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1 2 Melting point apparatus, Electrothermal IA 9100/9200/9300

Electrothermal

With microprocessor heating oven control. Up to 3 melting points can be quickly and accurately determined simultaneously. The ramp starting temperature of the approximate melting range can be input via the keyboard. The units quickly heat up to this temperature and give an optical and acoustic signal once it has been reached. By the operator then pressing another key, the devices begin 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. The different phases of a melt or the critical melting temperatures of various samples can be investigated under the same conditions in this way. Model IA 9200/9300 provides the opportunity for computer-supported data analysis. The initial temperature and heating rate can be set via the keyboard in order that various test protocols are available. An accessory printer enables documentation of the results, date, time (real time) and sample number. Model IA 9200/9300 can allocate continuous sample numbers or recall data via the keyboard. Information can be transferred directly to a LIMS computer via the RS 232 C interface.
The 8X magnifier has a Ø of 40mm and an adjustable focal point. Units comply with VDE requirements (CE marked).
Model IA 9300 can be used for pharmacopeia requirements.

Dimensions (WxDxH):	200 x 350 x 85 mm
Weight:	2.5 kg
Input:	220-240 V
Output:	12 V
Power:	45 W
Oven output:	18 W
Oven chamber illumination:	12 V 2.2 W
Oven temperature range:	45 to 400°C
Digital thermometer	
Sensor:	linearised industrial platinum resistance thermometer, compensated
Measuring range:	Amb. to 400°C
Resolution:	0.1°C
Accuracy:	±0.6°C at 20°C ±1 digit ±1.0°C at 350°C ±1 digit
Display:	Four-digit, 12 mm high LCD

Typ	Menge pro VE	Bestell Nr.
IA 9100	1	**9.830 441**
IA 9200	1	**9.830 442**
IA 9300	1	**9.830 443**

Accessories for melting point appratus Electrothermal IA 9100/9200/9300

Type	PK	Cat. No.
Cold finger	1	**9.830 445**
Dust cover	1	**9.830 446**
Calibration set	1	**9.830 451**
Capillary tubes, 2.0 mm Ø	100	**9.830 447**
Printer with connection cable	1	**9.830 448**
Cal. std. Carbazole (245.61 °C) 0.5 g	1	**9.830 469**
Capillary tubes, 1.5 mm Ø	100	**9.830 463**

1 2 Melting point apparatus, model SMP10/SMP20

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

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

Type	PK	Cat. No.
SMP10	1	**9.950 177**
SMP20	1	**9.830 430**
Lampe	1	**6.227 895**

3 4 5 Melting Point Apparatus, advanced, SMP30

- Maximum temperature 400°C *Stuart*
- Patented head up display
- Integrated cooling 350°C to 50°C in 10 minutes
- Large easy to read user friendly interface

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 LEDs 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.

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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**

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1 2 Automatic Melting Point Apparatus, SMP40

Stuart

- maximum temperature 400°C
- utilises latest technology in digital imaging
- 5.7" colour VGA touch screen display
- unique split design concept
- integrated cooling: 350°C to 50°C in 10 minutes

The SMP40 automatic melting point uses the latest technology in digital image processing to accurately identify the melt of up to three samples simultaneously. The unit comes with a 5.7" colour VGA display, on which the melt can be watched real time, or the melt video will automatically be saved as an AVI file that can be reviewed later, either on the unit or via PC. The result can also be overridden if for any reason the operator does not agree with the result calculated by the image processing algorithm. The SMP40 has an innovative split design concept, the unit can be used as normal or the control side and the melt side can be separated, allowing maximum footprint flexibility. Once the unit has been split the control panel side can be used in two orientations, either landscape or portrait to allow the perfect viewing angle whether you are sat or stood at the bench, the screen automatically changes orientation with the unit. The unit can store up to 200 result files with videos, if required data can be easily transferred from the unit to a flash memory drive or PC via one of the USB connectors. All units are supplied with a calibration certificate showing individual serial numbers for traceability. The SMP40 conforms to Pharmacopeia and GLP.

The SMP40 is also available with IQ/OQ documentation according to FDA guidelines.

Specifications

No of samples:	3 simultaneously
Temperature range:	Ambient to 400°C
Temperature resolution:	0.1°C
Display:	5.7" Colour VGA touchscreen
Ramp rates:	0.1 to 10°C in 0.1°C increments
Memory:	200 results with video
Date/time display:	Yes
Cool down time:	350 to 50°C (approx. 10 mins)
Heat up time:	50 to 350°C (approx. 6 mins)
Flash memory/PC interface:	USB
Supply requirements:	120V, 230V 50Hz a.c.
Language:	English
Temperature units:	°C, °F

Type	PK	Cat. No.
Melting point apparatus, incl. 100 melting point tubes, closed at both ends	1	**9.950 398**
Glass melting point tubes, closed at both ends	100	**9.950 400**

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3 Melting point apparatus, Thiele tube

DURAN® tubing, Thiele pattern tube, with side limb.

