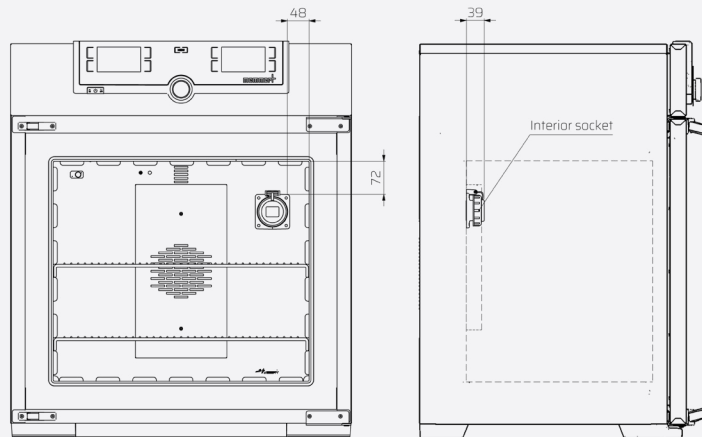
Model sizes/Description		Socket outlet			
Description	Specification	Socket outlet in the interior			
	Design	switched on/off via toggle switch on the control panel		switched off via the main switch	
Technical data	Position on the appliance	Interior			
	Socket outlet for plug type	Type F „Schuko-plug"	Type G „UK-plug"	Type F „Schuko-plug"	Type G „UK-plug"
	Protection class	IP68	IP66	IP68	IP66
	Technical feature	230 V / 2,2 A			
	Temperature resistance (additional option may be required) °C	60	40	60	40
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible			
	Required option (depending on device type)	A8			
Order no.		R4m	R44m	R3m	R33m

Signal lamp | Top cover

Signal lights allow the user to recognise the ongoing process in the Memmert appliance: green for operation, yellow for standby and red for an error message. They are particularly useful when several appliances are in use at the same time. They are mounted on the upper panel of the appliance.
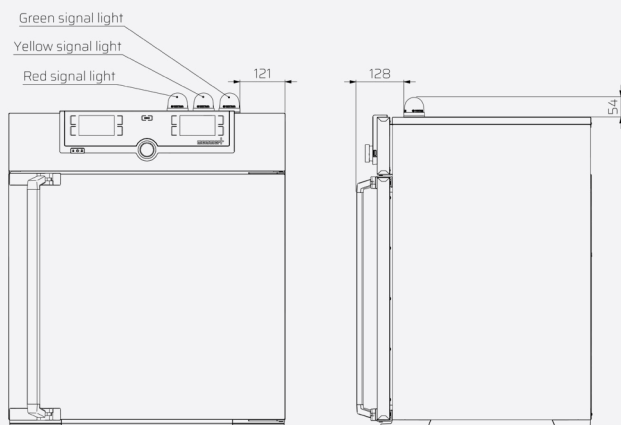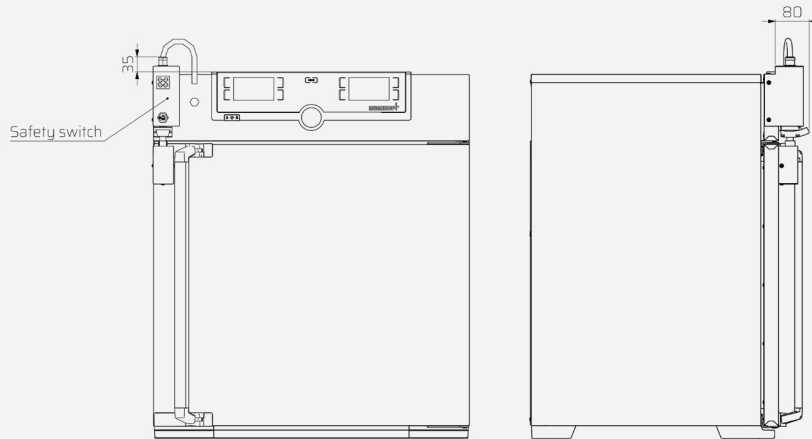

