



# FACA-261-ISE

## Fully Automatic Chemistry Analyzer



Labomed introduces an automatic biochemistry analyzer with varying testing capacities. FACA-261-ISE conducts 370 tests/hour with True Random Access and 12 filters as follows: 340nm, 380nm, 405nm, 505nm, 520nm, 546nm, 576nm, 620nm, 670nm, 700nm, 750nm, 800nm.

### Features

- Each set of FACA will come with one video to train in the installation, operation, and maintenance of the biochemistry analyzer. Random Access and Open System
- Automatic Washing System for Both Sample and Reagent Probe
- Liquid Level Detection and Collision Protection for Both Sample and Reagent Probe
- Reliable Cooling System for Reagent Chamber
- Works with Windows XP and Windows 7
- 80 Cuvette positions, semi-disposable plastic for min 30,000 tests/80 Cuvettes
- 8-step Cuvette wash station with two types of Systemic and special washing solution
- On-board refrigeration of reagents with independent switch [9° C below ambient temperature]
- External sample barcode reader, with positive identification of samples
- Powerful Reaction Cuvette Washing System
- User-Friendly Interface
- ISE module and barcode scanner (optional)
- Enzyme Kinetic GPT and GOT testing
- Automatic pre- and post-dilution
- Primary tubes up to 16 x 100mm and sample cups
- Preinstalled and validity limits for methods and reactions programmable
- Intelligent flagging system and extensive error log
- Reagent integrity check and extensive QC monitor
- Water consumption ≤ 3 liter/h
- Complete reaction curve and statistics for every sample/test--not only QC
- QC control function, based on Levy-Jennings chart analysis

**Labomed, Inc. is certified by ISO 9001-2013, has CE Conformity and is FDA Licensed**

### Accessories

Item	Specification	Quantity
Reagent bottle 1	40ml	50Pcs
Reagent bottle 2 with holder	15ml	15Pcs
Reaction cuvette		80pcs
Serum Cup		1000pcs
Tube		1 set
Fuse (4A/8A)		4 sets
Lamp (13.8V/50W)	1Pc	1Pc
Power cable		2Pcs
Com Cable		1Pc
User manual		1
Operation software		1
Tool		1 set
Sensor		1Pc
Detect Probe,		2Pcs
Sample Probe		1Pc
Ground Cable		Use your local supplier



#### 1 Reagent Tray

40 reagent positions for FACA-301 and FACA-261  
 80 reagent positions for FACA-401  
 Cooling system may work independently for 24 hours.

#### 2 Sample Tray

60 sample positions for FACA-301 and FACA-261  
 88 sample positions for FACA-401

#### 3 Cuvette

Either high quality UV-transmitted plastic  
 cuvettes or quartz glass cuvettes available.

#### 4 Independent Mixer

1 mixer for FACA-301 and FACA-261  
 2 mixers for FACA-401

#### 5 Sample probe/ Reagent probe

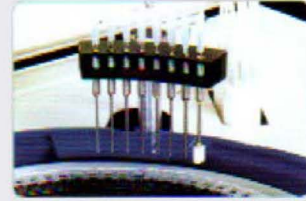
1 sample probe and 1 reagent probe for FACA-301  
 1 sample probe and 2 reagent probes for FACA-401  
 Only 1 sample / reagent probe for FACA-261

#### 6 ELE Module

ELE module available on request.

### Cuvette Washing Station

8 channels automatic washing station.



### Independent Mixer

Independent mixer ensuring quick and complete reaction.



### Reaction Cuvette

High quality UV-transmitted plastic cuvettes, or quartz glass cuvette (optional).



### Sample Probe / Reagent Probe

With liquid level sensor, anti-collision sensor and automatic cleaning function.



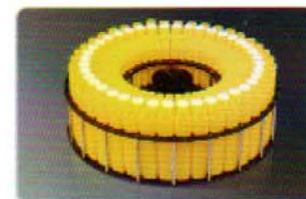
### Reagent Bottle

More convenient and economical ready to use reagent kits.



