

# Melting Point B-540/545



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# Straightforward determination of melting and boiling points using Melting Point B-540/545

With the Buchi Melting Point instruments B-540/545, the melting and boiling points of a wide range of substances can be simply and straightforwardly determined. With their silicone-free principle of operation, the devices comply not only with pharmacopoeia guidelines, they also make an active contribution to the protection of the environment.

## Melting Point B-540/545

The Buchi melting point instruments impress with their space saving design and appealing ease of use. They meet a very wide range of customer needs both in research and in routine analysis. The powerful metal heating block features precise, rapid heat-up times and cools down again quickly thanks to an integral fan. In this way determinations can be quickly performed on several samples in succession and the efficiency of melting point determination is significantly increased.

### Important plus points

- High measuring accuracy and reproducibility ensure exact and efficient working.
- The wide measuring range between room temperature and 400 °C makes determinations possible with a very wide range of substances.
- Melting and boiling points can be determined using the same instrument.
- The parallel determination of three melting points saves time and increases efficiency in the laboratory.
- Pharmacopoeia requirements, e. g. Ph. Eur. II, Ph. Helv. VII, as well as DAB 10 are met.
- The instruments can be calibrated using substances specified by the WHO.
- The GMP/GLP-compliant logging of the measurement results and the detailed IQ/OQ documentation ensure unrestricted applications in many different laboratories.



*The large magnifying glass makes possible fatigue-free observation of the samples.*

## Applications

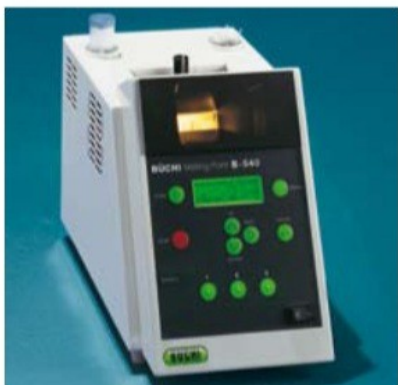
- In research laboratories for checking purity after synthesis
- In pharmacies for checking the substances to be used in galenical formulations
- In quality control laboratories for the automatic determination of numerous samples

### As well as in any application, where

- Very high requirements are placed on accuracy and reproducibility.
- The sample must be observed during the melting process.
- Extended, trouble-free operation is required.



# Easy to operate with very small footprint



Melting Point B-540

The manual Melting Point B-540 and the fully automatic Melting Point B-545 are equipped with a large precision magnifying glass that makes fatigue-free observation of the sample possible during the melting process or boiling process.

## Melting Point B-540

The melting point instrument B-540 is a compact and reliable instrument for manual melting point and boiling point determinations. It is particularly suitable for research, as well as for frequently changing samples or samples on which determination is difficult.

## Melting Point B-545

In comparison to the B-540, the Melting Point B-545 provides additional functions such as the automatic determination of melting points. Automatic detection simplifies routine melting point determination in particular. Detailed IQ/OQ documentation for instrument qualification is also available.

## Order information

		Order no.
B-540	220–230 V, 50/60 Hz	36580
B-540	100–120 V, 50/60 Hz	36581
B-545	220–230 V, 50/60 Hz	36408
B-545	100–120 V, 50/60 Hz	36582



## Easy to operate

The clear display and the self-explanatory operating concept make operation easy. At the start of a new measurement you enter the start temperature and press Start.

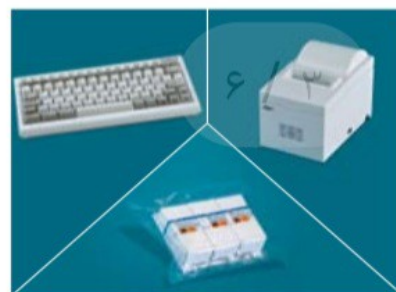
For quicker determination of a melting range for unknown samples, the temperature gradient and the final temperature can be selected as required within the specifications.



## Quick and safe without silicone oil

The powerful metal heating block achieves very short warm-up and cooling times. As a result, determination can be performed efficiently on several samples in succession.

Furthermore, high accuracy and reproducibility at all temperatures between room temperature and 400 °C is ensured. The silicone-free operation is low maintenance and environmentally friendly.



## Documentation and calibration (WHO)

A printer and a keyboard can be connected to the Melting Point B-540/545; these features make possible GMP/GLP-compliant logging of the measured results.

A set with three standard substances is available for the calibration of the instruments and a verification kit is available for the verification of the calibration.

# Visual and automatic determination of up to three samples simultaneously with Melting Point B-545

High requirements are placed on automation and documentation in goods inwards inspection and when monitoring production plant. The Melting Point B-545 analyser meets these needs.