Model sizes/Description		Signal lamp | Top cover	
Description	Specification	Status signal lamps • Red = error/alarm • Yellow = standby • Green = programme is running	
Technical data	Position on the appliance	Top cover	
	Technical feature	single-colour lights	multicolor light
	Max. Quantity number	3	1
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible	
	Product requirements	TwinDISPLAY	
	Restrictions	Other options may be excluded by the installation	
	Required option (depending on device type)	H6 H72	
Order no.		E1m	E2m

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Signal lamp | Control panel

Signal lights allow the user to identify the current status of the ongoing process in the Memmert appliance: green for ongoing operation, yellow for standby and red for an error message. They are particularly useful when several appliances are in use at the same time. They are mounted on the upper panel of the appliance.

Red signal light
Yellow signal light
Green signal light
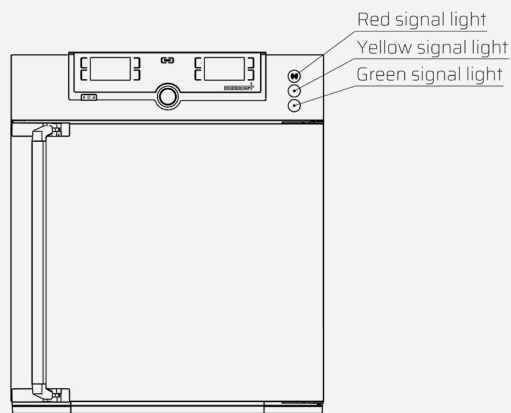
Model sizes/Description		Signal lamp | Control panel
Description		Status signal lamps
	Specification	• Red = error/alarm • Yellow = standby • Green = programme is running
Technical data	Position on the appliance	Front cover
	Technical feature	single-colour lights
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible
	Product requirements	TwinDISPLAY
	Restrictions	Other options may be excluded by the installation
	Required option (depending on device type)	H6 H72
Order no.		E0m

Door | Safety interlock

The safety door interlock meets high safety standards and can be controlled via external systems. Reliable safety switches make it possible to control almost all process steps and ensure process safety inside the appliance.

Model sizes/Description		Safety door interlock
Description		Electronic door lock with safety switch:
	Specification	• Safety switch with guard locking and integrated evaluation electronics • Locking force up to 6500 N • Short circuit monitoring • 2 safety outputs (semiconductor outputs) • Category 4 / PL e according to EN ISO 13849-1 • With M23 plug connector (RC18)
Technical data	Option to control or programme the parameters	Interface for external systems
	Option to evaluate the parameters	Interface for external systems
Ordering information	Additional information	Control and programming is performed by external systems
	Retrofitting (after technical clarification)	Retrofitting possible
	Product requirements	single-leaf door
Order no.		E7m

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Door | CO$_2$ incubator locking

An addition to the standard option portfolio for the ICO appliance series is now available. The process-dependent door lock, developed by m360, can now also be used for CO2 incubators. Process security and access control can be programmed via AtmoCONTROL or directly on the ControlCOCKPIT.

