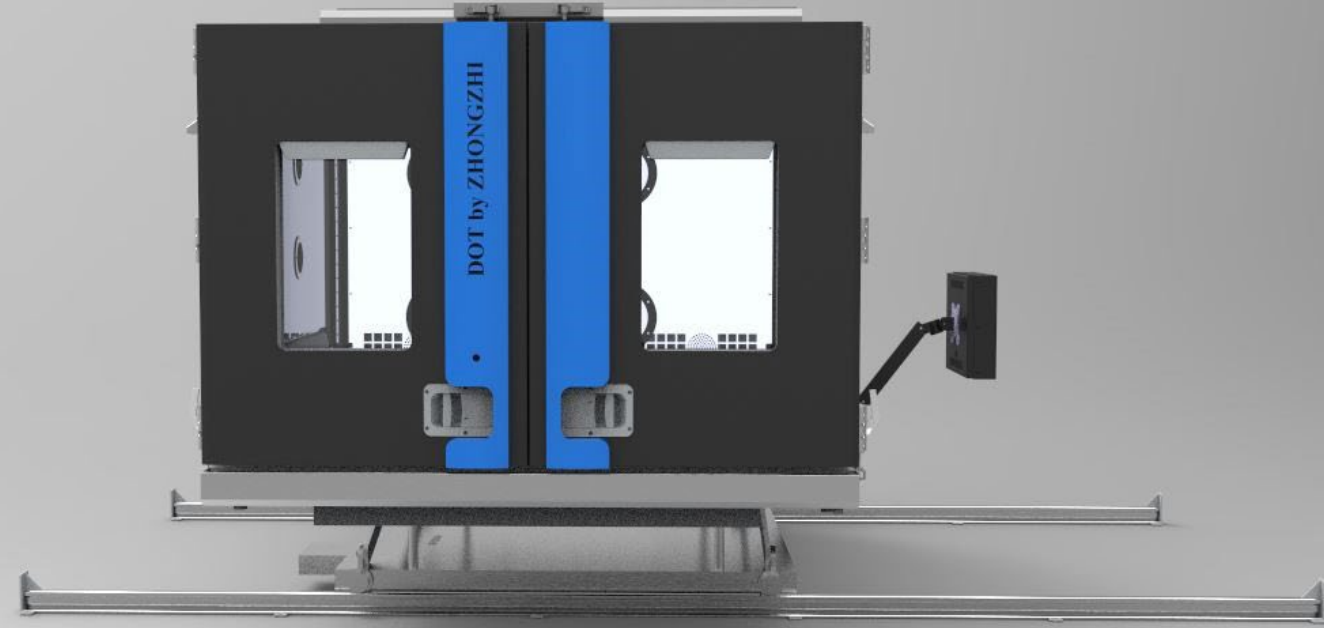


CLIMATIC CHAMBER VIBERION

Versatile. Flexible. Powerful.

DOT's Viberion test chambers offer the flexibility to adapt to ever-changing environmental testing requirements. Chambers are available in temperature-only or temperature and humidity configurations. Rapid thermal change rates from 5°C up to 30°C are available. These environmental chambers can become vibration chambers if integrated seamlessly with an electrodynamic shaker.

This diversifies the usefulness of the chamber because it can be used as a stand-alone thermal environmental chamber or for combined environmental tests. DOT's VIBERION chambers are designed to perform temperature, humidity, and vibration testing to MIL-STD 781 and 883 standards, and to perform reliability, qualification, and environmental stress (ESS) screening for a wide range of industries including electronics, aerospace, automotive and telecommunications.



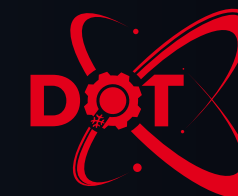
FEATURES FOR VIBERION CLIMATIC CHAMBERS

- Full opening door with silicone seals
- Internal lighting recessed away from the work area
- The exterior is painted in blue RAL 5005, gray RAL 7043 and black RAL 9004 and in AISI 304 mirrored stainless steel for the internal sheets, 1.0 mm thick.
- The chamber floor is designed to be interchangeable to accommodate different "floor plugs" for different vibration systems
- The standard floor plug provided is a diaphragm for vertical vibration applications (solid floors or other optional)
- Teflon slides in the floor slot make floor replacement easy
- Standard models available with automatic vertical and horizontal movement to allow the use of combination-based vibration systems.

