Technical Specifications

System Function	
Description	Fully automated, discrete, random access clinical chemistry analyzer
Throughput	Up to 400 tests/hour (Photometry Test Only) 800 tests/hour combined with ISE
Methodology	End-point,Fixed-time,Kinetic,Single/Dual reagent chemistries, Mono-chromatic/Bi-chromatic, Logit-log, Linear/Non-Linear multipoint calibration, ISE factor, Linear (one, two and multipoint), Exponential, Spline
Photometry System	Grating Spectrophotometry
Optical System	
Light Source	12V/20W, Quartz halogen lamp with hydro cooling system
Monochromator	Grating Photometry
Wavelength	340nm, 380nm, 405nm, 450nm, 480nm, 505nm, 546nm, 570nm, 600nm, 660nm, 700nm, 750 or 800nm
OD Linear Range	0~3.3Abs
Detector	Photo-diode array
Reagent Handling	
Reagent Probe	2, with liquid level detection and collision protection function
Reagent Volume	20µl~350µl, 0.1µl increment
Reagent Position	Double reagent disk, 45 x 2 positions, continuous cooling of 5-15° C 24 hrs, 70ml & 20ml bottle
Reagent Barcode	code128
Reagent Probe Carryover	⩽0.1%, automatic warm water cleaning
Sample Handling	
Sample Volume	2µl~35µl, 0.1µl increment
Sample Position	115, including 50 routine sample positions, 20 STAT positions, 34 Calibration positions, 8 QC positions, 3 detergent positions, Continuously cooling to keep 5-15° C 24 hrs
Sample Barcode	12of5, code128, code39, UPC/EAN, code93
Sample Probe Carryover	⩽ 0.1%, automatic warm water cleaning
Sample Cuvettes Specification	Standard cup, original blood tube, multi-specification tube available (12-16)mm X (25-100)mm
Sample Dilution	3~170 times, Automatic
Sampling Technology	Liquid level detection, Collision protection, Clot detection and reverse washing, Bubble detection
Reaction System	
Reaction Rotor	Rotating tray, containing 120 hard glass (quartz)
Reaction Cuvette	Optical diameter of 6mm
Reaction Volume	150µl-450µl
Reaction Temperature	Using circulating water 37°C ± 0.1°C
Mixing System	Duo stirrer with Teflon Coating
Laundry System	Adopting 7 stops, 11 steps with warm water rinsing
Waste Water Treatment	Two diffluence for high & low concentration waste water with concentrated waste liquid level alarming
Calibration and QC	
Calibration Method	Linear (one-point, two-point, multi-point), Non-linear method (Exp, Logit-log, Spline)
Calibration Tracking	Automatic description of calibration K-value trends
QC Method	Real time, individual, monthly
Parabola Control Rules	Westgard multi-rule, L-J Chart
Operation Unit	
PC Operating System	Windows®XP, Windows® 7, Windows®10
PC Configuration	CPU ⩾ 2.8 Ghz (Dual Core Processor), Memory ⩾ 2 GB; Hard Disk ⩾ 160 GB
System Connection	TCP/IP network connection, standard RS-232C and USB interface, HIS and LIS compatible
Working Conditions	
Power Supply	VAC 220V±22V | 50/60 Hz | Power 2KVA
Ambient Temperature	10-25° C
Relative Humidity	40% - 85%
Water Consumption	25L/hour
Dimension	1060 x 790 x 1150 mm (L x W x H)
Weight	Approx. 300 Kg

EN ISO 13485 : 2016 CE

Toll Free No: 1800 425 7151

AGAPPE DIAGNOSTICS LTD.

"Agappe Hills", Pattimattom (PO), Dist. Ernakulam, Kerala - 683 562, India.

TEL: + 91 484 2867000 | productcorp@agappe.in | www.agappe.com

agappe

Mispa CX4

Fully Automatic Clinical Chemistry Analyzer

YOUR BEST PARTNER IN DIAGNOSTICS

PRODUCT DESCRIPTION

Mispa CX4 is a fully automated random access clinical chemistry analyzer with photometric throughput of 400 tests per hour (800 T/H with ISE), specially designed to meet uninterrupted workflow offering maximum efficacy, with its epitome of perfection. Mispa CX4 is an ideal choice for medium and big sized laboratories, by offering guaranteed test result accuracy, consolidated opportunities and cost savings with its efficient platform to access wide.