Locking bolt   Door lock
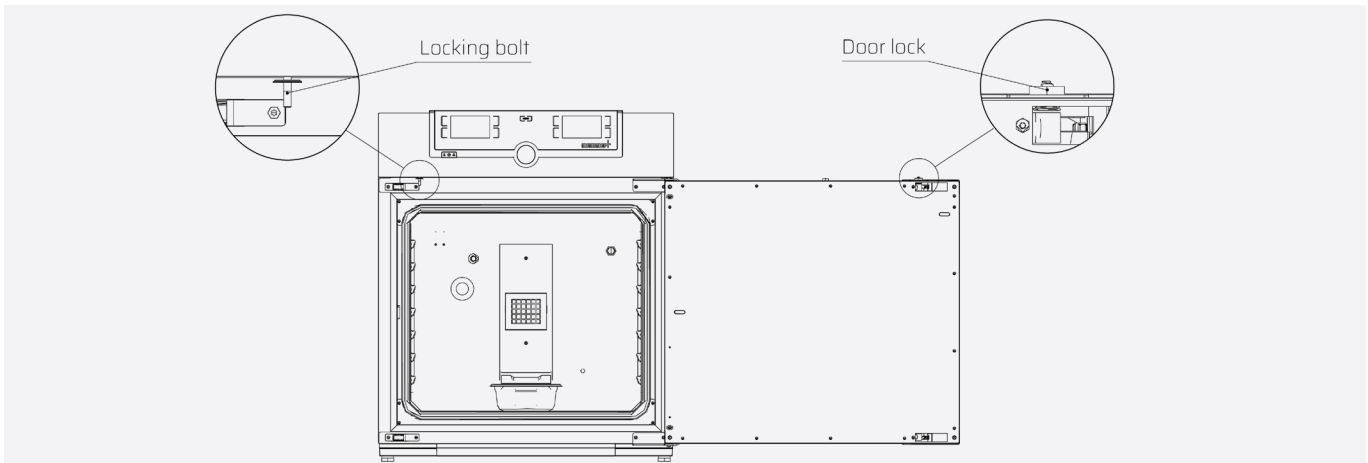
Model sizes/Description		CO2 incubator door locking
Description	Specification	Electronic door lock
	Design	Process-dependent programmable door lock
Technical data	Option to control or programme the parameters	AtmoCONTROL AtmoWEB ControlCOCKPIT
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible
	Product requirements	Incubator ICO
Order no.		D4m
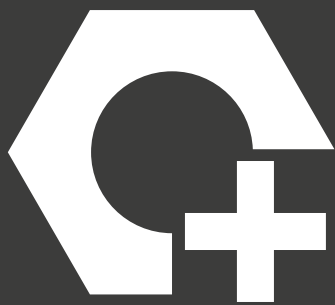
TECHNICAL
INFORMATIONS
ACCESSORY

Setup | Stacking rack for vacuum ovens

Setup | Stacking frame

Plug | Stopper entry port

Exhaust air | Condensate drainage

Connection cable | lengths

Shelves | Perforated sheets, grids

Telescopic slides |Sizes 260 to 1060

Heavy-duty | Floor grid

Supply air | Filter

Setup | Stacking rack for vacuum ovens

The stacking rack for vacuum ovens enables the space-saving and ergonomic installation of various sizes of vacuum ovens. This allows work processes to be optimised and organisation in the laboratory to be flexible.

Size 29

Positioning
option for size 49

Size 49

Model sizes/Description		29/49	101
Description	Specification	Rack for stacking vacuum ovens VO.	
	Design	Stacking of sizes 29 and 49	Stacking of size 101
Ordering information	Additional information	• For appliances of different sizes, the larger appliance must always be at the bottom. • Stacking of different sizes possible.	
	Retrofitting (after technical clarification)	Retrofitting possible	
Order no.		B50577	B59029

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Setup | Stacking frame

To save space in the laboratory or workshop, Memmert appliances can be stacked. The m360 stacking frame enables appliances of different sizes to be stacked safely, e.g. a UF55 on top of an IF160. For safety reasons, only two appliances can be stacked on top of each other, with the larger of the two appliances at the bottom.
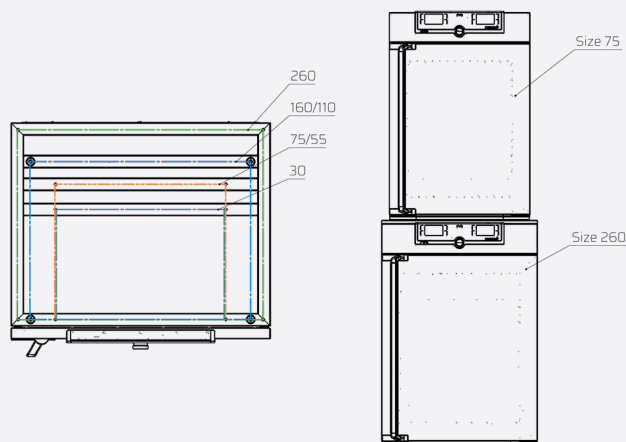

