Melting point range

A complete range of melting points to accomodate all users

SMP40, Automatic Melting Point

In recent years, Stuart has become the laboratory name in melting points. For the first time, Stuart has introduced an automatic melting point, the SMP40. The automatic melting point accurately identifies the melting point of up to three samples simultaneously via the latest technology in digital imaging. Stuart's previous 'top of the range' unit has also been improved to include further useful and innovative features.

The latest melting point from Stuart uses a digital camera to identify the smallest of changes within the sample, allowing accurate, and reliable, automatic identification of the melting point of your material. An automatic melting point frees the user time to allow them to do other things, and with the full colour display on the SMP40 you can watch the sample melt real time, just in case you want to keep an eye on the result.

Storage and connectivity

The SMP40 can retain approximately 200 results with video's for reviewing at a later date. Alternatively the unit has USB ports for connection to flash drive or PC via Microsoft® ActivSync, so the video files can be more permanently stored as a long term record.

Block cleaning

It is inevitable that at some point in the life of a melting point apparatus the block will need cleaning. The SMP40 has been cleverly designed to allow easy access to the block to make this necessary job as easy as possible.

5.7" colour VGA, touch screen display

All control of the SMP40 is via the colour touchscreen display, the user interface has been custom designed for melting point applications and is quick and easy to navigate. On the screen a full colour display of the samples is shown in real time, just in case you want to check on the automatic result. Once samples have been run the video files are retained as standard .avi files and can be viewed on the unit after the event or transferred to PC to retain traceability long term.

Protective safety hood

The design on the SMP40 utilises a protective safety hood which, when loaded, protects your samples from accidental sideswipes. The hood also acts as a light shield ensuring that adjustments in the ambient lighting conditions don't affect the automatic melting point determination.

Split design concept

The Stuart automatic melting point is the first melting point to utilise a split concept. The control side can be separated from the sample side allowing maximum footprint flexibility, the sample side can be located at the back of the bench to give more space or even in a fume cupboard if required. The control side can also be used in two orientations, either landscape or portrait, this allows a more comfortable viewing angle whether you are stood or sat at the bench. The control side automatically detects which orientation it is in and flips the screen to always be the right way up.

Pre-prepared sample storage

The SMP40 features a handy storage area where pre-prepared samples can be safely stored.

Onboard capillary storage with in built glass cutter

The SMP40 features a useful onboard storage drawer to house all standard capillary tubes. The drawer also contains a small glass cutter that can be used to accurately cut sample tubes in half, for those users who prefer not to use whole tubes. Not only will the glass cutter always get the cut in the centre of the tube, but it will also reliably give a clean cut making sample loading cleaner and safer.

Calibration

All units are factory supplied with a calibration certificate showing individual serial number for traceability. The SMP40 also conforms to Pharmacopeia and GLP.

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SMP30, Melting point apparatus

Updating the previous top level manual melting point from Stuart is the SMP30, this unit replaces the successful SMP3 with many improvements and novel features, many of which are patented, like the unique head up display that allows the user to see a display of the block temperature through the sample viewfinder.

Head up display

Whilst performing a manual melting point it is natural to glance at the temperature of the block to see when the melt should occur, unfortunately this means taking your eye off the sample, and you risk missing the start of the melt. But with the SMP30's unique patented `head up display' a temperature display is housed within the eyepiece, so you can see the sample tubes and temperature at the same time without even having to refocus your eye. The position of the display in your eyeline can be adjusted or even switched off if you would prefer not to use this feature.

Head adjustment

It is important to be comfortable when using a melting point apparatus, that's why the SMP30 has a two way head adjustment. The head can be pivoted from the unit towards the user and then the angle of the head can be adjusted to ensure that the most comfortable viewing angle can be obtained. Once moved into position the head will firmly hold in place until moved again.

Accessory printer

To keep a more permanent record of the results an accessory printer is available which will provide printouts of each result individually, including date and time.

Block cleaning

It is inevitable that at some point in the life of a melting point apparatus that the block will need cleaning. So as with the SMP40 the SMP30 has been designed to allow easy access to the block for cleaning.

Illumination

To allow for the clearest view of the samples bright white LED's have been used to give clean, clear lighting. LED's also have the advantage of longevity over conventional bulbs.

Maximum temperature and cooling

The SMP40 has a maximum temperature of 400°C allowing a greater array of materials to be measured. Cooling from 350°C to 50°C is also possible in approximately 12 minutes allowing for fast sample throughput.

Control

To assist with the melting point process the Stuart SMP30 has our largest display yet on a manual unit, the custom user interface runs on an impressive 40 x 4 character display, guiding the user through the entire process and always informing them of important information such as time and block temperature at all times.