EMPOWER YOUR LABORATORY

CX4

THROUGHPUT

Photometry - 400 T/H
Photometry + ISE - 800 T/H

PERFECTION & RELIABILITY

Mispa CX4

SAMPLE/REAGENT PIPETTING MECHANISM

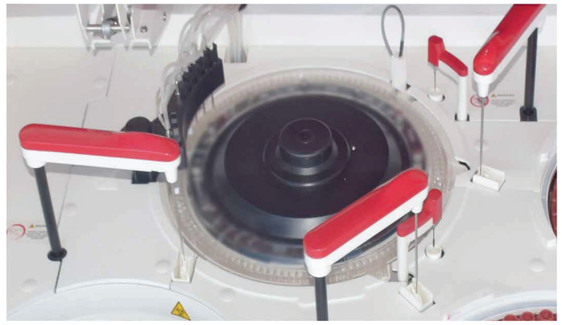
- **Trilateral Probe:-** One for sample and two for reagent. The probes are 60nm polished with nano processing technology and are crafted with collision protection, bubble detection function, self-resetting, auto repipetting sample and reagent
- **Liquid Level Detection:-** The probes are designed perfectly to detect liquid level automatically, ensuring perfect depth and reduces carryover on probe surface.
- **Stand-alone syringes:-** 3 stand-alone syringes, one for sample and two for reagents. The syringes are made up of long life high-precision ceramic piston ensures high precision of sampling.
- **Intelligent CDRW facility:-** Pipetting tube has inbuilt pressure sensor to perfectly detect the clot status. The tube contains high pressure rinsing function to remove and clean the clot, which ensures the pipetting volume accuracy. This process is called CDRW "Clot Detection & Reverse Washing".
- **Water Degassing technology:-** The analyzer has special degassing device to remove the air dissolved in the tube system for perfect pipetting.
- **Probe Washing:-** High pressure rinsing for internal wall and waterfall washing for external wall, thus ensures minimal carryover.

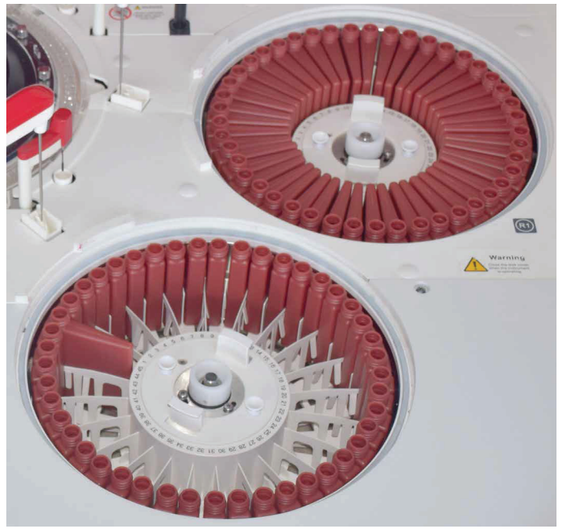
REFRIGERATED DOUBLE REAGENT DISKS

- Double reagent discs with 45 positions each (including 2 detergent positions, 88 reagent positions).Each reagent position can load/accommodate 70ml or 20 ml reagent bottle
- Reagent quality is secured through continuous cooling condition of the reagent disk
- Single reagent, dual reagent and up to four reagents testing (R1,R2,R3,R4) functions enable multiple testing items to satisfy the future requirements.

MULTI-FUNCTION REFRIGERATED SAMPLE DISK

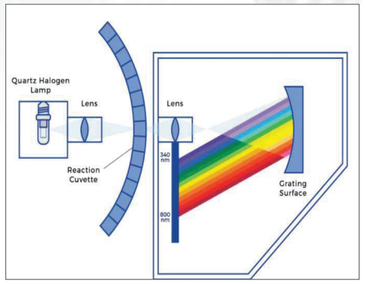
- Total 115 positions including 50 routine sample positions, 20 STAT positions, 34 Calibration positions, 8 QC positions, 3 detergent positions.
- QC & Calibration position maintains 5 to 15° C for 24 hours. The whole disk can be easily replaced with handle.
- Supports various tubes and samples cup specification
- The LED indicator for sample disk spinning can ensure the safety of inputting sample at any time.