Model sizes/Description		IPPeco /HPPeco		U / I		
Description	Specification	Stacking frame for stacking appliances.				
	Design	110	260	75	160	260
Technical data	Material	stainless steel 1.4301 (ASTM 304)				
Ordering information	Additional information	• For appliances of different sizes, the larger appliance must always be at the bottom. • Stacking of different sizes possible.				
	Retrofitting (after technical clarification)	Retrofitting possible				
Order no.		B57998	B58000	B50598	B50599	B50600

Plug | Stopper entry port

In order to keep the climatic conditions of an appliance with a entry port constant during operation, the use of a stopper is recommended.
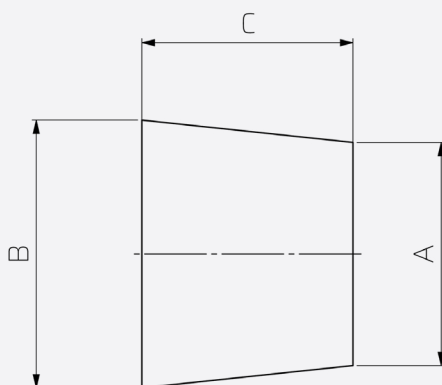
Model sizes/Description				Ø14	Ø23	Ø37	Ø57	Ø80	Ø100	Ø120
Description	Specification			Stopper for entry ports						
Technical data	Outer diameter	A	mm	13	23	38	55	75	96	116
	Outer diameter	B	mm	17.5	30	42	66	87	108	128
	Length	C	mm	25	33	46	52			
	Temperature resistance (additional option may be required)		°C	180						
	Material			Silicone (sponge)						
Order no.				E05790	E05361	E05362	E07865	E05625	E07866	E05920

Model sizes/Description				Ø23	Ø37	Ø57	Ø100
Description	Specification			Stopper for entry ports			
Technical data	Outer diameter	A	mm	21	37	50.5	94
	Outer diameter	B	mm	27	45	59.5	107
	Length	C	mm	30	42	45	64
	Temperature resistance (additional option may be required)		°C	200			
	Material			Silicone			
Order no.				E05387	E07479	E05389	E05386

Model sizes/Description				Ø23	Ø37	Ø57	Ø80	Ø100-120
Description	Specification			Stopper for entry ports				
Technical data	Outer diameter	A	mm	21	33.2	53.8	69.9	88.9
	Outer diameter	B	mm	27	41.2	63.7	88.9	127
	Length	C	mm	28.3	25.4		38.1	50.8
	Temperature resistance (additional option may be required)		°C	300				
	Material			Silicone				
Order no.				E07698	E07699	E07700	E07701	E07702

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Exhaust air | Condensate drainage

