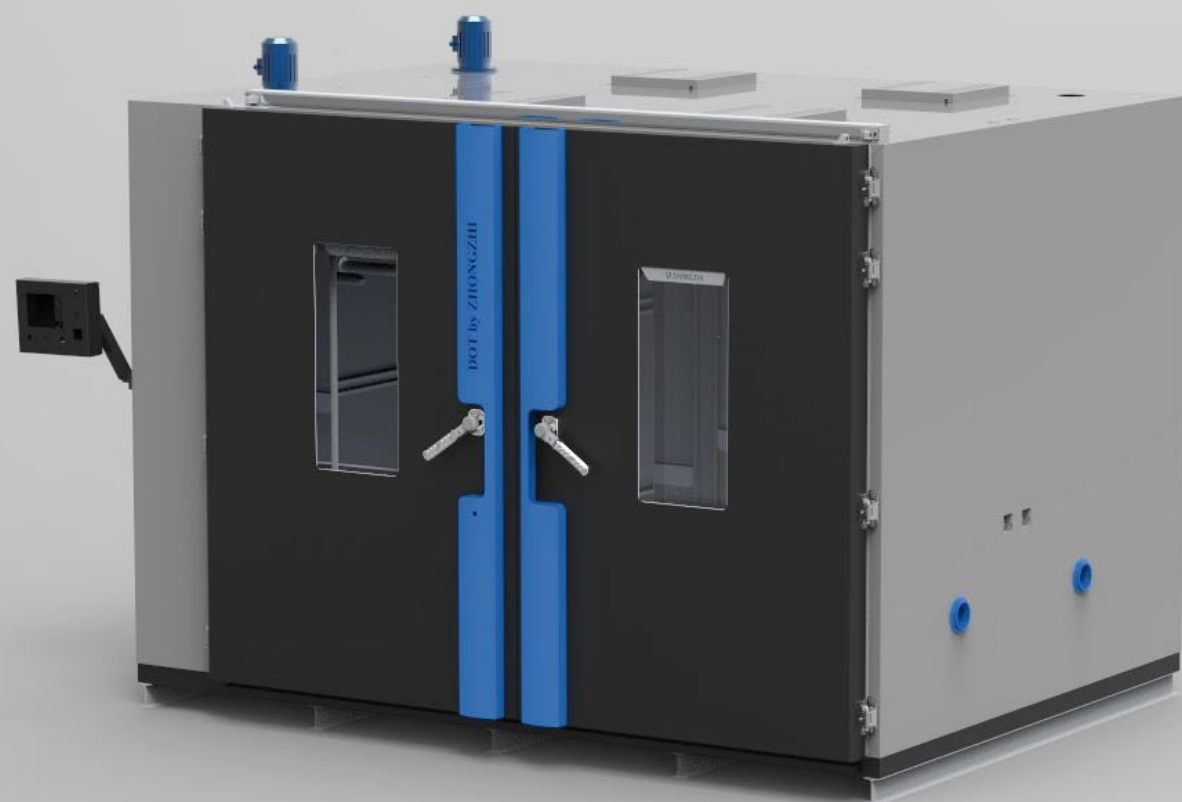


MODULAR WALK-IN

- Our modular walk-in test chambers use polyurethane foam panels that lock together with cam latches. The panels we use have an internal stainless steel 304L lining to be more resistant and waterproof to extreme conditions. The seams between the panels are carefully sealed to protect them from leaks that could affect performance or damage the panels. The doors and windows have embedded heaters, as well.
- Features for modular walk-in chambers:
 - Modular panel test chamber with 304L stainless steel interior;
 - The exterior is in galvanized steel, RAL 7043 gray coating
 - Insulated panel flooring with non-slip surface and multiple drains
 - Load up to 3000 kg, suitable for pedestrian traffic or small trolleys
 - Service doors are hinged for easy access to refrigeration components
 - Reliable steam generation system for humid applications
 - Adjustable fins in the supply grille allow you to direct the airflow as needed