PROVEN GRATING PHOTOMETRY SYSTEM

- Monochromator with grating rear spectrophotometric 12 ways parallel measuring technology, reduces ambient light interferences to get accurate result.
- Hydro cooling method for long lamp life.
- Specially designed lamp placement to reduce signal attenuation and interference.



CONSTANT TEMPERATURE REACTION CUVETTES

- Adopts recycling water constant temperature device
- Automatically changing water and adding de-foamer
- Reaction cuvette is immersed into warm circulating water which heats the cuvettes evenly
- PID thermostat technology to ensure temperature of 37±0.1° C

Mispa CX4

DUO STIRRER WITH TEFLON COATING

- Dedicated 2 stirrer system confirms perfect mixing
- Stirrers are Teflon coated, to avoid liquid suspension and reduce cross contamination
- Flat paddle stirrer design with swirl rinsing offers homogeneous mixing
- Enhanced durability due to minimal maintenance

EFFICIENT LAUNDRY SYSTEM

- Laundry system adopting 7 stops, 11 steps
- Twin dryers offer best reproducibility with minimal carryover
- Separate tubing for high and low concentrated water disposal
- Vacuum draining technology for reaction liquid, detergent and warm water rinsing ensures guaranteed accuracy
- Water consumption of 25 L/hour

TIMING BEATS SPEED... PRECISION BEATS POWER...

ISE MODULE(OPTIONAL)

- K, Na, Cl measurement
- Throughput: 600 tests per hour
- Automatically rinsing, calibration
- 37°C pre-heat function for ion reagent
- Long-life ceramic piston to keep high precision and low maintenance
- Low Sample consumption (45ul serum /urine per test)

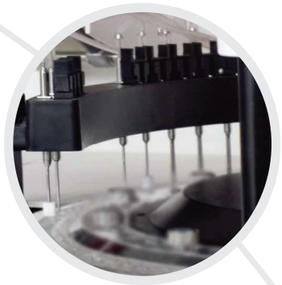
Mispa CX4

Trilateral
Probe System

Duo Stirrer with
Teflon Coating

Hydro cooling
method

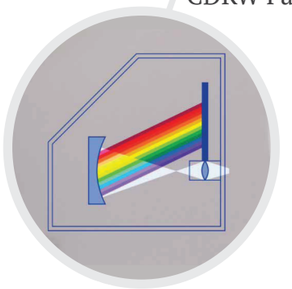
Robust Software
with multiple self
monitoring
function



Efficient
laundry system
with twin
dryers

Intelligent
CDRW Facility

Dual Switch
operation



Proven Grating
Photometry

800
Tests/Hour
with ISE

Grating
Photometry

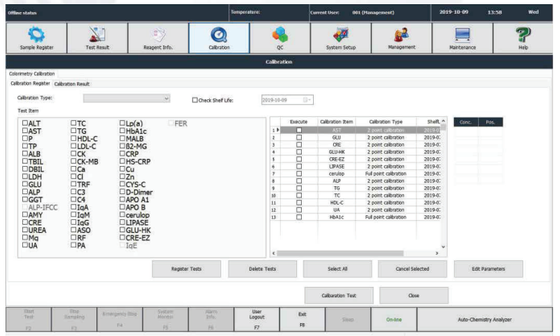
Waterfall
washing

EPITOME OF PERFECTION

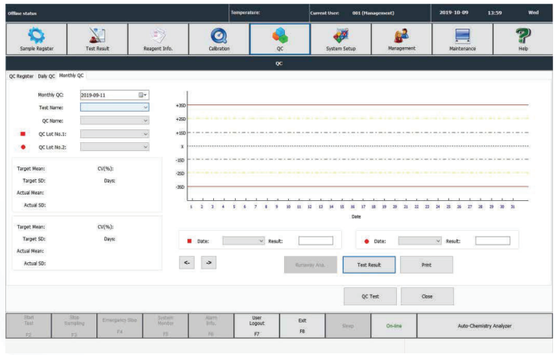
REAGENT
90 Positions
Bi-Lateral Probe
Volume 20~350 µl

