FlexiBurn

MULTI-PURPOSE FLAMMABILITY TESTER

JAMES H.HEAL

FlexiBurn

KEY FEATURES

INSTRUMENT

- Suitable for numerous vertical tests
- May be used for small toys (*limitations apply*)
- Comprehensive pre-programmed library of current BS, EN and ISO standards
- Facility to write own standards or to edit existing ones
- Optional Radiator Assembly for BS EN 13772 – new standard for testing curtains & drapes
- Range of interchangeable, precision Test Frames (for different standards)
- Vertical and horizontal marker threads
- Interchangeable Burners (for different standards)
- Robotic arm for precise positioning of burner (for *surface* or *edge* ignition)
- Versatile, multilingual user interface
- Innovative touch screen graphic LCD
- Intuitive software
- Cable (10m) for connection to remote PC and printer
- *Automatic* flame ignition
- *Automatic* flame application
- *Automatic* change from butane to propane gas or vice versa
- Integrated flammable gas level detector
- Quality Assured Consumables
- Optional UKAS Calibration of **FlexiBurn,** Test Frames and Burner
- Standard 18 months warranty

TEST CHAMBER

- Supplied flat packed with comprehensive instructions for *self-assembly*
- Seven alternative smoke extraction positions
- *Automatic* control of internal lighting and smoke extraction
- Interlocked door
- Half glazed panels and door to enhance view of specimen under test
- Easy-clean interior panels
- Excellent *all round* access to **FlexiBurn** for changing frames and for routine cleaning
- Guarantees compliance with requirements for a minimum air volume and minimum air speed (at the start of a test)
- Minimises risks to the health and safety of operators
- Standard 18 months warranty

MULTI-PURPOSE FLAMMABILITY TESTER

- MARKER THREAD SWITCH
- INTERCHANGEABLE TEST FRAME
- FRAME STUBS & PINS
- HEAT RESISTANT FINISH
- AUTOMATIC IGNITION
- REMOVABLE CROSS PIECE
- OPERATING LEVER FOR ROBOTIC ARM
- BURNER TO SPECIMEN ADJUSTOR
- GAS FLOW REGULATOR
- REMOVABLE DEBRIS TRAY
- BURNER SETTING GAUGES
- TRAY FOR ACCESSORIES

FlexiBurn

TEST CHAMBER

LIGHTING

FAN

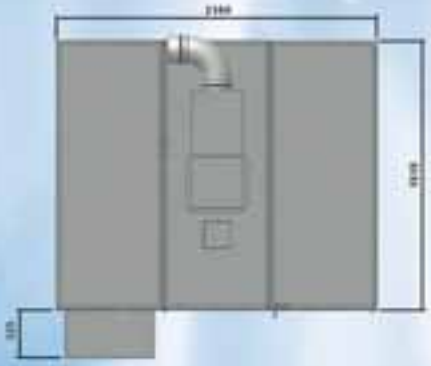
HALF GLAZED PANELS

EASY-CLEAN PANELS

FLEXIBURN CONTROL MODULE
(CONTROLS TEST CHAMBER LIGHTING, FAN AND DOOR INTERLOCK SWITCH)

VENTS

OPTIONAL PRINTER



FLOOR PLAN

PREFERRED FAN POSITION
(DUCT SHOULD BE NO LONGER THAN 15M)

All dimensions are in millimetres

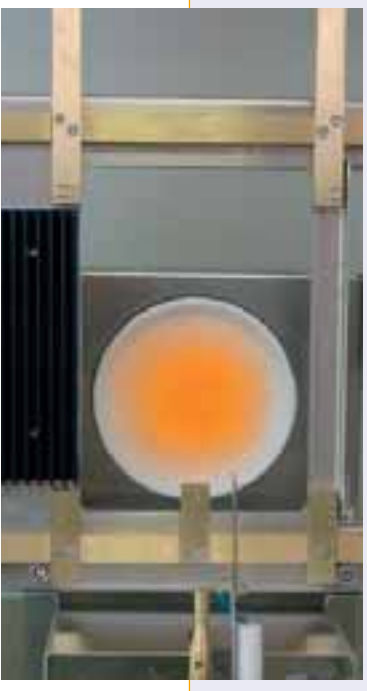
RADIATOR ASSEMBLY

FlexiBurn is designed specifically to meet the requirements of the new Standard BS EN 13772 "Textile and textile products – Burning behaviour – Curtains and drapes – Measurement of flame spread of vertically oriented specimens with large ignition source" and of the parallel Classification Scheme BS EN 13773.