WALK-IN DROGON CLIMATIC CHAMBER

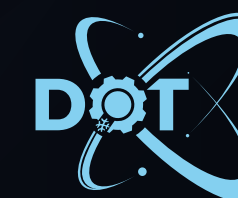
- A DOT walk-in chamber serves as a test site for large components, assemblies and finished products. DOT produces both panel walk-in chambers and one-piece, welded walk-in chambers and can be configured as a thermal chamber or thermo-hygrometric chamber.
- A paneled walk-in room is made of lightweight insulation panels for quick and easy installation. The outer band helps prevent leaks and keeps the humidity outside the chamber and the temperature of the work area stable.
- Our solid walk-in rooms are custom built to fit almost any size. They feature welded walls, creating an environmental room for applications requiring controlled temperature and humidity testing when above 80°C. Typically, for ease of installation, a solid walk-in room works best in new construction, areas with extremely large doorways, or rooms where exterior walls can be easily removed.
- Below are some standard panel walk-in chamber dimensions; however, custom sizes are available.

TECHNICAL PARAMETERS DRACARYS CLIMATIC CHAMBER

	Model	Drogon 4000 (A~G)	Drogon 8000 (A~G)	Drogon 10000 (A~G)	Drogon 15000 (A~G)	Drogon 20000 (A~G)	Drogon 30000 (A~G)	Drogon 40000 (A~G)
Useful capacity (l)		4000	8000	10000	15000	20000	30000	40000
Internal Dimension (mm)	Width	1500	2000	2500	3000	4000	4000	5000
	Height	1800	2000	2200	2000	2000	2500	2500
	Depth	1500	2000	2000	2500	2500	3000	3200
External Dimension (mm)	Width	2500	3100	3600	4100	5100	5100	6100
	Height	2100	2300	2300	2300	2300	2800	2800
	Depth	1700	2260	2260	2760	2760	3300	3500
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	3°C/min	3°C/min	3°C/min	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	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 pannel with "CliMaLogic"® software							
Compressor	Copeland or Bitzer compressor							
Power	400V ±10%/50Hz/3 + N + G							



DROGON WALK - IN CHAMBERS



Il Disgelo
LA PERFEZIONE DEL FREDDO

WELDED MONOBLOC CHAMBERS

- The welded monobloc chambers, made in a single piece, with polyurethane and mineral wool insulation and installed on top of an iron frame. The internal stainless steel lining is continuously reinforced and welded, including leak testing to verify its integrity.
- Temperature range up to 150°C
- Temperature cycles faster than 10°C/min.
- Capable of 85%/85% long-term testing.
- (Conventional rooms are built using foam-insulated panels that cannot withstand higher temperatures and are more susceptible to leaks at the joints under extreme conditions, such as rapid temperature changes.)
- The iron frame provides sufficient structural strength to allow a fully opening door for easy loading of large specimens without restrictions.

DRIVE IN CHAMBERS

- Environmental testing of automobiles requires additional consideration of the facility where the chamber will be installed and its intended use. Test methods for vehicles may include additional conditions beyond temperature and humidity in an attempt to simulate real-world conditions.
- Dynamometer or four-post road simulator
- DOT builds special floor interfaces to allow the use of these additional types of equipment provided by other vendors.
- Infrared lighting
- DOT builds infrared systems to create radiant heating of vehicle surfaces to look for warping and other quality problems. These systems can be adjusted vertically and angled to ensure even coverage.
- From cold starts to high heat stress, a running engine is a common need, but fresh air needs to be conditioned and introduced into the chamber to compensate for that used in combustion. The exhaust must also be safely removed from the chamber.

