

USER MANUAL OF SATELLITE CONTROL ACCUKINE



ACCUSTER TECHNOLOGIES PVT.LTD.

CATALOGUE

Copyright and declaration

Preface

1. General description
 - 1.1 features
 - 1.2 structure
 - 1.3 specification
 - 1.3.1 technical specification
 - 1.3.2 power and ambient

1.4 principle and appearance

1.4.1 principle

1.4.2 appearance

2. Operation brief

2.1 explanation of keypad

2.2 startup

2.3 test perform

2.3.1 calibration process for accurate all tests

2.3.2 testing process

2.3.2.1 accurate all

2.3.2.2 accukine

3. Maintenance

3.1 general information

3.2 printer

3.3 weekly maintenance

3.4 precautions

Appendix A: tests sequence, abbreviations and units.

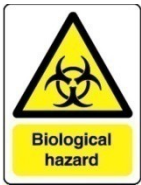
Appendix B: calibration chart

Appendix C: control chart

PREFACE

This document is the operating manual for accukine analyzer. It describes the structure, operation, and maintenance in details. User should operate the instrument following the instructions in this manual.

Marking



BIOLOGICAL HAZARD



CAUTION

1. GENERAL DESCRIPTION

The accukine analyzer is used in conjunction with certain reagents to quantitatively perform biological tests on a clinical sample serum. This instrument is only in vitro-diagnostic use in hospitals, clinics and laboratories.

1.1 Features

- Various assay methods: - endpoint, kinetic, single point, fix point, calibration.
- User friendly interface: - QC calculation, menu-led operation, and all information such as operating prompts, test results and test option displayed on LCD. Data can be exported through internal printer, USB cable or Bluetooth.

1.2 Structure

- This analyzer mainly consists of built in printer. There are interfaces on the analyzer for connecting external printer via computer by using special software that is "*Patient Management Software*".
- Os required: - any OS accept Windows 8.

1.3 Specification

1.3.1 Technical specification

- Light source: - RGB led with its mechanical, UV led.
- Wavelength range: - wavelength
 - For UV- 340nm
 - For red led-630nm
 - For green led-572nm
 - For blue led-469nm
- Assay method: - endpoint, kinetic, single point, fix point, calibration.
- Quartz cuvette is used to perform test on accukine mode whose volume is 550µl and acrylic cuvette is used to tests perform on accurate all mode whose volume is 2.5ml.for best results use accuster cuvettes
- Testing time: - 0~999sec
- Result storage: - 3000 at a time

1.3.2 Power and Ambient

Ambient:

Recommended temperature: 0°C - 50°C

Power:

AC100-240v, 50/60 Hz

Size: - 260mm*120mm*100mm

Weight: - 1.4kg

Environmental protection use life: - 5years

1.4 Principle

Beer Lambert's law:

When a parallel monochrome light beam goes through an absorbent object (gas, liquid, solid), some photons are absorbed and the light intensity decreases from I to I_o. The formula is:

$$-ig(I/I_o) = KLC$$

K- Absorbance coefficient

L- Thickness of object

C- Concentration of object

I – Intensity of shoot-in light

I_o - Intensity of shoot-out light

Measure I, I_o and L and calculate c according to formula above. The result will obtain through data conversion.

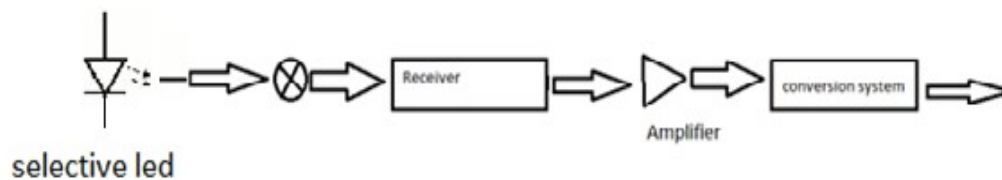


Figure 1

2. OPERATION BRIEF



To avoid infection, put on protective gloves and goggles when necessary.