### Reagent Tray

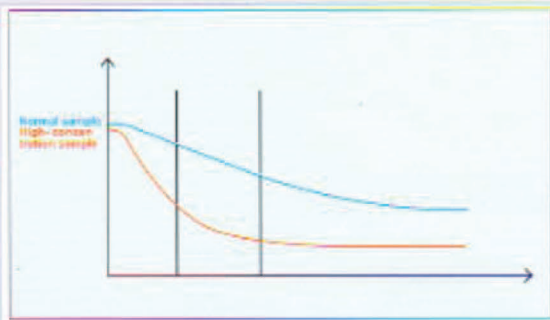
With cooling reagent chamber.



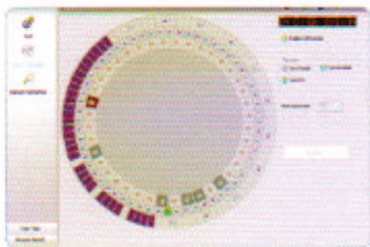
## Software



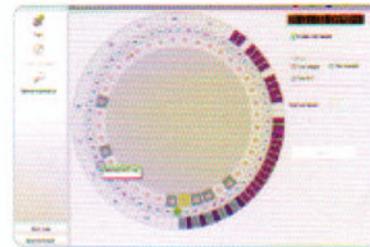
**User-Friendly Interface**  
**Compatible with Windows XP, Vista or Windows 7**