FEATURES FOR DRIVE-IN CHAMBERS

- Stainless steel interior
- Durable flooring to support vehicles
- Exterior in galvanized steel painted RAL 7043 for long life
- Big doors
- Refrigeration unit service doors are hinged (no tools or lifting)
- Easy access to frequently checked refrigeration components
- Customization to meet additional testing requirements

BASIC CONFIGURATION

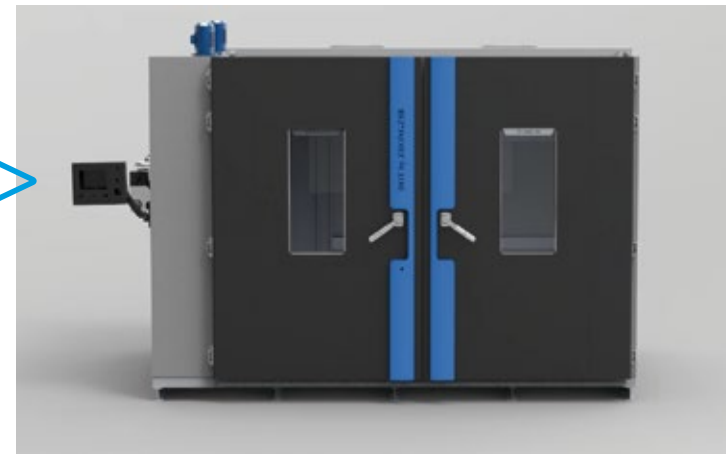
- Control by touchscreen 10" "DOT" fixed on the door
- 2 Portholes 100mm (one for each side)
- observation window on the door (size depends on design), with lighting
- Multi-layer vacuum glass window with electronic defogging film to heat and sweat
- Air condenser or water condenser
- Internal light
- Min/max digital thermostat with independent probe
- Ethernet port
- RS232 serial interface

OPTIONS

- Windows
- One window on the door is included with all chambers (two windows on double-doors). Additional windows may be added to suit.
- Cable Port
- Cable Ports Ports allow routing cables, hoses, and other connections into the chamber. Standard round sizes of 2", 4", and 6". Exclusive DOT flexible silicone port plugs included. Custom sizes possible.
- Air Flow Distribution
- Ducting of conditioned air can be added to ensure even distribution in larger chambers. Recommended in applications where specimens generate significant heat. Full ceiling plenum uses perforated panels for even airflow throughout chamber.
- Low Humidity
- Control Specialized dehumidification dryer system to allow humidity levels as low as 10% at 10°C.
- Variable Airflow Control
- Airflow speed can be reduced for infrared testing or to allow sound measurements.

Automotive Options

- Lighting Infrared
- Lighting Lights are proportionally controlled based on surface temperature of the sample. Adjustable height and angles allow for even exposures. Banks of 50-100 lamps (250W or 375W) can be individually controlled. Wet cycle option also allows humidity control during IR operation.
- Dyno or Road Simulator Integration
- Flooring can be customized to allow dynamometers or four-post road simulators to be used with the chamber. Road simulators may also require a cooling system for the vehicle suspension.
- Fresh Air and Exhaust
- Fresh air supply allows for testing running vehicles. Incoming air is conditioned to maintain chamber conditions. Includes an exhaust extraction system with flexible hose.
- Safety Systems Gas Monitoring
- Air sampling of oxygen, carbon monoxide, and LEL levels. Operator Safety - Fresh air supply, and conditioning for personnel in vehicles. Fire Detection and Suppression Systems - To meet site requirements



NEW HMIV 10 INCH ON BOARD DISPLAY

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



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.

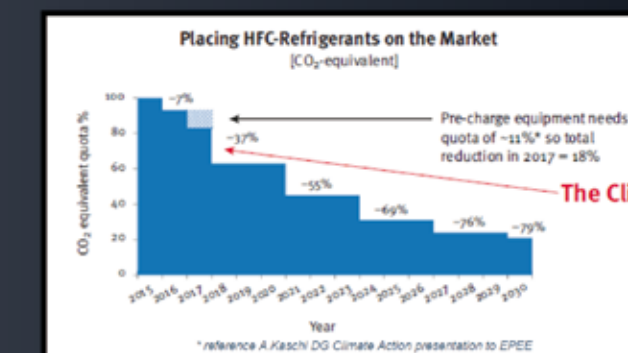


Main features Dydrus software

- 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