

# Melting Point Excellence



Melting Point

Boiling Point

Cloud Point

Slip Melting Point

## One Click™ Melting Point

Simple, Efficient, and Trustworthy

**METTLER TOLEDO**

# One Click™ Determination of Melting Point

## Simple, Efficient, and Trustworthy

How do you test the purity of your products? How do you check the quality of your materials? Multiple methods such as melting, boiling, cloud, and slip melting points can be used to characterize a substance and analyze its properties. METTLER TOLEDO's Excellence Melting Point Systems offer the possibility of measuring these thermal values accurately, automatically, and with just one click of the button.

### Boiling Point



The boiling point is a characteristic physical property of a compound. Knowing the boiling point of a liquid can help in selecting the optimal process temperature, and can also give you additional information on ideal storage conditions.

### Cloud Point



The cloud point is defined as the temperature at which an aqueous solution becomes turbid or "cloudy". Knowing the cloud point of your solution helps in determining the best performance temperature range of your material.

### Slip Melting Point



The slip melting point is the melting point of waxy solids and is defined as the temperature at which a sample has softened sufficiently to rise in an open capillary tube. It is used to characterize cosmetics, fats, and other substances with a waxy consistency.



### **Melting Point**

Melting point determination is used in research and quality control to identify and check the purity of a wide range of crystalline substances. With the METTLER TOLEDO Melting Point System, you can also investigate color changes, clear points, and decomposition temperatures with video observation.

# Measurements Made Easy

## Ready to Go at the Touch of a Button

**Melting point determination has never been so easy! With simple operating routines and an intuitive color touch screen, you can perform measurements quickly. Just one click is needed to start, and the instrument does the rest for you. Attend to other important tasks while the measurement is being performed.**

### Speed up sample preparation



Sample preparation can be time-consuming. Our innovative sample preparation tool holds up to six samples and simplifies the correct filling process. Its unique design allows you to insert the capillaries directly into the instrument.

### Start with One Click™



One Click™ determination is as simple as it sounds: all you need to do is press a button to start your measurement. Clicking the "Home" button on any menu takes you directly back to the initial screen.

### Minimize training and operator influence



Measurement results can be influenced by the operator. Save time and money and reduce operator training and influence with fully automatic determination of melting, boiling, slip melting, and cloud points.



### **Ensure quick familiarization**

The common user interface across our lab products allows for an immediate familiarization with the instrument right out of the box. The color touchscreen is easy to navigate, and shortcuts can be customized to suit every user's needs.

# Increase Your Efficiency

## Achieve High Throughput Analysis

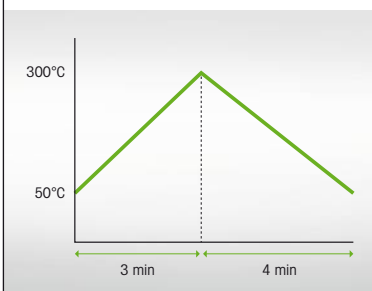
Having the right tools at your disposal is paramount to achieving an efficient workflow. METTLER TOLEDO's Excellence Melting Point Systems are designed to ensure that your routine processes run smoothly. Store methods and results directly on the instrument, measure multiple samples simultaneously, and export or print results automatically after an experiment – all while meeting GLP/GMP requirements.

### Measure up to six samples at once



In today's fast-paced environment, high throughput processing is essential. With the Excellence Melting Point System, you can run up to six samples simultaneously, saving you valuable time and effort.

### Avoid downtime



METTLER TOLEDO's Excellence Melting Point Systems are always ready to go. Program the instrument to return to a pre-specified temperature after the experiment. Rapid heating and cooling cycles mean that you can complete more analyses in a short amount of time.

### Manage your data

Cap.	Melting point	Status
1	153.8 °C	Included
2	153.7 °C	Included
3	153.8 °C	Included
4	153.8 °C	Included
5	153.7 °C	Included
6	153.8 °C	Included

Perform different measurements quickly and efficiently by working with up to 60 methods. Results are displayed immediately after the experiment, and up to 100 results are stored automatically and can be accessed at any time directly on the instrument.



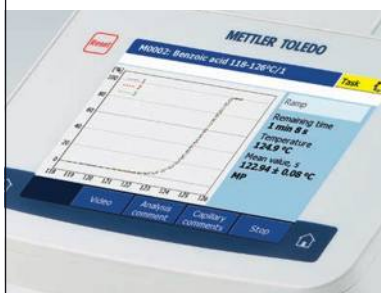
### **Optimize your workflow**

Keep track of your experiments and procedures: fulfill GLP/GMP requirements with comprehensive documentation and audit trail. Furthermore, guarantee data integrity and traceability, and comply with 21 CFR 11 with the powerful LabX® PC software. Automatically print or export your results to a network for future review.

