

Precision Incubators, Memmert

BASIC:

with microprocessor PID temperature controller with integral autodiagnostic system for rapid fault identification, 1 high-grade Pt100 sensor DIN Class A in 4-wire-circuit, digital timer to switch off heating (1 min. up to 99 h 59 min), incl. digital LED-display of set and actual temperature as well as residual time; double overtemperature protection - in case of a faulty sensor or the total breakdown of the controller the heating is switched off approx. 3°C above the set temperature and additionally at approx. 10°C above the max. oven temperature by the mechanical temperature limiter TB protection class 1.

EXCELLENT:

with fuzzy-supported microprocessor PID controller with integral autodiagnostic system for rapid fault identification, 2 high-grade Pt100 sensors DIN Class A in 4-wire circuit, mutually monitoring and taking over the performance, digital 7-day-program timer with real time clock with group function (e.g. weekdays) for one set value or in combination with the integrated digital timer (with residual time) for ramp operating with max. 4 segments: DELAYED ON, HEATING UP, HOLD or HOLD set-temperature-dependent (guaranteeing the hold period), COOLING DOWN - each segment adjustable from 1 min to 999 hours. Integrated long-term documenting (ring store) of all relevant data, GLP-conforming as data logger - 1024 kB as well as serial computer interface RS232 with software „Celsius“ with advanced features. Triple overtemperature protection: in case of overtemperature due to failure, the heating is switched off at approx. 10°C above the set temperature (fixed value), digitally adjustable electronic overtemperature controller, TWW, protection class 3.1, and mechanical temperature limiter, TB, protection class 1, switching the heating off at approx. 10°C above max. oven temperature. Works calibration certificate for one temperature, 37°C (chamber center).

PERFECT:

adaptive, fuzzy-supported multifunctional digital microprocessor PID-controller and integral autodiagnostic system for rapid fault identification, 2 high-grade Pt100 sensor DIN Class A in 4-wire-circuit, mutually monitoring and taking over the performance, digital 7-day-program timer with real time clock with group function (e.g. weekdays), integrated timer for thermostating profiles of up to 40 ramps, each segment adjustable from 1 min. up to 999 hours (residual time); air flap adjustable in 10% steps, on UF models fan speed adjustable in 10% steps, as well as setpoint dependent operation easily programmable, via set-up) visualizing also all set parameters. Integrated long-term documenting (ring store) of all relevant data, GLP-conforming as data logger - 1024 kB (protected against manipulation); parallel printer interface with real-time clock for all Pcl3-compatible ink-jet printers, serial interface RS232 (upon request - without extra charge - RS485) incl. software „Celsius“ with advanced features as well as MEMory Card with 32 kB and STERiCard for automatic incubator chamber sterilization cycle (not for sterilizing the load). Multiple overtemperature protection with audible and visual alarm, digitally adjustable electronic protection with audible and visual alarm, digitally adjustable electronic microprocessor overtemperature controller TWW protection class 3.1 - maximum value for overtemperature - minimum value for undertemperature, additionally adjustable auto-safety-function „ASF“ for over-and undertemperature automatically following the set value at a preset tolerance range; audible alarm is activated in case of over- or undertemperature, heating is switched off in case of overtemperature, additional mechanical temperature limiter, TB, protection class 1, switching the heating off at approx. 10°C above max. oven temperature. Work calibration certificate for one temperature, 37°C (chamber center).

Technical data:

Interior:	stainless steel, material 1.4301 (ASTM 304), reinforced by deep drawn ribbing and easy to clean.
Housing (external):	Textured stainless steel, rear zinc-plated steel, (INE/INP/IFE/IFP 800 mounted on lockable castors.)
Temperature range:	from 30°C (however, at least 5°C above room temperature, 10°C for models with air turbine) up to 70°C.
Temperature deviations:	precision max. $\pm 0.1^\circ\text{C}$; uniformity (acc. to DIN) at 37°C max. $\pm 0.6^\circ\text{C}$
Electrical supply:	230 V ($\pm 10\%$), 50/60 Hz. Other voltages to special order.

Available models and sizes with internal glass door and fully insulated stainless steel external door:



Series INB¹⁾

With natural air circulation and electronic PID controller.

Type	Outer W × D × H mm	Inner W × D × H mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
INB 200	550×400×600	400×250×320	32	28	440	41 26 70200
INB 300	630×400×600	480×250×320	39	30	500	41 26 70300
① INB 400	550×480×680	400×330×400	53	35	800	41 26 70400
INB 500	710×550×760	560×400×480	108	50	900	41 26 70500

Series INE¹⁾

With natural air circulation and electronic PID control with fuzzy support.

Type	Outer W × D × H mm	Inner W × D × H mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
INE 200	550×400×600	400×250×320	32	28	440	41 26 80200
INE 300	630×400×600	480×250×320	39	30	500	41 26 80300
INE 400	550×480×680	400×330×400	53	35	800	41 26 80400
① INE 500	710×550×760	560×400×480	108	50	900	41 26 80500
INE 550	630×650×920	480×500×640	153	66	1100	10 26 08550
INE 600	950×650×920	800×500×640	256	87	1600	41 26 80600
INE 700	1190×650×1080	1040×500×800	416	121	1800	41 26 80700
INE 800	1190×750×1620	1040×600×1200	749	170	2000	41 26 80800

Series INP¹⁾

With natural air circulation and multifunctional PID process controller with fuzzy support.