The standard evaluates flame spread, using a more severe ignition source. Heat of a defined energy (generated by a Radiator) is applied to a specified area of the lower back side of a (vertical) specimen. After a period of exposure (30s) to the Radiator, a small flame, defined in BS EN ISO 6941, is applied for 10s to a piece of cotton fabric, fixed around the bottom edge of the specimen. Flame spread, if it occurs, is measured through the severance of marker threads.

The Radiator is an optional accessory. It is part of a complete kit (known as the Radiator Assembly) for complying with BS EN 13772. The Kit comprises the Radiator, a Copper Disc Calorimeter (for calibrating the Radiator), a Test Frame (incorporating a sliding Radiator Shield), a Template (for preparing specimens) and a Filter Paper Holder.

Cross pieces are removed from the **FlexiBurn** Frame and the Radiator mounts in their place. The Radiator plugs into the **FlexiBurn** Control Module.



TEST FRAMES

Test frame sizes and pin and stub configurations vary considerably between parts of the same standard and between different standards.

To meet these demanding and different requirements, we have developed a range of test frames and matching specimen preparation templates. In use, the precision-made frames are accurately and positively clamped to ensure the correct presentation of the specimen to the igniting flame.

MARKER THREADS

For some test methods, cotton marker threads are fixed over the surface of the specimen.

On **FlexiBurn,** there is provision for both horizontal and vertical threads. Each thread is connected to a micro switch. When the flame reaches the thread and burns through it, the switch is released and the time taken (flame spread) is automatically recorded.

FILTER PAPER HOLDER

Some methods specify the use of filter paper to collect molten or burning debris that falls from the specimen during test.

Two alternative filter paper holders are offered to meet the requirements of the standards – one (*mesh*) and one (*solid*). We supply also the correct filter paper.

FlexiBurn

PROGRAMMABLE USER INTERFACE

The FlexiBurn Control Module incorporates a state-of-the-art, easy-to-read, touch screen graphic LCD.

The Control Module can store the data from one test, comprising up to 32 *length* and 32 *width* specimens.

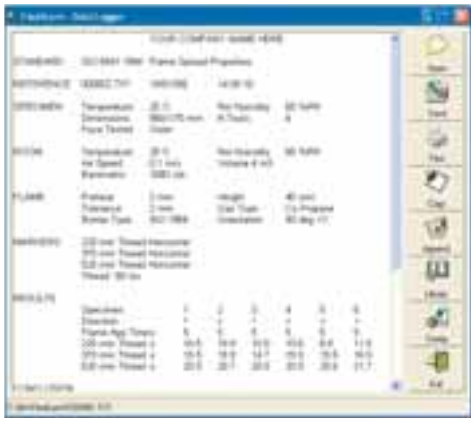
MAIN MENU

AFTER TEST INFORMATION

The software is what you would expect from us – intuitive and flexible.

It enables you to:

- Automatically download and store test reports on to a PC
- Recall, edit and print stored test reports
- Copy text to the clipboard for pasting into third party software applications
- Define new standards
- Append additional tests to previously saved results
- Choose a language – English, French, German, Italian or Spanish

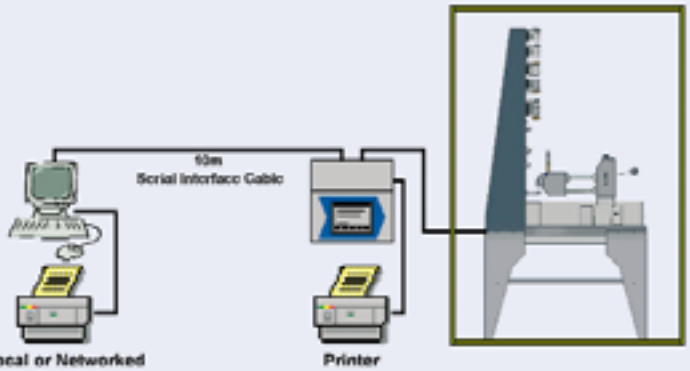


TEST REPORT

A test report may be exported to a printer, connected directly to the Control Module. Alternatively, the data can be sent to a remote PC. A 10m long cable is supplied with every **FlexiBurn.**

Burning material generates carbon deposits, and for this reason, the PC should be located separately from **FlexiBurn** and in a clean environment.

