

**pH METER, BENCH**

A digital bench top meter for basic pH or mV measurements, ideal for student use. Keypad has membrane keys for changing the mode and knobs for slope and offset calibration. The pH offset and slope are manually adjustable in order to display to students the concept of calibration and electrode characteristics. Measurements can be performed for pH with manual temperature compensation as well as for REDOX (Reduction Oxidation Potential).

**Technical Data**

|                           |    |                                 |
|---------------------------|----|---------------------------------|
| Ranges:                   | pH | 0.00 to 14.00                   |
|                           | mV | ±1999                           |
| Resolution:               | pH | 0.01                            |
|                           | mV | 1                               |
| Accuracy:                 | pH | ±0.01                           |
|                           | mV | ±1                              |
| Calibration:              |    | Manual 2 points                 |
| Temperature compensation: |    | Manual 0 to 100°C (32 to 212°F) |
| Environment:              |    | 0 to 50°C (32 to 122°F); 95% RH |
| Dimensions:               |    | 240 x 182 x 74mm high           |
| Weight:                   |    | 1kg                             |

Supplied with combination double-junction refillable pH electrode, BNC with 1m cable, 12VDC adapter and full instructions.

**C51-5800** pH Meter, Bench

**Spare Parts and Accessories**

- C51-5042** Buffer Solution, pH 4.01, 460ml
- C51-5043** Buffer Solution, pH 7.01, 460ml
- C51-5044** Buffer Solution, pH 10.01, 460ml
- C51-5045** Storage Solution, 460ml
- C51-5046** 3.5M KCl Electrolyte, 4 x 30ml
- C51-5810** Electrode Holder



C51-5800

## pH METER, BENCH

Digital bench meter, to measure pH directly, as well as millivolts for pH, Ion Specific Electrodes (ISE), and Oxidation Reduction Potential (ORP) electrodes. Temperature compensation is either manual or automatic, calibration is automatic and both are guided by easy to follow graphics on the LCD display.

### Technical Data

|                           |             |  |
|---------------------------|-------------|--|
| Ranges:                   | pH          | 0.00 to 14.00                                |
|                           | mV          | ±399.9 (ISE); ±1999 (ORP)                    |
|                           | Temperature | 0.0 to 100.0°C                               |
| Resolution:               | pH          | 0.01   |
|                           | mV          | 0.1 (ISE); 1 (ORP)                           |
|                           | Temperature | 0.1°C  |
| Accuracy:                 | pH          | ±0.01  |
|                           | mV          | ±0.2 (ISE); ±1 (ORP)                         |
|                           | Temperature | ±0.5°C                                       |
| pH Calibration:           |             | Automatic 1 or 2 points                      |
| Temperature compensation: |             | Automatic or Manual 0 to 100°C (32 to 212°F) |
| Environment:              |             | 0 to 50°C (32 to 122°F); 95% RH              |
| Dimensions:               |             | 240 x 182 x 74mm high                        |
| Weight:                   |             | 1.1kg  |

Supplied with interchangeable pH electrode, BNC with 1m cable, temperature probe, pH 4 & 7 calibration solutions, electrolyte solution, 12VDC adapter and full instructions.

**C51-5850** pH Meter

### Spare Parts and Accessories

- C51-5042** Buffer Solution, pH 4.01, 460ml
- C51-5043** Buffer Solution, pH 7.01, 460ml
- C51-5044** Buffer Solution, pH 10.01, 460ml
- C51-5045** Storage Solution, 460ml
- C51-5046** 3.5M KCl Electrolyte, 4 x 30ml
- C51-5810** Electrode Holder



C51-5850

**pH METER, BENCH, HIGH RESOLUTION**

Digital bench meter with selectable resolution of 0.01 or 0.001pH. Features opto-isolated RS 232 interface, simultaneous display of pH (or mV) and temperature, automatic temperature compensation, stability indicator and full instructions printed on the front panel.

