

Tornado

With **SIMPLEtouch** programmer

High Capacity Chambers

Temperature & humidity



- High performance for demanding tests
- Slim Profile with front-to-rear airflow
- Large interiors up to 5250ltrs
- Robust single-piece construction for heavy loads
- Powerful cooling plant - optimised to suit the application
- Suitable for Thermal Stress testing
- **SIMPLEtouch** programmer with flexible I/O
- Wide temperature and/or humidity ranges
- Extensive range of standard options
- Modern, attractive styling



Sharetree
LIMITED

Temperature/Humidity Testing

Tornado chambers are designed for large or heavy loads and are suitable for both Thermal Stress and temperature/humidity cycling applications. Special attention has been given to achieving a high, front-to-rear air-flow. This ensures consistent conditions throughout the chamber volume and therefore more meaningful test results.

The Heating/Cooling Plant on the Tornado chambers is sized to suit each requirement and can vary from 1 to 10°C/min (and higher with LN₂ boost). Standard chambers are available with two temperature ranges, using single stage (-40°C) or cascade (-70°C) cooling plant, and a maximum temperature of +180°C. Remote or water-cooled plant can be specified to minimise heat and noise in the test area.

The **SIMPLEtouch** touch-screen programmer makes it easy to set-up and monitor the chamber conditions, and is particularly useful for simplifying the programming of complex cycles.

The chambers are attractively styled to blend in with modern production and laboratory equipment and a wide range of sizes are available.

Typical Applications

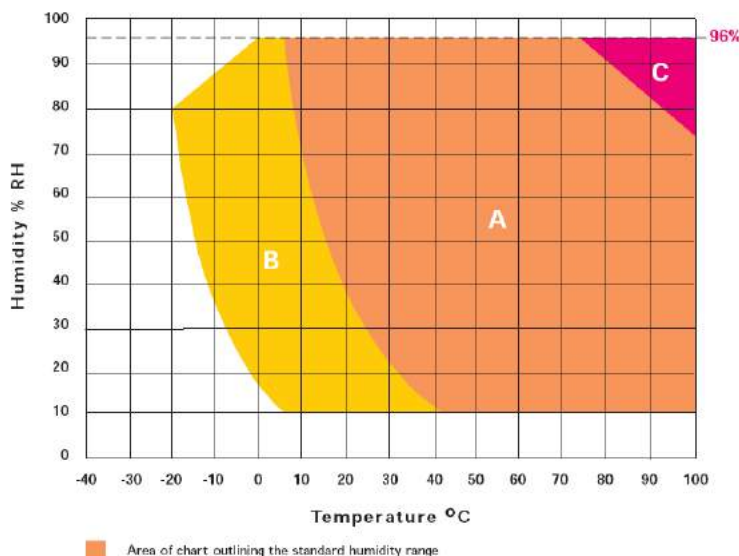
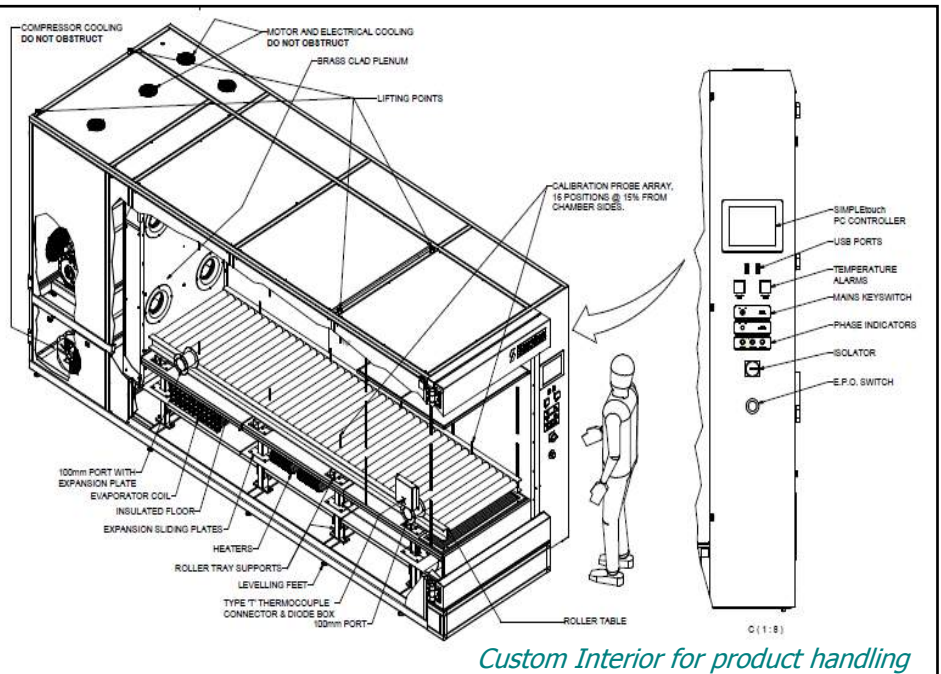
- Thermal Stress testing
- Temperature/Humidity Testing
- Testing of Materials, Components and Assemblies
- Electronics, Automotive and Aerospace

