

## STABILITY CHAMBER TYPE: Z-7011



Stability chamber is designed to conduct a wide range of tests of aerosol products in a controlled environment, including:

- Content stability testing;
- Shelf life estimation;
- Package durability testing.

Machine features:

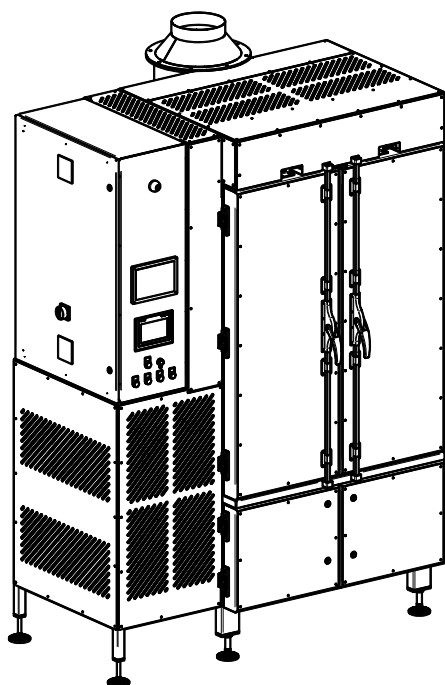
1. Supporting construction – welded stainless steel.
2. Internal walls – screwed stainless steel plate (AISI 304)  
External walls – stainless steel plate (screwed/riveted AISI 304).
3. Filler (isolating material): mineral wool.



4. Double-door test chamber – with blockade against unauthorized opening. Door opening control integrated with safety system. In case of emergencies - the ability to override the blockade with a special key.
5. 2 ventilation flaps driven by 2 pneumatic actuators each. Reliable sealing system to prevent any leakages from test chamber. All moving parts fully covered with safety guards.
6. Built-in compressor with buffer tank for pneumatic system (ventilation flaps).
7. Chamber capable of LOTO for maintenance.
8. Consumable and spare parts list included in the maintenance documents.
9. ATEX Class 3G (Zone 2) inside the chamber:  $\text{Ex II -/3G Ex IIB T3 Gc}$ .
10. All the equipment and indoor installation in ATEX version with all certificates:
  - ATEX classification of temperature sensor: Ex 2G Ex ia IIC T6÷T3 Gb
  - ATEX classification of gas detector: Ex 2G Ex d IIC T4 Gb
  - ATEX classification of heating coils: Ex II 2G Ex e IIC T3 Gb
  - ATEX classification of circulation fan motor: Ex 2G Ex e IIC T3 Gb
  - ATEX classification of exhaust fan motor: Ex 2G Ex e IIC T3 Gb
  - ATEX classification of doors limit switches: Ex II 3G Ex nR IIC T4 Gc
11. External systems and devices, standard (non ATEX).
12. Indoor equipment of the chamber:
  - MSA gas detection system with IR detectors with calibration certificate;
  - The two-stage ventilation system linked with the gas detection unit;
  - 2 x Temperature sensors with calibration certificates;
  - Heating unit;
  - Cooling unit (R-404a HFC);
  - Circulation fan for proper temperature distribution throughout test chamber;
  - Exhaust (ventilation) fan activated in the event of gas leakage;
  - Temperature controller with thermostat (temperature tolerance +/- 1°C);
  - Internal volume available for test: ~750 liters.
13. Control system based on Siemens S7-1200 PLC with HMI touch panel:
  - Test can be conducted in 2 variants: constant temperature test (where only test temperature and total test time are set) or temperature oscillation test (where temperature cycles between 2 set points with user defined intervals);
  - HMI alarms and events page with essential troubleshooting tips;
  - Flammable atmosphere marked in LEL%;
  - Built-in process data storage (test history, alarms) with the ability to export the data to USB flash disk;
  - 3 additional communication outputs (Gas level 1, Gas level 2, Gas unit fault) provided for integration with safety system at User's premise;
  - WAN/3G communication module for remote technical support;
  - Only electric power supply, no external pneumatic supply required.



Active safety systems will be controlled by a Siemens PLC with HMI touch panel with an interface to set test parameters, graphical visualization and data export. All safety systems are integrated with main controller. Doors are locked during the test. No unauthorized access is possible. In the event of a gas leak, the safety system will activate the ventilation fan, open the flaps and lock the chamber doors until the cause of the alarm will be eliminated and gas concentration will drop below 1 level (which is 10% LEL by default). In case of power failure the flaps will automatically close, to prevent any potential explosive atmosphere to propagate outside the chamber.



### Operational parameters

Test temperature +4 °C to +50 °C  
range:

Max cans height: 315 mm (with all shelves installed)

Workspace volume: 0.75 m<sup>3</sup>

### Dimensions and weight

Width: 1865 mm

Length: 1465 mm

Height: 2735 mm

Mass: ~1000 kg

### Supply

Supply type: Electric

Supply voltage: 3x400V + N, 50Hz

Power consumption: up to 4 kW

