

Confirmation for overseas Installation & commissioning

Customer: _____ (Seal)

Confirmer: _____ (Signature)

Telephone: _____

confirmation date: _____

Installation date: _____

Please check the lab condition for installation and tick with “√” which had already be prepared .

5E-FT2301 Automatic Fluorine Analyzer

1) Equipment and tools preparation

- Floor space: 1000 mm (W) × 4000 mm (L) × 700 mm (H)
- Power supply 220V/50Hz, power \geq 3.5KW (grounded well)
- Oxygen, purity 99.5%.
- Please confirm the connectors of cylinder are according with Chinese standard (G5/8"-RHF) (the screw thread is on the outside), so that it can match with the reducing valve the instrument is equipped, if not, please prepare the reducing valve(gauge for cylinder is 0-25MPa, gauge for outlet is 0-1MPa) by yourself

- | | |
|--|---|
| <input type="checkbox"/> Beaker 2L 1 pc | <input type="checkbox"/> Beaker 50mL 1 pc |
| <input type="checkbox"/> Dropper bottle brown-100ml 1 pc | <input type="checkbox"/> Grinding jar (brown) 500mL 1 pc |
| <input type="checkbox"/> Pipette 50mL 1 pc | <input type="checkbox"/> Graduated cylinder 500mL 1pc |
| <input type="checkbox"/> Wash bottle(plastic) 1 pc | <input type="checkbox"/> Tube brush 1 pc |
| <input type="checkbox"/> Rubber pipette bulb 1 pc | <input type="checkbox"/> Volumetric flask brown-1000ml 2 pc |
| <input type="checkbox"/> Plastic bottle (1000ml) 10 pc | <input type="checkbox"/> Glass rod 2 pc |
| <input type="checkbox"/> Ultrapure Water Polishing System 1 pc | <input type="checkbox"/> Electric furnace 1 pc |
| <input type="checkbox"/> Muffle furnace 1 pc | <input type="checkbox"/> Drying Oven 1 pc |
| <input type="checkbox"/> Analytical balance 1pc | <input type="checkbox"/> Medical syringe 1 pc |
| <input type="checkbox"/> Glove (plastic) 1 pc | |

2) Chemical preparation

Chemical reagent for the fluorine experiment:

<input type="checkbox"/>	GR	NaOH	1 bottle
<input type="checkbox"/>	GR	HNO ₃	1 bottle
<input type="checkbox"/>	GR	Trisodium Citrate	5 bottle
<input type="checkbox"/>	GR	KNO ₃	5 bottle
<input type="checkbox"/>	GR	NaF	1 bottle
<input type="checkbox"/>	AR	Silica Sand 25~50mesh	1 bottle
<input type="checkbox"/>	GR	KCl	1bottle

3) Solution Preparation

- NaOH Solution: 10g/L (dissolve 10g NaOH of GR grade in 1000ml water).
- Nitric Acid Solution: 1+2(V+V) (dilute 150ml GR grade HNO₃ with 300ml water, mix well)
- Total Ionic Strength Adjustment Buffer: Dissolve 294g AR(analytical pure) grade of Sodium Citrate (Na₃C₆H₅O₇·2H₂O) and 20g of Potassium Nitrate(KNO₃) in 800ml water, adjust the PH to 5.5 with Nitrite solution, dilute to 1L by adding water and stock in a plastic bottle. Either PH meter or PH potential determination function in instrument can be used to adjust the PH.

The procedures for adjusting PH with instrument are as follows:

1. Insert PH electrode and calomel electrode in solution.
2. Click System Debugging from system debugging screen, click J3, click Execute.
3. Set the potential of PH to 85mv.

Standard Fluoride Solution: Dissolve 1.1051g GR grade NaF (which has been dried previously for about 2 hours at 120°C) in a beaker with water, rinse into a 1000 ml volumetric flask to the mark, mix well, transfer to a plastic bottle for future use. The concentration of the solution is 500ug/mL.

Saturated Calomel Electrode filling solution: Saturated KCl solution

KNO₃ Solution: Dissolve 200g GR (Guaranteed reagent) grade of Potassium Nitrate (KNO₃) in 1000ml water, mix until completely dissolved.

Saturated KNO₃ Solution: Dissolve enough GR (Guaranteed reagent) grade of Potassium Nitrate (KHNO₃) in 500ml water until saturation.

Saturated Calomel Electrode filling solution: Saturated KCl solution

Note: distilled water with resistivity greater than 3MΩ must be used in solution preparation.