2.1 Keypad details



Figure2

- Digit keys (0-9): for entering digits.
- New: for enter decimal (.)
- Enter: for enter into edit status and conforming entry.
- Read: for read the data or Print out.

- Del: for go back to the previous menu.



- : go to forward



- : go to backward

2.2 Function of keypad

- when we turn on the device what appears on display:



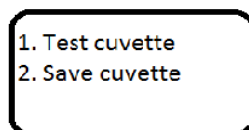
- after 3sec user will see on display



- For Accurate All option press #1, by pressing we enter into the tests menu.
- 34 tests are listed but 37 tests can be performed.

2.2.1 New

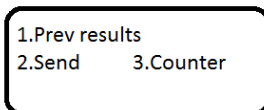
- If we press "new" button, we will enter into the cuvette testing routine. After that display shows:



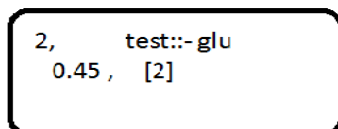
- Now firstly go to second option (*save cuvette*) by pressing #2. This stage is to test whether cuvette is in working condition or not.
- **Step1:** put plain cuvette into the accurate all mechanical,
- **Step2:** we have the reading of it as a reference. This whole procedure took 2secs and after that we will back to the menu.
- **Step3:** by pressing #1 we enter into the (*test cuvette*) menu. This stage can test 5cuvettes one by one. For testing one cuvette takes 2secs only.
- **Step4:**After testing one cuvette and you want to test one more cuvette press "*Enter*" and if you don't want then press "*Del*".
- Now when you get the reading of cuvette c1 then it will compare the result with reference reading, if reading matches than cuvette is accepted by device otherwise it is rejected.

2.2.2 Read

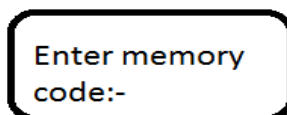
- press "*Read*", display shows:



- Now press #1 , display shows:



- - By pressing these buttons we get the previous and new results.
- Now press #2, by pressing user can send all the results to the accuster software.
- Now press #3, display shows:



- Now enter the code, which is of 6digit "000000 ". After entering code display shows:

1. Counter check
2. Delete records

- By pressing #1 user can check that how many tests are performed of particular tests by the device.
- If user wants to take the printout of the tests performed, press enter

1. Difference 3. new
2. Last

- Now select any function and feed data and press "Enter", user will get the printout of data otherwise go back to main menu by pressing "Del".
- When user press #2, enters into "DELETE RECORDS" , then display shows two options:

- If user presses #1 then previous record will get deletes which will take 3sec.

2.2.3 " 0 " :-

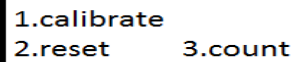
- By pressing "0" user enter into programming mode. User has to enter the 3 digit code which is "000".

1. **Setting mode:**

- After entering into the programming mode user enters into the setting mode by pressing #1.
- From this mode user can change the standard, unit and factor of any test.

2. Calibration mode:

- After entering into the programming mode press #2 for calibration mode, display shows



```
1.calibrate
2.reset    3.count
```

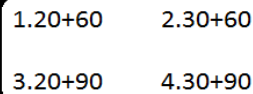
- Now press #1 to calibrate and select any test for its calibration.



Caution: user must calibrate the device in every 3 day for getting the better result. Use ACCUSTER or ERBA regents for better results.

3. Kinetic timer mode:

- After entering into the programming mode, press #4 for going into the kin_tm mode, after that display shows:



```
1.20+60    2.30+60
3.20+90    4.30+90
```

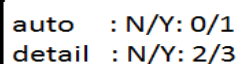
- Now user can select any option from the four for eg:
- User select option 1 by pressing #1 which is 20+60 then 20sec is the lag time and 60sec is the reading time. This is used in crk test in accurate all.

