

Flow cell for single ion selective electrode with integrated stirring

Type: FC.1ISE.1REF

Description

The flow cell with integrated stirring and reduced hydrodynamic noise is designed for the determination of single analyte using one miniature ion-selective electrode (ISE) and one miniature reference electrode with a diameter of 6 mm and length of 60 mm. Rotation speed of integrated stirrer: 10-4000 rpm.

In flow mode, the system can operate automatically. The speed of the integrated stirrer can also be controlled by applying the corresponding voltage to the motor, connected to a stabilized source.



Detailed description of the flow cell is given in utility model No. CZ37080. Miniature ion-selective electrodes were designed for integration into the flow cell for determination of Cl^- , K^+ , Ca^{2+} and Na^+ ions.

The flow cell with one selected ISE can be used for:

- Automatic or semi-automatic measurement of concentration of Cl^- , K^+ , Ca^{2+} and Na^+ ions in various solutions (following prior calibration)
- For continuous measurement of changes in concentration of Cl^- , K^+ , Ca^{2+} and Na^+ ions

Specifically, these applications may include analyses for agricultural purposes, online monitoring of the representation of selected ions in water management, certain industrial areas or agriculture (hydroponic cultivation of plants) etc.

Physical Parameters

Dimensions of the entire flow cell module: 20 x 20 x 32 mm

Flow cell material: plexiglass

Minimum measurable sample volume: 50 μl

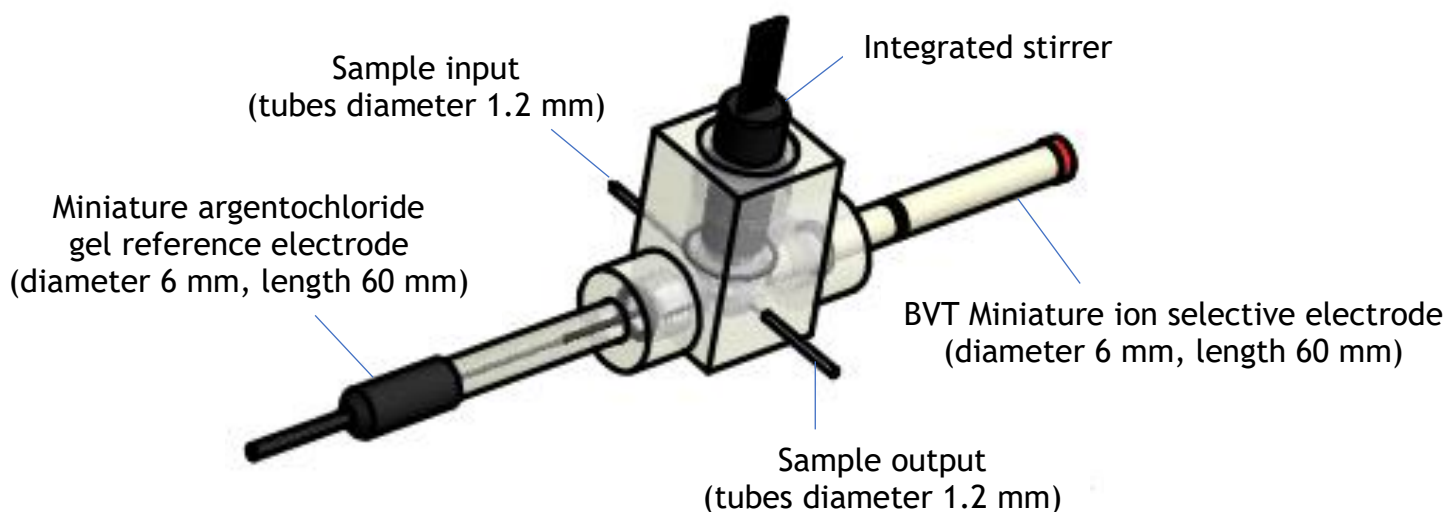
Sample input and output tubes diameter: 1.2 mm

**Rotation speed of integrated stirrer:* 10-4000 rpm

*(*speed control through a stabilized voltage source at the customer; precise speed control on special demand)*

Motor input: ten pin connector

Datasheet: Type: FC.1ISE.1REF



Device advantages

- Better stability and limit of detection
- Compared to measurements with ISE by classic immersion, less hydrodynamic noise is achieved in flow mode using a flow cell
- Due to the miniature dimensions of the ISE and flow cell, it is possible to use smaller amounts of solutions and chemicals
- The system can work semi-automatically/automatically - saving operator time during measurement
- Possibility of continuous measurement

Additional accessory equipment

Mini *-ISE.L60.C*	Miniature Ion Selective Electrodes
Mini RCE.GEL.L60.C1	Miniature argentochloride gel reference electrode, TMS
MPH 471	Universal potentiostat, Monokrystaly
PP10.M*.T*	Peristaltic pump
2PP.T*	Dual Channel Peristaltic Pump

Example of measurement

Example of a measured record (Fig. 1) and subsequent calibration graph of a Mini Cl-ISE.L60.C1 (linear calibration range: 10^{-1} to 10^{-4} mol/l) (Fig. 2) with a Mini RCE.GEL.L60.C1 with a diameter of 6 mm and a length of 60 mm.