network diagram



PRE-PROGRAMMED STANDARDS

- **BS 5438:** 1989 Tests 2A & 2B
- **BS 5438:** 1976 Tests 1 & 2
- **BS 5438:** 1976 Test 3
- **BS 5722:** 1991 Test 2A
- **BS 6249:** 1982 Part 1
- **BS EN 1101:** 1996 (80 x 80mm)
- **BS EN 1101:** 1996 (200 x 80mm)
- **BS EN 1102:** 1996
- **BS EN 1103:** 1996
- **BS EN 13772:** 2004
- **BS EN ISO 6940:** 1995
- **BS EN ISO 6940:** 2004
- **BS EN ISO 6941:** 2003
- **BS EN ISO 15025:** 2002 Tests A & B

STANDARDS LIBRARY

CALIBRATION

Flammability testing is extremely critical. There is absolutely no room for error. Incorrect pass/fail decisions not only compromise safety but expose retailers to potentially costly and damaging claims from victims of fires and from those responsible for enforcing flammability regulations.

In consultation with the United Kingdom Accreditation Service, we have developed and have had formally approved a unique calibration system for **FlexiBurn** and the *principal* test frames and burner.

UKAS Calibration Certificates, which are recognised and accepted throughout the world, are available from new and may be renewed at intervals by our **HEALINK** Service and Calibration Division.

The optional Radiator Assembly for carrying out tests in accordance with BS EN 13772 is supplied complete with a Copper Disc Calorimeter – the Calorimeter should be used to calibrate the Radiator, before testing.

UKAS CALIBRATION CERTIFICATE

FUTURE PROOFING

Flammability standards and methods are in a constant state of evolution, so it's important that your investment in FlexiBurn is protected.

With this in mind, we have attempted to anticipate the future and build in as much flexibility as possible.

The frame of the instrument has a number of horizontal cross pieces. Any or all of these may be removed to accommodate new specimen frames or additional equipment.

A good example is the Radiator Assembly. Cross pieces are removed to accommodate the Radiator and Test frame for testing curtains.

You can edit methods or write new ones. However, if you take out a Service and Calibration contract with **HEALINK**, your software will be automatically updated to the latest version, containing any new standards/methods, during each visit. Failing that, if you have your installation connected to a PC, we can supply new methods by email.

CALIBRATION OF RADIATOR WITH COPPER DISC CALORIMETER

FlexiBurn TEST CHAMBER

SAFETY

The health and safety of operators and the potential impact of flammability testing on the surrounding area were critical considerations during the design process.

Flammability testing should not be conducted in the open, because of the flames, smoke and gas produced by burning materials.

To protect your operators, **FlexiBurn** has an integrated flammable gas level detector. If the level of gas detected in the immediate environment is unsafe, the automatic ignition facility does not operate.

So as not to influence the ignition and burning process, the standards specify a minimum volume of 4m^3 of surrounding air and an air speed (at the start of a test) of less than 0.2m/s.

Although a room or laboratory can be adapted to meet these requirements, it is much safer and easier to use the purpose-designed **FlexiBurn Test Chamber.**

Even then, every site is different and additional safety precautions should be carefully considered. We suggest:

- Consultation with the site Safety Officer to determine the best possible location for the **FlexiBurn** and Test Chamber
- Consideration of any local regulations, which control the storage/location of gas bottles and the extraction of smoke and fumes into the atmosphere
- Supplying operators with suitable personal protection equipment, e.g. heat-resistant gloves – particularly for tests involving the use of the Radiator
- Locating fire extinguishers near to the installation

The FlexiBurn Test Chamber is not a fully fire-proof cabinet. It is designed to contain the flaming material and the fumes generated by testing textile and similar specimens, in accordance with the pre-programmed test methods and standards supplied.

The Chamber may be used for testing small toys or children's play things like wigs, masks and tents. The FlexiBurn Chamber must not be used for igniting larger toys or other materials that may result in a significant fire.

If in doubt, we should be consulted. We do not accept responsibility for use of the FlexiBurn Chamber, outside of these guidelines.

HOW TO ORDER

903-780	**FlexiBurn Model 780** 230V 50/60Hz Standard accessories: 1 x Control Module 144-660 1 x Data Logging CD 195-701 1 x 10m Cable (FlexiBurn to remote PC) 154-152
202-780	UKAS Certificate of Calibration for a Vertical Frame Textile Flammability Tester
794-906	Control Module Printer Monochrome Printer, capable of ESC/P2 code emulation, with parallel/Centronics interface
903-905	**FlexiBurn Test Chamber Model 780/1** 230V 50/60Hz

BURNERS

794-596	Burner
203-596	Certificate of Conformity for Burner 794-596
794-597	Burner
210-597	Burner 794-597 with UKAS (Third Party) Certificate of Calibration

