

Densitometers, Thermal Cycler, Fluorometer (FEP analysis)



DEN-1 and DEN-1B, Densitometers (suspension turbidity detector)



Densitometers are designed for measurement of cell suspension's turbidity in the range:

DEN-1: 0.3–5.0 McFarland units (100 × 10⁶–150 × 10⁷ cells/ml);

DEN-1B: 0.0–6.0 McFarland units (0–180 × 10⁷ cells/ml);

Densitometers provide the opportunity to measure solution turbidity in a wider range (up to 15.0 McFarland units) however, it is necessary to remember that in this case the standard deviation values increase.

A densitometer is used for measurement of cell concentration (bacterial, yeast cells) during fermentation process, determination of microorganism sensitivity to antibiotics, microorganism identification using various test-systems, for measurement of absorption at the definite wavelength, as well as for quantitative estimation of concentration of colour solution, absorbing green light.

The operation principle is based on measurement of optical density with digital presentation of results in McFarland units. The unit is calibrated at the factory and keeps calibration without power supply. However, if necessary it is possible to calibrate the unit by 2–6 points in 0.5–5.0 McFarland unit range. Both commercial standards and the cell suspensions prepared in a laboratory can be used for calibration.

Following calibration kits are available on request:

- **CKG16** for glass tubes with diameter 16 mm;
- **CKG18** for glass tubes with diameter 18 mm.

Two versions of the product are available:

1. **DEN-1** powered from external energy supply;
2. **DEN-1B** powered both from external energy supply and from batteries (AA). Besides, **DEN-1B** operates with higher precision of measurements (up to 0.01 McF).

DEN-1B



DEN-1



A A-16

DEN-1B rear side with calibration control



Application of DEN-1 for determining concentration of microbial cells of supernatant in tubes during centrifugation. Turbidity is determined in McFarland units.

Specifications:

Model	DEN-1	DEN-1B
Light source	Light diode	
Wavelength	$\lambda_{2E} = 565 \pm 15 \text{ nm}$	
Measurement range	0.3–15.0 McF	0.00–15.00 McF
Display resolution	0.1 McF	0.01 McF
Precision	$\pm 3\%$	
Measurement time	1 sec	
Sample volume	not less than 2 ml	
Tube external diameter	18 mm (without adapter) or 16 mm (using A-16 adaptor)	
Display	LED	LCD
McFarland unit standard deviation	0.5 \pm 0.1 McF 3.0 \pm 0.1 McF 6.0 \pm 0.2 McF 7.5 \pm 0.2 McF	0.0 \pm 0.1 McF 0.5 \pm 0.1 McF 3.0 \pm 0.1 McF 6.0 \pm 0.2 McF 7.5 \pm 0.2 McF
Overall dimensions (W × D × H)	165 × 115 × 75 mm	
Weight, not more	0.9 kg	
Independent power supply	—	3 × AA batteries
Input current/power consumption	12 V, 80 mA / 1 W	12 V, 7 mA / 0.1 W
External power supply	Input AC 100-240 V, 50/60 Hz; Output DC 12V	Input AC 100-240 V, 50/60 Hz, Output DC 12V
Standard set	External power supply	3 × AA batteries

DEN-1B

Catalogue number:

DEN-1	MA-050102-AAF
DEN-1B	MA-050104-AAF
CKG16	MA-050102-BK
CKG18	MA-050102-CK
A-16	MA-050102-AK

Sample preparation product line

Centrifugation for DNA Extraction

*Microspin 12,
Mini-Centrifuge*



*LMC-3000, Laboratory Centrifuge
(with rotor for plates)*



Sample Centrifugation and Vortexing

*FVL-2400N,
Mini centrifuge/vortex*



*MSC-6000,
Combined centrifuge/vortex*



Sample Thermostating

*TDB-120, Dry block
thermostat*



TS-100, Shaker-Thermostat



Sample preparation

UVC/T-M-AR, UV-Cabinet for PCR



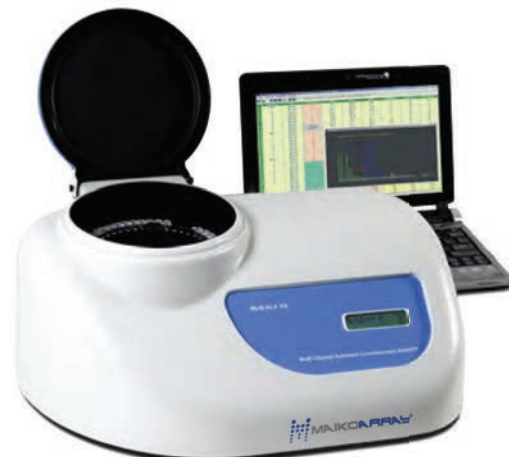
Amplification

MaikoGene Thermal Cycler



Analysis

ALA-1/4, Fluorometer





The new MaikoGene replaces our successful and reliable MaikoGene™'99 Gradient thermal cycler and brings new speed and advanced features to our Labnet Thermal Cycler line providing premium performance at an affordable price.

- Unique Flexible Programming with MaikoTemp technology
- Fast run times
- PC Viewer
- Simple user interface
- No condensation after overnight cooling at 4°C
- 3 Year Warranty

The MaikoGene employs a new protocol optimization process improving on older gradient features. The MaikoGene utilizes MaikoTemp technology that effectively separates the 96 well plate into 6 – (4 × 4) temperature regions that allow you to pick the temperatures you want to test against. These regions are easily identified by the blue and black squares visible on the microplate, instead of having the thermal cycler choose temperatures for you, you can choose any temperatures you want within a 24°C range. The MaikoGene has a heating rate of 4°C/sec and a cooling rate of 3°C/sec. We have minimized overshooting and undershooting so that your reactions only see the temperatures they are supposed to see. This also leads to faster runs time.

PC Viewer Option

New is the PC Viewer Option. to your Windows PC to can view the temperature profiles real time as they are occurring to monitor your system.

Intuitive User Interface

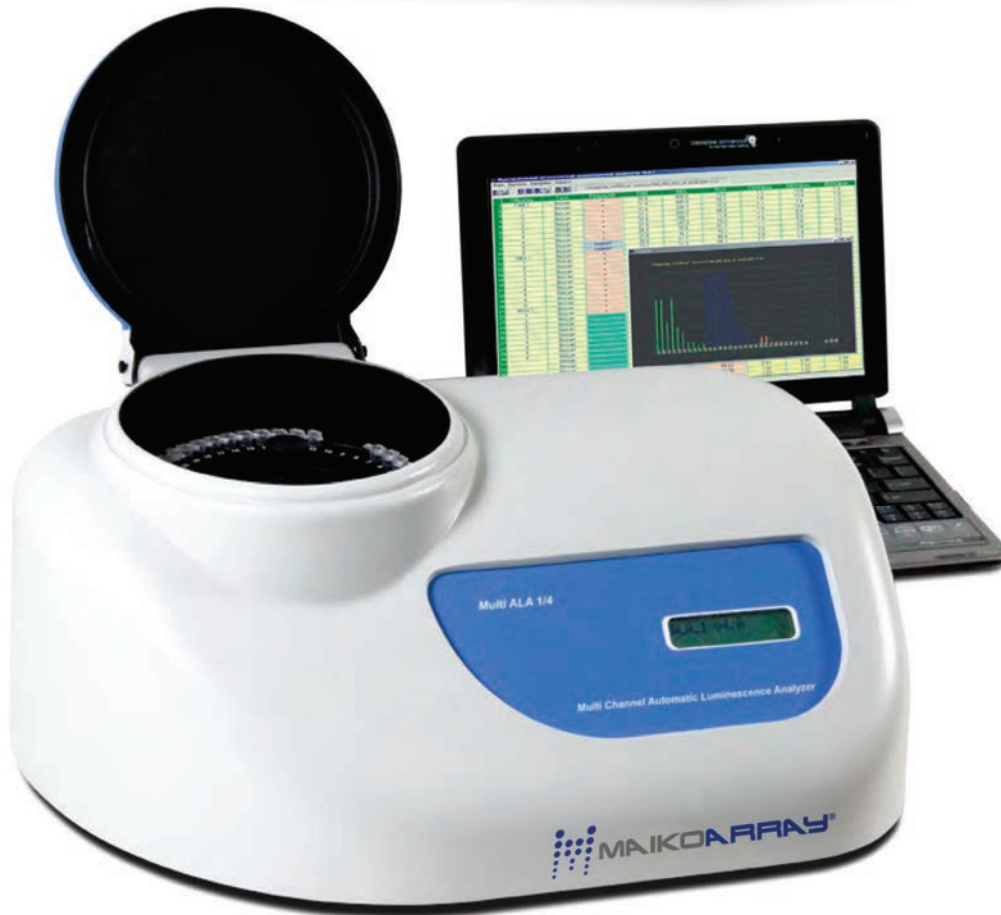
The MaikoGene utilizes an intuitive user interface. This user interface is friendly to the laboratory environment and consistent with what our customers previously enjoyed in our earlier models. It can be used with lab gloves even if wet. We have improved the ramping speed and eliminated overshooting and undershooting which contributes to longer run times.