SAMPLE
115 Positions
3~170 Times Dilution
Volume 2~35 µl

PERFECT INSTRUMENT FOR PRECISE RESULTS



CALIBRATION



QUALITY CONTROL

PERMANENT HARD GLASS (QUARTS) REACTION CUVETTES

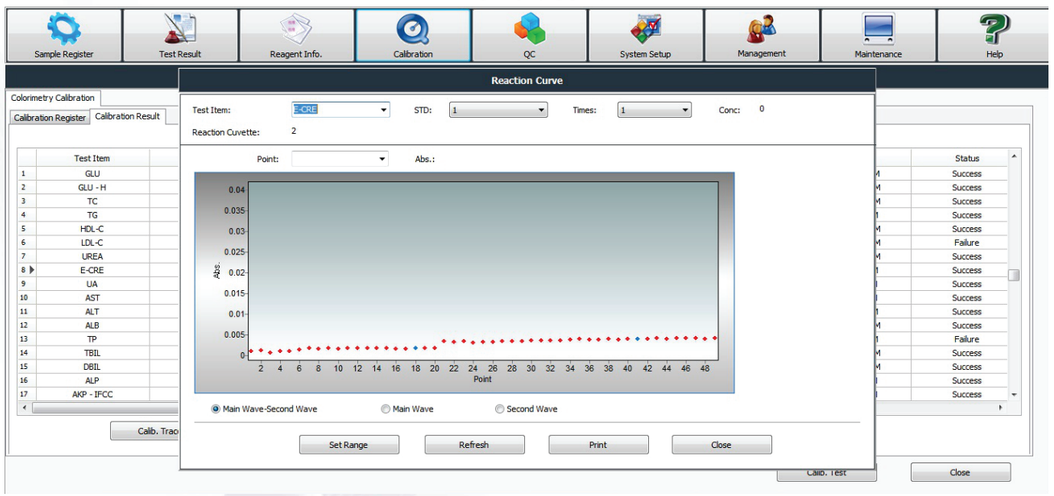
Hard Glass reaction cuvette to resist against acid – alkali solution

- Ÿ Cuvettes with long life
- Ÿ 120 cuvettes on board
- Ÿ Cuvette optical path of 6mm
- Ÿ Cuvette carryover of <0.1%

CALIBRATION & QUALITY CONTROL PROGRAM

- Ÿ Linear and non-linear calibration which can be set with time, lot number etc, with flexible calibration methods.
- Ÿ 9 types of calibration curve to meet the item wise analysis demands.
- Ÿ 6 different levels of calibration for each item can be programmed.
- Ÿ Calibration tracing possibility depicting calibration K value variation trends, help reduce system errors.
- Ÿ QC with Westgard multi rules.
- Ÿ QC plot with L-J and cumulative statistics.
- Ÿ Automatic error reporting compliant with lab QC management.

REACTION CURVE



Parameters at a Glance

Product Code	Assay Method	No.of Tests	Pack Size
Glucose	1 Point End	1385	5x65mL
Glucose Hexokinase	2 Point End	981	3x63/3x20mL
Cholesterol	1 Point End	1385	5x65mL
Triglycerides	1 Point End	1385	5x65mL
HDL-C Direct	2 Point End	639	3x53/3x20mL
LDL-C Direct	2 Point End	336	3x30/3x11mL
LDH – P	Rate A	338	1x65/1x20mL
Urea U.V	2 Point Rate	1014	3x65/3x20mL
Enzymatic creatinine	2 Point End	720	3x52/3x20mL
Uric Acid	1 Point End	1016	4x60mL
SGOT	Rate A	981	3x63/3x20mL
SGPT	Rate A	981	3x63/3x20mL
Albumin	1 Point End	1108	4x65mL
Total Protein	1 Point End	418	2x50mL
Bilirubin Total TAB	2 Point End	552	3x63/3x8mL
Bilirubin Driect	2 Point End	552	3x63/3x8mL
Alkaline Phosphatase	Rate A	981	3x63/3x20mL
Amylase	Rate A	376	2x55mL
Gamma GT	Rate A	338	1x65/1x20mL
Calcium (Arsenazo)	1 Point End	326	2x40mL
Inorganic Phosphorus	1 Point End	554	2x65mL