Lenz

Type	PK	Cat. No.
Melting point apparatus	1	**9.208 000**

1 Melting point tubes

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

Type	Length mm	Ext. dia. mm	Int. dia. mm	PK	Cat. No.
Sealed one end	75	1.6	1.20	100	**9.208 076**
Sealed one end	80	1.0	0.80	100	**9.208 081**
Sealed one end	100	1.0	0.80	100	**9.208 101**
Open both ends	80	1.0	0.80	100	**9.208 080**
Open both ends	100	1.0	0.80	100	**9.208 100**

2 Melting point apparatus, Dr. Linström pattern

Based on the model developed by Dr. Linström. *Wagner & Munz*
Offers simple operation. Maintenance-free. Simultaneous analysis of three melting points (capillaries). CE marked.

Supply requirements: 6 W a.c. adapter for 230V
Gas requirement: Natural or propane gas
Temperature range: to +360°C or +420°C

Type	PK	Cat. No.
Natural gas operation	1	**9.830 100**
Propane gas operation	1	**9.830 102**
Digital measurement, natural gas operation	1	**9.830 130**
Digital measurement, propane gas operation	1	**9.830 131**
Retrofit kit, digital temperature meter	1	**9.830 136**

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 (WxDxH): 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**

4 Microscope hot stage, Kofler, PolyTherm A

Kofler system. *Wagner & Munz*
Ensure the most accurate resolution for analysis on unknown melting points.
Ready-made assembly with control transformer and microscope observation unit with accessories. CE marked.
With digital temperature measuring system.

Supply requirements: 230 V/50/60 Hz
Sub-stage illumination: 6 V/20 W
Temperature range: +50 to +350°C
Binocular observation tube: 45° angled, with 360° rotation

Type	PK	Cat. No.
PolyTherm A	1	**9.830 133**

1 Automatic Transmittance Colorimeters, Lovibond® PFX195 Series

Tintometer

- consistent and reliable colour data
- comprehensive and flexible choice of standard colour scales
- remote upgrade facility for adding scales once in service
- allows calculation and description of off-hue status
- gives closest match to stored references
- generates a customised colour scale from reference samples
- robust design that is easy to operate and maintain
- includes a glass colour standard for conformance checks
- supplied with colour control software for data analysis
- output conforming to GLP including date, time, sample and user ID
- accommodates a range of sample cells and tubes

A series of spectrophotometric colorimeters for colour grading of light transmitting samples. Each version of the PFX195 includes a selection of standard colour scales that are used in a specific industry sector; additional scales can be added as optional upgrades. Results can also be displayed in terms of spectral data and CIE values.

Details of the most popular PFX195 versions are shown below. Versions that include FAC Colour, Klett Colour (blue filter KS-42), Hess-Ives Colour Units, Yellowness Index, US Naval Stores Rosin, Chinese Pharmacopoeia, ICUMSA Colour and Pfund/Honey are also available.

New PFXi Series available on request.

Type	For	Colour scale	PK	Cat. No.
PFX195/1	Liquid chemicals & industrial oils	Pt-Co/Hazen/APHA, Gardner, Iodine, CIE Values, Spectral data	1	**9.947 327**
PFX195/2	Petroleum oils & fuels	Saybolt, ASTM Colour, Pt-Co/Hazen/APHA, CIE Values, Spectral data	1	**9.947 328**
PFX195/4	Beers, malts & caramels	EBC Colour, ASBC Colour, Series 52 (Brown), CIE Values, Spectral data	1	**9.947 329**
PFX195/5	Pharmaceutical solutions	European/US Pharmacopoeia, Pt-Co/Hazen/ APHA, CIE Values, Spectral data	1	**9.947 330**

Each PFX195 is supplied complete with optical glass cells for the colour scales included, a certified glass filter of specified colour value for regular conformance testing, a spare lamp and instructions.