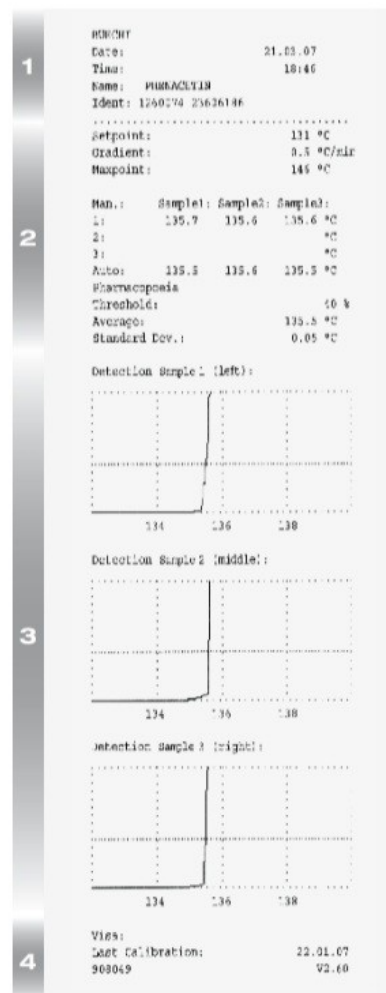
The major advantage of the instrument is in the combination of automatic determination and visual observation. The instrument detects and determines the melting point or melting range itself. The user does not need to sit in front of the instrument during the melting process. If necessary, the samples can however be observed at any time and the melting point and the melting ranges determined visually. The Melting Point B-545 analyser provides significant advantages, e.g., for coloured, troublesome substances and also wherever the time factor plays a role in the routine.

The melting point or melting range is determined automatically using a transmission measurement. During this process pharmacopoeia requirements, e.g. Ph. Eur. II, Ph. Helv. VII, as well as DAB 10 are met.

The analysis results are saved in the instrument and can then be printed out using a printer and reports produced. For the reporting, the calculation of the standard deviation and mean value are as much a matter of course as the printout of the melting process diagram. The analysis data can be transferred to a PC with the aid of the data transfer software and used in an Excel file for further processing.



Melting Point B-545 with keyboard



Printout after automatic melting point determination on three samples:

- 1 Parameters
- 2 Values from manual and automatic determination
- 3 Transmission diagram for the three samples in the capillaries
- 4 Operator's signature and calibration data

# GMP/GLP-compliant IQ/OQ for Melting Point B-545

**Analytical instruments must be calibrated, checked and tested at intervals according to a written procedure. The necessary accuracy is ensured by this instrument qualification.**



*IQ/OQ for B-545*

## **Complete package of services**

We provide a complete package of services for professional instrument installation and instrument qualification. Instrument qualification covers Installation Qualification (IQ), which verifies the instrument is in good working order and is correctly installed, and Operative Qualification (OQ), which demonstrates the functioning of the instrument within its operating specifications.

## **Safety – with our skills as the foundation**

The qualification of your melting point instrument must comply with very strict audit requirements! We install your instrument, commission it and ensure it meets all the specifications. All measurement-related instrument parameters are checked and the results documented in compliance with GMP/GLP. The BUCHI calibration and verification standards provide a high level of safety; these standards are specifically certified by Fluka AG for melting point determination with a BUCHI melting point instrument. The standards are traceable back to the international temperature scale ITS-90 and comply with the strictest requirements.

## **Time saving – qualification made easy**

To save you the time-consuming preparation of documents and test plans, we will provide you with complete documentation. This documentation will be prepared for you by us. All practical tasks will be performed by a certified technician in your laboratory. You save time and only need to approve the qualification of your instrument on the completion of all the work.

## **Items supplied**

### **Complete IQ/OQ for B-545**

- IQ documentation
- OQ documentation
- Device logbook
- Calibration kit
- Verification kit
- OQ label
- 100 melting point capillaries

### **OQ renewal for B-545**

- OQ documentation
- Calibration kit
- Verification kit
- OQ label
- 100 melting point capillaries

Order no.

40785

Order no.

40788



# Accessories



## Sample block

Holder for nine prepared melting point capillaries

Order no. 36629



## Mini-keyboard 81 T

For the straightforward entry of parameters

	Order no.
German (CH)	29599
English (USA)	29548



## Printer

For the documentation of melting points determined 85–230 V, 50/60 Hz

Order no. 48259



## Software for B-545

For the transfer of data from B-545 to a PC

Order no. 37305



## Agate mortar and pestle

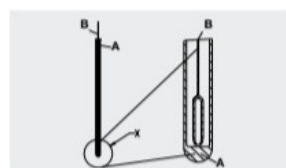
Agate mortar for high-purity sample crushing. The polished surface is easy to clean and prevents cross-contamination.