**Technical Data**

|                           |             |                                    |
|---------------------------|-------------|------------------------------------|
| Ranges:                   | pH          | -2.00 to 16.00 / -2.000 to 16.000  |
|                           | mV          | ±999.9 (ISE & ORP)                 |
|                           | Temperature | 0.0 to 100.0°C                     |
| Resolution:               | pH          | 0.01/0.001                         |
|                           | mV          | 0.1 (ISE & ORP)                    |
|                           | Temperature | 0.1°C                              |
| Accuracy:                 | pH          | ±0.01/±0.002                       |
|                           | mV          | ±0.05% F.S. (ISE & ORP)            |
|                           | Temperature | ±0.5°C                             |
| pH Calibration:           |             | Automatic 1 or 2 points            |
| Temperature compensation: |             | Automatic 0 to 100°C (32 to 212°F) |
| Environment:              |             | 0 to 50°C (32 to 122°F); 95% RH    |
| Dimensions:               |             | 240 x 182 x 74mm high              |
| Weight:                   |             | 1.1kg                              |

Supplied with interchangeable pH electrode, BNC with 1m cable, temperature probe, electrode holder, pH 4 & 7 calibration solutions, electrolyte solution, 12VDC adapter and full instructions.

**C51-5950** pH Meter, Bench, high resolution

**Spare Parts and Accessories**

- C51-5190** Windows Compatible Software
- C51-5960** 9-Pin Cable for PC
- C51-5042** Buffer Solution, pH 4.01, 460ml
- C51-5043** Buffer Solution, pH 7.01, 460ml
- C51-5044** Buffer Solution, pH 10.01, 460ml
- C51-5045** Storage Solution, 460ml
- C51-5046** 3.5M KCl Electrolyte, 4 x 30ml



C51-5950

## pH METER, BENCH, WITH PRINTER

Suitable for general purpose and analytical laboratories, measures pH, millivolts (mV), Oxidation Reduction Potential (ORP), plus specific ions (ISE). Large easy to read digital display presents step-by-step guidance for calibration and instructions to correct calibration errors. Advanced memory features enable the user to recall calibration data to comply with Good Laboratory Practices (GLP) protocols.

To enable the user to customize activities and record sampling the meter features an on-board dot matrix plain paper printer and the following programmable functions:

- Sampling cycle - set the sample number, time and date
- Custom calibration - calibrate the meter using nonstandard buffer values
- GLP Compliance - prints calibration data with date, time, pH offset and slope
- Time Study 1 - log and print pH, mV and temperature values at selected intervals
- Time Study 2 - log and print pH, mV and temperature to a pre-set parameter
- Alarms - set upper and lower pH and mV limits
- International - choice of different languages for printed data
- ISE - print the ion concentration for pH values
- Connectivity - sets up communication with a PC

### Technical Data

|                           |             |  |
|---------------------------|-------------|--|
| Ranges:                   | pH          | 0.00 to 14.00                                |
|                           | mV          | ±399.9 (ISE); ±1999 (ORP)                    |
|                           | Temperature | -9.9 to 120.0°C                              |
| Resolution:               | pH          | 0.01   |
|                           | mV          | 0.1 (ISE); 1 (ORP)                           |
|                           | Temperature | 0.1°C  |
| Accuracy:                 | pH          | ±0.01  |
|                           | mV          | ±0.03 (ISE); ±1 (ORP)                        |
|                           | Temperature | ±0.5°C                                       |
| pH Calibration:           |             | Automatic 1 or 2 points                      |
| Temperature compensation: |             | Automatic/manual -9.9 to 120°C (14 to 248°F) |
| Logging Interval:         |             | From 1 minute to 24 hours                    |
| Output:                   |             | Bi-directional RS 232 opto-isolated          |
| Environment:              |             | 0 to 50°C (32 to 122°F); 95% RH              |
| Dimensions:               |             | 280 x 200 x 75mm high                        |
| Weight:                   |             | 1.3kg  |

Supplied with glass body combination pH electrode, temperature probe, pH 4.01, 7.01 & 10.01 buffer solutions, 12VDC adapter and full instructions.

**C51-6100** pH Meter, Bench, with printer

### Spare Parts and Accessories

- C51-5042** Buffer Solution, pH 4.01, 460ml
- C51-5043** Buffer Solution, pH 7.01, 460ml
- C51-5044** Buffer Solution, pH 10.01, 460ml
- C51-5045** Storage Solution, 460ml
- C51-5046** 3.5M KCl Electrolyte, 4 x 30ml
- C51-5047** Electrode Holder
- C51-5190** Windows Compatible Software
- C51-5960** 9-Pin Cable for PC
- C51-6110** Spare Paper Rolls, pack of 10
- C51-6111** Spare Ink Cartridge



C51-6100

**pH METER, BENCH, JENWAY**

Digital meter ideal for educational and general purpose applications. Features rotary controls for buffer and slope, dedicated pH CAL mode prevents accidental calibration change during measurements, automatic or manual temperature compensation, actual temperature can be displayed if the ATC probe is used. Can be battery or mains operated. A PP3 battery is included and mains operation is via an optional power supply.