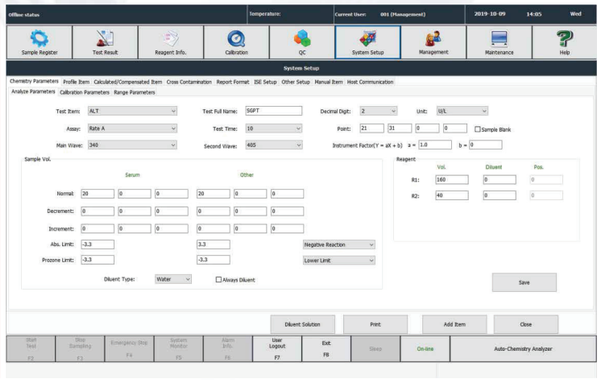
Product Code	Assay Method	No.of Tests	Pack Size
Magnesium	1 Point End	192	2x30mL
CK-NAC	Rate A	176	2x20/2x7mL
ASO	2 Point End	160	2x20/2x8mL
CRP	2 Point End	230	1x50/1x20mL
RF	2 Point End	160	2x20/2x9mL
HbA1c Direct	2 Point End	230	1x50/1x20/2X63mL
Microalbumin	2 Point End	144	2x20/2x6mL
CRP Ultra	2 Point End	188	2x20/2x11mL
IgA	2 Point End	160	2x20/2x8mL
IgE	2 Point Rate	160	2x20/2x6mL
IgG	2 Point End	128	2x15/2x15mL
IgM	2 Point End	160	2x20/2x9mL
Lp (a)	2 Point Rate	144	2x20/2x6mL
C3	2 Point End	136	2x19/2x5mL
C4	2 Point End	136	2x19/2x5mL
Apo A1	2 Point End	150	2x20/2x5mL
Apo B	2 Point End	150	2x20/2x5mL
Ceruloplasmin	2 Point End	120	2x20/2x5mL
Cystatin C	2 Point End	188	2x20/2x6mL
Ferritin	Rate A	160	2x20/2x8mL
Prealbumin	2 Point End	132	2x20/2x4mL

Wide Range Of Biochemistry Parameters
In One Efficient Platform
Offering Consolidation & Cost Savings

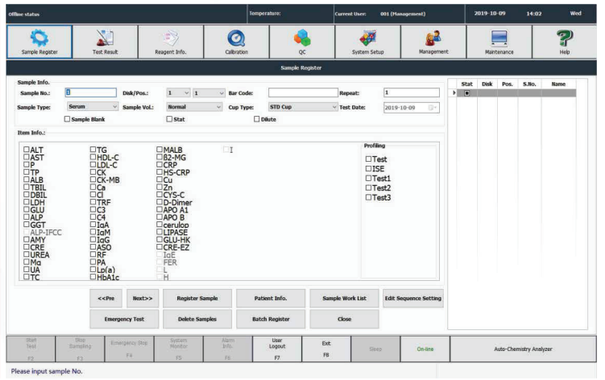
SyRe

Mispa CX4

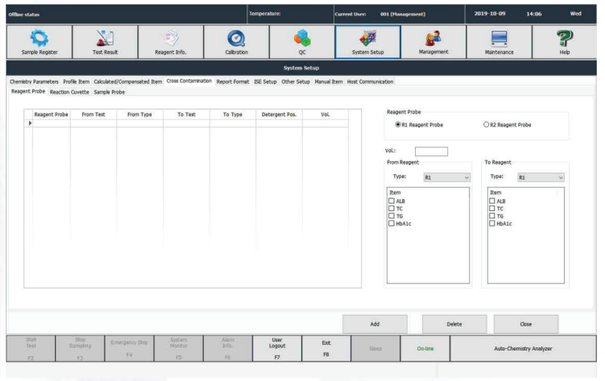
SYSTEM SETUP



SAMPLE REGISTER



CROSS CONTAMINATION PROGRAM



ROBUST SOFTWARE

- Simple, efficient and user-friendly software.
- Real time online help system.
- Multiple self-monitoring to ensure high data efficiency.
- Multiple report formats with automatic print function.

MONITORING AND CALCULATING FUNCTION

- Automatic monitoring linear limit over, reference limit over, substrate depletion etc.
- Serum index checking function, avoid interference from hemolytic, lipemic, icteric samples.
- Cross contamination program, avoids interference from different reagent.
- Instrument analysis alarm for optimal job sequence priority.
- System security is ensured through user

STEP UP TO SUPERIORITY