



# Flexible and easy to operate



The 780 pH Meter and the 781 pH/Ion Meter combine the highest Metrohm quality with advanced design.

## pH Meter and Ion Meter

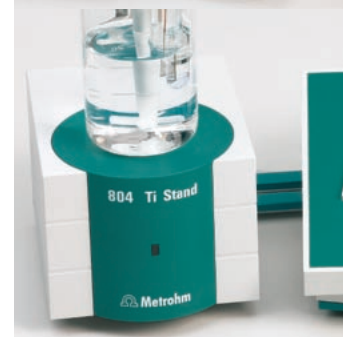
This pH meter generation offers numerous possibilities. In addition to the general functions for measuring pH, potential and temperature, the new pH meters boast features such as the optimized GLP-compliant electrode test as well as monitoring and service intervals.

With the 781 pH/Ion Meter you can determine ion concentrations at a level of comfort offered only by Metrohm.

801 Magnetic Stirrer on the 781 pH/Ion Meter.



The 804 Ti-Stand with 802 Rod Stirrer offers an alternative way of stirring.



### Stirrers

The stirrers are directly controlled by the pH meter via the MSB interface (MSB = Metrohm Serial Bus). The stirring speed is set on the pH Meter. This assures that measurements are always carried out under the same conditions.

You can choose between the 801 Magnetic Stirrer and the 802 Rod Stirrer.

### Electrodes

Metrohm offers a large range of pH and ion-selective electrodes. Please find an overview of our electrode program under [www.metrohm.com](http://www.metrohm.com)

The package of the 780 pH Meter and 781 pH/Ion Meter contain the 6.0258.600 Unitrode pH electrode with integrated Pt1000 temperature sensor.

### Switch on and measure

Despite the many functions they offer, operation of the pH meters is easy. After switching on the instrument you can immediately measure using the inherent standard parameters. The large display accommodates several lines. It provides an excellent overview and facilitates the necessary adjustments, which you can then store as your own method under a meaningful name.

Sample identification can consist of up to 15 ASCII characters. You have the option to attach a PC keyboard or – even more comfortable – to use a barcode reader for entering sample identifications.



Display of 780 pH Meter with pH value in large characters. Temperature, date and time are also displayed.

# Practical quality control

## Unique: GLP-compliant electrode test

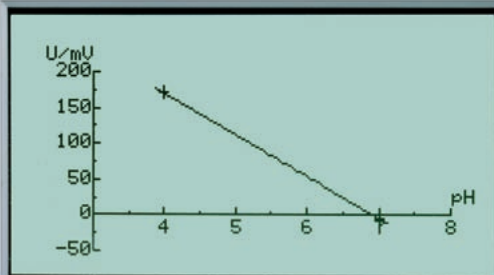
For years Metrohm, as the only manufacturer worldwide, has offered pH meters with GLP-compliant electrode test. With the pH meters you can carry out a test that is specially adapted to your electrode type, be it a pH electrode with aqueous, non-aqueous or gel electrolyte. The electrode test yields specific information such as response time, zero point or slope as well as an overall statement that informs you about the condition of the membrane and the diaphragm.

## pH calibration with automatic buffer recognition

With the 780 pH Meter and the 781 pH/Ion Meter you can perform pH calibrations with up to 9 buffers. Calibrations are made easy by the sophisticated user guidance, automatic buffer recognition and evaluation. You can store the calibration data including curve under the corresponding electrode identification and view it any time.

Should you wish to use buffers different from those stored in the instrument, you are free to do so. Just enter the values of your buffers, either for a given temperature or as a function of temperature.

781 pH/Ion Meter



Calibration line of a pH electrode.



**User identification**

Thanks to the user identification you can always find out, by viewing the report, who performed which determination and at what time. The user has also the possibility to confirm the results with his signature in the field provided for this purpose on the printout.

**Monitoring intervals**

Forgot validation? Calibration or service interval expired? With the pH meters these are things of the past. Thanks to the integral monitoring functions you are alerted to the corresponding quality control tasks in time. The intervals can easily be adjusted to your specific requirements.

Each time the instrument is switched on it carries out an internal system diagnosis that ensures the correct functioning of the pH meter. To complete the documentation you can issue this instrument test as a system report.

