FiveEasy™ Bench Instruments

FiveEasy Plus
FiveEasy

pH
mV / ORP
Conductivity
TDS
Salinity

Economic & Reliable
The Easy Introduction to the World of pH

METTLER TOLEDO
FiveEasy Plus™ / FiveEasy™

Water
No matter whether it's a lake or a sewage plant – compliance to certain pH and conductivity values in water is vital for the sustainability of all life, be it human, plant or animal.

Agriculture
The pH value of arable land must be monitored regularly to protect people and the environment from potential hazards and to create ideal conditions for growing agricultural products.

Industry
The pH and conductivity of cooling and cleaning water as well as the manufactured products themselves must be tested during the manufacturing process – to guarantee a high level of quality in the finished products, to keep manufacturing costs down and to protect manufacturing equipment from corrosion and other damage.

Foodstuffs
Yogurt, cheese, fish, meat, sauces ... the number of samples is virtually endless, but they all have one thing in common: The pH value must be kept at the optimum level so that quality and freshness of the products is guaranteed.

Beverages
pH value must be monitored during various processing stages involved in the production of beverages to ensure that the final product has the desired flavor.

5 x 5 Reasons for FiveEasy™
Easy pH & Conductivity Solutions
5 x outstanding price/performance ratio
- METTLER TOLEDO quality for reliable measurements
- Separate reference input for pH measurement with half-cells
- RS232 interface for data print out (FiveEasy Plus)
- Handy electrode arm automatically included in kit versions
- Over 60 years of sensor know-how also included in entry-level instruments

5 x superb functionalities
- Automatic or manual termination of a measurement or calibration
- Automatic calibration with predefined pH buffer groups or predefined conductivity standards
- Automatic or manual temperature compensation
- Up to 3 point calibration with automatic buffer recognition during pH calibration
- Data storage for 99 measurements (FiveEasy Plus)

5 x self-explanatory buttons for the simplest operation
- Simple start and finish of measurements and calibrations
- Fast changeover between pH and mV parameters, or between conductivity, TDS and salinity
- Intuitive adjustment of settings e.g. for manual temperature compensation
- Saving and accessing of measurements and calibration data at the push of a button
- Separate on/off switch

5 x useful information on a large, well organized display
- Simultaneous display of measurement, temperature and endpoint recording
- Electrode icon: provides information on the condition of the electrode
- Calibration icon: the instrument is calibrating
- Measurement icon: the instrument is carrying out measurements
- Setup icon: settings can be modified

5 x useful accessories
- Electrode arm can be attached to the left or right-hand side of the instrument
- “Quick guide” for the lab bench – laminated in case of spills
- A variety of electrodes for various applications
- Extensive range of solutions for calibration and cleaning
- Separate temperature sensor and ORP electrodes are also available
Ordering Codes & Scope of Supply

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEP20-Basic</td>
<td>FiveEasy Plus pH instrument incl. operating manual, “Quick Guide”, power adapter</td>
<td>51302914</td>
</tr>
<tr>
<td>FEP20-ATC Kit</td>
<td>FiveEasy Plus instrument and accessories as with FEP20 Basic, also with LE438 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets</td>
<td>51302915</td>
</tr>
<tr>
<td>FE20-Basic</td>
<td>FiveEasy pH instrument incl. operating manual, “Quick Guide”, power adapter</td>
<td>51302910</td>
</tr>
<tr>
<td>FE20-Kit</td>
<td>FiveEasy instrument and accessories as with FE20 Basic, also with LE409 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets</td>
<td>51302911</td>
</tr>
<tr>
<td>FE20-ATC Kit</td>
<td>FiveEasy instrument and accessories as with FE20 Basic, also with LE438 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets</td>
<td>51302916</td>
</tr>
<tr>
<td>FEP30-Basic</td>
<td>FiveEasy Plus conductivity instrument incl. operating manual, “Quick Guide”, power adapter</td>
<td>51302935</td>
</tr>
<tr>
<td>FEP30-Kit</td>
<td>FiveEasy Plus instrument and accessories as with FEP30 Basic, also with LE703 conductivity probe, electrode arm, 2 x 1413 µS/cm and 2 x 12.88 mS/cm standard sachets</td>
<td>51302936</td>
</tr>
<tr>
<td>FE30-Basic</td>
<td>FiveEasy conductivity instrument incl. operating manual, “Quick Guide”, power adapter</td>
<td>51302912</td>
</tr>
<tr>
<td>FE30-Kit</td>
<td>FiveEasy instrument and accessories as with FE30 Basic, also with LE703 conductivity probe, electrode arm, 2 x 1413 µS/cm and 2 x 12.88 mS/cm standard sachets</td>
<td>51302913</td>
</tr>
</tbody>
</table>