2 Visual Colorimeter, Lovibond® Tintometer Model F

Tintometer

- Individually housed glass colour standards
- Prismatic optical system for accurate and repeatable colour matching
- Standardised and diffused tungsten-halogen light source
- Replacement inserts simplify cleaning and maintain interior whiteness

The Model F is a versatile visual colorimeter for measuring the colour of liquids, solids, powders and pastes in terms of Lovibond units. The user simultaneously compares the colour of light that is either transmitted through or reflected from the sample with that transmitted through a series of glass colour filters in 3 primary colours - red, blue and yellow. The slides are adjusted until a visual colour match is found for the light from the sample and the colour is then expressed in Lovibond RYBN units.

The Model F is supplied with a complete set of Lovibond coloured glass filters (Red 0.1 to 70; Yellow 0.1 to 70; Blue 0.1 to 40; Neutral 0.1 to 3.0), a sample chamber insert for easy cleaning, fused glass cells (one each of 1" and 5¼"), accessories and instructions. An optional solid sample accessory pack is available for measuring light-reflecting products. Includes a 12 Volt a.c. power pack switchable to suit 110/220/Volt supply.

Description	PK	Cat. No.
Tintometer Model F	1	**9.947 340**

Each instrument is supplied with optical cuvettes of the appropriate path length for the individual colour scales, calibration filter, spare lamp and operating instructions.

Accessories for visual Colorimeter, Lovibond® Tintometer Model F

Tintometer

Description	PK	Cat. No.
1/2" optical glass cell	1	**9.947 341**
1" optical glass cell	1	**9.947 342**
5 1/4" optical glass cell	1	**9.947 343**
Replacement sample chamber insert for Model F	3	**9.947 346**
Accessory pack for solid sample measurement	1	**9.947 347**

1 Lovibond® Nessleriser Systems, Pt-Co/Hazen/APHA Scale

Tintometer

For colour grading of clear, light yellow liquids such as clear oils, chemicals, petrochemicals and water. Each system covers a set measuring range and includes:

- A visual comparator instrument with a long path length, ensuring good sensitivity and accuracy when grading pale coloured samples.
- A selection of Pt-Co/APHA colour standards; stable-coloured glass filters in test discs, which have been precalibrated to give direct Pt-Co Colour readings over set measuring ranges.
- A standardised bench-top light source to ensure constant and uniform lighting conditions for colour matching and therefore consistent and accurate readings.
- Nessler cylinders of the appropriate path length.

Model	Apparatus included
AF 329:	Nessleriser 2150 with Daylight 2000 Lighting Unit and 113mm (50ml) Nessler cylinders, Nessleriser 2250 upgrade with 250mm Nessler cylinders, Pt-Co discs CAA (0 to 30mg Pt/l) CAB (30 to 70mg Pt/l), NSB (70 to 250mg Pt/l), stand for using Nessleriser with natural light.
dAF 325:	Nessleriser 2150 with Daylight 2000 Lighting Unit and 113 mm (50ml) Nessler cylinders, Pt-Co discs NSH (10 to 90mg Pt/l), NSB (70 to 250mg Pt/l), stand for using Nessleriser with natural light.
dAF 328:	Nessleriser 2250 with Daylight 2000 Lighting Unit and 250mm Nessler cylinders, Pt-Co discs CAA (0 to 30mg Pt/l), CAB (30 to 70mg Pt/l), stand for using Nessleriser with natural light.

Type	Pt-Co range	PK	Cat. No.
AF 329	0 - 250mg Pt/l	1	**9.947 334**
AF 325	10 - 250mg Pt/l	1	**9.947 335**
AF 328	0 - 70mg Pt/l	1	**9.947 336**

Safe Heating and Mixing

The extended heating capacity of **800 W reduces heat-up times by 35 %** compared to other units at 600 W

Kera Disk ® top plate:
The aluminum top plate allows for **immediate heat transfer** and for quick heat-up times. A thin layer of ceramic coating makes the top plate **chemical-resistant** and scratch proof

Hermetically-**sealed housing protects** all mechanical and electronic components **from aggressive environments**

In case the heating function fails, stirring will not be discontinued to **prevent bumping**

An **overtemperature circuit** switches off the hot plate if an overtemperature situation occurs. The **unit will power off completely** in case of a short circuit, damage to the temperature sensor or other incidences during operation

Even if the stirrer is exposed to highest temperatures, damage to is categorically ruled out – all models come with a **fire-resistant aluminum die-cast housing**

A separate on/off button for heating **prevents unintentional heat-up** – the button is illuminated for visual control

Heidolph
Research made easy

The average operational **lifespan of 10 years** is backed by a 3-year warranty and makes your purchase a truly worthwhile investment

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without heating 380 + with heating 395 + Accessories 411

Overhead stirrers 415

Instruments 415 + Stirrers 419 + Magnetic stirrer heads 431

Shakers and mixers 434

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