The drying process in a Memmert appliance can produce humid air that needs to be removed. The moist air may condense in the exhaust air and drip down. A special valve with hose nozzle allows the water to run off in a controlled manner. The exhaust air condensate trap is made of stainless steel and is very easy to install - even retrospectively and without a technician.
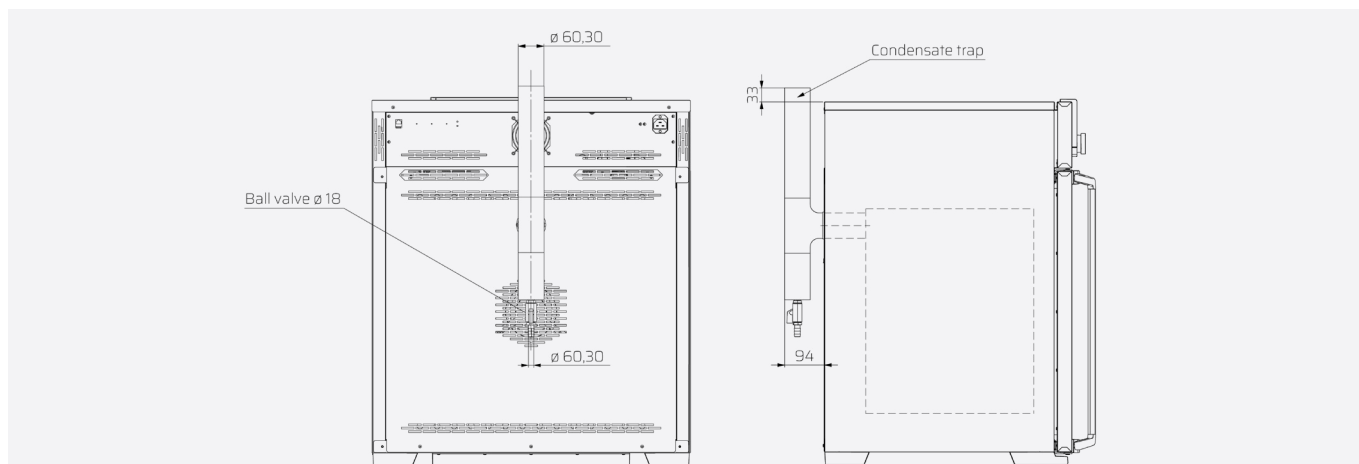
Model sizes/Description		Condensate drainage
Description	Specification	Condensate drainage for exhaust air opening • Exhaust air pipe ø60,3 mm • Condensate drainage ø18 mm
Technical data	Material	stainless steel 1.4301 (ASTM 304)
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible
Order no.		B37684

Connection cable | lengths

With a generous length of 5 metres, the power connection cable for Memmert ovens (230V) ensures a convenient connection and enables the appliance to be supplied with power if it cannot be set up in the immediate vicinity of a socket outlet.


Power connection length = 5m
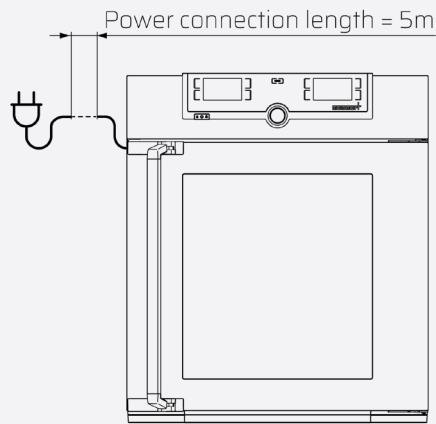
Model sizes/Description		
Description	Specification	Extended power connection cable
	Design	5 m
Technical data	Socket outlet for plug type	Type F „Schuko-plug"
	Protection class	IP20
	Technical feature	230 V
Order no.		B58607

Shelves | Perforated sheets, grids

The reinforced perforated shelves are equipped with additional reinforcements and are designed for higher loads. The load capacity increases to 80 kg for appliances without interior fittings (K1) and to 100 kg for appliances with interior fittings (K1). It is essential to ensure that the maximum load limit of the appliance is not exceeded.

Additional reinforcements
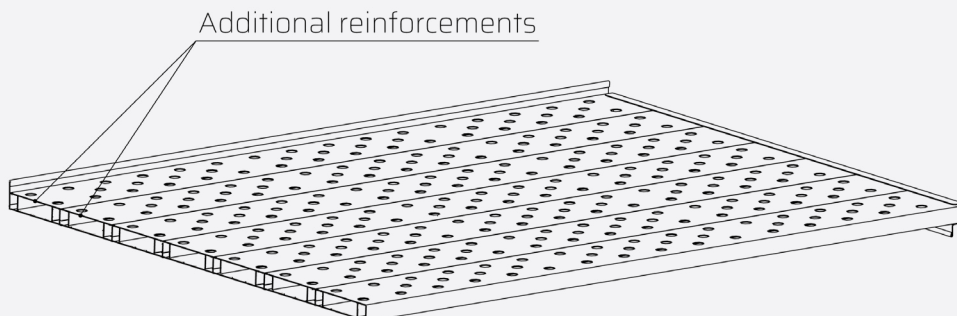
Model sizes/Description		260 / 410	450 / 750	1060	260 / 410	450 / 750	1400 / 2200	
Description	Specification	Reinforced shelves and special sizes						
	Design	Perforated sheet						Reinforced grid
Technical data	Max. Weight load per level kg	100			80		30	60
	Material	stainless steel 1.4301 (ASTM 304)						
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible						
	Restrictions	Mind the maximum weight load of the appliances.						
	Required option (depending on device type)	K1		-				
Order no.		B58460	B58461	B58462	B57086	B52092	B59007	B59004