**Technical Data**

|                      |       |                       |
|----------------------|-------|-----------------------|
| Ranges:              | pH    | -2.00 to 16.00        |
|                      | mV    | ±1999                 |
|                      | Temp. | -10 to 105°C          |
| Resolution:          | pH    | 0.01                  |
|                      | mV    | 1                     |
|                      | Temp. | 0.1°C                 |
| Accuracy:            | pH    | ±0.02                 |
|                      | mV    | ±1                    |
|                      | Temp. | ±0.5°C                |
| Calibration:         |       | Manual 2 points       |
| ATC & Manual ranges: |       | Manual -10 to 105°C   |
| Dimensions:          |       | 210 x 250 x 55mm high |
| Weight:              |       | 850g                  |

Supplied with epoxy combination electrode, ATC probe, electrode holder, pH 4, 7 & 10 buffer sachets, BNC shorting plug, battery, condensed operating instructions and manual.

**C51-6350** pH Meter, Bench

**Spare Parts and Accessories**

|                 |  |
|-----------------|--|
| <b>C51-6360</b> | Power Supply                                 |
| <b>C51-5340</b> | pH 4 Buffer Sachets, pack of 10              |
| <b>C51-5341</b> | pH 7 Buffer Sachets, pack of 10              |
| <b>C51-5342</b> | pH 10 Buffer Sachets, pack of 10             |
| <b>C51-5343</b> | pH 4 Buffer Solution, coloured red, 500ml    |
| <b>C51-5344</b> | pH 7 Buffer Solution, coloured yellow, 500ml |
| <b>C51-5345</b> | pH 10 Buffer Solution, coloured blue, 500ml  |
| <b>C51-5346</b> | 3M KCl Electrode Filling Solution, 100ml     |
| <b>C51-5347</b> | Electrode Cleaning Solution, 500ml           |
| <b>C30-6160</b> | Dust Cover                                   |



C51-6350

## pH/mV/TEMPERATURE METERS, BENCH, JENWAY

Digital bench meter to measure pH, mV and temperature, with automatic or manual temperature compensation 1 to 3 point calibration, auto buffer selection and results display and storage. Two models are available, one suitable for routine analysis and one, with GLP software, suitable for research applications.

### Technical Data

|                        | <b>C51-6500</b>               | <b>C51-6550</b>  |
|------------------------|-------------------------------|--|
| Ranges:                |                               |  |
| pH                     | -2.000 to 19.999              | -2.000 to 20.000   |
| mV                     | ±1999                         | ±1999  |
| Temp.                  | -10 to 105°C/<br>14 to 221°F  | -10 to 105°C/<br>14 to 221°F                                     |
| Resolution:            |                               |  |
| pH                     | 0.001/0.01/0.1                | 0.001/0.01/0.1   |
| mV                     | 0.1                           | 0.1  |
| Temp.                  | 0.1°C/1°F                     | 0.1°C/1°F  |
| Accuracy:              |                               |  |
| pH                     | ±0.003                        | ±0.003   |
| mV                     | ±0.2                          | ±0.2   |
| Temp.                  | ±0.5°C/±1°F                   | ±0.5°C/±1°F  |
| ATC & Manual ranges:   | 0 to 100°C/32 to 212°F        |  |
| Calibration:           | 1, 2 or 3 point               |  |
| Auto buffer selection: | 2.00, 4.00, 7.00, 9.20, 10.00 |  |
| Outputs:               | Analogue/RS232                | Analogue, RS232,<br>IrDA printer interface                       |
| Data Logging:          | 32 reading memory             | 500 reading storage  |
| Clock:                 | -                             | 24 hour, hrs/min/sec<br>or day/month/year                        |
| GLP:                   | -                             | Calibration reminder<br>Alarm outputs<br>Security code protected |
| Languages:             | English                       | 6 Available  |
| Display:               | Back lit LCD                  | Back lit 1/8 VGA<br>monochrome LCD                               |
| Power:                 | Power supply                  |  |
| Dimensions:            | 210 x 250 x 55mm              |  |
| Weight:                | 850g                          |  |

Supplied complete with glass combination pH electrode, ATC probe, electrode holder, pH 4, 7 and 10 buffer sachets, BNC shorting plug, power supply, condensed operating instructions and manual.

