

# VENTICELL®

Laboratory Ovens with Forced Air Convection



MMM Group



Thanks to patented system of forced air convection, 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.

Internal volume: 22, 55, 111, 222, 404, 707 litres  
(pass-through version except for the volume 22 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
- LCD display – 3 inches (7,6 cm)
- Transflective brilliant FSTN display, using COG technology (it is backlit and it uses external lighting reflection – higher intensity of external light increases the display readability)
- Adjustable display contrast depending on device placement
- Exceptionally wide vision angle
- Large signs on the display visible from afar
- Current values (eg. temperature, humidity for CLIMACELL®, pressure for VACUCELL®) during the device operation are enlarged for easy readability
- Resistant foil keyboard with SoftTouch surface (pleasant to touch)
- Mechanic response of keys
- Lit symbols integrated directly in the foil keyboard
- Keyboard lock to block unauthorised access – adjustable by multiple pressing
- Real time programming and cycling (ramps as optional equipment)
- Up to 9 programs, 2 segments for each program and up to 99 cycles.
- USB Host port for flash disc connection for easy export of the relevant data (optional equipment)

## Evo line



- Intuitive control
- Microprocessor process control Fuzzy logic
- Multi-lingual communication
- Acoustic and visual alarm
- LED indicator of device functionality
- LCD display – 5,7 inches (14,5 cm)
- Graphic displaying of a new program
- Control through colour icons
- Touch display lock – protection from unauthorised access by a password
- Multi-level administration of users (corresponding to FDA 21 Part 11)
- Data coding and no-manipulability (according to FDA 21 Part 11)
- Up to 100 programs and up to 100 segments for each program
- Programming of temperature ramps, real time and cycling
- Annual data recording in graphic and numeric form
- Data export in online and offline mode
- Pre-set service programs for prompt diagnostics of failures
- Easy service diagnostics including remote access
- SD memory card, USB Host and interface RS 232 – included as a standard
- Connection: WiFi, USB Device or Ethernet interface with proper IP address for remote data transfer, control and diagnostics (optional equipment)

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

Note:

All the technical data apply to 22°C of ambient temperature and ± 10%.

Standard version up to 250°C, optional version up to 300°C.

\*) The trays may be covered to approximately 50% of their surface and if possible 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.

The values may differ depending on specific charge and media parameters.

Changes in the design and make reserved.

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