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# PRODUCT MANUAL

BRINGING TECHNOLOGY TO LIFE



Add: No. 197 Pharmaceutical Valley Road, Jiangbei  
New District, Nanjing, Jiangsu, 210000, China

Tel: +86-25-85670939 +86-25-58602219  
+86-25-58602120 +86-25-58746269  
+86-25-58466090

E-mail: info@nrmchina.com  
Website: www.normanbio.com





## NRM411

High-throughput Modular  
Chemiluminescence Immunoassay  
Analyzer



## Nanjing Norman Biological Technology Co.,Ltd.

Nanjing Norman Biological Technology Co., Ltd. was established in 2008 and is located in Jiangbei New District, Nanjing. It is one of the few domestic in vitro diagnostic companies that have the ability to develop, produce and sell IVD raw materials, reagents, analyzers. The company's headquarters covers an area of 30,000 square meters, with self-built R&D, office, production and warehousing buildings, including a P2 level laboratory, 3,000 square meters of GMP level workshop and more than 400 square meters of SPF level animal room. Over the years, with R&D innovation as the core driving force of the company, and after long-term accumulation and precipitation, it has become a leading enterprise in the domestic IVD industry.

### Founded in 2008

Founded in 2008, the company has been committed to the research and development of chemiluminescence technology and products, listed 10 models of chemiluminescence analyzers and more than 160 kinds of chemiluminescence reagents.

### 500+

The company employs more than 500 people, with R&D technicians accounting for more than 30%, of which more than half have a master's degree or doctorate.

### Corporate Values

Internally, the company promotes the value of self-motivation and has formed a set of implementation mechanisms to promote R&D, production, quality control, marketing, user services and other departments to provide better products and services to customers. Externally, the company upholds the value of customer first, providing customers with high quality products, good after-sales service and benefit-sharing partnership.

### MISSION

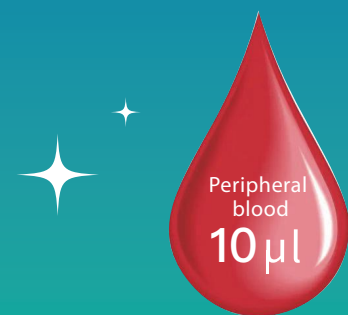
Bringing Technology to Life

Item name	Specification
Methodology	Acridinium ester
Throughput	360 T/H
First time result	18 min
Cuvette qty	2000
Sample position	300
Reagent position	30
Incubation position	195
Sample type	Serum, plasma, urine, etc.
Sample track	Routine sample track; emergency sample track, sample receiving track
Sample needle	Liquid level detection; Probe clogging detection; Probe clot detection; Empty-aspiration detection
Carry-over rate	<1 ppm
Reagent needle	Liquid level detection; Empty-aspiration detection; Anti-collision
Reagent reading	RFID
Storage Temperature	2°C-8°C
Incubation Temperature	37 ± 0.5°C
Maximum modular interconnect	4
Connection	Support Bidirectional LIS System, barcode recognition, and manual editing
Dimension	1050mm*1250mm*1450mm



# NORMAN-CL211

Quick Modular Chemiluminescence  
Immunoassay Analyzer



## Features

- Original 7 mins test model makes CLIA system possible for emergency department
- Emergency sample position allow patients to be examined on the go
- Integrated fully-touch screen with simple UI interface make the analyzer easy-to-use
- Five temperature control modules (incubation bin, cuvette transportation system, magnetic wash system, reagent bin, substrate & wash buffer liquid path) keep all tests can fully reacted with high accuracy
- WB mixing function avoid sedimentation of blood
- Cuvettes dump loading system give operator a long unattended time.
- Smaller size save more space for end users

## Integrated Technologies Give The Analyzer All Functions Needed

- Sample & reagent liquid level detection, probe clog detection, and bubble detection functions
- 4-steps magnetic washing
- 24h refrigerated and magnetic beads mixing function
- RFID reader
- STAT function
- Consumables status light
- Vortex mix of sample and reagent
- Liquid & Solid waste separation function