4. Absorbance mode:

- After entering into the programming mode user presses #5 for enter into the absorbance mode and then select any test for taking the absorbance of it.

5. Printing mode:

- After entering into the programming mode user presses #6 for printing mode from the menu. Display shows:



```
auto : N/Y: 0/1
detail : N/Y: 2/3
```

- For auto printing press #1 otherwise press #0 and if user wants the detail print then press # 3 otherwise presses #2.

6. Changing/adding new test:

- After pressing #7 from the menu display shows:

1. change name
2. add new test

- Press #1 to change the name of the available tests and press #2 to add the new test into the device.

7. Labeling mode:

- by pressing #8 from the menu of programming mode user enter into the labeling mode and by further pressing #1 to activate the labeling mode otherwise press #0 to deactivate that.

8. Optional Calc test mode:

- By pressing #9 from the programming menu user enter into the calc test mode, display shows:

1. egfr 3. ldlc
2. bun

- **Egfr:** - is test performed with creatinine test. So for activating it press #1.

- **bun:** - is test performed with urea

Activate- press #1

Deactivate press #2

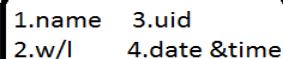
- **ldlc:** - is test perform with ldl

Activate- press #1

Deactivate press #2

9. **general setting mode:**

➤ for this mode press #0, display shows:



```
1.name   3.uid
2.w/l    4.date &time
```

- By pressing #1 user can enter the name of its lab.
- By pressing #2 user can activate the wireless mode by further pressing #1, and press #0 to deactivate this.
- By pressing #3 from menu user can see the id of the device. Also id can be activate or deactivate by going into option menu.
- By pressing #4 from menu user can enter the date and time. We can print the date &time during printing of report by activating that mode.

2.3 **Test process:**

2.3.1 **Calibration process for accurate all**

For calibration process of tests refer appendix B.

2.3.2 **Testing process:**

- Testing process is almost same for all tests present in device. So follow the below process to perform any test.
- Firstly put reagents into the cuvette and add another concentration of serum into it with help of micropipette and micro tips.
- Now incubate the mixture
- After incubation put into the mechanical of the device and then press "Enter", we will get the reading within 2secs.

Test process for optional calc test:

There are total 11 optional calc test which are listed in appendix A. follow the below process for all optional calc tests.

Process: -

- Enter into the test
- Put the predefine value of that test
- And then press enter.

2.3.2.2 **ACCUKINE**

➤ It perform the 3 test these are

(1)SGOT (2) SGPT (3) Urea

- Accukine have other function
- cuvette testing
- Store data
- Setting Mode

Select the Accukine:

Press Button (2) for Accukine.

In this process device take some time for stabilizing the temperature at 37°C of the Accukine mechanical .

Test Perform Process:

Note: In this process first of all user needs to perform the distilled water test then user can perform any test .

Distilled Water Test:

Press (Enter) for distilled water test (If temperature is low then wait for some time then again press (Enter))

Required Material:

1. Cuvette-1 cm light path
2. Distilled water

PRECAUTION:

To avoid contamination, use clean laboratory wares .Avoid direct exposure of working reagent to direct sun light .

Process:

- Put the 1000micro liters distilled water in cuvette then put the cuvette in right side mechanical then press (Enter).
- It will take 120 second to complete
- Then it displays the reading of distilled water for some time (2 sec approx).Then display the main screen of Accukine .

SGOT:

Press (1) for SGOT test (If user did not perform distilled water test then perform the distill water test then again select the SGOT test)

Required Material:

1. Cuvette-1 cm light path
2. Working Reagent

3. SAMPLE - SERUM(free of haemolysis)

PRECAUTION:

To avoid contamination, use clean laboratory wares .Avoid exposure of working reagent to direct sun light.

Process:

Make test sample:

Ratio:

Working reagent	500µl
Serum	50µl

- Mix the test sample on this ratio.
- Then must put cuvette in Accukine mechanical and press (Enter) for starting the test reading immediately.

