

3. Analytical measurement and testing

Analytical instruments and systems/Melting point determination

1 2 Melting point meters LLG-uniMELT 2 und 3

NEW

Ideal for determination of the melting point of powders up to 360 °C and substances that do not have a clear transparent melting point.

Both devices have a USB interface that permits printing a measuring protocol or generating a PDF file that corresponds to the demands of a contemporary QMS documentation.

Properties for both models:

- Digital temperature control on large display
- Selectable user language German or English
- Sample can be monitored through a magnifying glass with integrated light
- For capillaries with 1.4mm outer diameter
- Text display of error messages
- Keyboard covered with foil for easy cleaning
- USB port
- Height adjustable table stand
- Operating instructions in German, English, Spanish, French and Russian.
- Brief instructions right at the device
- Up to 3 measurements could be stored and printed as protocol at the same time
- The protocol contains all the relevant data of the probe, the measurement and the device

LLG-uniMELT 2: For visual, semi-automatic measurement with magnifying glass.

In this model, the melting point is determined visually (max. and then saved by pushing the "Save" key. The value can be printed or stored by pushing the memory button and read on the display until the device is switched off or a new measurement is performed.

LLG-uniMELT 3: For visual measurement with magnifying glass or automatic measurement.

Either fully automatic or visual measurements, 1 sample each.

If you chose automatic measurement, additionally a transparency progression is printed.

For visual measurement, only the melting point determined by you will be printed.

The value can be stored by pushing the memory button and read on the display until the device is switched off or a new measurement is performed.

Scope of delivery: Melting point meter, table stand, 100 melting point tubes, protection hood, USB-cable, Software. Refill pack melting point tubes for LLG-uniMELT please order Cat. No. 9.208 131.

Specifications

Measuring range:	25.0 °C to 360.0 °C
Resolution:	0.1 °C
Accuracy:	±0.4 °C
Reproducibility:	±0.3 °C
Heating rate at fast heating:	to 100 °C approx. 2 min; to 300 °C approx. 7 min
Heating rate when measuring:	1 °C/min
Magnifying glass:	20 dpt/5 x
Lighting:	2 x LED
Dimensions housing (WxDxH):	320 x 6.5 x 260 mm
Dimension table stand (WxH):	85 x 55 mm
Dimensions capillaries:	1.45 mm x 80 mm
Protection class:	IP 20
Weight:	4.0kg
Power supply:	88-264 V, 50Hz

Type	Description	PK	Cat. No.
LLG-uniMELT 2	Visual measuring / magnifier	1	6.263 685
LLG-uniMELT 3	Visual or automatical measuring with printer	1	6.263 686



3 Melting point Standards

NEW

High Purity range compatible with all Melting Point Instruments. Tested on a high specification melting point apparatus. Available as Single Melting Point Standard or as a Set of 3 different Standards. Glass bottles of 1 g. Sets include 3 bottles of 1 g

Reagecon

Type	Description	PK	Cat. No.
RMP048	Benzophenone +47 to +49 °C	1	6.260 428
RMP082	Vanillin +81 to +83 °C	1	6.286 189
RMP122	Benzoic Acid +121 to +123 °C	1	6.258 311
RMP132	Phenacetin +133 to +135 °C	1	6.286 190
RMP159	Salicylic Acid +158 to +160 °C	1	7.980 727
RMP236	Caffeine +235 to +237 °C	1	6.261 675
RMP284	Antraquinone +283 to +286 °C	1	6.260 429
RMPSET1	Sulphanilamide, Caffeine, Vanillin	3	6.259 500
RMPSET2	Benzophenone, Benzoic Acid, Anthraquinone	3	6.259 501



3. Analytical measurement and testing

GENERAL CATALOGUE EDITION 20

Analytical instruments and systems/Melting point determination

1



1 2

Melting point apparatus, Electrothermal IA 9100/9200/9300

Electrothermal

The updated and improved IA9000 Series Digital Melting Point Apparatus offers an easy way to measure the melting points of up to 3 samples simultaneously without sacrificing accuracy; the temperature resolution is within 0.1 °C. The starting temperature of the approximate melting range can easily be input via the membrane keypad using the simple intuitive menus. The unit quickly heats up to this temperature and gives an optical and acoustic signal once it has been reached. When the operator then presses another key, the device begins to heat up at a constant rate (IA 9100 fixed at 1 °C/min., IA 9200 and IA 9300 adjustable between 0.2 to 10 °C/min. in increments of 0.1 °C).