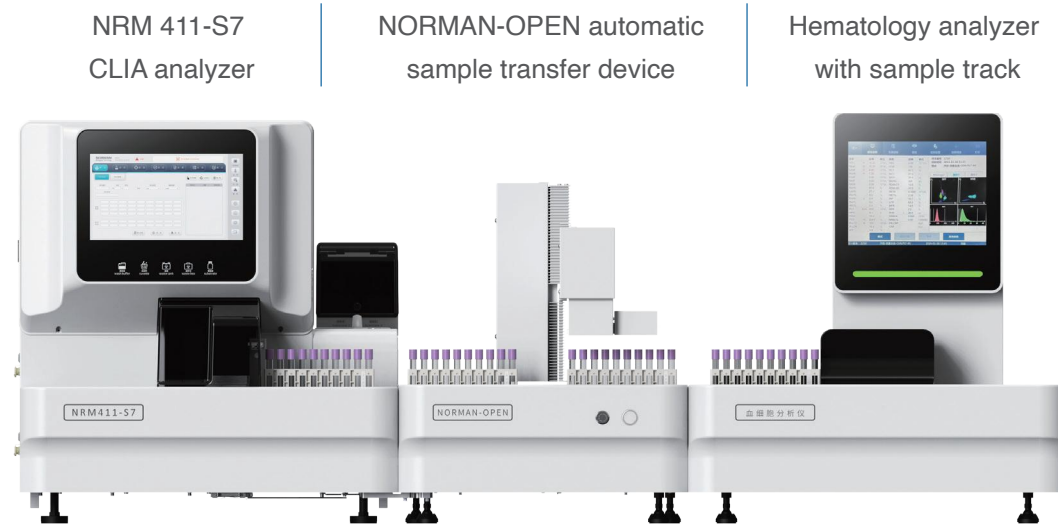
## Item name

## Specification

Item name	Specification
Methodology	Acridinium ester
Test speed	150 T/H
First time result	7 min/ 18 min
Minimum sample volume	10 μL
Cuvette qty	NORMAN-CL211: Load 600 cuvettes at once, can add cuvettes continuously NORMAN-CL211A: Load 48 cuvettes at once, can add cuvettes continuously
Reagent position	15
Incubation position	40
Sample type	Peripheral blood, whole blood, serum, plasma, urine, etc.
Sample position	NORMAN-CL211: Load 50 samples at once, can add samples continuously NORMAN-CL211A: Load 8 samples at once, can add samples continuously
Sample loading type	EDTA tube, Serum-separating tube, built-in peripheral blood tube, EP tube
Carry-over rate	<1 ppm
Storage Temperature	2°C-8°C
Incubation Temperature	37 ± 0.5°C
Connection	Support Bidirectional LIS System, barcode recognition, and manual editing
Dimension	700mm*785mm*720mm
Weight	100kg

# NORMAN OPEN Integrated System

Automatic testing of blood routine and immunoassay with one blood sample



## Highlights

- High-throughput:** the whole integrated system occupies about 1.5m<sup>2</sup>, but can do over 100 blood routine tests and 150 CLIA tests within 1h.
- High compatibility:** automatic sample transfer device can connect NRM 411-S7 CLIA analyzer to any hematology analyzer with sample track.
- Convenience:** one operator can operate CLIA analyzer and hematology analyzer at the same time.
- Smart:** automatic remove caps, whole blood sample mixing, clogging and air bubble alarm.

## Recommended parameters

### Inflammations

Parameters	Sample types
PCT	Whole blood
CRP/hs-CRP	Peripheral blood
SAA	Serum
IL-6	Plasma

### Cardiovascular

Parameters	Sample types
cTnI	Whole blood Serum Plasma
cTnT	
MYO	
CK-MB	
H-FABP	
pro-BNP	
NT-proBNP	Whole blood / Plasma
D-Dimer	
BNP	