	Order no.
100 pcs.	17808
1000 pcs.	01759



## Melting point capillaries

The precision glass capillaries ensure highly reproducible melting point determination.



## Boiling point accessories

The precision capillary B generates perfect gas bubbles within tube A during boiling point determination.

Tube A	Order no.
10 pcs.	19697
100 pcs.	19007

Capillary B	Order no.
10 pcs.	19698
100 pcs.	01762



## Calibration kit

Vanillin, phenacetin, caffeine; temp. range: 82–236 °C

Order no. 37454

## Verification kit

4-acetylbenzonitrile, m-toluic acid, sulphanilamide, phenolphthalein; temp.: 60–261 °C

Order no. 37667

## Technical data B-540/B-545

Temperature range: Room temperature up to 400 °C

Warm-up rate: 50 °C–350 °C max. 5 min.

Cooling rate: 350 °C–50 °C max. 10 min.

Measuring accuracy: up to 100 °C ± 0.3 °C

up to 250 °C ± 0.5 °C

up to 400 °C ± 0.8 °C

Mains voltage: 220–230 V/100–120 V, 50/60 Hz

Power consumption: 200 W

Interface: RS-232

Instrument dimensions

(WxHxD): 170 x 210 x 340 mm

Weight: 5.4 kg

BÜCHI Labortechnik AG  
Postfach  
9230 Flawil 1  
Schweiz  
T +41 71 394 63 63  
F +41 71 394 65 65  
buchi@buchi.com  
www.buchi.com

BÜCHI Labortechnik GmbH  
Postfach 10 03 51  
45003 Essen  
Deutschland  
Freecall 0800 414 0414  
T +49 201 747 490  
F +49 201 237 082  
deutschland@buchi.com  
www.buechigmbh.de

BÜCHI Labortechnik GmbH  
Branch Office Netherlands  
Postbus 142  
3340 AC Hendrik-Ido-Ambacht  
The Netherlands  
T +31 78 684 94 29  
F +31 78 684 94 30  
netherlands@buchi.com  
www.buchi.nl

BÜCHI Italia s.r.l.  
Centro Direzionale, Milano Fiori  
Pal. A-4, Strada 4  
20090 Assago (MI)  
Italia  
T +39 02 824 50 11  
F +39 02 57 51 28 55  
italia@buchi.com  
www.buchi.it

BUCHI (Thailand) Ltd.,  
77/175, Sin Sathon Tower,  
39th FL, Unit F  
Krunghonburi Rd.  
Klongtong, Klongsan  
Bangkok 10600  
Thailand  
T +66 2 862 08 51  
F +66 2 862 08 54  
bacc@buchi.com  
www.buchi.com

BUCHI SMP  
Services Private Ltd.  
201, Magnum Opus  
Shantinagar Industrial Area  
Vakola, Santacruz (East)  
Mumbai 400 055,  
India  
T +91 22 66 98 94 50 / 51  
F +91 22 66 98 94 52  
smplsp@vsnl.com  
www.buchi.com

BUCHI Corporation  
19 Lukens Drive, Suite 400  
New Castle  
Delaware 19720  
USA  
T +1 302 652 3000  
F +1 302 652 8777  
Toll Free: +1 877 692 8244  
us-sales@buchi.com  
www.mybuchi.com

BUCHI Hong Kong Ltd.  
1810 Fortress Tower  
250 King's Road  
North Point, Hong Kong  
China  
T +852 2389 2772  
F +852 2389 2774  
china@buchi.com  
www.buchi.com

BUCHI Shanghai Trading LLC  
21/F Shanghai Industrial  
Investment Building  
18 Caoxi Bei Road  
200030 Shanghai  
China  
T +86 21 6468 1888  
F +86 21 6428 3890  
china@buchi.com  
www.buchi.com

BUCHI UK Ltd  
5 Whitegate Business Centre  
Jardine Way  
Chadderton  
Oldham OL9 9QL  
United Kingdom  
T +44 161 633 1000  
F +44 161 633 1007  
uk@buchi.com  
www.buchi.co.uk

BUCHI Sarl  
5, rue du Pont des Halles  
Z.A. du Delta  
94656 Rungis Cedex  
France  
T +33 1 56 70 62 50  
F +33 1 46 86 00 31  
france@buchi.com  
www.buchi.fr

Nihon BUCHI K.K.  
3F IMON Bldg.,  
2-7-17 Ikenohata, Taito-ku,  
Tokyo 110-0008  
Japan  
T +81 3 3821 4777  
F +81 3 3821 4555  
nihon@buchi.com  
www.nihon-buchi.co.jp

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