**Variable reading function**

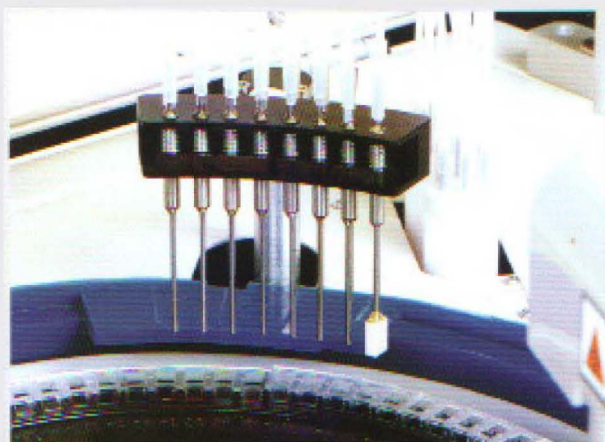


**Carry Over Control Function**



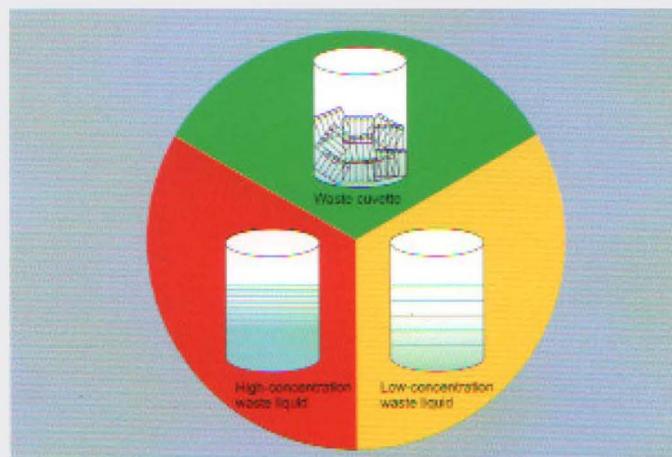
**Automatic Alarm for Malfunctions**

## Automatic Washing Station



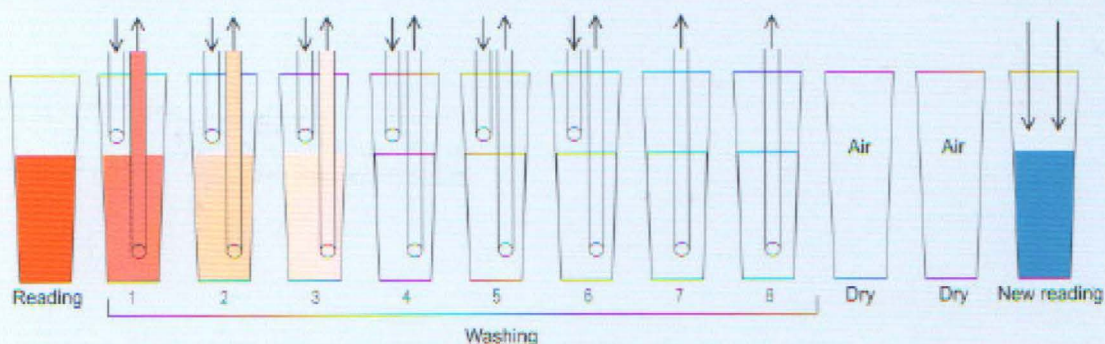
An 8-channel washing station ensures complete washing for cuvettes.

## Environmental Protection Design



The waste is automatically classified and collected into different containers.

## Automatic cuvette washing and blanking makes more precise results

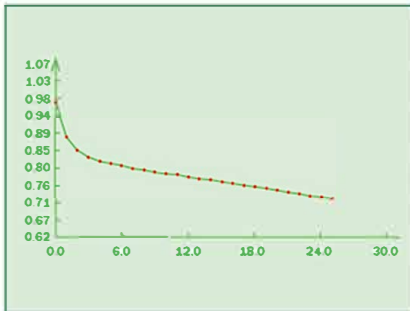


Wavelength	Reading	Wash1	Wash2	Wash3	Wash4	Wash5	Wash6	Wash7	Wash8	Dry	Dry	New reading
340nm	1.3100	0.025	0.0092	0.0037	0.0022	0.0008	0.0006	0.0005	0.0002	0.0800	0.0850	/
405nm	0.6920	0.0112	0.0075	0.0033	0.0019	0.0010	0.0005	0.0003	0.0002	0.0800	0.0805	/
450nm	0.5281	0.0108	0.0066	0.0031	0.0015	0.0009	0.0003	0.0003	0.0002	0.0806	0.0805	/
510nm	0.7005	0.0113	0.0055	0.0027	0.0012	0.0006	0.0002	0.0002	0.0001	0.0810	0.0811	/
546nm	0.5368	0.0184	0.0072	0.0043	0.0013	0.0008	0.0002	0.0002	0.0002	0.0840	0.0843	0.5090
578nm	0.0136	0.0135	0.0064	0.0031	0.0012	0.0006	0.0002	0.0002	0.0002	0.0800	0.0800	/
620nm	0.0189	0.0189	0.0054	0.0026	0.0010	0.0005	0.0002	0.0002	0.0002	0.0800	0.0800	/

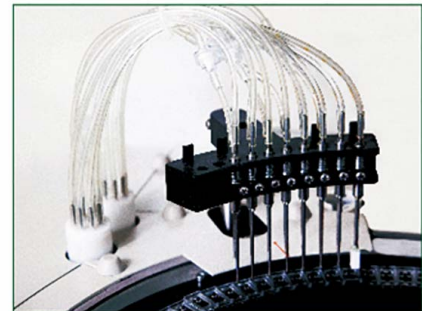
Test O.D. value-Real reagent blank=True O.D.value

**General Features:**

- New concept and more friendly software.
- New techniques and spare parts are used for much better quality and function.
- Automatic washing station for both sample and reagent probe.
- Liquid level detection and collision protection for both sample and reagent probe.
- Reliable cooling system for reagent chamber.
- Powerful reaction cuvette washing system.
- ISE module and barcode scanner(optional).
- Lower waste and more environment friendly.
- New concept test control system available (on request).