Comparison Table

<table>
<thead>
<tr>
<th></th>
<th>FiveEasy Plus pH</th>
<th>FiveEasy pH</th>
<th>FiveEasy Plus Conductivity</th>
<th>FiveEasy Conductivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration point</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Memory</td>
<td>99 measurements</td>
<td>-</td>
<td>99 measurements</td>
<td>-</td>
</tr>
<tr>
<td>RS232 interface</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
</tr>
</tbody>
</table>

Other specifications of FiveEasy Plus and FiveEasy are identical

Technical Specifications

- Measuring range:
  - 0.00...14.00 pH
  - -1999...1999 mV
  - 0 °C...100 °C (32 °F...212 °F)
- Resolution:
  - 0.01 pH / 1 mV / 0.1 °C
- Error limits:
  - ± 0.01 pH / ± 1 mV / ± 0.5 °C
  - ± 0.5% of the measured value / ± 0.3 °C
- Calibration:
  - 3 points
  - 4 predefined buffer groups
- Memory:
  - 99 measurements
- RS232 interface:
  - Yes
- Display:
  - Liquid crystal
- Housing:
  - ABS/PC reinforced
- Power supply:
  - 100-240 V / 50-60 Hz / 9V DC
- Size/weight:
  - 200 x 175 x 52 mm / 0.6 kg

FiveEasy Plus pH
- FEP20
- FEP20-Basic
- FEP20-ATC Kit
- FiveEasy Plus instrument incl. operating manual, “Quick Guide”, power adapter
- FiveEasy Plus instrument and accessories as with FEP20 Basic, also with LE438 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets
- FiveEasy Plus instrument and accessories as with FEP20 Basic, also with LE409 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets

FiveEasy pH
- FE20
- FE20-Basic
- FE20-Kit
- FiveEasy pH instrument incl. operating manual, “Quick Guide”, power adapter
- FiveEasy instrument and accessories as with FE20 Basic, also with LE409 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets
- FiveEasy instrument and accessories as with FE20 Basic, also with LE438 pH electrode, electrode arm, 2 x pH 4.01 and 2 x pH 7.00 buffer sachets

FiveEasy Plus Conductivity
- FEP30
- FEP30-Basic
- FEP30-Kit
- FiveEasy Plus conductivity instrument incl. operating manual, “Quick Guide”, power adapter
- FiveEasy Plus instrument and accessories as with FEP30 Basic, also with LE703 conductivity probe, electrode arm, 2 x 1413 µS/cm and 2 x 12.88 mS/cm standard sachets
- FiveEasy instrument and accessories as with FE30 Basic, also with LE703 conductivity probe, electrode arm, 2 x 1413 µS/cm and 2 x 12.88 mS/cm standard sachets

FiveEasy Conductivity
- FE30
- FE30-Basic
- FE30-Kit
- FiveEasy conductivity instrument incl. operating manual, “Quick Guide”, power adapter
- FiveEasy instrument and accessories as with FE30 Basic, also with LE703 conductivity probe, electrode arm, 2 x 1413 µS/cm and 2 x 12.88 mS/cm standard sachets

- Measuring range:
  - 0.1 µS/cm...199.9 mS/cm
  - 0.1 mg/L...199.9 g/L (TDS)
  - 0.00...19.99 psu (salinity)
  - 0 °C...100 °C (32 °F...212 °F)
- Resolution:
  - Automatic range / 0.00...19.99 psu / 0.1 °C
- Error limits:
  - ± 0.01 pH / ± 1 mV / ± 0.5 °C
  - ± 0.5% of the measured value / ± 0.3 °C
- Calibration:
  - 4 predefined buffer groups
  - 2 points
- Memory:
  - 99 measurements
- RS232 interface:
  - Yes
- Display:
  - Liquid crystal
- Housing:
  - ABS/PC reinforced
- Power supply:
  - 100-240 V / 50-60 Hz / 9V DC
- Size/weight:
  - 200 x 175 x 52 mm / 0.6 kg
### Electrodes & Applications