Fully Adjustable Heated Lid

The MaikoGene heated lid is fully adjustable to provide optimum pressure for use with a broad range of tubes and microplates. For optimum performance, the lid can also be programmed to hold different temperatures between 60° to 65°C and 100° to 115°C. The MaikoGene lid prevents condensation and slides away and back from the user to provide full access to samples and reduce the risk of coming in contact with a hot surface.

Specifications:

Sample Capacity	1 × 96 well plate, 128 × 0.2 ml strip tubes, 96 × 0.2 ml tubes
Programmable Temperature Range	4°C to 99.9°C
Temperature Control	Calculated or block
Temperature Accuracy/Uniformity	±0.5°C/±0.5°C
Heating/cooling method	Peltier
Gradient temperature range	30°C to 99°C. Temperature of 6-segment blocks can be set independently.
Maximum Temperature difference between 6-segment temperature blocks	24°C
6-segment Temperature blocks	6 temperature blocks in 4 × 4 well format
Programmable lid temperature	60° to 65°C, 100° to 115°C
Program memory	200 complete programs
Temp. increments/decrements	Yes
Time increments/decrements	Yes
User program folders	50 sets
Password protected programs	Yes
Communication	USB and RS232 ports
Dimensions (W × D × H)	240 × 420 × 250 mm
Weight	9 kg
Electrical	240V or 120V, 50/60 Hz



ALA-1/4 is the first multi channel rotor type fluorescence detector that allows detection of the fluorophores lights emission in the reaction mixes with a closed-tube method immediately after PCR.

ALA-1/4 is a four-channel high speed detector of fluorescence/quenching ration of DNA probe combined with a fluorescence/quenching molecules. Level of fluorescence depends on the quantity of the positive amplification after thermocycling of DNA probes. The instruments substitutes for electrophoresis and gel-documentation step of amplicon detection. The closed-tube method ensures biosafety conditions in the DNA diagnostic Labs.

Maikoarray fluorescence detection with end point analysis is approach that allows to:

- * Carry out the experiment with closed test tubes, thus eliminating the probability of contamination;
 - * Perform the amplification and detection processes in the same room with reduced personnel costs;
 - * 4-channels detection: FAM, HEX/JOE/R6G, ROX, CY-5;
- Register, interpret and store the results obtained on PC;
- * Simultaneously detect a variety of infections pathogens;
 - * Eliminate the need for electrophoresis and gel run storing instruments.