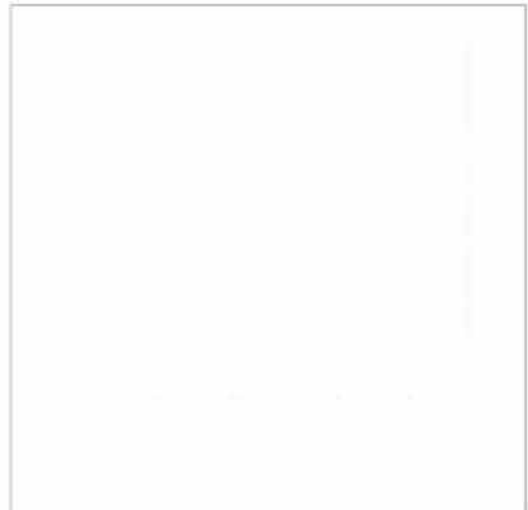
Reaction Cure Visible on line.



Cuvette Washing Station:  
8 channels automatic washing station.



Independent mixer ensuring full reaction of sample / reagent solution.



## FEATURES

- Random-Access with open system.
- 90 Cuvette positions, semi-disposable plastic for min 30,000 tests/80 Cuvettes.
- 8-step Cuvette wash station with two types of Systemic and special washing solution.
- On-board refrigeration of reagents with independent switch [9°C below ambient temp.]
- Automatic pre- and post-dilution.
- Internal sample barcode reader with positive identification of samples.
- Primary tubes up to 16 x 100 mm and sample cups.
- Preinstalled & validity limits for methods and reactions programmable.
- Intelligent flagging s), stem and extensive error log.
- Reagent integrity check & extensive QC monitor.
- Water consumption < 1.6 L/h.
- Complete reaction curve & statistics for every sample/test-not only QC

## TECHNICAL SPECIFICATIONS FOR FACA-261

### ANALYZER TYPE

**Analyzer Type:** Fully Automated, Bench Top, Discrete, Random-Access with STAT functionality open system, Clinical Chemistry Analyzer.

### THROUGHPUT

**Throughput:** 370 tests/hour with ISE

### ON-BOARD SAMPLES

**Sample Positions:** At least 60 sample positions for Primary tubes & Sample cups and option for additional. Including standard, control and stat; either serum cup or primary tube available.

**Sampling volume:** 1 to 100  $\mu$ l, 0.1  $\mu$ l/step

**Pre-dilution & Post-dilution:** Automatic Pre-dilution & Post-dilution of samples.

**Simultaneous Parameters:** Max 30 different parameters can be performed simultaneously.

### ON-BOARD REAGENTS

**On-board Refrigeration:** Min 30 positions with on board refrigeration at 9°C below ambient temperature

**Reagent Volume:** Reagent (R1-R2) Volume: 1 to 350 $\mu$ l

### OPTICAL UNIT

**Wavelength Spectral Range:** 340-900 nm

**Filter Wheel:** 9-12 positions filter wheel with 8 pre-installed supplied filters & 01 free position.

**Minimum Filters Required:** 8 filter with 340-800nm. Additional filters are available upon request.

**Absorption Range (Linearity):** 0.000 to 2.500 Abs

**Accuracy:**  $\pm 2$  nm (wavelength)

**Band Pass Precision:**  $\pm 5$  nm

### REACTION UNIT

**Reaction Volume:** 210-350  $\mu$ l

**Reaction Wells Positions:** 90 Cuvette positions. semi disposable [ $> 30,000$  tests].

**Incubation Temperature & Time:** 37°C  $\pm 0.20$ °C & 792 sec. max incubation including reading time

### WASH STATION

**8-step Wash Station:** 8-step wash station with 8 dispensing needles  
Two types of Systemic (20L) & special washing solution (2L; and 20L waste with 2nd cleaning solution & extra washing definable in method.

**Water Consumption:** Max 1.6L/h

### LIQUID HANDLING

**Liquid Handling:** Liquid transportation through pipetting arm with capacitive liquid level sensors,

**Needle Shock/Collision Detection:** Needle shock detector & vertical collision detection for probe.

### METHODOLOGY:

**Measuring modes:** Routine chemistry, Turbidimetry

**Methods/Analysis modes:** End Point (bichromatic) & Differential end point with self blank.

Fixed Time & Kinetic (Bichromatic).