TEST FRAMES AND TEMPLATES

794-581	Test Frame and Template
202-781	UKAS Certificate of Calibration for Test Frame/Template 794-581
794-582	Test Frame and Template
202-782	UKAS Certificate of Calibration for Test Frame/Template 794-582
794-583	Test Frame and Template
202-783	UKAS Certificate of Calibration for Test Frame/Template 794-583
794-586	Test Frame and Template
202-785	UKAS Certificate of Calibration for Test Frame/Template 794-586
794-587	Test Frame and Template
202-786	UKAS Certificate of Calibration for Test Frame/Template 794-587
794-608	Test Frame and Template
202-784	UKAS Certificate of Calibration for Test Frame/Template 794-608
794-609	Test Frame and Template
202-787	UKAS Certificate of Calibration for Test Frame/Template 794-609
794-610	Test Frame and Template
202-788	UKAS Certificate of Calibration for Test Frame/Template 794-610

RADIATOR

794-607	**Radiator Assembly for BS EN 13772:2004** Including: 794-631 Copper Disc Calorimeter 794-606 Test Frame (incorporating sliding Radiator Shield) and Template 578-230 Filter Paper Holder (mesh) 789-515 Pack (100) Filter Papers 460 x 570mm 702-472 Pack (500) Ignition Fabrics, pre-washed, pre-cut (50 x 20mm), for BS EN 13772

FILTER PAPER HOLDERS

794-630	Filter Paper Holder (solid)
578-230	Filter Paper Holder (mesh)

CONSUMABLES

785-504	Pack (2 x 500m) Marker Thread (46.5 tex; without optical brightening agent)
789-515	Pack (100) Filter Papers 460 x 570mm for 794-630 and 578-230
702-472	Pack (500) Ignition Fabrics, pre-washed, pre-cut (50 x 20mm), for BS EN 13772

GAS

We do not supply gas. Gas is normally bottled commercial butane or propane.

EQUIPMENT SELECTOR

STANDARD	FLEXIBURN	CHAMBER	BURNER	TEST FRAME	MARKER THREAD	FILTER PAPER HOLDER	FILTER PAPER	RADIATOR ASSEMBLY	GAS
BS 5438: 1976 tests 1 & 2	903-780	903-905	794-596	794-581					Butane
BS 5438: 1976 test 3	903-780	903-905	794-596	794-582	785-504				Butane
BS 5438: 1989 tests 2A & 2B	903-780	903-905	794-597	794-587					Butane
BS 5722: 1991 test 2A	903-780	903-905	794-596	794-587					Butane
BS 6249: 1982 part 1	903-780	903-905	794-596	794-583					Butane
BS EN 1101: 1996 (80 x 80mm)	903-780	903-905	794-597	794-608					Propane
BS EN 1101: 1996 (200 x 80mm)	903-780	903-905	794-597	794-609					Propane
BS EN 1102: 1996	903-780	903-905	794-597	794-586	785-504	794-630	789-515		Propane
BS EN 1103: 1996	903-780	903-905	794-597	794-586	785-504	794-630	789-515		Propane
BS EN 13772: 2004	903-780	903-905	794-597		785-504			794-607	Propane
BS EN ISO 6940: 1995 (80 x 80mm)	903-780	903-905	794-597	794-608					Propane
BS EN ISO 6940: 1995 (200 x 80mm)	903-780	903-905	794-597	794-609					Propane
BS EN ISO 6940: 2004	903-780	903-905	794-597	794-609					Propane
BS EN ISO 6941: 2003	903-780	903-905	794-597	794-586	785-504				Propane
BS EN ISO 15025: 2002 tests A & B	903-780	903-905	794-597	794-610		794-630	789-515		Propane

FlexiBurn

TECHNICAL DATA

STANDARDS	See list of pre-programmed standards
CONTROL MODULE	Touch Screen Graphic LCD Stores data from one test, comprising up to 32 length and 32 width specimens Controls **FlexiBurn** Test Chamber lighting, fan and door switch Direct connection to printer Connection to remote (max.10m) PC/Printer, via 9-way null modem cable **(supplied)** Direct connection to Radiator Assembly Languages: English, French, German, Italian and Spanish Dimensions: 285mm wide x 260mm deep x 150mm high Weight: 2kg (approx.)
CONTROL MODULE PRINTER	Epson LQ-300+ A4 Monochrome Printer, capable of ESC/P2 code emulation, with parallel/ Centronics interface **Printer is optional**
DATA LOGGING SOFTWARE	Requires PC running Windows 98/ME/NT/2000/XP with spare RS232 Port **PC is not supplied**
ACCURACIES	Timers: ± 0.05s Positions of Marker Threads: ± 1mm Burner Angle: ± 0.31° Frame Dimensions: ± 0.5mm Spacers: ± 1mm
CALIBRATION	UKAS Calibration Certificates available for new equipment: **FlexiBurn,** Test Frames and Burner 794-597. Subsequent re-certification on site available from **HEALINK**
SAFETY FEATURES	CE marked Full compliance with CE Directives covering Machine Safety, Low Voltage and EMC Built-in environmental gas level detection system
WARRANTY	18 months