Type	Outer W × D × H mm	Inner W × D × H mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
INP 200	550×400×600	400×250×320	32	28	440	41 26 90200
INP 300	630×400×600	480×250×320	39	30	500	41 26 90300
INP 400	550×480×680	400×330×400	53	35	800	41 26 90400
INP 500	710×550×760	560×400×480	108	50	900	41 26 90500
INP 550	630×650×920	480×500×640	153	66	1100	10 26 09550
INP 600	950×650×920	800×500×640	256	87	1600	41 26 90600
INP 700	1190×650×1080	1040×500×800	416	121	1800	41 26 90700
② INP 800	1190×750×1620	1040×600×1200	749	170	2000	41 26 90800

Series IFE¹⁾

With forced air movement and electronic PID control with fuzzy support.

Type	Outer W × D × H mm	Inner W × D × H mm	Vol. ap- prox. l	Wght approx. kg	P rating approx. W	Order No.
IFE 400	550×480×680	400×330×400	53	35	800	10 26 03401
IFE 500	710×550×920	560×400×480	108	50	900	10 26 03501
IFE 550	630×650×920	480×500×640	153	66	1100	10 26 03551
IFE 600	950×650×920	800×500×640	256	87	1600	10 26 03601
IFE 700	1190×650×1080	1040×500×800	416	121	1800	10 26 03701
IFE 800	1190×750×1620	1040×600×1200	749	190	2000	10 26 03801

Series IFP¹⁾

With forced air movement and multi-functional PID process control with fuzzy support.

Type	Outer W × D × H mm	Inner W × D × H mm	Vol. approx. l	Wght approx. kg	P rating approx. W	Order No.
IFP 400	550×480×680	400×330×400	53	35	800	10 26 02401
IFP 500	710×550×760	560×400×480	108	50	900	10 26 02501
IFP 550	630×650×920	480×500×640	153	66	1100	10 26 02551
IFP 600	950×650×920	800×500×640	256	87	1600	10 26 02601
IFP 700	1190×650×1080	1040×500×800	416	121	1800	10 26 02701
IFP 800	1190×750×1620	1040×600×1200	749	170	2000	10 26 02801

1) External dimensions: depth without door handle, depth of door handle 38 mm.

All Precision Incubators according to DIN 12880:2007-05. Standard models bear the test marks: EMV/VDE/GS/CE/GOST



Accessories for models BASIC-, EXCELLENT- and PERFECT

Stainless steel grid (standard version)

for type	Qty max.	Order No.	for type	Qty max.	Order No.
200	3	10 26 00320	550	7	10 26 00355
300	3	10 26 00330	600	7	10 26 00360
400	4	10 26 00340	700	9	10 26 00370
500	5	10 26 00350	800	14	10 26 00380

Stainless steel shelves, perforated

for type	Qty max.	Order No.	for type	Qty max.	Order No.
200	3	41 26 00020	550	7	10 26 00055
300	3	41 26 00030	600	7	41 26 00060
400	4	41 26 00040	700	9	41 26 00070
500	5	41 26 00050	800	14	41 26 00080

Stainless steel trays, non-perforated, 15 mm rim

for type	Qty max.	Order No.	for type	Qty max.	Order No.
200	3	41 26 10020	550	7	10 26 01055
300	3	41 26 10030	600	7	41 26 10060
400	4	41 26 10040	700	9	41 26 10070
500	5	41 26 10050	800	14	41 26 10080

Special equipment only for models EXCELLENT- and PERFECT

Article	Order No.
IQ checklist with works test data as support for validation by customer.	41 26 11011
OQ checklist (size 200 and 300) with cabinet-related factory data, for <u>one</u> freely selectable temperature value; includes temperature distribution measurement for 9 measuring points pursuant to DIN 12880:2007-05 as support for validation at the customer side	10 26 01016
OQ checklist (size 400 up to 800 and 749) with cabinet-related factory data, for <u>one</u> freely selectable temperature value; includes temperature distribution measurement for 27 measuring points pursuant to DIN 12880:2007-05 as support for validation at the customer side	10 26 01017
USB interface instead of RS232	10 26 01014

Special equipment only for model PERFECT

Article	Order No.
Celsius FDA-Edition Software conforming to FDA (no domain network support)	41 26 11013
④ Oven-related user authorization card prevents undesired manipulation by unauthorized third parties	41 26 11021
Ethernet interface instead of RS232 incl. software „Celsius Ethernet Edition“	10 26 01015

Further special equipment for EXCELLENT and PERFECT Class, such as entry ports, Pt100 for external temperature recording, a.s.o. upon request.

We reserve the right to make changes in technical specifications. Dimensions subject to confirmation.

All performance data are typical mean values for serial devices.