- C51-6500** pH/mV/Temperature Meter, routine  
**C51-6550** pH/mV/Temperature Meter, research

### Spare Parts and Accessories

- C51-5340** pH 4 Buffer Sachets, pack of 10  
**C51-5341** pH 7 Buffer Sachets, pack of 10  
**C51-5342** pH 10 Buffer Sachets, pack of 10  
**C51-5343** pH 4 Buffer Solution, coloured red, 500ml  
**C51-5344** pH 7 Buffer Solution, coloured yellow, 500ml  
**C51-5345** pH 10 Buffer Solution, coloured blue, 500ml  
**C51-5346** 3M KCl Electrode Filling Solution, 100ml  
**C51-5347** Electrode Cleaning Solution, 500ml  
**C30-6160** Dust Cover

### Accessories for C51-6550 only

- C30-6170** IrDA/Serial Printer, supplied with roll of thermal paper, protective pouch, serial connection lead, power supply and three power connection leads.  
**C30-6175** Paper Roll, thermal  
**C30-6180** Interface Cable Kit



C51-6500



C51-6550

**pH/ION METER, BENCH, JENWAY**

A digital bench meter to measure pH, mV, temperature and also ion concentration. Features dual input for both sensor and temperature monitoring, dual display for simultaneous display of primary and secondary measurements, method storage, full GLP compliance, automatic endpoint detection and full support of Incremental Methods. The meter is programmed to make the calculations necessary when carrying out Known and Sample Addition and Subtraction, and Multiple Sample Addition. Automatic temperature compensation on pH and ion measurements. Mains operated.

**Technical Data**

|                          |       |  |
|--------------------------|-------|--|
| Ranges:                  | pH    | -2.000 to 19.999                           |
|                          | mV    | ±1999                                      |
|                          | Conc. | 1x10 <sup>-9</sup> to 9.99x10 <sup>9</sup> |
|                          | Temp. | -10 to 105°C / 14 to 221°F                 |
| Resolution:              | pH    | 0.001/0.01/0.1                             |
|                          | mV    | 0.1/1                                      |
|                          | Conc. | 3 significant digits                       |
|                          | Temp. | 0.1°C/1°F                                  |
| Accuracy:                | pH    | ±0.003                                     |
|                          | mV    | ±0.2                                       |
|                          | Conc. | ±0.003pX for monovalent ions               |
|                          | Temp. | ±0.5°C/±1°F                                |
| Conc. Units:             |       | activity, ppm, %, mg/l, M or none          |
| Meas. Method:            |       | direct potentiometry/incremental           |
| ATC & Manual ranges:     |       | 0 to 100°C/32 to 212°F                     |
| Calibration:             |       | 1, 2 or 3 point                            |
| Auto buffer recognition: |       | 2.00, 4.00, 7.00, 9.20, 10.00              |
| Outputs:                 |       | Bi-directional RS232                       |
|                          |       | Analogue                                   |
|                          |       | Hi/Lo alarm outputs                        |
| Data Logging:            |       | 100 results                                |
| Clock:                   |       | 24 hour, hrs/min/sec                       |
|                          |       | or day/month/year                          |
| GLP:                     |       | Calibration reminder                       |
|                          |       | Timed printout                             |
|                          |       | End point suppress time                    |
| Display:                 |       | LCD graphics                               |
| Power:                   |       | Power supply, 9V a.c.                      |
| Dimensions:              |       | 275 x 240 x 150mm                          |
| Weight:                  |       | 1.2kg                                      |

Supplied with general purpose glass combination electrode, ATC probe, swing arm electrode holder, pH 4 & 7 buffers, BNC to leadless electrode lead, power supply and manual.