Note: Time gap between make test sample and start taking reading must not grater then 5 sec.

- It will take 240 second for complete
- Then it displays the reading of test sample and transmits the test reading, unit, label, and test name on the Accuster software.

Then user can take print out or go back to main screen of Accukine or user can perform selected continuously.

- Press (read) for print out

If user presses (read) then device print the reading and go back to the reading of test screen. Then user can take print out again or go back or user can perform selected test continuously.

- Press (Del) for go back to main screen of Accukine.

If user presses (Del) then device displays the

EXIT??

Yes: 1 No: 0

If user presses (1) then device displays the main screen of Accukine.

If user presses (0) then device start for taking the reading of previous selected test.

- Press (Enter) for taking the reading of previous selected test.

SGPT:

Press (2) for SGPT test (If user did not perform distilled water test then perform the distilled water test then again select the SGPT test)

Required Material:

1. Cuvette-1 cm light path

2. Working Reagent

3.SAMPLE - SERUM(free of hemolysis)

Precaution: - To avoid contamination, use clean laboratory wares .Avoid direct exposure of working reagent to light.

Process:

Make test sample:

Ratio:

Working reagent	500 µl
Sample	50 µl

- Mix the test sample in this ratio.
 - Then must put cuvette in Accukine mechanical and press (Enter) for starting the test reading immediately.
- Note: Time gap between make test sample and start taking reading must not grater then 5 sec.
- It will take 240 second to complete the process
 - Then it displays the reading of test sample and transmits the test reading, unit, label, and test name on the Accuster software.

Then user can take print out or go back to main screen of Accukine or user can perform selected continuously.

- Press (read) for print out

If user presses (read) then device print the reading and go back to the reading of test screen. Then user can take print out again or go back or user can perform selected test continuously.

- Press (Del) for go back to main screen of Accukine.

If user presses (Del) then device displays the

EXIT??

Yes: 1 No: 0

If user presses (1) then device displays the main screen of Accukine.

If user presses (0) then device start for taking the reading of previous selected test.

- Press (Enter) for taking the reading of previous selected test.

Urea:

Press (3) for Urea test (If user did not perform distilled water test then perform the distilled water test then again select the Urea test)

When user select Urea test then device displays the

(Urea)Calib:Read

Test...: Enter

Note: If user performs Urea test first time or user change the reagent then user must perform the calibration process. User should perform the calibration process once within a month.

- If user presses (Read) then device go to the calibration Process of Urea.

Calibration Process:

Required Material:

1. Cuvette-1 cm light path
2. Working Reagent
3. Standard

PRECAUTION:

To avoid contamination, use clean laboratory wares .Avoid direct exposure of working reagent to light.

Process:

Make test sample:

Ratio:

Working reagent	500 µl
Standard	10 µl

- Mix the test sample in this ratio.
- Then must put cuvette in Accukine mechanical and press (Enter) for starting the test reading immediately.

Note: Time gap between make test sample and start taking reading must not grater then 5 sec.

- It will take 80 second to complete
- Then it displays

Avg: xxx

Factor: xxx mg/dl

For some time (3 sec approx).Then display the Urea selected screen.

Then user press (Enter) for Urea test.

Urea test Process:

Required Material:

1. Cuvette-1 cm light path
2. Working Reagent
3. SAMPLE - SERUM(free of haemolysis)

PRECAUTION:

To avoid contamination, use clean laboratory wares .Avoid direct exposure of working reagent to light.

Process:

Make test sample:

Ratio:

Working reagent	500 µl
Sample	10 µl

- Mix the test sample in this ratio.
- Then must put cuvette in Accukine mechanical and press (Enter) for starting the test reading immediately.

Note: Time gap between make test sample and start taking reading must not grater then 5 sec.

- It will take 240 second to complete
- Then it displays the reading of test sample and transmits the test reading, unit, label, and test name on the Accuster software.