# Trust Your Results with Video Observation

Never miss a measurement again with METTLER TOLEDO's Excellence Melting Point Systems. Observe your measurements in real time via a video or replay it to verify your results. View intensity curves and results directly on the color touch screen during or after the experiment. Performance and precision can be verified by calibration using certified reference substances.

## Obtain accurate and automatic results



Automatic detection of transmitted light combined with video observation ensures that the melting, slip melting, boiling, and cloud point measurements are reliable. Statistical evaluation with standard deviation and mean value. allow you to have full confidence in your data.

## Comply with standards



Working in accordance with regulations and standards is a must. With the Excellence Melting Point Systems, ensure full compliance with the relevant international and national standards and norms, such as Ph.Eur. 2.2.60, USP<741>, Ch.P. 0612, and Japanese JIS.

## Calibration for best performance



With our simple, built-in calibration routines, you can adjust your instrument quickly. Perform a calibration with up to three substances – and the instrument automatically calculates the slope and offset values for you.





### Visualize using high-resolution videos

Observing how a sample behaves at different temperatures can help characterize its physical properties. With a zoom of 6x magnification, you can obtain detailed information on the behavior of samples. Reanalyze your measurements by replaying the video directly on the instrument.

# Tailored Exactly to Your Needs

## Industry-Specific Applications

**One of the ways to characterize a substance and its purity is to observe its melting point and range. Does your sample melt over a wide or narrow range? Does it undergo a color change during the melting process? METTLER TOLEDO's Excellence Melting Point Systems can help you answer these questions and more for multiple applications in various industries.**

### Pharmaceutical



Pharmaceutical companies are required to verify the identity of precursor materials used in the preparation of medications. The Excellence Melting Point System is perfectly suited for this task: based on the melting point of a substance, samples can be tested for purity and identity at the same time.

### Chemical



Plastics, polymers, and other synthetic products play an important role in chemical processes. The Excellence Melting Point System is a powerful instrument that can be used to analyze the quality of different raw materials used in polymer synthesis, while fully complying with standards and regulations in the chemical industry. This ensures a high-quality end product.

### Food & Beverage



Food and beverage flavor profiles are complex and involve various ingredients and additives. Selection and subsequent quality control of a suitable additive is key to the production of an end product that meets consumer satisfaction.



# For Every Application the Perfect Solution

**When it comes to the determination of boiling, cloud, and slip melting points, METTLER TOLEDO's Excellence Melting Point Systems offer tailored solutions to suit your needs. Be it pre-programming your chosen reference substances or customizing, adapting, and saving methods to your specifications, the instrument works with you every step of the way.**

## Academia



A liquid is characterized by its boiling point. The MP80 ensures that your results are trustworthy: automatic superheating detection excludes inaccurate results. Furthermore, customizable user shortcuts can be created to simplify tasks and to reduce the workload of lab personnel.

## Cosmetics



Cosmetics are composed of many chemical compounds, and quality control procedures for both the raw products and the formulated cosmetics are well-established. With the MP55 and MP80, you can now determine the slip melting point of cosmetics and waxes quickly, accurately, and automatically.

## Paints & Dyes



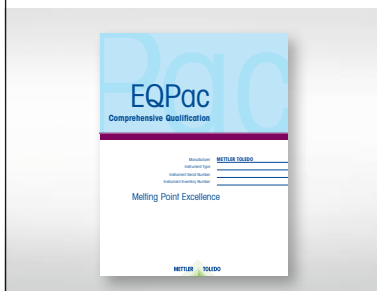
Surfactants, emulsifiers, and dispersions act as stabilizers in many paints and dyes. Using each product at the right temperature is essential to maintaining its long-term quality. The MP80 allows you to determine the cloud point (heating) of up to two surfactants, emulsifiers, or dispersions simultaneously.