Custom chambers and options

Sharetree are able to offer cost effective custom chambers and options where standard solutions are unsuitable, via our in-house manufacturing capabilities. We have many chamber variations and options in our design library that are not shown as standard options.

Sharetree has extensive experience of providing complete test systems and will be pleased to discuss specific product interfacing and testing requirements.

Talk to us for **FREE APPLICATION ADVICE**



HUMIDITY RANGE OPTIONS

Humidity control

The **Tornado** chambers are designed to accept a wide range of humidity control options to enable a variety of steady state and cyclic damp heat tests to be performed.

Close control of temperature/humidity conditions is achieved by means of an electronic microprocessor controlled dual loop programmer. An electronic capacitive humidity probe is fitted as standard for high reliability and minimum maintenance.

Humidity generation requires a supply of de-ionised water. This may be supplied from a local reservoir or automatically from a mains supply, where available, via an optional de-ioniser unit. Chamber condensate is normally re-circulated to minimise water consumption, but may be drained at programmable intervals if required.

Model Range—Temperature only

Order Code	Internal Size (mm)			Volume	External Size (mm)			Temp Range	Ramp Rates* EMPTY	Ramp Rates* LOADED		
	H	W	D	Litres	H	W	D	°C	°C/min (Average)	°C/min (Average)	Kg	Watts
TC Tornado 800 600 800 -70 ME	800	600	800	384	1970	900	1910	-70 to +180	-	-	-	-
TC Tornado 1000 1000 1000 -70 ME	1000	1000	1000	1000	2050	1600	2350	-70 to +150	-	-	-	-
TC Tornado 1500 2000 1000 -70 ME	1500	1000	2000	3000	2300	1700	2700	-70 to +180	-	-	-	-
TC Tornado 1500 1000 3500 -70 ME	1500	1000	3500	5250	2300	2300	4800	-70 to +100	-	-	-	-
TC Tornado custom	User Definable Sizes Available											

*measured at the control probe, in accordance with IEC 60068-3

Humidity range options

Replace 'TC' prefix in order code with the Humidity Range as shown on the graph	Area A	Area A+B	Area A+C	Area A+B+C
		TH(A)C	TH(AB)C	TH(AC)C

Standard Options

Order Code	Option	Type	Description
W300 W600	Window	Heated, multi-glazed	300 x 300mm with interior lighting 600 x 600mm with interior lighting
CP50 CP100	Cable Port	50mm diameter 100mm diameter	Complete with rubber bung
ECD	Extended Cold Dwells	>12 hours	Avoids frost build-up
E92	Product Protection	Electronic 2-channel	Customer settable upper and lower temperature limits with independent monitoring
BHS	Boost Heating	10°C/min average	10 to 90% of temperature range (empty)
BCS (Using indirect LN ₂)	Boost Cooling	10°C/min average	10 to 90% of temperature range (empty)
S600 S1000	Removable Shelf	600 x 800 1000 x 1000	Maximum load 10kg Maximum load 20kg
ST600 ST1000	Shelf with Telescopic runners	600 x 800 1000 x 1000	Maximum load 10kg Maximum load 20kg
ER	Event Relay	Software controllable	For control of external equipment
AD(-40)	Air Dryer	-40°C dew point	Requires clean, dry compressed air supply
FLP05T	Floating probes	5 x PT100	Logging via SIMPLEtouch programmer
V250 (humidity only)	Water de-ioniser	Resin type	Connect to mains water. Wall mounted.
VC250 (humidity only)	Replacement cartridge	Resin type	Replacement cartridge for V250
DIAG	Monitoring + Diagnostics	Model dependent	Monitors chamber plant and displays status
WCP	Water-cooled compressors	Model dependent	Requires suitable cooling water supply
RP	Remote cooling plant	10m maximum pipe run	Reduces heat and noise from chamber
RC	Remote condenser	Model dependent	Reduces heat from chamber
VSP	Variable speed fans	Model dependent	Electronic control of fan speed/airflow