Immunoturbidimetric, 1-2 reagent, Multistandard, reagent/serum blank, etc.

**Calculation modes:** Factor

**Calculation algorithms:** Linear (factor, linear, linear regression, average) and

Non linear (cubic spline, poly-linear, logit-log).

**Programmable Test:** 50 active Programmable Test methods on instrument with unlimited programmable profiles.

**Standard Calibration Method:** Up to 8 calibrator standards per test. All positions can be calibrated.

**DATA PROCESSING & QUALITY CONTROL (QC)**

<b>Memory capacity:</b>	Storage in HDD
<b>Memory:</b>	For Sample results, calibration, patient data, QC data, error-log, absorbance curves.
<b>Reports:</b>	For Patient, single test, complete sample, work sheet, method and QC's, calibration curves, kinetics, continuous printing
<b>QC Level:</b>	Up to max 3 levels per test
<b>QC Module:</b>	Levey-Jennings plots, Westward multirules, SD, CY% & Mean.
<b>Warnings:</b>	Analytical limits, reagent and reaction integrity check (blank, linearity, substrate depletion, reaction OD etc) with extensive QC monitor.
<b>Unique versatile user software:</b>	New unique versatile touch screen user software with intuitive smart graphical user interface.
<b>Extended walk-away capability:</b>	Extended walk-away capability with free choice of execution order.
<b>Digital and Ethernet Connections:</b>	ASTM Bi-directional LIS, Ethernet of external PC, polling mode on LAN.

**ACCESSORIES****Computer (OPTIONAL)**

<b>(must be purchased locally):</b>	Compatible Brand PC with touch screen min 17 inch LCD monitor, on line appropriate UPS, Thermal Printer & Deionizer (Compatible).
<b>Startup Reagents:</b>	Startup reagents with necessary calibrators and controls for installation and functioning of machine.

**REAGENTS**

<b>Reagents Required For Operation:</b>	Urea, Creatinine, total protein, albumin, tri-glyceride, total cholesterol, Glucose (500 test each), Uric acid, S.Bilirubin, SGPf, SGOT, Alkaline phosphate (1000 test each); CKMB, LDH (2m test each)
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**WARRANTY PERIOD**

3 (three) years full warranty including spare parts, repair & servicing after installation & commissioning of the Equipment on terms. Brand & model is Labomed, Inc. USA, FACA-261.

**QUALITY**

US-FDA/USA-CE certificate of the offered items must be submitted with the offer

**ASSAY ITEMS**

40 different diagnostic tests

**CHANNELS/FILTERS**

340nm, 380nm, 405nm, 505nm, 520nm, 546nm, 576nm, 620nm, 670nm, 700nm, 750nm, 800nm

**REAGENT/SAMPLE PROBE**

With liquid level sensor, collision sensor, teflon coating and automatic washing station

**CUVETTE**

High quality UV-transmitted plastic cuvette. Quartz glass cuvette on request.

**PROBE AND MIXER WASHING**

Independent washing station for each sample/reagent probe and mixer

**ALARM**

Automatic alarm for malfunction (e.g. collision, reagent/sample insufficiency, full waste container, etc.)

**ABSORBANCE RESOLUTION**

0.0001A

**ABSORBANCE ACCURACY**

$\pm 0.0003A$  (0~2.5A)

**REPEATABILITY (CV %)**

$\leq 2\%$

**BAR CODE**

Optional

**PRINTER**

Multiple report formats available

**TEST CONTROL FUNCTION**

New card control system available on request

**LANGUAGE**

English, French, Spanish, German, Russian, etc.