1 R-48/0.2

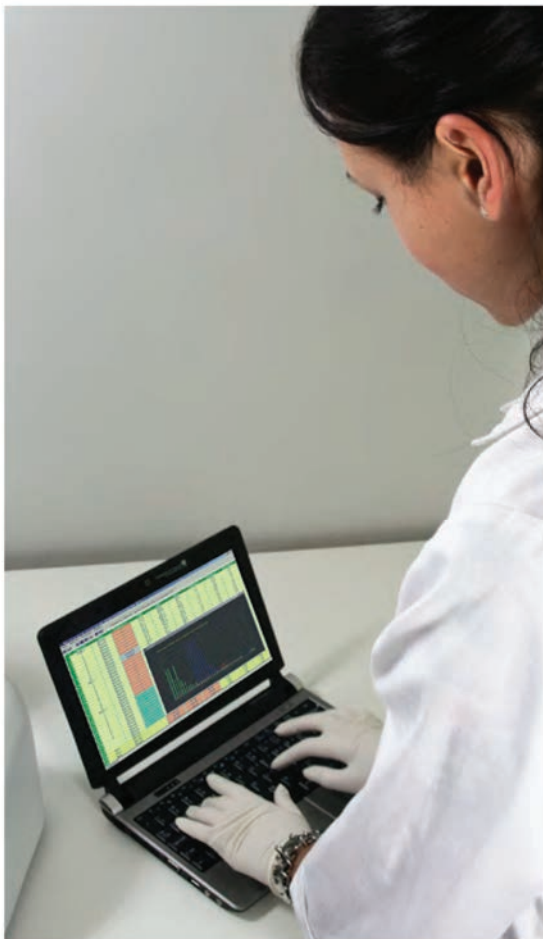
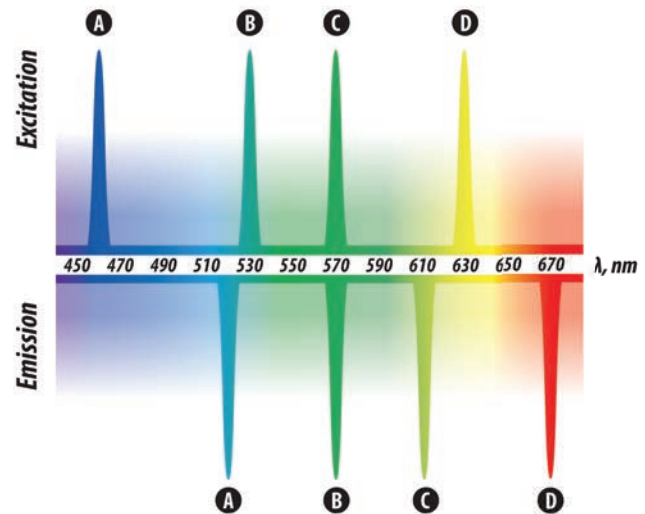


2 R-36/0.5



Rotors capacity:

1	R-36/0.5	36	microtubes (0.5 ml)
2	R-48/0.2	48	microtubes (0.2 ml)


ALA-1/4 Excitation/Emission wavelength graph

Channels' specifications:

Four (4) channel detection

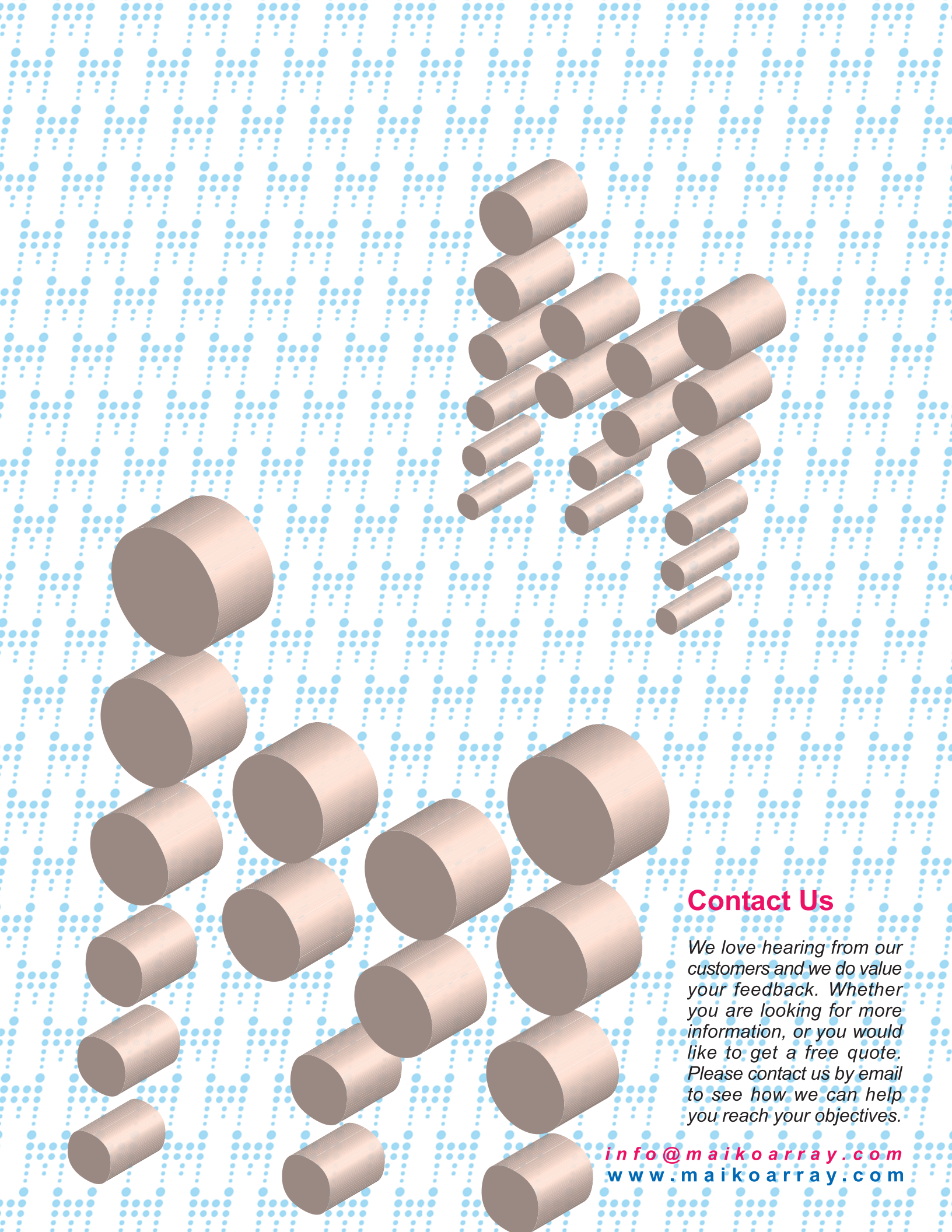
A Channel 1 — FAM:	
Excitation wavelength	460 nm
Emission wavelength	515 nm
B Channel 2 — HEX/JOE/R6G:	
Excitation wavelength	532 nm
Emission wavelength	570 nm
C Channel 3 — ROX:	
Excitation wavelength	570 nm
Emission wavelength	610 nm
D Channel 4 — CY-5:	
Excitation wavelength	630 nm
Emission wavelength	670 nm

General Specifications:

Excitation source	Light diode (Luxeon) through interference filter
Interference filter transmission spectrum half-width	7 nm
Detector	Photomultiplier
Measurement time for	
1 channel	30 sec
2 channels	1 min
3 channels	1 min 30 sec
4 channels	2 min
Communication Interface	USB
PC system requirements:	500 MHz PIII Intel 32 MB RAM, 32 × CD-ROM Windows 2000/XP/Vista/7
	USB port, MS Excel
Overall dimensions (W × D × H)	400 × 250 × 190 mm
Weight, not more	8.5 kg
Nominal operating voltage	230 V, 50/60 Hz
Power consumption	30 W

Catalogue number:

ALA-1/4	MA-050106-AAA
Rotor R-36/0.5	MA-050105-AK
Rotor R-48/0.2	MA-050105-BK



Contact Us

We love hearing from our customers and we do value your feedback. Whether you are looking for more information, or you would like to get a free quote. Please contact us by email to see how we can help you reach your objectives.

info@maikoarray.com
www.maikoarray.com