Then user can take print out or go back to main screen of Accukine or user can perform selected continuously.

- Press (read) for print out

If user presses (read) then device print the reading and go back to the reading of test screen. Then user can take print out again or go back or user can perform selected test continuously.

- Press (Del) for go back to main screen of Accukine.

If user presses (Del) then device displays the

EXIT??

Yes: 1 No: 0

If user presses (1) then device displays the main screen of Accukine.

If user presses (0) then device start for taking the reading of previous selected test.

- Press (Enter) for taking the reading of previous selected test.

3. Maintenance

3.1 general information:

To ensure reliable capability and prolong the device life, perform periodical maintenance for the device according to the operating manual.

For problems can't be solved or not be involved in this chapter, please contact **ACCUSTER**.



Caution:

Do not perform any maintenance which is not specified in manual otherwise device damage or human injury may be incurred, and maintenance commitment in contract will be invalid.

Do not spill water or reagent on the mechanism and electronic components.



Biological hazard:

Put on protective gloves and glasses if necessary during maintenance process.

3.2 Printer

- Turn off the power when printer works out of order
- When replacing printer paper, blow away the waste paper on the printer head, if any.
- Keep the printer circuitry away from the dust.

Installation of printer paper:

- Open the printer over
- Insert the paper into the form feed entrance until several inches of paper are exposed above the printer.

- Replace printer header.

3.3 weekly maintenance

- Calibrate the device in everyday for the better result.
- Put controls (L1 & L2) after 100 tests.

3.4 Precautions

- Device should be Free from dust and moisture.
- Reagents should be store in 2-8 degree Celsius.
- Be sure to use certified and qualified reagents (accuster / erba reagents are recommended).
- Reagents taken from icebox should not be used immediately until they reach to the room temperature.

Appendix A: test sequence, abbreviation and units

Accurate all test list

S.No.	Name display	Full Name	Reaction Type	Wavelength	Unit
1.	Glu	Glucose	End Point	502	mg/dl
2.	Ure	Urea	End Point	572	mg/dl
	BUN	With Urea test			mg/dl
3.	Uri	Uric acid	End Point	502	mg/dl
4.	Cre	Creatinine	End Point	524	mg/dl
5.	CrK	Creatinine	Kinetic	524	mg/dl
	eGFR	With CrK test			mg/dl
6.	Pho	Phosphorus	End Point	639	mg/dl
7.	K+	Potesium	End Point	639	mmol/l
8.	Na+	Sodium	End Point	513	mmol/l
9.	Cl-	Cloride	End Point	502	mmol/l
10.	Mg	Magnasium	End Point	513	mEq/l
11.	Ca	Calcium	End Point	572	mg/dl
12.	H b	Hemoglobin	End Point	531	g/dl
13.	Ch	Cholesterol	End Point	513	mg/dl

14. TG	Triglyceride	End Point	524	mg/dl
15. HD	HDL	End Point	531	mg/dl
16. LD	LDL	End Point	531	mg/dl
	LDLc	With LD test		mg/dl
17. AP	ALP	End Point	513	mg/dl
18. SO	SGOT	End Point	502	u/l
19. SP	SGPT	End Point	502	u/l
20. TP	Total protein	End Point	551	g/dl
21. Ab	Albumin	End Point	639	g/dl
22. TB	T Blurubin	End Point	572	mg/dl
23. DB	D Blurubin	End Point	572	mg/dl
24. VD	VLDL	Optional Calc	N/A	mg/dl
25. Gb	Globulin	Optional Calc	N/A	g/dl
26. AG	AB:GB	Optional Calc	N/A	
27. HL	HDL:LDL	Optional Calc	N/A	
28. Ch	CHO:HDL	Optional Calc	N/A	
29. IB	I Blurubin	Optional Calc	N/A	mg/dl
30. RB	RBC	Optional Calc	N/A	M/ul
31. PC	PCV	Optional Calc	N/A	M/ul
32. MV	MCV	Optional Calc	N/A	M/ul
33. MH	MCH	Optional Calc	N/A	M/ul
34. MC	MCHC	Optional Calc	N/A	M/ul