INSTALLATION DATA

DIMENSIONS	Width: 705mm Depth: 890mm Height: 1750mm
NETT WEIGHT	110kg (approx.)
ELECTRICAL SUPPLY	Single phase 230V ± 15% (500W) 50/60Hz
GAS SUPPLY	Bottled commercial butane and/or propane - bottles should be fitted with high pressure regulators and connected using suitable 1/4 inch (6.35mm) bore flexible gas piping - gas bottle storage and installation should be strictly in accordance with site and local regulations - **FlexiBurn** has facilities for connecting two bottles (either the same or different gas) simultaneously. *Gas is not supplied*

RADIATOR ASSEMBLY

COMPONENTS	Radiator, Copper Disc Calorimeter (for calibration of Radiator), Test Frame with sliding Radiator Shield, Specimen Template, Filter Paper Holder and consumables
STANDARD	BS EN 13772: 2004
SAFETY WARNING	**Radiator can reach temperatures of 650°C. Operators should exercise extreme care and wear appropriate personal protection equipment**
WARRANTY	12 months

FlexiBurn TEST CHAMBER

TECHNICAL DATA

STANDARDS	Complies with the many standards/test methods, which specify a minimum air volume of 4m³ and an air speed, before testing starts, of less than 0.2m/s
AIR VOLUME	7m³ (approx.)
FUME EXTRACTION	Powerful fan can be fitted in one of seven positions - optimum position is on the roof
VIEWING	Half glazed panels and door to facilitate viewing of specimen under test
ACCESS	Excellent all round access to **FlexiBurn** for changing frames and for routine cleaning
SAFETY FEATURE	Door interlock switch - test cannot start until door is closed
SAFETY WARNING	**FlexiBurn Test Chamber is not a fully fire-proof cabinet. The Chamber may be used for testing specimens in accordance with the pre-programmed standards supplied. It may be used for testing small toys or children's playthings. It must not be used for larger toys or other materials that may result in a significant fire. If in doubt, we should be consulted, we do not accept responsibility for use of the Chamber outside of these guidelines**
WARRANTY	18 months

INSTALLATION DATA

DIMENSIONS	Width: 2160mm Depth: 1818mm Height: 2200mm Height increases by 156mm, if fan is mounted on roof Width or depth increases by 210mm, if fan is mounted on a side panel
NETT WEIGHT	385kg (approx.)
CONSTRUCTION	Chamber is supplied flat packed, with comprehensive instructions for self-assembly. If preferred, **HEALINK** will assemble the Chamber on site, at extra cost
FUME EXTRACTION	Fan can be fitted in one of seven positions - optimum position is on the roof - length of ducting through outside wall or window should be as short as possible - not more than 15m - and should have the minimum number of bends
FAN	Centrifugal type with back draught shutter
DUCT DIAMETER	200mm

FlexiBurn

AREAS OF USE

FlexiBurn may be used for:

NIGHTWEAR

TOYS

- The observation and measurement of *ease of ignition* and *flame spread* properties of apparel and other fabrics, in accordance with many national and international standards
- Testing the flammability of curtains and drapes, in accordance with the new BS EN 13772/3 Standard and Classification Scheme
- Testing nightwear, in accordance with the draft standard prEN 14878
- Testing *small* toys and children's playthings *(restrictions apply)*
- Testing protective clothing, technical fabrics, wall coverings, some building and other materials – standards or test methods, hardware and software do not exist for all of these, but **FlexiBurn** is easily adapted to suit their needs

CURTAINS

FlexiBurn is not normally used for testing upholstery fabrics and carpets – different equipment and methods have evolved for testing these materials.

HEALINK WORLDWIDE SUPPORT

Healink offers a totally comprehensive, worldwide support programme; providing a full range of services designed to maximise the potential of your testing resources.

AGENT

We reserve the right to alter the specification or modify the appearance without notice

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