**OPERATING SYSTEM**

Windows XP or Vista; Windows 7

**POWER SUPPLY**

220v / 50 Hz or 110V / 60 Hz (optional)

**DIMENSION**

85 cm x 72 cm x 53 cm

**WEIGHT**

85kg



### Technical Specifications

<b>Model</b>	<b>FACA-261-ISE</b>					
<b>Assay Model</b>	Random access with direct reading system					
<b>Method</b>	End point, Kinetic, Fixed time, Immunoturbidimetry, 1-2 reagent, Multistandard, reagent/serum blank, etc					
<b>Assay Item</b>	40 assay ISE mould (Na <sup>+</sup> , K <sup>+</sup> , Cl <sup>-</sup> / Li <sup>+</sup> ) available on request					
<b>Throughput</b>	<b>Tests/hour</b>	250 tests/hour with one reagent				
	<b>With ISE</b>	370 tests/hour with one reagent				
<b>Test Menu</b>	T.BILI	r-GT/GGT	CHO	Ca	APOB-1/B	CHE
	D.BILI	ALP/AKP	TG	CL	APOB	CREA
	TP	UREA	CK	P	CK-MB	Mg
	ALB	CREA	LDH	C	ASO	AFU
	Lactic Acid	ALT/GPT	UA	α-HBDH	CO <sub>2</sub>	FMN
	LP(a)	AST/GOT	GLU	AMY	LDL-C	HDL-C
	CHE	LA	TBA	ADA	HS-CRP	PA
	Fe	Cu	Zn	C3	C4	IgG
	IgM	IgA	and drug, toxicity, etc			
	<b>Sample Position</b>	60 Including standard, control and stat; either serum cup or primary tube available				
<b>Sample Volume</b>	1~100µl, 0.1µl / step					
<b>Reagent Position</b>	40					
<b>Reagent Volume</b>	R1: 1~400µl, 1µl / step, R2: 1~400µl, 1µl / step					
<b>Reagent / Sample Probe</b>	With liquid level sensor, collision sensor, teflon coating and automatic washing station					
<b>Reaction Time</b>	0~999 seconds					
<b>Cuvette</b>	High quality uv-transmitted plastic cuvette. Quartz glass cuvettes available on request					
<b>Cuvette Washing</b>	8 channels automatic washing system for reaction cuvettes					
<b>Probe And Mixer Washing</b>	Independent washing station for each sample/reagent probe and mixer					
<b>Alarm</b>	Automatic alarm for malfunction (eg: collision, reagent / sample insufficiency, full waste container, etc)					
<b>Calibration</b>	Linear, Non-linear, Multi standard, K factor					
<b>Sample Dilution/Retest</b>	Sample can be diluted and retested if results are out of range or sample is insufficient. Also with calibrator auto diluting function					
<b>Wavelength</b>	340~810nm					
<b>Light Source</b>	Halogen lamp					
<b>Absorbance Resolution</b>	0.0001A					
<b>Absorbance Accuracy</b>	±0.0003A (0~2.5A)					
<b>Repeatability (CV %)</b>	≤2%					
<b>Quality Control</b>	Levy Jennings quality control program at 3 levels					
<b>Bar Code</b>	Optional					
<b>Printer</b>	Multiple report formats available					
<b>Test Control Function</b>	New card control system available on request					
<b>Language</b>	English, French, Spanish, German, Russian, etc.					
<b>System</b>	Windows XP or Vista ; Windows 7					
<b>Power Supply</b>	220V / 50Hz or 110V / 60Hz (optional)					
<b>Dimension</b>	85x75x75 cm (LxWxH)					
<b>Weight</b>	145Kg					



**LABOMED, INC.**

All FACA Fully Automatic Biochemistry Analyzers have 2 different sample plates:  
Standard sample plate for use with serum cup (serum order)