# CLAS-SERIES Integrated System

Multiple combinations according to testing demand

## CLAS1-1

1 immunoassay module +1 chemistry module



## CLAS2-1

2 immunoassay module +1 chemistry module



Immunoassay module NORMAN-NRM 411 Throughput: First report 18 min, 360T/H

## CLAS3-1

3 immunoassay module +1 chemistry module



## CLAS2-2

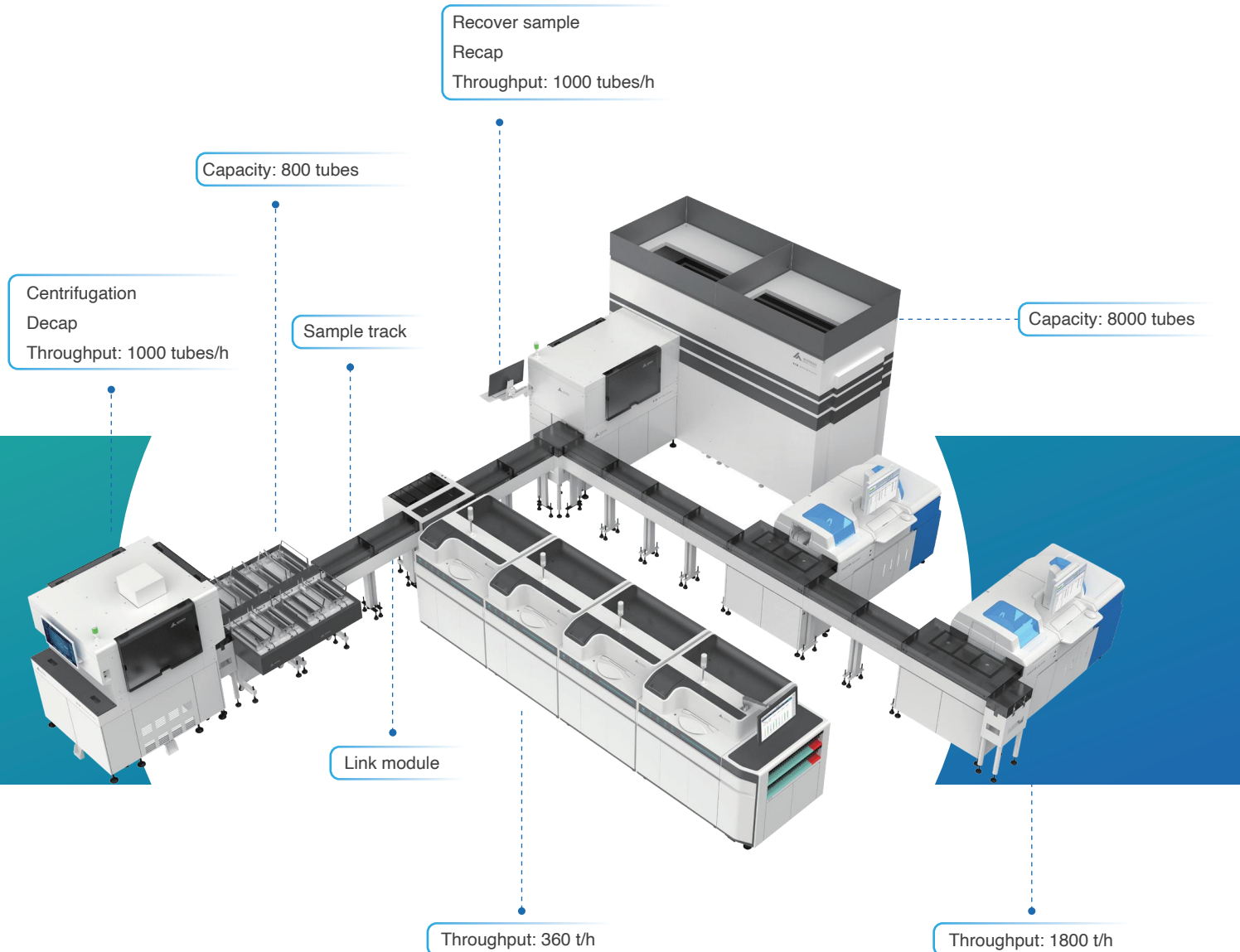
2 immunoassay module +2 chemistry module



Chemistry module AS-2450 Throughput: 1800T/H, ISE 600T/H

# LIBER-SERIES Total Laboratory Automation solutions

Free combination, intelligent connection



## MENU OF ASSAYS

Infection	Fertility	Thyroid	Autoimmune	Cardiovascular	Tumor	Hepatic Fibrosis
HBsAg	GH	FT3	Anti-CCP	Anti-Histones IgG	H-FABP	CA125 PAP LN
Anti-HBs	FSH	FT4	ASO	Anti-SSA-60 IgG	Lp-PLA2	CA15-3 PGI HA
HBeAg	LH	TT3	RF	Anti-SSA-52 IgG	hs-cTnl	CA19-9 PGI PIII NP
Anti-HBe	E2	TT4	RF-IgA	Anti-SSB IgG	hs-cTnT	CA72-4 HP CIV
Anti-HBc	PROG	TSH	RF-IgG	Anti-u1-SnRNP IgG	CK-MB	CEA APT CG
Anti-HCV	PRL	TG	RF-IgM	αPS/PT IgG	MYO	SCC
HIV Combo	TESTO	TBG	IgE	αPS/PT IgM	NT-proBNP	CYFRA 21-1
Anti-TP	β-HCG	CT	IgG4		BNP	proGRP
	F-β-HCG	rT3	Anti-β2-GP1 IgG		ST2	NSE
	SHBG	TGAb	Anti-β2-GP1 IgM		HCY	HE4
	PAPP-A	TPOAb	Anti-β2-GP1 IgA		TXB2	CA50
	AMH	T-Uptake	Anti-SS-B IgG			AFP
<b>TORCH</b>	μE3	TMA	Anti-dsDNA IgG			KL-6
Toxo IgG	AFP	TRAb	Anti-Cardiolipin IgG	<b>Inflammation</b>	MMP-3	AI
Toxo IgM	Inhibin A	PTH	Anti-Cardiolipin IgM	PCT	VEGF	AII
CMV IgG	Inhibin B		IA-A2	HBP	TNF-α	<b>Drug monitoring</b>
CMV IgM	DHEA-S	<b>Anemia</b>	GADA	CRP/hs-CRP	Fer	DIGOXIN
RV IgG	ASD	ICA		SAA	TKI	TACROLIMUS
RV IgM		VB 12	ZnT-8A	IL-1β	G-17	
HSV I IgG	<b>Growth</b>	Folate	IAA	IL-2R	CA242	<b>Nerves</b>
HSV I IgM	GH	FER	Anti-MPO IgG	IL-6	PIVKA II	S100B
HSV II IgG	IGF-1	TRF	Anti-PR3 IgG	IL-8	TPSA	AD7C
HSV II IgM	IGFBP-3		Anti-Rib-P IgG	IL-10	FP5A	
				<b>Bone Metabolism</b>		<b>Coagulation</b>
			<b>Glycometabolism</b>	25-OH-VD	Cys-C	D-Dimer
			INS	OCN	β2-MG	FDP
			C-Peptide	PTH	NGAL	TAT
			ADPN	CT	mAlb	PIC
			Pro-Insulin			TM
			HbA1c			t-PAIC

