

BT • FT • BS Range



A range of high quality, compact bench & floor standing temperature controlled test chambers. Ideally suited for steady state or cyclic testing.



Temperature Test Chambers

BT & FT Range

A compact, quiet, yet powerful range of bench top and floor standing test chambers for small test units, which are suited to limited laboratory space. Most models have a single phase power supply and are fitted with lockable castors making them a highly mobile test facility.

The BT and FT range offer ideal performance for both steady state and cyclic temperature tests with compressor cooling to -40°C or -70°C and an upper temperature limit of $+180^{\circ}\text{C}$.

STANDARD FEATURES

- Spectrum Programmer.
- 1 x 80mm dia cable port.
- RS485 communications.
- 1 x adjustable shelf.
- 1 x event relay.
- UKAS calibration.
- CE marked.
- Mobility casters.

OPTIONS

- Contour software.
- Additional cable ports.
- RS232 communications.
- Over and under temperature alarms.
- Nitrogen or dry air purge.
- Additional shelves.
- Mobile base units and trolleys (BT models).
- Multi-glazed, heated viewing window and interior lighting.
- Additional event relays.



Electrodynamic vibrator interfaced in BS chamber floor.

COOLING SYSTEMS

- -40°C models: Self contained single stage refrigeration plant with air cooled condenser.
- -70°C models: Self contained cascade refrigeration plant with air cooled condenser.

AIR CIRCULATION

Axial fan creating a turbulent air flow across the working space to provide an even temperature gradient.

BS Range

The construction technique of the BS range allows flexibility of dimensions and the addition of special features at a reasonable cost.

Compressor cooling to -40°C or gas cooling to -70°C or a combination of both is available with upper temperatures of either $+130^{\circ}\text{C}$ or $+180^{\circ}\text{C}$.

The versatility of the BS chambers also enables interface with vibration generators and various types of materials test machines.



BS Chamber interfaced with a materials testing machine. Courtesy of Coopers Research Ltd.

Model BT40-40 with an optional base unit.

MODELS	BT20-40	BT40-40	BT40-70	FT110-40	FT110-70	FT210-40	FT210-70	FT110-70S	FT210-70S
TEST VOLUMES (litres)	16	37	37	110	110	200	200	110	200
INTERNAL CHAMBER DIMENSIONS									
Width <i>w</i> mm	310	320	320	560	560	560	560	560	560
Depth <i>d</i> mm	230	290	290	350	350	570	570	350	570
Height <i>h</i> mm	205	400	400	630	630	630	630	630	630
EXTERNAL CHAMBER DIMENSIONS									
Width <i>W</i> mm	465	1000	1000	850	850	850	850	850	850
Depth <i>D</i> mm	505	780	780	1030	1030	1250	1250	1030	1250
Height <i>H</i> mm	625	630	630	1640	1640	1640	1640	1640	1640
TEMPERATURE RANGE (°C)	-40 / +130	-40 / +180	-70 / +180	-40 / +180	-70 / +180	-40 / +180	-70 / +180	-70 / +180	-70 / +180
RATES OF COOLING (°C) WITH AN EMPTY CHAMBER AND IN ACCORDANCE WITH IEC600068									
	3.5	6.0	4.7	3.5	3.5	2.3	2.5	5.0	5.0
RATES OF HEATING (°C) WITH AN EMPTY CHAMBER AND IN ACCORDANCE WITH IEC600068									
	5.0	5.3	5.3	3.5	3.2	3.1	2.5	5.0	5.0
ELECTRICAL SUPPLY REQUIRED									
	220 / 240 Volts single phase, 50Hz			220 / 240 Volts single phase, 50Hz			380 / 415 Volts three phase, E & N, 50Hz		
Power drawn (Amps)	3.1	3.1	3.91	7.0	8.0	7.0	12	11.0	11.0
Rated power (kW)	0.7	0.7	0.9	1.5	1.8	1.5	1.8	7.5	7.5
ACOUSTIC PRESSURE (dBA)	55	54	55	53	56	53	56	65	65
CHAMBER WEIGHT (kg)	85	100	190	285	325	325	335	360	380

Performance values refer to +25°C ambient temperature with ramp rates in accordance with IEC 60068-3-5. We reserve the right of changes in construction resulting from technical progress.

This literature is for general guidance only. It does not constitute recommendations, representations or advice and nor is it part of any contract. Our policy is one of continuous product improvement and the right is reserved to modify the specifications contained herein without notice.



Model
FT110-70

CHAMBER SERVICE AND SUPPORT

Design Environmental offers worldwide product support to ensure long term reliable operation of your test chambers.

Our service department is available to provide the following:

- 24 hour to 48 hour response call out to cover breakdowns and repairs for Design Environmental and other makes of chamber in the UK
- Preventative maintenance contracts on our own and any other make of test chamber
- Calibration (temperature and humidity)
- Chamber refurbishment on our own and other makes of test chamber
- Service support is provided throughout the UK by our team of mobile engineers

Email: service@designenvironmental.co.uk



**SPECTRUM PROGRAMMER -
STANDARD FOR ALL BT, FT & BS
TEMPERATURE CHAMBERS**

Programming can be carried out from a front panel mounted colour LCD touch screen. The LCD touch screen allows entry and memory storage of up to 4 programs each having a profile with up to 16 segments.



FEATURES

- Trend graph display.
- Digital display of set point and actual level for both temperature and humidity parameters.
- Real time clock.
- Diagnostic and chamber fault analysis.
- Password protected.
- RS485 two way communications. RS232, & IEEE488 optional.
- Cycle counter / controller.
- One voltage free event relay. Event relays can be used to provide a switched signal linked to the temperature profile.



**PROGRAMMING
AND LOGGING
SOFTWARE PACKAGE**

Optional Contour is a powerful but simple to use software package using state of the art technology for programming, logging and supervision of our test chambers. An almost unlimited number of programmes of multiple segments can be stored and recalled to run both simple or complex test profiles.

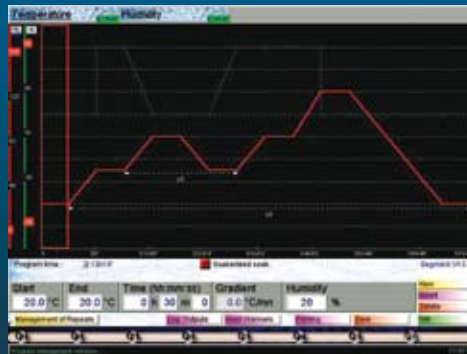
Contour has evolved as a result of many years experience and research into the user interface of test chambers. It can be supplied as an option with our chambers and requires either a laptop or desktop pc with Microsoft Windows operating system.



- Scrolling information display
- Temperature set and actual value
- Humidity set and actual value
- Chamber status display
- Contour help

Service schedule monitor

Digital channel status display



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