Il Disgelo
LA PERFEZIONE DEL FREDDO



VIBERION
VIBRATION
CHAMBERS

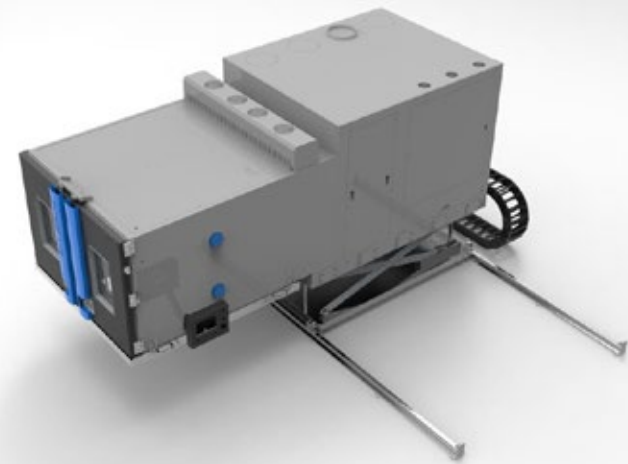


BASIC CONFIGURATION

- Air treatment with cooling coil and nichrome wire heaters
- Blower motors with one-piece stainless steel shafts
- CFC-free cascade refrigeration system using semi-hermetic Copeland or Bitzer compressors
- The automatic water regulator controls water usage on water-cooled models
- Humidity models include steam generator and dehumidification coil
- Instrumentation console mounted to the right of the door
- Three levels of overheat protection including an independent, adjustable sensor
- Electrical disconnect switch for the main power supply
- Sample supply interlock relay for chamber and sample protection
- The new programmer/controller:
- Easier to use, with USB functionality, smoother ramping and energy-saving operation
- Intuitive operation via touch screen with 10" active matrix color display.
- Stores 500 programs, with up to 20 steps each (programs can be written on a PC and loaded via USB)
- Trend graph display shows a record of setpoints and actual values (operating data can be downloaded as needed, or continuously, to USB)
- System alarms are stored in memory for historical review
- Dydrus PC software for program editing and data log viewing/exporting

NEW HMIV 10 INCH ON BOARD DISPLAY

- All functions available on the on board panel
- The same software on any device



OPTIONS

- Additional portholes
- Internal shelves
- Water condenser
- Reinforced floor
- Capacitive probe
- Notch
- Set of no.4 analogic inputs
- Set of no. 4 PT100 inputs
- Set of no. 4 PT100 probes
- Set of no. 8 auxiliary contacts
- No break power unit for PLC
- Temperature extension to +200°C
- Air fan motor speed adjustment
- Air flow booster
- Specimen switching off in case of chamber alarm
- Compressed air dehumidification kit
- T e RH analogic retransmission

TECHNICAL PARAMETERS DRACARYS CLIMATIC CHAMBER

	Model	Viberion 408 (A~G)	Viberion 608 (A~G)	Viberion 800 (A~G)	Viberion 1000 (A~G)
Useful capacity (l)		408	608	800	1000
Internal Dimension (mm)	Width	600	800	1000	1000
	Height	850	950	1000	1000
	Depth	800	800	800	1000
External Dimension (mm)	Width	1100	1300	1500	1500
	Height	1710	1810	1860	1860
	Depth	1370	1370	1370	1570
Temperature Range		-70°C +180°C			
		(A: +25°C B:0°C C: -20°C D: -40°C E: -50°C F: -60°C G: -70°C)			
Humidity Range		20%~98%R.H. (10%-98%R.H. and 5%-98%R.H. is a special optional condition)			
Temperature range for climatic test (°C)		+10°C~ +90°C			
Analytics/Precision/ Degree of uniformity of Temperature and Humidity in space		0.01°C ; 0.1%R.H./ ±1.0°C ; ±3.0%R.H.			
Control Accuracy Temperature Stability of Temperature and Humidity		±1.0°C ; ±2.0%R.H./ ±0.5°C ; ±2.0%R.H			
Temperature changing rate Heating	Heating	3°C/min	3°C/min	3°C/min	3°C/min
Temperature changing rate Cooling	Cooling	2.5°C/min	2.5°C/min	2.5°C/min	2.5°C/min
Inner and Outer Materials		The external box is the SUS 304 stainless steel surface strips, and the inner box is SUS 304 mirror stainless steel			
Insulation Materials		High temperature resistant high-density polyurethane rigid foam and rock wool insulation materials			
Cooling System		Air cooling and water cooling condenser			
Controller		DOT 10" Touch panel with "ClimaLogic"® software			
Compressor		Copeland or Bitzer compressor			
Power		400V ±10%/50Hz/3 + N + G			

