VENTICELL®
Laboratory Ovens with Forced Air Convection

MMM Group

Thanks to patented system of forced air convention, the VENTICELL® line guarantees homogenous temperature distribution in all the drying and heating processes. Higher speed and precision of all the tempering procedures guarantees economical operation. Suitable mainly for high-humidity materials.

404 l · 707 l · 1212 l · 22 l · 55 l · 111 l · 222 l

Internal volume: 22, 55, 111, 222, 404, 707, 1212 litres
(pass-through version except for the volume 22, 1212 l)
Temperature range: from 10°C above the ambient temperature up to 250/300°C
Internal chamber: stainless steel DIN 1.4301 (AISI 304)
Clean premises version – on request.

Eco line

- Intuitive control
- Microprocessor process control Fuzzy logic
- Multi-lingual communication
- Acoustic and visual alarm
- LED indicator of device functionality
- 3-inch (7.6 cm) LCD display
- Transflective brilliant FSTN display, uses COG technology (it is backlit and uses the reflection of external light – higher intensity of external light increases the readability of the display)
- Adjustable display contrast depending on the location of the device
- Extra wide viewing angle
- Large, remotely visible characters on the display
- Current information (e.g. temperature, relative humidity on the CLIMACELL® instrument, pressure on the VACUCELL® instrument) is increased during the program run for better readability
- Durable, foil keyboard using a pleasant SoftTouch surface
- Mechanical button response
- Backlit symbols integrated directly into the foil keyboard
- Keypad lock to protect against unauthorized access – by adjustable multi-press
- Real time programming and cycling (ramps as optional equipment)
- 9 programs, 2 segments in each program, up to 99 cycles
- RS232 and USB Device interface
- Ethernet (RJ 45) and USB Host (optional)

Evo line

- Intuitive control
- Microprocessor process control Fuzzy logic
- Multi-lingual communication
- Acoustic and visual alarm
- LED indicator of device functionality
- 5.7-inch (14.5 cm) LCD colour touch display
- Graphic representation of a new program
- Control via coloured icons
- Touch screen lock to protect against unauthorized access by password
- Multi-level user management (FDA 21 Part 11 compliant)
- Data encryption and non-manipulation (according to FDA 21 Part 11)
- Up to 100 programs and up to 100 segments for each program, a maximum of 500 segments in the device in total
- Programming of temperature ramps, real time and cycling
- Annual data recording in graphical and numerical form
- Export data in online and offline mode
- Preset service programs for quick fault diagnosis
- SD memory card, USB Device and RS232 interface
- USB Host and Ethernet (RJ 45) as a part of the communication module (optional equipment)