# NRM-FI-1000

POCT Fully Quantitative Immunofluorescence Analyzer

- High Accuracy
- High Specificity
- Wide Linear Range

Item name	Specification
Detection System	Immunofluorescence
Detection speed	10 sec/test
First result	5-15 min
Sample position	8 channels (stackable)
Repeatability	CV ≤ 5%
Sample Type	Serum, whole blood, plasma, peripheral blood, urine
LIS system	Support ASTM and HL7
User interface	7 inch graphical operation interface
Status monitor	Real-time intelligent monitor
Dimension	214mm*260mm*143mm
Weight	2.00 kg



# NRM-FI-1000B

POCT Fully Quantitative Immunofluorescence Analyzer

- Intelligent
- Sensitive
- Accuracy



Item name	Specification
Detection System	Immunofluorescence
First result	5-15 min
Sample position	1
Repeatability	CV < 3%
Sample Type	Serum, whole blood, plasma, peripheral blood, urine; allow sample type selection
LIS system	Two-way LIS, and scanner
Data export	USB, RS232, WiFi
User interface	7 inch graphical operation interface
Dimension	232mm*269mm*47mm
Weight	2.05 kg

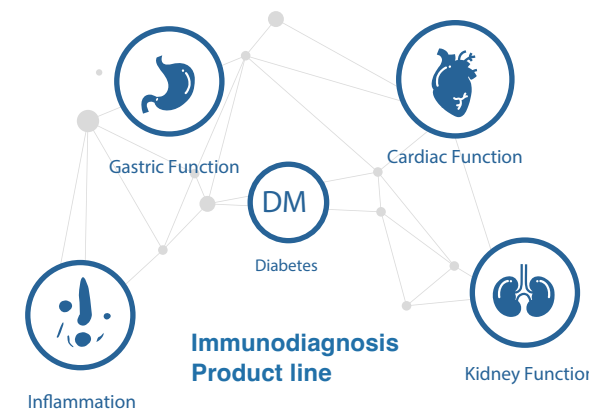
# NRM-FI-1200

POCT Fully Quantitative Immunofluorescence Analyzer

- Comprehensive
- Accurate
- Easy-to-use
- Rapid



Item name	Specification
Detection System	Immunofluorescence
Test speed	140 tests/hour
First result	5-15 min
Sample position	12 separate samples; allow single test or combo tests at once
Repeatability	CV ≤ 5%
Sample Type	Serum, whole blood, plasma, peripheral blood, urine
LIS system	Two-way LIS, and scanner
User interface	10 inch graphical operation interface
Status monitor	Real-time intelligent monitor
Dimension	420mm*300mm*260mm
Weight	7.90 kg



## TEST MENU

Thyroid	Tumor	Fertility	Cardiovascular
TSH	G-17	β-HCG	CTnI/NT-ProBNP/D-Dimer
T3	PGI	FSH	Lp-PLA2
T4	PGII	PRL	NT-proBNP
FT3	CEA	PROG	D-Dimer
FT4	CA125	LH	cTnI/CK-MB/MYO
	CA19-9	TESTO	cTnI
<b>Inflammation</b>	AMH *		cTnT *
IL-6	CA15-3 *	<b>Autoimmunity</b>	MYO
PCT	Fer	Anti-CCP	CK-MB
FR-CRP	AFP	ASO/RF/CRP	
CRP/SAA	tPSA		<b>Renal Function</b>
	FOB	<b>Glycometabolism</b>	Cys-C
<b>Bone Metabolism</b>		C-P	β2-MG
25-OH Vitamin D		HbA1c	NGAL
			mAlb

\* means under development