Telescopic slides |Sizes 260 to 1060

Telescopic slides enable a Memmert appliance to be loaded more ergonomically. The pull-outs can be combined with grids and perforated shelves and each pull-out can carry a load of 60 kg. As a rule, three to four telescopic slides can be installed per appliance, but more slides are also possible after technical clarification.
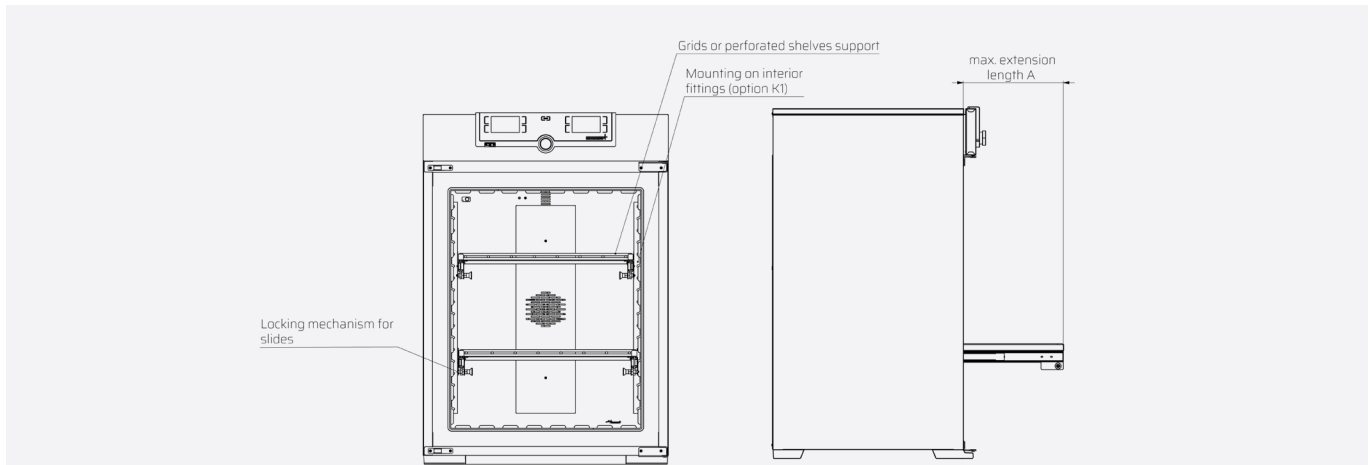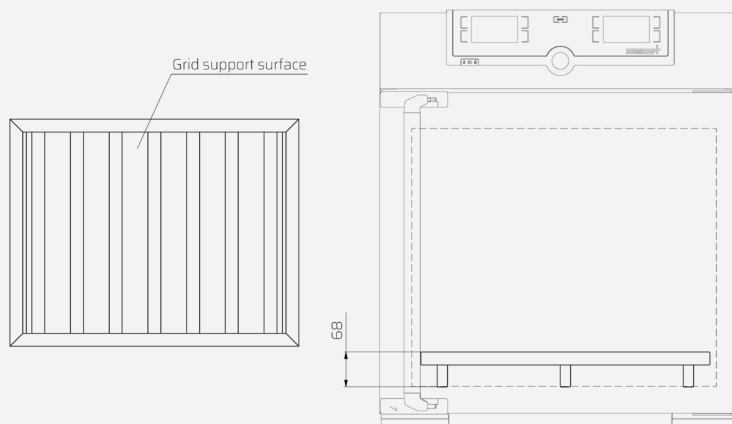

