One Click™ User Interface
The large color touchscreen features the simple-to-understand and fast-to-operate One Click™ user interface. All users have their own homescreen with dedicated shortcut buttons to directly start specific routine tasks.

Solvent Manager
Users are protected against contact with chemicals using the Solvent Manager liquid handling device. It is fully controlled by the titrator and offers solvent exchange at One Click™ without additional user interaction.

Intelligent Burettes
The titrant is automatically recognized, when the burette is put on the titrator. Important data such as concentration or lifetime is saved on the RFID chip and directly transferred to the titrator, where it is stored and can be monitored. Using the wrong or an expired titrant is impossible.

V20 Compact Volumetric KF Titrator
The Routine Karl Fischer titrator combines fast and precise water content determination with easy operation. Samples from any industry with a water content between 100 ppm and 100% are analyzed in single measurements or sample series with statistics.

- Color touchscreen with One Click™ user interface
- User interface in English, German, French, Spanish, Italian, Chinese, Russian, Polish and Korean
- Intelligent burettes with RFID chip saving all relevant titrant data
- Connectivity to LabX titration PC software via USB or direct Ethernet (TCP/IP)
- Common USB printers or the USB-P25 compact paper roll printer for secure and GLP-compliant paper recording

PC software LabX titration
Full control over the titrator, secure database archiving, networking, efficient result management with control charts and individual search filters or rapid and clear method development are only some aspects of the powerful LabX titration PC software.
**V20 Functionality Overview**

**Application**
- Solid, liquid and gaseous samples
- Resources and method database
- KF titrants
- KF standards

**One Click™ Titration**
- User specific Home Screen with Shortcuts
- Shortcuts per user
- Solvent Control

**Hot Plug & Play**
- Burette recognition with titrant, concentration and monitoring data
- USB memory stick / USB barcode reader / USB hub

**Automation**
- Stromboli oven sample changer

**User Management**
- Expert – Routine
- Preprogrammed METTLER TOLEDO methods
- KF standard methods
- Max. number of user methods
- External extraction/dissolution dedicated method type
- Number of samples per series
- AutoStart: automatic start after sample addition
- Drift stop for endpoint recognition (absolute and relative, tmax, delay)
- Max. number of calculations/results per method
- User defined calculations
- Statistics of up to 120 samples including result limits check, outlier test
- Extra statistical functions as max, std. and multiple determinations
- Recalculation of results
- Data in Online Screen: time, water count, potential, stirrer speed, volume, drift
- Data in measured value table: time, water count, potential, volume, drift
- Curves in Online Screen and printout: E-V, E-t, V-t, drift-t, water count-t

**Methods and series**
- Number of tasks queued
- Context sensitive parameter explanation

**Languages**
- User interface and printouts in English, German, French, Spanish, Italian, Chinese, Russian, Polish, Korean

**PC software**
- LabX titration light and pro

**Homogenizer**
- TTL

**Communication**
- Ethernet (TCP/IP)
- COM (serial balance connection)
- USB host (printer, memory stick, barcode reader, hub)
- USB client (PC)
- Integrated Magnetic Stirrer
- Pump / Stirrer

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**V20 Technical Specifications**

**Polarized sensor input**
- Measurement range: -2000…+2000 mV
- Resolution: 0.1 mV
- Limits of error: 2 mV
- Polarization current range: 0…24 µA
- Polarization current resolution: 0.1 µA
- Polarization current limits of error: 1 µA
- Drive resolution: 20,000 steps
- Burette resolution (for 5 mL burette): 0.25 µL
- Limits of error: 0.3% of the respective volume
- Resolver: 32 pulses / mm stroke
- Resolver resolution: 0.0625% of burette volume
- Filling time and discharge time: 20 s at 100% filling rate

**Environment**
- Ambient temperature: +5…+40°C
- Atmospheric humidity: max. 80% at 31 °C

**Titrator dimensions**
- Width x depth x height / Weight: 210 x 333 x 320 mm / 4.2 kg
- Glass beaker: 150 mL

**Control and display**
- Touchscreen: VGA 5.7” color TFT, 320 x 240 pixel
- Drift measurement: Online, < 5 µg/min

**Application**
- Measurement range: 100 ppm to 100%
- Repeatability: 0.3% of >10 mg H₂O

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* depends on the environment and handling

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