# Secure Your Investment Throughout the Product's Lifetime

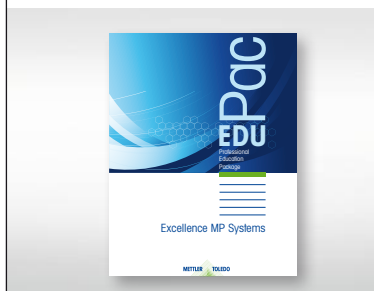
**Instrument qualification and method and process validation are not limited to the pharmaceutical industry. All ISO-certified companies are subject to quality and security standards and require the proper procedures and documentation to prove that they satisfy these standards. Ensure that your Excellence Melting Point System is installed, qualified, and maintained according to the quality standards your company needs.**

## EQPac



Our comprehensive equipment qualification service, including IQ/OQ procedures, initial calibration, and PQ support, ensures correct installation and performance of your instrument, providing full traceability for your audits.

## EduPac



Our guided, detailed user training package familiarizes users with the operation and applications of your Excellence Melting Point System.

## VPac



Our ready-to-use verification kit contains prefilled and sealed capillaries of three different certified reference substances, which are traceable to primary standards, for performance verification of your instrument.



For further information, consult your local METTLER TOLEDO representative about our service products



[www.mt.com/MPDP-Service](http://www.mt.com/MPDP-Service)

# Added Value With the Right Accessories

**Benefit from all that METTLER TOLEDO's Excellence Melting Point Systems have to offer you. Ensure high performance and proper sample preparation with our dedicated accessory boxes and LabX® PC software.**

## Accessory boxes



Robust and smart sample preparation tools speed up preparation, increase operational security, and avoid unnecessary measurement repetition. Available with standard or USP reference substances.

## PC software



LabX®, our laboratory management software for analytical instruments and balances, powers your Excellence Melting Point Systems with automatic data handling, high process security, and full SOP user guidance.

## Printer



Print securely and automatically with our compact printer for GLP-compliant paper recording.