# Two outstanding instruments



Graphics display grants overview and facilitates operation

Recall of stored calibration data including calibration curve

Memory for measured values accommodates up to 100 data sets

Stirrer control by the pH meter ensures reproducible measuring results

Inherent quality control tool: pH electrode test for standard electrodes, gel electrodes and electrodes for non-aqueous media

Calibration with automatic buffer recognition, up to 9 calibration buffers

Measuring ion concentration by means of direct measurement, standard additions or sample additions. Automation using a Dosimat plus turns calibrations and additions into child's play while at the same time improving precision.









# Comparison of both instruments

## Measuring ranges

pH

Potential

Temperature

Pt1000

NTC

Concentration

## Resolution

pH

Potential

Temperature

## Concentration mode

Automatic concentration calibration with Dosimat

Automatic standard or sample addition with Dosimat

## pH calibration (number of buffers)

Automatic adjustment for the temperature characteristics of the stored buffer solutions

## Automatic buffer recognition

Automatic temperature compensation

## Automatic self-diagnosis

Automatic GLP-compliant electrode test for different types of pH electrodes

## Stability control (drift indicator)

Simultaneous display of pH and temperature

## Electrode input (high impedance)

Temperature measuring input for Pt1000 and NTC

## Method memory

Memory for 100 measured values including additional data

## GLP-compliant result printout

Automatic monitoring functions (validation, service, calibration, diagnosis)

## User identification and field for signature on report

Plot function for pH, mV, °C, concentration versus time (concentration with 781 only)

## Connection of printer or PC via RS 232C

MSB connection (Metrohm Serial Bus)

## Connection for stirrer control

Connection for PC keyboard and barcode reader

## «Remote» sample changer connection

Output lines for limit value check

## Dialog guidance in the following languages

Power supply 100...240 V, 50...60 Hz



**780 pH Meter**

**781 pH/Ion Meter**

0...14 (±20.000)	0...14 (±20.000)
±2200 mV	±2200 mV
-150.0...+250.0 °C	-150.0...+250.0 °C
-20.0...+250.0 °C	-20.0...+250.0 °C
	10 <sup>-37</sup> ...10 <sup>+38</sup>
0.001	0.001
0.1 mV	0.1 mV
0.1 °C	0.1 °C
	•
	•
	•
1 to 9	1 to 9
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Option	Option
Option	Option
English, German, French, Spanish	English, German, French, Spanish
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## Ordering information, options

### 780 pH Meter

Top-level pH meter with graphics LCD screen for the user dialog in English, German, French or Spanish as well as for the display of results and calibration curves. pH calibration with up to 9 buffers, automatic buffer recognition, electrode test for different types of pH electrodes. Temperature measurement with Pt1000 or NTC. Memories for methods and measured values; automatic monitoring functions, plot function for pH, mV, °C versus time.

**2.780.0010** pH Meter including 6.0258.600 Unitrode pH electrode and stand rod with base and electrode holder as well as line adapter 100...240 V, 50...60 Hz, 12 V DC

### 781 pH/Ion Meter

Instrument for measuring pH values and determining ion concentrations at the highest level of comfort; with graphics LCD screen for the user dialog in English, German, French or Spanish as well as for the display of results and calibration curves. pH calibration with up to 9 buffers, automatic buffer recognition, electrode test for different types of pH electrodes. Concentration mode, setting up of calibration curves and standard or sample additions automatable with Dosimat. Temperature measurement with Pt1000 or NTC. Memories for methods and measured values; automatic monitoring functions, plot function for pH, mV, °C, concentration versus time.

**2.781.0010** pH/Ion Meter including 6.0258.600 Unitrode pH electrode and stand rod with base and electrode holder as well as line adapter 100...240 V, 50...60 Hz, 12 V DC

### Options

**2.801.0010** 801 Magnetic stirrer

**2.804.0010** 804 Ti Stand

**2.802.0040** 802 Rod Stirrer

**2.876.0010** 876 Dosimat plus with 20 mL Exchange Unit

**2.865.0010** 865 Dosimat plus with 20 mL Exchange Unit

6.2148.010 Remote Box for attaching a 25-pin Remote connecting cable and an MSB connecting cable

6.2141.350 Cable 781 – Dosimat plus

**2.140.0200** Custom DP40-S4N impact printer

6.2134.110 Connecting cable 780/781 – Custom printer

6.2307.230 pH buffer solutions pH 4, 7 and 9, 10 sachets each a 30 mL

6.2325.100 pHit kit

[www.metrohm.com](http://www.metrohm.com)

 **Metrohm**