Up to 4 melting points (IA 9300 up to 6 melting points) can be recorded and transferred to the memory as discreet temperatures for later recall on the display. Model IA 9200/9300 provides the opportunity for computer-supported data analysis. An accessory printer enables documentation of the results, date, time (real time) and sample number. Units comply with VDE requirements (CE marked).

- Ergonomic design ideal for multiple users.
- Height-adjustable extension arm and a viewing head that may be rotated to suit each user.
- The viewing head holds a viewing magnifier that offers 8X magnification.
- The extension arm is completely collapsible and can be neatly folded away into the unit, so that the unit can be stored flat to save space.
- Each IA9000 series model comes supplied with a pack of 50 capillary tubes.

2



Dimensions (W x D x H):	200 x 350 x 85 mm
Weight:	2.5 kg
Input:	220 -240 V
Output:	15 V
Power:	45 W
Oven chamber illumination:	3 x white Super Flux LED's
Illuminous Intensity (per LED):	3500 Lux
Oven temperature range:	5 to 400°C
Digital thermometer sensor:	Platinum resistance thermometer (PT100)
Measuring range:	Amb. to 400 °C
Resolution:	0.1 °C
Accuracy:	±0.5 °C at 20 °C linearly to ±1.0 °C at 350 °C
Display:	12 x 2 backlit matrix LCD

Type	PK	Cat. No.
IA 9100	1	9.830 441
IA 9200	1	9.830 442
IA 9300	1	9.830 443
Capillary tubes, 1.5 mm Ø	100	9.830 463
Cold finger	1	9.830 445
Capillary tubes, 2.0 mm Ø	100	9.830 447
Printer with connection cable	1	9.830 448

3



3

Melting point apparatus, model SMP10/SMP20

Stuart

Supplied with 100 melting point tubes, open one end.
With BioCote, silver-based, antimicrobial protection.

Specification	SMP10/SMP20
Number of samples:	2
Temperature range:	Ambient to 300 °C
Temperature accuracy:	±1.0 °C at 20 °C, ±2.5 °C at 300 °C
Display:	Three digit LED/Four digit LED
Display resolution:	1°C/0.1°C
Display hold facility:	No/ Yes
Ramp rates:	20°C per minute to plateau, 2 °C per minute to melt/20 °C per minute to plateau, variable between 1 and 10 °C per minute to melt
Dimensions (w x d x h):	160 x 220 x 170 mm
Net weight:	1.8 kg
Electrical supply:	230 V, 50 Hz, 75 W

Type	PK	Cat. No.
SMP10	1	9.950 177
SMP20	1	9.830 430

3. Analytical measurement and testing

Analytical instruments and systems/Melting point determination

1 2 Melting Point Apparatus, advanced, SMP30

- Maximum temperature 400 °C
- Patented head up display
- Integrated cooling 350 °C to 50 °C in 12 minutes
- Large easy to read user friendly interface

Stuart

The SMP30 can take three samples simultaneously within the optimised heating block. To allow maximum flexibility a plateau facility is included with variable ramp rate between 0.5 and 10 °C in 0.1 °C increments. The tubes are illuminated with bright white LED's to give the clearest view of the samples during the melt. The block has been designed for easy access for cleaning. To allow the most comfortable viewing angle the SMP30 features a two stage head adjustment. The SMP30 features the patent pending head up display, this unique feature displays a floating image of the block temperature, visible through the eyepiece, in front of the tubes.

An accessory printer is available separately to produce a written record of the melt.

Specifications

No of samples:	3
Temperature range:	Ambient to 400 °C
Temperature resolution:	0.1 °C
Display:	40 x 4 segment LCD
Ramp rates:	0.5 to 10 °C in 0.1 °C increments
Memory:	8 results per tube
Date/time display:	Yes
Cool down time:	350 to 50 °C (~12 mins)
Heat up time:	50 to 350 °C (~ 6 mins)
Supply requirements:	120V/230V 50Hz
Language variants:	English, German, French, Italian
Temperature unit:	°C



Type	PK	Cat. No.
Melting point apparatus, complete with pack of 100 melting point tubes, closed at one end.	1	9.950 188
Melting point tubes, closed at one end.	100	6.803 067
Accessory printer with power supply	1	9.950 399

3 Melting Point Meter M5000

For powdery substances with a melting point up to 400 °C. A fan cooling allows fast measurements in every range of temperature. The display provides a clearly-arranged readout of all important measuring data.