**STANDARD  
SAMPLE  
PLATE**

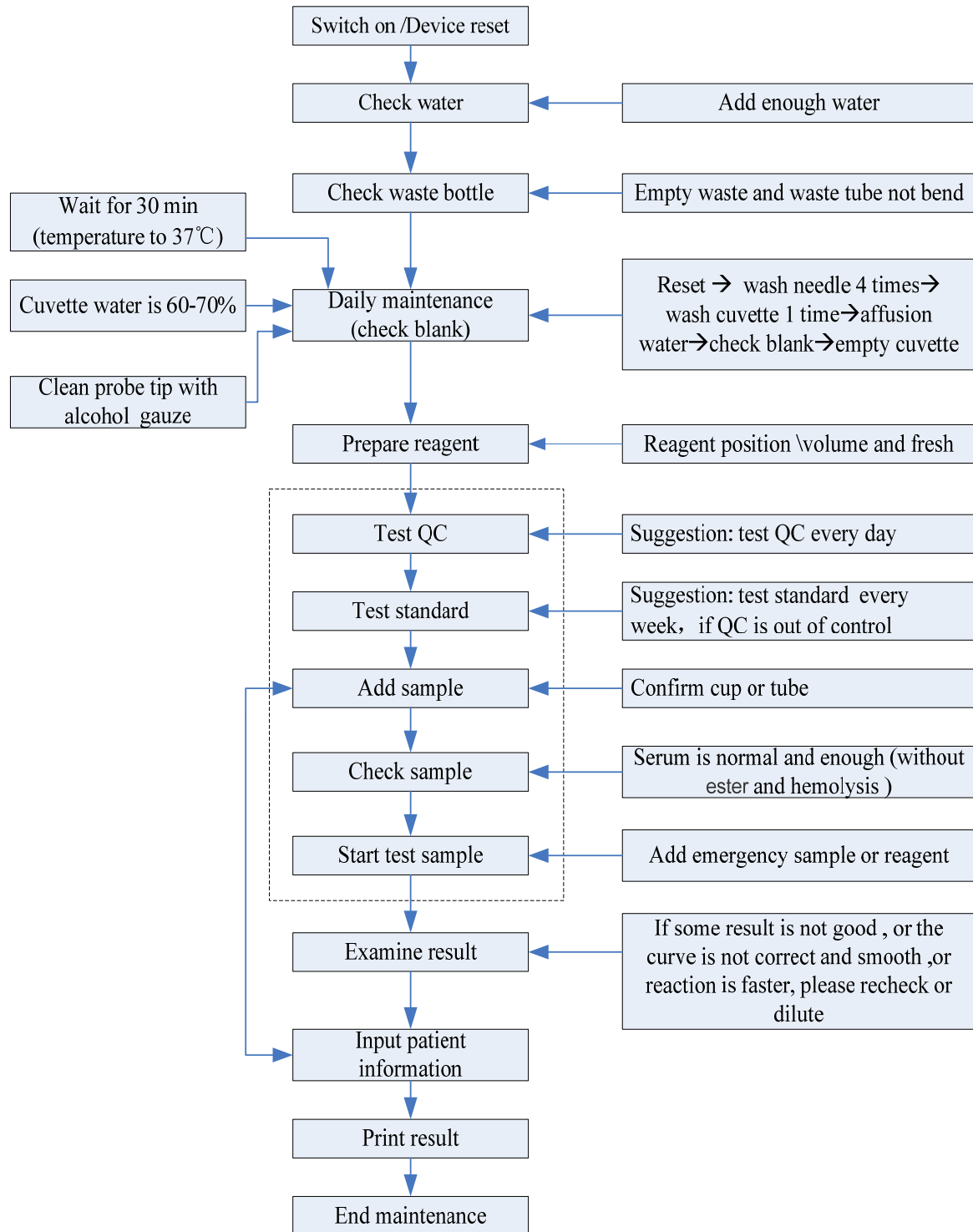
Test tube sample plate for use with 13x75 - 13x100mm test tubes (that is optional)



**TEST TUBE  
SAMPLE  
PLATE**

Labomed, Inc., Mailing Address: 2728 S La Cienega Blvd., Los Angeles, CA 90034 U.S.A.  
TEL (310) 202-0811 FAX (310) 202-7286  
Email: [spectro@labomed.com](mailto:spectro@labomed.com), [labomedinc@gmail.com](mailto:labomedinc@gmail.com)

# bichemical instrument analyzer SOP



“start work” : online→reset→wash needle 4 times→wash pipeline 4times→ wash cuvette 1 time→affusion → check blank and save→empty→reset

“stop work” : online→reset→wash needle 4 times→wash cuvette 1 time→affusion