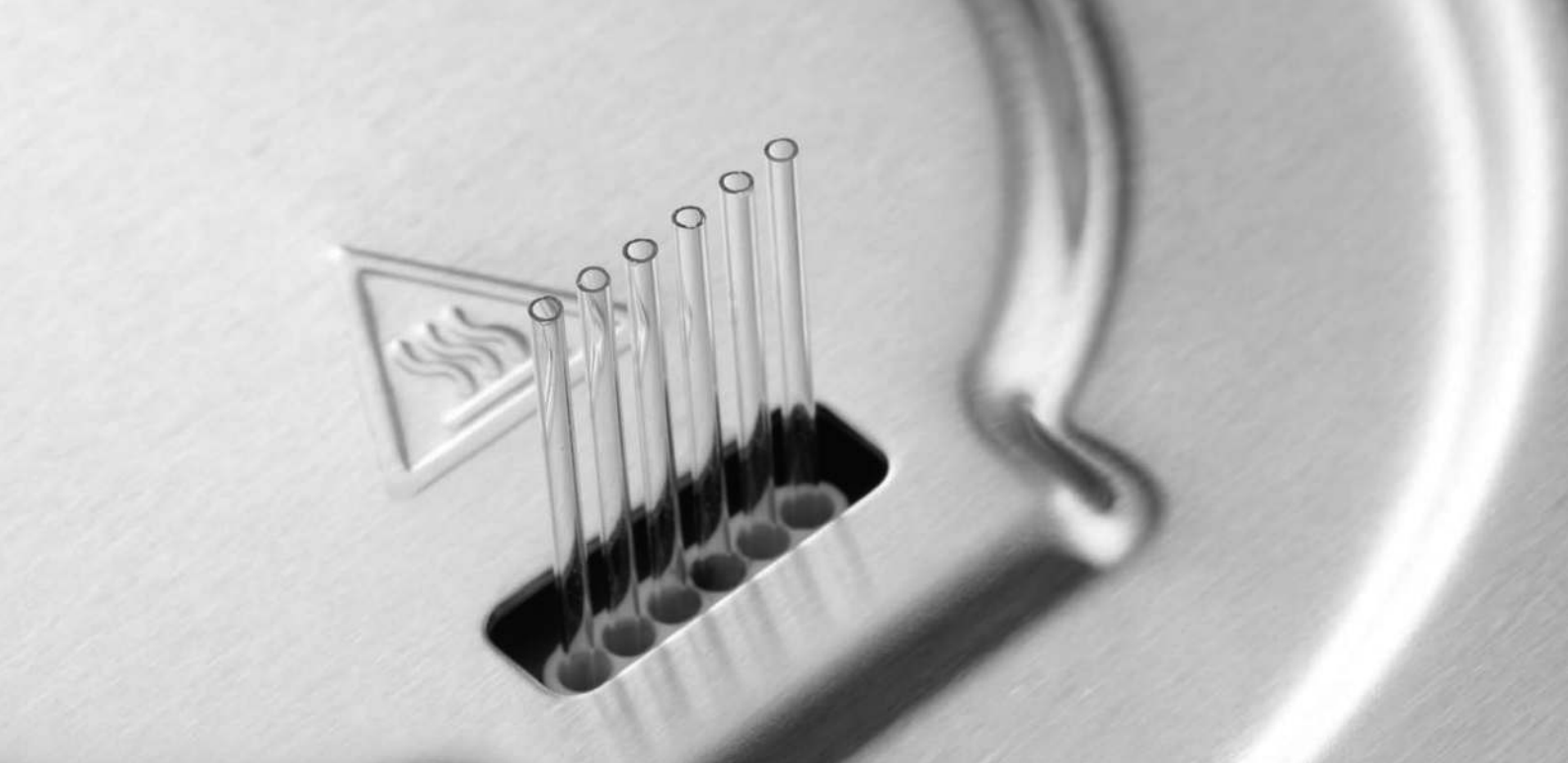
# Comparison Table

## MP55 – MP70 – MP80 – MP90

**The Melting Point Excellence line covers a wide variety of applications and specifications, from melting to boiling, cloud, and slip melting point. Measure multiple samples simultaneously and fully automatically. Visualize and verify your results using high-resolution videos. No matter the task, let the instrument work for you.**

	<b>MP55</b>	<b>MP70</b>
	 <p>The MP55 is the ideal starter model for simple and automatic determination of melting and slip melting points.</p>	 <p>The MP70 is the perfect choice for melting point and melting range determinations.</p>
<b>Applications</b>		
Melting Point & Range	●	●
Boiling Point	–	–
Cloud Point (Heating)	–	–
Slip Melting Point	●	–
<b>Specifications</b>		
Number of Capillaries	3 Melting Point 2 Slip Melting Point	4 Melting Point
Tmax (°C)	300	350
Heating Time 50 °C to Tmax (min)	3	4
Cooling Time Tmax to 50 °C (min)	4	5.5
Number of One Click™ Shortcuts	12	12 per User
Video	Color AVI	Color AVI
Video Storage and Replay	On Instrument Only	●
Result Storage	Number	10
	SD Card	–
	Network	–
	PDF Export	–
Printers	USB-P25	●
	Network	–
User Management	–	●
LabX® Connectivity	–	●
Operating Languages	CN, EN*, FR*, DE*, JP, PT, RU, ES	

\* Denotes report printout languages



**MP80**



Optimized for diverse tasks, the MP80 offers One Click™ melting, boiling, cloud and slip melting point.

**MP90**



Efficiency at the highest level, the MP90 is optimized for the highest throughput, measuring up to six samples imultaneously.

•	•
•	–
•	–
•	–

3 Melting Point 2 Boiling/Cloud/Slip Melting Point	6 Melting Point
350	400
4	5
5.5	6
12 per User	12 per User
Color AVI	Color AVI
•	•
50	100
•	•
•	•
•	•
•	•
•	•
•	•
• <sup>(1)</sup>	•

<sup>(1)</sup> Coming soon in 2017

# No Matter the Task We Have the Right Solution



## Dropping Point

Determine the dropping and softening points of pitch, asphalt, polymers, resins, waxes, and many more materials fully automatically with the innovative METTLER TOLEDO Dropping Point System. Standard compliant cups and measurement methods guarantee comparable results, and all instruments conform to various ASTM International standards and other norms.



## Density & Refractometry

The versatile METTLER TOLEDO LiquiPhysics System is the perfect choice for quality monitoring of liquids. It measures density and refractive index, and can be automated and upgraded to a multiparameter system for simultaneous determination of additional parameters such as pH, color, acidity, and more.



## Pipettes & Pipette Tips

With over 50 years of knowledge and experience in pipetting, METTLER TOLEDO's Rainin SL XLS+™ single channel pipettes represent the very best in ergonomic pipettes. The narrow and flexible Gel-Well tips optimize the filling of your boiling, cloud, and slip melting point capillaries. Furthermore, it is simple, accurate, and precise: perfect for world-class research.



## UV/VIS Spectrophotometers

From simple quality control to strict pharmaceutical regulations, the METTLER TOLEDO UV/VIS Excellence spectrophotometers optimize spectroscopic workflows. FastTrack™ Technology makes for speedy and reliable measurements, and trustworthy performance is combined with intuitive and efficient One Click™ operation for a wide range of applications.

[www.mt.com/MPDP](http://www.mt.com/MPDP)

For more information

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