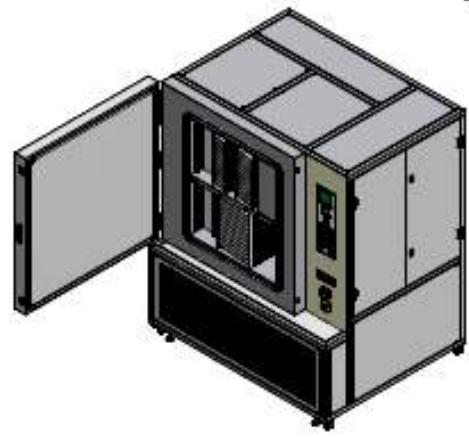
Construction

The inner chamber is fabricated from high grade stainless steel for corrosion resistance and easy cleaning. All internal joints are seam welded to ensure a vapour tight construction. The mild steel outer cabinet is attractively styled and has an easy to clean epoxy paint finish.

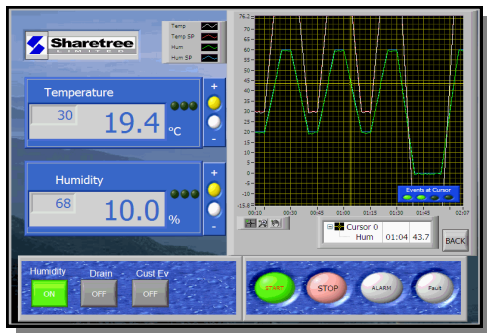
Dense mineral wool insulation blankets the entire chamber to ensure energy efficient operation.

Full access to the interior is gained through the hinged front door. This has a double sealing arrangement, pressurised by the door catch, to prevent moisture ingress at low temperatures.

Powerful fan(s) are used to ensure low thermal gradients and uniform testing of products. The fan motors are mounted outside the chamber for maximum reliability.



Sharetree chambers are designed using 3D-CAD, allowing customers to approve custom designs more easily prior to manufacture.



SIMPLEtouch programmer

All Cyclone chambers now come with our latest SIMPLEtouch touch-screen programmer at no extra cost.

The Sharetree **SIMPLEtouch** Chamber Programmer enables the temperature (and humidity where fitted) to be easily programmed and displayed on Sharetree test chambers.

The touch-screen window gives a clear, user-friendly interface with a constantly updated display of the current set and actual values for temperature and humidity.

SIMPLEtouch uses only commercially available components to ensure low cost of ownership over the lifetime of the chamber.

Agent:



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Specifications may vary as part of our policy of continuing product improvement

The refrigeration plant consists of a single stage or cascade system (depending on temperature range and ramp rate), and is generously sized for long term reliability. Anti-vibration mounts and vibration eliminators minimise noise and vibration.

Remote plant and water cooled compressors are available as options.

SIMPLEtouch Features:

- User friendly interface, Windows O/S based
- **QuikSet** Temperature and Humidity entry
- Clear, easy-to-read 10" display
- Comprehensive Graphical Display including:
 - ◇ Set and actual readings
 - ◇ Scaling
 - ◇ Cursor
 - ◇ Event Indicators
- Complex programs (Profiles) including:
 - ◇ Nested loops
 - ◇ Time Remaining display
 - ◇ Hold and Start At functionality
- Logging of results to file
- LAN and USB access

Sharetree products are designed, manufactured and supported in the UK



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MEMBER