VENTICELL® CE

Technical data

Parameter	Unit	1212	707-2	707	404-2	404	222-2	222	111-2	111	55-2	55	22
Inner space – volume	l	1212	707	707	404	404	222	222	111	111	55	55	22
width	mm	3×540	940	940	540	540	540	540	540	540	400	400	240
depth	mm	520	540	520	520	520	520	520	370	370	370	370	320
height	mm	1410	1410	1410	1410	1410	760	760	530	530	350	350	300
External dimensions (including door, handle, legs N or casters K) – width	max. mm	2175	1160	1160	760	760	760	760	760	760	620	620	406
depth	max. mm	845	806	790	806	790	806	790	660	640	660	640	560
height	max. mm	1910K	1910K	1910K	1910K	1910K	1110N	1095N	860N	860N	680N	680N	610N
ventilation neck diameter – internal / external	mm	52/49	52/49	52/49	52/49	52/49	52/49	52/49	52/49	52/49	52/49	52/49	52/49
Package – basic package – width	approx. mm	2360	1230	1230	830	830	860	860	830	830	700	700	500
depth	approx. mm	1020	860	860	860	860	860	860	730	730	730	730	720
height (including palette)	approx. mm	2100	2085	2085	2085	2085	1260	1260	1060	1060	875	875	810
Package – case – width	approx. mm	2360	1335	1335	910	910	920	920	810	810	780	780	720
depth	approx. mm	1020	1060	1060	970	970	960	960	910	910	800	800	780
height (including palette)	approx. mm	2240	2163	2163	2123	2123	1310	1310	1085	1085	900	900	835
Package – wooden crate – width	approx. mm	–	1310	1310	910	910	900	900	900	900	780	780	–
depth	approx. mm	–	940	940	940	940	940	940	800	800	800	800	–
height (including palette)	approx. mm	–	2120	2120	2120	2120	1270	1270	1090	1090	870	870	–
Trays / shelves – maximal number	pc	3×19	19	19	19	19	10	10	7	7	4	4	4
standard equipment	pc	6	2	2	2	2	2	2	2	2	2	2	2
minimal distance between trays/shelves	mm	70	70	70	70	70	70	70	70	70	70	70	60
usable area	mm	520x485	920x485	920x485	520x485	520x485	520x485	520x485	520x335	520x335	380x335	380x335	185x265
Maximal allowed loading of trays *) – per 1 tray	kg	30	50	50	30	30	30	30	20	20	20	20	10
per 1 shelf	kg	30	20	20	30	30	30	30	20	20	20	20	10
inside the device – in total	kg	300	130	130	100	100	70	70	50	50	50	50	25
Number of external metal door	pc	3	4	2	2	1	2	1	2	1	2	1	1
Weight – net	approx. kg	475	230	215	160	150	105	100	80	75	60	55	31
brut (cartoon)	approx. kg	525	255	240	185	175	121	116	92	87	71	66	36
max. input	kW	11,3	7,3	4,9	5,5	3,7	3,7	1,9	2,5	1,9	1,9	1,3	0,96
stand by input	W	5	5	5	5	5	5	5	5	5	5	5	5
Electric data – mains 50/60 Hz – current for voltage **)	A	2*15,7/17,7	15,6	7,8	8,3	5,6	5,6	8,3	10,6	8,3	8,3	5,6	4,2
	V	400/3NPE	400/3NPE	400/3NPE	400/3NPE	400/3NPE	400/3NPE	230	230	230	230	230	230
current for voltage **)	A	–	42	28	28	19	19	16,6	21,2	16,6	16,6	11,3	8,4
	V	–	115/3PE	115/3PE	115/3PE	115/3PE	115/3PE	115	115	115	115	115	115
IP Code		IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Temperature data – Operation temperature – from 10°C above ambient temperature	to °C	250 (300)	250 (300)	250 (300)	250 (300)	250 (300)	250 (300)	250 (300)	250 (300)	250 (300)	250 (300)	250 (300)	250 (300)
Variations from operation temperature with closed flap and door (DIN 12 880 part 2) – space	± % temp.	4	2,5	2,5	1,8	1,5	1,2	1	1	1	2	1	1,1
time	±°C	1,3	0,74	0,4	0,4	0,4	0,4	0,4	0,4	0,4	1,2	0,3	0,3
Time to reach temperature of 250°C with closed flap and voltage 230 V	min	68	50	64	43	58	33	70	–	53	–	49	28
Number of air exchanges at 250°C	h⁻¹	16	12	12	18	18	24	24	49	49	45	45	45
Heat losses at 250°C	W	5920	2550	2550	1940	1940	990	990	760	760	590	590	420
Device noise level	dB	<58	<58	<58	<58	<58	<55	<55	<55	<55	<55	<55	<55

Note:
All the technical data refer to 22°C ambient temperature and 230 V supply voltage.
The stated deviations of temperature and humidity are valid for the device in standard version without options, measured according to DIN 12880 in a steady state with an empty chamber and a fan at 100%. The other parameters may also vary depending on the optional options added and the media used.

*) The trays may be covered to approximately 50% of their surface and if possibly in such a way so as the air may evenly flow inside the chamber space.

**) Mains voltage is specified on type label of the device.

Changes in the design and make reserved.