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Plug/Connection</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE407</td>
<td>Robust plastic pH electrode with gel electrolyte, suitable for simple applications and easy samples such as water, low-maintenance</td>
<td>BNC</td>
<td>51340330</td>
</tr>
<tr>
<td>LE407-DIN</td>
<td></td>
<td>DIN</td>
<td>51340341</td>
</tr>
<tr>
<td>LE408</td>
<td>Robust plastic pH electrode with liquid electrolyte, suitable for simple applications; refillable electrolyte</td>
<td>BNC</td>
<td>51340347</td>
</tr>
<tr>
<td>LE408-DIN</td>
<td></td>
<td>DIN</td>
<td>51340342</td>
</tr>
<tr>
<td>LE409</td>
<td>Glass pH electrode with liquid electrolyte for simple and rapid measurements in the laboratory, aqueous samples such as acids, bases etc.; refillable electrolyte</td>
<td>BNC</td>
<td>51340331</td>
</tr>
<tr>
<td>LE409-DIN</td>
<td></td>
<td>DIN</td>
<td>51340343</td>
</tr>
<tr>
<td>LE420</td>
<td>Glass electrode with moveable PTFE-sleeve junction for demanding, “dirty” samples such as waste water, emulsions (e.g. milk), oily samples; refillable electrolyte</td>
<td>BNC</td>
<td>51340332</td>
</tr>
<tr>
<td>LE420-DIN</td>
<td></td>
<td>DIN</td>
<td>51340345</td>
</tr>
<tr>
<td>LE427</td>
<td>The spear tip design makes it ideal for solid samples such as meat, fruit, cheese, soil and many more; low-maintenance</td>
<td>BNC</td>
<td>51340333</td>
</tr>
<tr>
<td>LE427-S7*</td>
<td></td>
<td>S7</td>
<td>51340334*</td>
</tr>
<tr>
<td>LE438</td>
<td>3-in-1 plastic electrode with integrated temperature sensor for field use, samples with fluctuating temperatures; low-maintenance</td>
<td>BNC/Cinch</td>
<td>51340242</td>
</tr>
<tr>
<td>LE438-DIN</td>
<td></td>
<td>DIN/Banana</td>
<td>51340346</td>
</tr>
<tr>
<td>LE703</td>
<td>Robust conductivity probe for medium to high conductivities (10 µS/cm...200 mS/cm)</td>
<td>Mini-DIN</td>
<td>51340335</td>
</tr>
<tr>
<td>LE740</td>
<td>Robust conductivity probe from low to medium conductivities (0.01 µS/cm...500 µS/cm)</td>
<td>Mini-DIN</td>
<td>51340336</td>
</tr>
<tr>
<td>LE501</td>
<td>Glass ORP electrode for lab use</td>
<td>BNC</td>
<td>51340338</td>
</tr>
<tr>
<td>LE510</td>
<td>Robust plastic ORP electrode for field use, e.g. swimming pools</td>
<td>BNC</td>
<td>51340339</td>
</tr>
<tr>
<td>NTC 30kOhm</td>
<td>Separate temperature sensor</td>
<td>Cinch</td>
<td>51300164</td>
</tr>
</tbody>
</table>

* No cable is included, a selection of cables is available for connection to various instruments, e.g. Red S7-BNC, 1.0 m (Order no. 59902392) for METTLER TOLEDO, Hanna etc. More cable information is available at [www.mt.com/electrode-guide](http://www.mt.com/electrode-guide).

Our InLab® sensors can, of course, also be connected to our “Five” series instruments. More detailed information about our InLab portfolio is available at [www.mt.com/electrodes](http://www.mt.com/electrodes).

### Accessories

<table>
<thead>
<tr>
<th>Accessories for FiveEasy Plus &amp; FiveEasy</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power adapter</td>
<td>51302950</td>
</tr>
<tr>
<td>Electrode arm (complete)</td>
<td>51302961</td>
</tr>
<tr>
<td>Rubber cap (2 pieces for electrode arm opening on instrument)</td>
<td>51302952</td>
</tr>
</tbody>
</table>
### Calibration & Cleaning Solutions

<table>
<thead>
<tr>
<th>Calibration solutions</th>
<th>Order No.</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH 4.01</td>
<td>51302069</td>
<td>51350018</td>
</tr>
<tr>
<td>pH 7.00</td>
<td>51302047</td>
<td>51350020</td>
</tr>
<tr>
<td>pH 9.21</td>
<td>51302070</td>
<td>51350022</td>
</tr>
<tr>
<td>pH 10.01</td>
<td>51302079</td>
<td>51350024</td>
</tr>
<tr>
<td>1413 μS/cm</td>
<td>51302049</td>
<td>51350096</td>
</tr>
<tr>
<td>12.88 mS/cm</td>
<td>51302050</td>
<td>51350088</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cleaning solutions</th>
<th>Order No.</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptic HCl solutions for cleaning diaphragms with proteinaceous contamination. Reaction time: approx. 1 hour.</td>
<td>51350100</td>
<td></td>
</tr>
<tr>
<td>Thiourea solution for cleaning diaphragms contaminated by silver sulfide. Leave to act until decolorization.</td>
<td>51350102</td>
<td></td>
</tr>
<tr>
<td>Reactivation solution for regenerating glass pH electrodes. Reaction time: 1 min.</td>
<td></td>
<td>51350104</td>
</tr>
</tbody>
</table>

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**METTLER TOLEDO** – the Right Solution Right from the Start...

...also for outdoor applications: FiveGo™, the splash-protected portable instrument for a mobile introduction to the world of pH, conductivity and DO.

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**METTLER TOLEDO**
gone Global...

The contact addresses of METTLER TOLEDO representatives globally can be found under the Internet address [www.mt.com/contacts](http://www.mt.com/contacts)

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