Accukein test list

1	SGOT kin	340
2	SGPT Kin	340
3	UREA Kin	340

Appendix B: calibration chart

Calibration & Testing procedure of Glucose (Erba Reagent)					
	1X(std)	2X	4X	6X	Test
Working reagent	500µl	500µl	500µl	500µl	500µl
Standard	5µl	10µl	20µl	30µl	.....
Serum	.....	.....	.....	.....	5µl
Solⁿ concⁿ	100mg/dl	200mg/dl	400mg/dl	600mg/dl	Unknown
Mix well and incubate for 15 minutes at 37° C or 25 min. at RT					

Calibration & Testing procedure of Urea (Becon Reagent)					
	1X(std)	2X	4X	6X	Test
Working reagent	500µl	500µl	500µl	500µl	500µl
Standard	5µl	10µl	20µl	30µl	.....
Serum	.....	.....	.....	.....	5µl
Mix well and incubate for 3 minutes at 37° C					

Colour reagent	500µl	500µl	500µl	500µl	500µl
Sol ⁿ conc ⁿ	40mg/dl	80mg/dl	160mg/dl	240mg/dl	Unknown
Mix well and incubate for 5 minutes at 37°C or 10 min. at RT					

Calibration & Testing procedure of Uric acid (Erba reagent)					
	1x(std)	2x	4x	6x	Test
Working reagent	500µl	500µl	500µl	500µl	500µl
Standard	10µl	20µl	40µl	60µl	.....
Serum					10µl
Sol ⁿ _conc ⁿ	6mg/dl	12mg/dl	24mg/dl	36mg/dl	Unknown
Mix well and incubate for 10 minutes at 37°C or 15 min. at RT					

Calibration & Testing procedure of Total Protein (Accuster Reagent)					
	1x	2x	4x	6x	Test
Reagent	500µl	500µl	500µl	500µl	500µl
Standard	10µl	20µl	40µl	60µl	.....
Serum					10µl
Sol ⁿ conc ⁿ	6mg/dl	12mg/dl	24mg/dl	36mg/dl	Unknown
Mix well and incubate for 10 minutes at 37°C or 15 min. at RT					

Calibration & Testing procedure Cholesterol					
	.5x(std)	1x	2x	3x	Test
Working Reagent	500µl	500µl	500µl	500µl	500µl
Standard	5µl	10µl	20µl	30µl	.....
Serum	.....	.....	.....	.....	10µl
Sol ⁿ _n conc ⁿ	100mg/dl	200mg/dl	400mg/dl	600mg/dl	Unknown
Mix well and incubate for 10 minutes at 37°C or 15 min. at RT					
save standard conc. 100 mg/dl					

Calibration procedure HDL Cholesterol	
step:-1 make supernatant for sample test	
Serum	250µl
Precp. Reagent	500µl
Mix well and incubate for 10 min at RT, Than centrifuge for 10 min at 4,000 RPM	
step:-2 To perform the calibration	

	1x(std)	2x	4x	6x	Test
Cholesterol(W.R)	500µl	500µl	500µl	500µl	500µl
HDL std.	25µl	50µl	100µl	150µl	.....
supernatant	.....	.....	.....	.....	25µl
solⁿ cnc	25mg/dl	50mg/dl	100mg/dl	150mg/dl	Unknown
Mix well and incubate for 10 minutes at 37°C					

Calibration procedure of Calcium (Coral Reagent)					
	1x(std)	2/3x	1/2x	1/3x	Test
L1	250µl	375µl	250µl	375µl	250µl
L2	250µl	375µl	250µl	375µl	250µl
Standard	10µl	10µl	5µl	5µl	.....
Serum	.....	.....	.....	.....	10µl
Solⁿ concⁿ	10mg/dl	6.6mg/dl	5mg/dl	3.3mg/dl	Unknown
Incubate for 2 minutes at RT					