A.KRÜSS Optronic

- Fully automatic measuring instrument
- Digital temperature control via LCD-display
- Sealed keyboard for easy cleaning
- Alarm function when reaching the melting point
- Digital display of all important data
- Display in German and English
- Automatic quick cooling by integrated fan
- Inclusive instrument protective cover and 100 melting point tubes
- With RS-232 interface for printer CBM910

Specifications

Measuring range:	25 - 400 °C
Resolution:	0.1°C
Accuracy:	±0.3°C (25 - 200 °C) ±0.5°C (200 - 400 °C)
Reproducibility:	±0.2 °C
Safety class:	IP 20
Preheating rate:	up to 300 °C approx. 4.0min up to 400 °C approx. 7.5min
Heating rate during measurement:	1 °C min ⁻¹
Capillary-Ø:	1.4 mm
Capillary intake:	1
Power supply:	90 - 264V
Dimensions (W x D x H):	230 x 210 x 110 mm
Weight:	approx. 1.8 kg



Type	PK	Cat. No.
Melting Point Meter M5000	1	6.264 452

3. Analytical measurement and testing

Analytical instruments and systems/Melting point determination

GENERAL CATALOGUE EDITION 20

1



1 Automatic Melting Point Apparatus, SMP50

NEW

Stuart

Accurately and reliably determining the melting point of up to three samples simultaneously.

The SMP50 has a custom designed user interface based on an established Android platform for intuitive setup and navigation. All operation is via the 7" colour touchscreen. Once programmed, users can leave the SMP50 to complete the melt analysis independently, alternatively the melt can also be observed on the screen live or post melt. During post melt review additional measurement tags can be added if required, such as meniscus point or the automatically obtained result can be overwritten.

A generous 8 GB on board storage is included, which should comfortably hold approximately 300 melts files including videos. Results can also be transferred via USB stick on to PC or can be printed directly from the unit via the accessory printer.

The SMP50 features a useful storage drawer to house all standard capillary tubes.

All units are factory supplied with a calibration certificate showing individual serial number for traceability. The SMP50 also conforms to Pharmacopeia and GLP.

Specifications

No of samples:	3 simultaneously
Temperature range:	Ambient to 400 °C
Temperature resolution:	0.1 °C
Display:	7" HD Colour
Ramp rates:	0.1 to 20 °C in 0.1 °C increments
Temperature sensor:	PT1000 Platinum resistance
Memory:	8 GB (approx. 300 results with video)
Cool down time:	350 to 50 °C (approx. 12 min)
Heat up time:	50 to 350 °C (approx. 6 min)
Data transfer:	USB Flash drive
Sample level:	2 to 3 mm in 50 mm or 100 mm length capillaries
Weight:	4.6 kg
Power supply:	120-230 V, 50/60 Hz

Type	PK	Cat. No.
SMP50	1	6.270 572
Melting point tubes, closed at one end	100	6.803 067
Glass melting point tubes, closed at both ends	100	9.950 400
Printer SMP50	1	6.283 461

2



2 Melting point tubes

Capillary tubes for melting point analysis. Clear glass, different diameters and lengths. Special remarks are available. Other sizes on request.

Type	Ext. diam. mm	Int. diam. mm	Length mm	Material	PK	Cat. No.
Sealed one end	1.00	0.80	80	Duran®	100	9.208 081
Open both ends	1.00	0.80	80	Duran®	100	9.208 080
Sealed one end	1.00	0.80	100	Duran®	100	9.208 101
Open both ends	1.00	0.80	100	Duran®	100	9.208 100
Sealed one end	1.45	1.00	80	Soda glass	100	9.208 131
Closed both ends	1.50	0.90	100	Soda glass	100	9.830 463
Sealed one end	1.55	1.15	75	Soda glass	100	9.208 076
Closed both ends	2.00	1.50	100	Soda glass	100	9.830 447

3



3 Hot bench, Kofler system

Very easy to use. Various characteristics can be observed simultaneously. Linear temperature scale adjustment. Enables quick identification of organic substances. Supplied with test and standard material sets. CE marked.

Wagner & Munz

Dimensions (W x D x H):	430 x 100 x 140mm
Supply requirements:	230 V/50 Hz, 100 W
Temperature range:	+50 to +260 °C

Type	PK	Cat. No.
Hot bench	1	9.830 160