SMP10, Digital Melting point apparatus

Completing our range of melting points are the SMP10 and SMP11, the SMP10 is a digital unit with 1°C resolution making it ideal for quality control purposes. The SMP11 is an analogue system which uses a mercury free thermometer, making it ideal for education.

High accuracy

Two samples can be tested simultaneously. They are viewed via a magnifying lens with clear observation aided by built in illumination. Extendible back feet allow the unit to be operated at the optimum viewing angle. Full access to the block aids cleaning.

Digital selection & display of temperature

The SMP10 has been designed with safety and ease of operation in mind. The temperature is selected, measured and displayed digitally making it accurate and negating the need for a thermometer.

Easy to operate

The simple to follow instructions are printed directly on the instrument in most European languages for ease of use. To operate simply select a plateau temperature via the three digit display and press ‘start’. The unit quickly heats up and remains at the selected plateau temperature until the user is ready to start the test. Insert the sample tubes and press ‘start’. The unit then heats slowly so that the melt can be observed. When the sample is seen to melt, note the temperature on the display. Press ‘stop’ to end heating and cool the block.

SMP11, Analogue Melting point apparatus

Up to three samples can be viewed and tested at any one time. Samples are illuminated by a bright white LED and viewed via a magnifying lens. The magnifying lens can be detached for cleaning using the simple to follow instructions printed on to the instrument.

Safety features

Supplied with a safe, spirit filled mercury free thermometer, the low toxic blue spirit will not pose a health hazard in the event of a breakage.

With these safety features and being easy to use, the SMP11 is ideal for use in education.

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Variable heating rate

With a manually adjustable heating rate, the SMP11 will rapidly heat samples up to 20°C per minute to the melt temperature and up to the maximum temperature of 250°C. Accurate readings to within 1°C of the melt temperature can be achieved by using a slower heating rate of between 1 and 10°C per minute.

Easy to operate

Easy to follow instructions are printed directly on to the apparatus and are available in most European languages.

Melting point tubes

Made from soda glass, these tubes are easy to seal in a Bunsen flame and break into two. Supplied in robust tube holder, pack of 100 tubes.

Tube overall length = 100mm
Tube diameter = 1.9mm
Inner diameter = 1.3mm
Wall thickness = 0.3mm

Technical and Ordering Information

Technical Information

	SMP11	SMP10	SMP30	SMP40
Melting point method	Analogue	Digital	Digital	Automatic, via digital imaging
No of samples	3	2	3	3 simultaneously
Temperature range	50°C to 250°C	Ambient to 300°C	Ambient to 400°C	Ambient to 400°C
Temperature resolution	-	1°C	0.1°C	0.1°C
Display	-	Three digit LED	40 x 4 LCD touchscreen	5.7" Colour VGA
Ramp rates	1 to 10°C per minute	20°C per minute plateau 2°C per minute to melt	0.5-10°C in 0.1°C increments	0.1-10°C in 0.1°C increments
Temperature sensor	Thermometer	PT100 Platinum resistance	PT100 Platinum resistance	PT100 Platinum resistance
Memory	No	No	8 results per tube	200 results with video
Accessory printer available	No	No	Yes	No
Date/time display	No	No	Yes	Yes
Cool down time 350-50°C	-	~ 40 mins (300 - 50°C)	~12 mins	~10 mins
Heat up time 50-350°C	~ 15 mins	~ 15 mins	~ 6 mins	~ 6 mins
Electrical supply	230V, 50Hz, 50W	230V, 50Hz , 75W	120V / 230V, 50-60Hz,	120V / 230V, 50-60Hz
Onboard capillary storage	No	No	Yes	Yes
In-built glass cutter	No	No	No	Yes
Language variants	English, German, French, Italian, Spanish	English, German, French, Italian, Spanish	English, German, French, Italian, Spanish	English
Temperature units	°C	°C	°C	°C, °F
Dimensions h x d x w (mm)	110 x 140 x 370	170 x 220 x 160	325 x 200 x 170	175 x 210 x 328
Net Weight (Kg)	1.7	1.8	3.6	3.2

Ordering Information

Product Code	Description
SMP11	Analogue melting point apparatus, complete with thermometer and pack of 100 melting point tube, open both ends
SMP10	Digital melting point apparatus, 1°C resolution, complete with pack of 100 melting point tubes, closed at one end.
SMP30	Digital melting point apparatus, 0.1°C resolution, complete with pack of 100 melting point tubes, closed at one end.
SMP40	Automatic melting point apparatus, complete with pack of 100 melting point tubes, closed at both ends.
SMP30/1	Accessory printer with power supply, only for use with SMP30
SMP2/1	Glass melting point tubes, closed at both ends, pack of 100
SMP1/4	Glass melting point tubes, open at both ends, pack of 100
SMP10/1	Glass melting point tubes, closed at one end, pack of 100

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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