Calibration procedure of Haemoglobin (Accuster or RFCL Reagent)					
	1x(std)	2/3x	1/2x	1/3x	Test
Reagent	.....	200µl	300µl	400µl	5ml (1ml)
Standard	500µl	400µl	300µl	200µl	.....
Blood	.....	.....	.....	.....	20µl (4 µl)
Solⁿ concⁿ	15g/dl	10g/dl	7.5g/dl	5g/dl	Unknown
Mix well and stand the solution for 3 minutes					

Calibration procedure of Potassium (Accuster Reagent)					
	1x(std)	2/3x	1/2x	1/3x	Test
Reagent	500µl	750µl	500µl	750µl	500µl
Standard	...10µl .....	...10µl .....	...5µl .....	...5µl	
Serum					...10µl
Solⁿ concⁿ	5mol/l	3.33mo/l	2.5mol/l	1.6mol/l	Unknown
Mix well and stand for 5 minutes at RT					
Serum should be collected as soon as possible after centrifugation					

Calibration of Albumin (Accuster Reagent)					
	1x(std)	2x	4x	6x	Test
Reagent	500µl	500µl	500µl	500µl	500µl

Standard	5µl	10µl	20µl	30µl	.....
Serum	.....	.....	.....	.....	5µl
Soln conc	3.6mg/dl	7.2mg/dl	14.4mg/dl	21.6mg/dl	Unknown
mix well and incubate for 5 min. at RT					

Calibration procedure of Sodium(Coral reagent)

Make a standard or blank according to literature of reagent

Step:-1 To prepare supernatant of Standard and sample			
	Standard	Test	
Precipitating Reagent	1ml	1ml	
Standard	20µl	.....
Serum	.....	20µl	
Step:-2 Calibration & Testing (for Coral Reagent)			
	Blank	Standard	Test
Acid L2.	1ml	1ml	1ml
Supernatant	.....	20µl	20µl
Precipitating Reagent	20µl	.....	.....
Colouring Reagent	100µl	100µl	100µl
Mix well and incubate for 10 minutes at 37°C			
Step- 2 Calibration & Testing (For Accuster Reagent)			
	Blank	Standard	Test
Supernatant	.....	20µl	20µl
Precipitating Reagent	20µl	.....	.....
Colour Reagent	1ml	1 ml	1ml
Mix well and incubate for 5 min at RT			

To perform the calibration: On Accurate Analyzer

- First of all select the test no. 8 Press NEW to give new std?
- Now press ZERO to ask read blank.
- Place the blank in device and after that place standard to the device. Now its ready to perform the test.

x(std)	2x	4x	6x
50µl	250µl	250µl	250µl
50µl	250µl	250µl	250µl
5µl	50µl	100µl	150µl
.....
50µl	250µl	250µl	250µl

	2/3x	1/2x	1/3x
	1500µl	1000µl	1500µl
	10µl	5µl	5µl

	66meq/l	50meq/l	33meq/l

Reagent + 25 µl Nitrite Reagent

(Erba Reagent)

d)	2X	3X	4X
l	300µl	200µl	100µl
l	200µl	300µl	400µl
.....
g/dl	2.6mg/dl	3.9mg/dl	5.2mg/dl

min. at RT,

Reagent + 50µl Nitrite Reagent

To prepare the working reagent :- 2.5ml Direct Bil reagent + 25 µl Nitrite Reagent

Calibration & Testing procedure of Direct Bilirubin (Erba Reagent)

	1x(std)	2x	3x
Distilled water	400µl	300µl	200µl
standard	100µl	200µl	300µl
serum	.....	.....	.....
sol ⁿ conc	0.4mg/dl	0.8mg/dl	1.2mg/dl

Mix well and incubate for 5 minutes at 37°C

Calibration & Testing procedure of Magnesium (Coral)