Model sizes/Description		260/410		450/750		1060	
Description	Specification	Installation of telescopic slides					
	Design	Grid	Perforated sheet	Grid	Perforated sheet	Grid	Perforated sheet
Technical data	Position on the appliance	Interior K1 extension					
	Max. Weight load per level kg	60					
	Pull-out length A mm	410		505		660	
	Material	stainless steel 1.4301 (ASTM 304)					
Ordering information	Additional information	Number of telescopic sildes after clarification					
	Retrofitting (after technical clarification)	Retrofitting not possible					
	Required option (depending on device type)	K1					
Order no.		B43102	B51618	B43093	B44476	B43100	B56888

LED equipment per model size						
Technical data	Max. Levels with telescopic runners	number	5	7	4	7

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

Heavy-duty | Floor grid

In some applications, the load exceeds the permissible maximum weight of 25 kg - 30 kg per shelf level. The usual perforated shelves and grids must then no longer be loaded. In such cases, a heavy-duty floor grid is recommended that can carry loads of up to 300 kg, depending on the appliance. The heavy-duty floor grid is made of stainless steel and can be combined with all options. On request, the floor grating can also be adapted so that special interior fittings can be attached.


Grid support surface

Model sizes/Description		30	55/75	110/160	256	260/410	450/750	1060
Description	Specification	Floor grid for product storage at the base of the appliance						
Technical data	Position on the appliance	Below the appliance						
	Max. Number of levels number	1						
	Material	stainless steel 1.4301 (ASTM 304)						
Ordering information	Restrictions	The maximum weight load of the appliance must not be exceeded						
Order no.		E50944	E46407	E36692	E41309	E36704	B31972	E40438

Supply air | Filter

G3 filter (option R8) with 80% separation efficiency can be configured for Memmert appliances from series production. This filter prevents coarse particles from entering the interior of the appliance. For users who want to work with as few particles as possible but do not have a clean room, m360 offers the HEPA filter H13 (filtration efficiency of 99.95%). Other filter types, such as an F7 ultra-fine filter, are also available on request and after technical consultation.
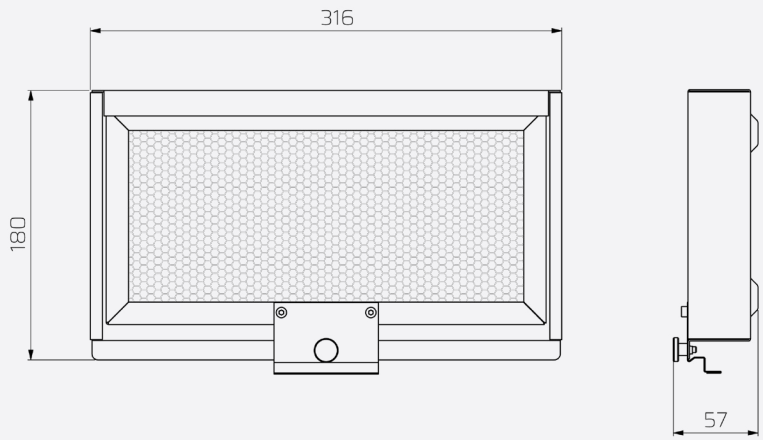
Model sizes/Description			
Description	Specification	Filter for supply air filter holder	
Technical data	Filter class	F7	H13
Ordering information	Retrofitting (after technical clarification)	Retrofitting possible	
	Required option (depending on device type)	R81m R82m R8	
Order no.		E07438	E07439

Technical data and drawings are subject to change without notice. The illustration is exemplary and may differ from the respective appliance size.

PERSONAL NOTES

PERSONAL NOTES

SOLUTIONS
FOR YOU

Memmert GmbH + Co. KG
Äußere Rittersbacher Straße 38 | 91126 Schwabach
Tel. +49 9122 925 -0 | Fax +49 9122 14585
E-Mail: m360@memmert.com

www.memmert.com/m360
facebook.com/memmert.family
instagram.com/memmert.family
linkedin.com/company/memmert-gmbh-co-kg