**C51-6700 pH/Ion Meter****Spare Parts and Accessories**

- C51-5340** pH 4 Buffer Sachets, pack of 10
- C51-5341** pH 7 Buffer Sachets, pack of 10
- C51-5342** pH 10 Buffer Sachets, pack of 10
- C51-5343** pH 4 Buffer Solution, coloured red, 500ml
- C51-5344** pH 7 Buffer Solution, coloured yellow, 500ml
- C51-5345** pH 10 Buffer Solution, coloured blue, 500ml
- C51-5346** 3M KCl Electrode Filling Solution, 100ml
- C51-5347** Electrode Cleaning Solution, 500ml
- C30-6170** IrDA/Serial Printer, supplied with roll of thermal paper, protective pouch, serial connection lead, power supply and three power connection leads.
- C30-6175** Paper Roll, thermal
- C30-6180** Interface Cable Kit



C51-6700

## pH/CONDUCTIVITY METER, BENCH, JENWAY

A digital bench meter designed to measure and display pH and conductivity simultaneously. Operation is via a sealed membrane keypad. Fully GLP compliant. Automatically recognised pH buffers conforming to NIST, DIN and JS standards can be overridden by manually entered values, as can the 4 automatically recognised conductivity standards.

### Technical Data

|                          |                      |   |        |
|--------------------------|----------------------|---|--------|
| Ranges:                  | pH                   | -2.000 to 20.000  |        |
|                          | mV                   | ±1999   |        |
|                          | Cond.                | Auto ranging 0.01µS to 1.999S<br>(19.99S with x10 probe)  |        |
| Temp.                    |                      | -10 to 105°C / 14 to 221°F  |        |
|                          | Salinity             | 0 to 99   |        |
|                          | Resolution:          | pH 0.001/0.01/0.1   |        |
| mV                       |                      | 0.1   |        |
|                          | Cond.                | 0.01µS to 1mS (0.01S with x10 probe)  |        |
|                          | Temp.                | 0.1°C/1°F   |        |
| Salinity                 |                      | 0.1   |        |
|                          | Accuracy:            | pH  | ±0.003 |
|                          |                      | mV  | ±0.2   |
| Cond.                    |                      | ±0.5% ±2 digits   |        |
| Temp.                    |                      | ±0.5°C/±1°F   |        |
|                          | Salinity             | 0 to 35 ±1, 35 to 99 ±3   |        |
|                          | ATC & Manual ranges: | 0 to 100°C/32 to 212°F  |        |
| Calibration:             |                      | 1, 2 or 3 point   |        |
| Auto buffer recognition: |                      | Jenway, NIST, DIN, JIS  |        |
| Outputs:                 |                      | RS232 serial, analogue, and alarms  |        |
| Data Logging:            |                      | Up to 250 pH and conductivity results. Timed, stability and alarm level triggers with output to internal memory or printer/computer |        |
| Clock:                   |                      | 24 hour, hrs/min/sec or day/month/year  |        |
| GLP:                     |                      | Calibration reminder  |        |
|                          |                      | Operator and Sample ID  |        |
|                          |                      | Security Codes Protection for Set-up  |        |
| Display:                 |                      | LCD graphics  |        |
| Power:                   |                      | Power supply, 9V a.c.   |        |
| Dimensions:              |                      | 210 x 250 x 55mm  |        |
| Weight:                  |                      | 850g  |        |

Supplied with glass cell K=1, swing arm electrode holder, general purpose combination pH electrode, pH 4 & 7 buffers, power supply and manual.

**C51-7150** pH/Conductivity Meter, Bench

### Spare Parts and Accessories

- C30-5610** Calibration Solution, 10µS, 500ml
- C30-5620** Calibration Solution, 1413µS, 500ml
- C30-5630** Calibration Solution, 12.88mS, 500ml
- C30-5640** Calibration Solution, 84µS, 500ml
- C51-5340** pH 4 Buffer Sachets, pack of 10
- C51-5341** pH 7 Buffer Sachets, pack of 10
- C51-5342** pH 10 Buffer Sachets, pack of 10
- C51-5343** pH 4 Buffer Solution, coloured red, 500ml
- C51-5344** pH 7 Buffer Solution, coloured yellow, 500ml
- C51-5345** pH 10 Buffer Solution, coloured blue, 500ml
- C51-5346** 3M KCl Electrode Filling Solution, 100ml
- C51-5347** Electrode Cleaning Solution, 500ml
- C30-6160** Dust Cover
- C30-6170** IrDA/Serial Printer, supplied with roll of thermal paper, protective pouch, serial connection lead, power supply and three power connection leads.
- C30-6175** Paper Roll, thermal
- C30-6180** Interface Cable Kit



C51-7150