	1x(std)	2x	4x
L1	250µl	250µl	250µl
L2	250µl	250µl	250µl
standard	5µl	10µl	20µl
serum	.....	.....	.....
Sol ⁿ conc ⁿ	2meq/l	4meq/l	8meq/l

Calibration & Testing procedure of Creatinine (End point)

Step 1- To prepare test sample

P.A.R. (L1)	2ml
Sample	200µl

Step 2- Calibration & Testing

	1X(std)	2X	4X
supernatant	.....	.....	.....
P.A.R(L1)	500µl	500µl	500µl
creatinine std.	50µl	100µl	200µl
Buffer rgnt.	50µl	50µl	50µl
Sol ⁿ _n conc ⁿ	2mg/dl	4mg/dl	8mg/dl
Mix and incubate for 20 minutes at RT			

Calibration & Testing of Triglycerides (Erba Reagent)					
	1x(std)	2x	4x	6x	Test
Reagent	500µl	500µl	500µl	500µl	500µl
Standard	5µl	10µl	20µl	30µl	.....
Serum	.....	.....	.....	.....	5µl
Sol ⁿ conc ⁿ	200mg/dl	400mg/dl	800mg/dl	1200mg/dl	Unknown
Mix well and incubate for 5 min. at 37°C					

Calibration & Testing procedure of S.G.P.T. (Accuster Reagent)

- Making dilution of standard of 1:4, eg. (375 µl D/W + 125 µl Calibrator).
- For performing the test use 10 µl samples during procedure.
- Standard concentration should be 42.5 u/l .
- Calibration procedure will be in manner of (1x), (2.5x), (5x), (20x).

Notes:-To prepare Alkaline Reagent, dilute the Alkaline reagent of 1:10 times ie. (9 ml D/W + 1 ml Alkaline Reagent)

Reagent	1X(std)	2.5 X	5X	20X	Test
Substrate	250 µl	250 µl	250 µl	250 µl	250 µl
Calibrator Dilu.	10 µl	25 µl	50 µl	200 µl	.....
Serum	.....	.....	.....	.....	10 µl
<i>Incubate for 30 minutes</i>					
Colour Reagent	250 µl	250 µl	250 µl	250 µl	250 µl
<i>Incubate for 20 minutes</i>					
Alkaline Dilu.	1.5ml	1.5ml	1.5ml	1.5ml	1.5ml
Soln Conc.	42.5 u/l	106.25 u/l	212.5 u/l	850 u/l	Unknown

Calibration & Testing procedure of S.G.O.T. (Accuster Reagent)

- Making dilution of standard of 1:2 ie...(200 µl D/W+200 µl Standard)

- For performing the test use 10 µl samples during procedure.
- Standard concentration should be 80 u/l.
- Calibration procedure will be in manner of (1x), (2.5x), (5x), (20x).

Notes:- To prepare Alkaline reagent, dilute the Alkaline reagent of 10 time i.e. (9 ml D/W + 1 ml Alkaline Reagent)

Reagent	1X(std)	2.5 X	4X	20X	Test
Substrate	250 µl	250 µl	250 µl	250 µl	250 µl
Calibrator Dilu.	10 µl	25 µl	50 µl	200 µl	.....
Serum	.....	.....	.....	.....	10 µl
<i>Incubate for 60 minutes at 37°C</i>					
Colour Reagent	250 µl	250 µl	250 µl	250 µl	250 µl
<i>Incubate for 20 minutes at 37°C</i>					
Alkaline Dilu	1.5ml	1.5ml	1.5ml	1.5ml	1.5ml
Solⁿ Concⁿ	80 u/l	200 u/l	400 u/l	1600 u/l	Unknown

Calibration & Testing procedure of Creatinine Kinetic (Erba Reagent)			
	Blank	Standard	Test
R1	250 µl	250 µl	250 µl
R2	250 µl	250 µl	250 µl
Standard		50 µl	.....
Serum			50µl