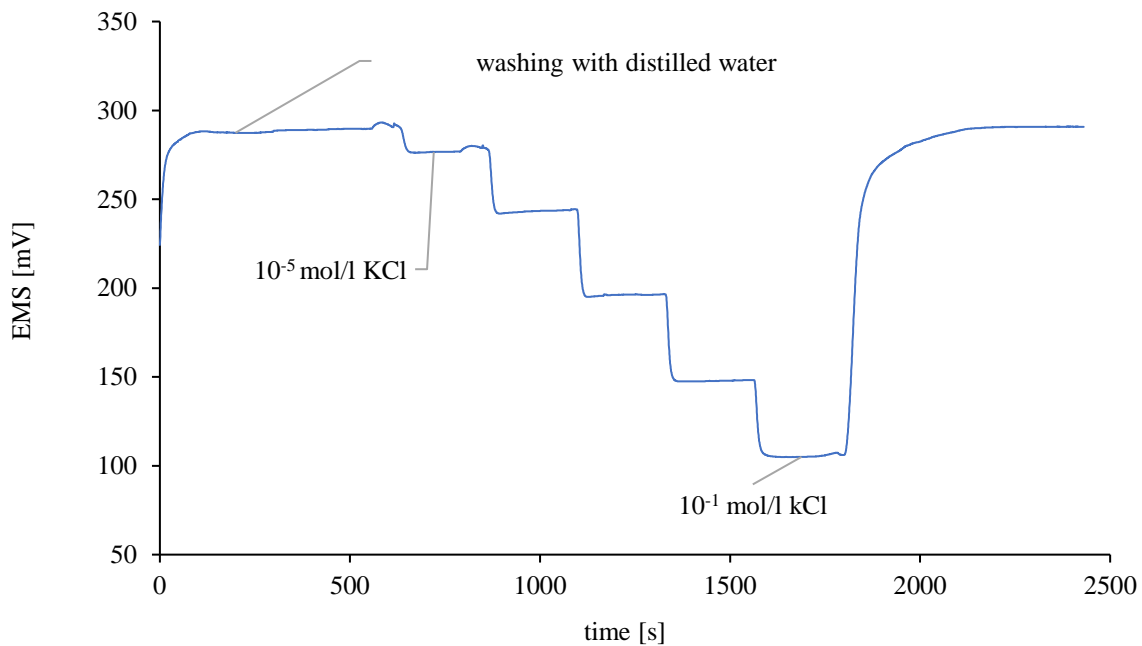


Fig. 1: Example of a measured recording from the course of a chloride ISE measurement with a reference gel Ag/AgCl electrode

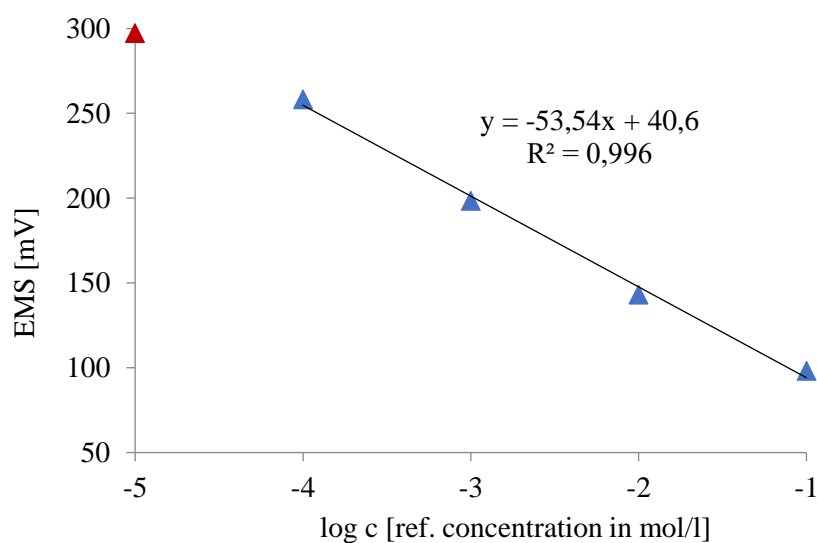


Fig. 2: Sample calibration plot of a chloride ISE in conjunction with a reference gel Ag/AgCl electrode

Ordering/Price Information

- The order is specified by whole product code
- Minimum order quantity - 1 electrode
- Delivery time for standard electrode is 4 weeks from receipt of order
- Delivery time for non-standard electrode depends on final technical specification of order

Example of Order - 1 pieces - FC.1ISE.1REF

References

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