CLIMALOGIC® AN INTELLIGENT CONTROL SYSTEM READY FOR THE FUTURE



- Thanks to their hyper-connectivity, DOT test chambers can match current and future needs related to the new demands of the Industrial Internet of Things and Industry 4.0 for integrated, interconnected and communicating machines.
- Clarity, consistency and efficiency of use
- The interface consists of a powerful software accessible from the 10 inch on board display and from remote devices (PC, tablet, smartphone) through the App Easy Access.
- The chamber is equipped with a PLC (Programmable Logic Controller) for managing all the chamber's functions and safety interlocks.

DYDRUS SOFTWARE

Dydrus is the Supervision and Management system operating on desktop device. The operator interface can also be remotely accessed via customer's LAN connections.

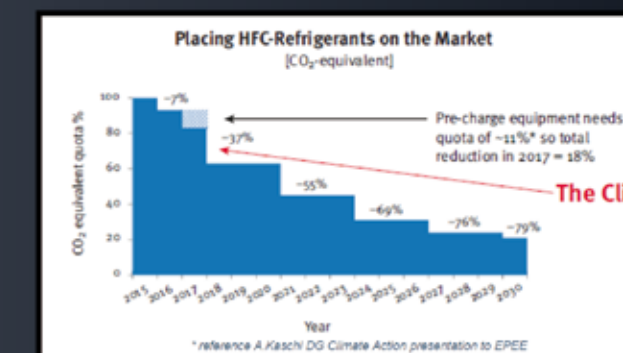


Main features Dydrus software

- Ethernet connection to the chamber.
- Visualization and graphical analysis of measures and recordings.
- Synoptic graphs of the entire system.
- Multilanguage support.
- High configurability of chamber parameters.
- Unlimited possibilities of measures recording
- Program and Manual mode of chamber operation
- Delayed start of a program
- Archive manager for an easy access to the stored recordings
- Test program editor
- Unlimited possibilities of storing cycles of 350 segments delaying their execution.
- Upload, edit, export, and delete existing cycles and recordings.
- Graphical and numerical profile's parameters data entry.
- Graphic functions (Graphic viewer)
- Live data update of measures on the charts
- Graphic charts or numeric table representation views on the monitor
- Graphic cursor for in-chart data measurements and evaluations.
- Calculation of Measure Slopes and reports generation.
- Export function to convert the Dydrus log file into ASCII format (usable in Excel or other applications)

NEW EUROPEAN STANDARD FOR F-GAS (REGULATION 517/2014 EU)

- The member States of the European Union have come to an agreement to protect the environment through the reduction of greenhouse gas emissions (ton of CO2 equivalent) and there is an impact on HFC refrigerant
- Each refrigerant seller has the possibility to sell according a given QUOTE evaluated on past amount of gas which have been sold by the seller.
- The QUOTE of each refrigerant seller will decrease with the same reduction target given by the Regulation; this means, Gas with low GWP (Global Warming Potential) are promoted in order to stay within the QUOTE at the end of the year (1kg R-404A = 3922kg CO2 and 1kg R-23 = 14800kg CO2)



NEW REFRIGERANT

New European Standard for F-Gas (Regulation 517/2014 EU) – (3)

- New gas instead of R-404A (all the following Gases GWP<2500)
- R-407F (not good performance at lower temperature) not for ATT

• R-449A
• R-452A **TEST COMPLETED!**

- R-448A
- R.....
- R.....
- About R452A (GWP 2140):
• High performance also at low temperature
• Unfortunately, not so green...
• Not so many data available from compressor and other manufacturer, but it seems to us a perfect drop-in replacement of R404
- About R449A (GWP 1397):
• Greenest option at the moment available on climatic chamber
• Some problems with Tev < -30°C