Biora UPRtek PG200N Spectrometer

PG200N Handheld Spectral PAR Meter

The industry's first 2 in 1 agricultural spectrometer
with waterproof light quantum and motion sensors.

biora | UPRtek

Fully customisable Grow Chamber and Environmental Control Room solutions.

mineARC SYSTEMS

Company Profile

MineARC Systems have been at the forefront of controlled environment design, development and manufacture for over 20 years; striving to improve the health and safety standards within the mining, tunnelling, chemical processing, disaster relief and extreme weather industries worldwide. MineARC Systems' industry leading refuge chambers and safe havens are present in over 60 countries and have been used in multiple real-life emergencies to keep occupants safe.

MineARC's key focus on quality control and product development has meant that all MineARC Refuge Chambers and Safe Havens comply with the highest international regulations and recognised 'world's best practice' industry guidelines.

In-house research and development with our team of engineers, electrical designers, technical experts, as well as production and service technicians has allowed us to branch out into multiple industries over the years. Our knowledge and proficiencies have now given us the opportunity to gain recognition beyond our refuge chambers and safe havens and expand into the science and research industries. Our Biora Grow Chamber is a perfect solution for controlled environment agriculture and climatic stability testing.

As advocates of innovation, our dedication to ongoing research and development is driven by our emphasis on client satisfaction. MineARC listens to and understands the needs of our clients, whilst never compromising on safety and quality. Placing a high importance on building strong relationships with our clients allows us to develop unique and customised solutions. This approach enables us to improve research and growth facilities, reduce costs and simplify operations.

MineARC's manufacturing facilities in the United States, Australia and Africa, as well as offices in Europe, China, Mexico and Chile allow us to provide local technical support to all clients.

www.minearc.com

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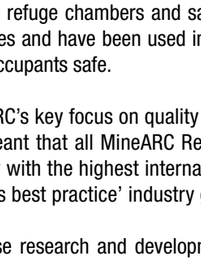

TRC ISO 9001:2015 Quality Management Systems

Australian C-Tick Standards: AS4100-1998, AS3570.1-18, AS2208, AS3000, AS1716-15

Canadian Standards Association (CSA)

United States National Electrical Code (NEC) 2013/14

Quality Management System (QMS)

European CE Certified to Machinery Norms

The Biora UPRtek PG200N Spectrometer is a professional plant light detector embedded with PAR reference spectrum; allowing users to identify if their light spectrum configuration meets required plant absorption levels.

It is ideal for use across the following applications:

- Plant growth facilities
- Floriculture
- Algae culture
- Nurseries
- Greenhouses

- ✓ JIS AA Class and DIN B Class compliant
- ✓ IP66 rated water repellent sensor
- ✓ 350-800 nm wavelength range
- ✓ Auto dark feature, ensuring reliability and precision of measurement
- ✓ Customisable PPFD/PFD range
- ✓ G sensor technology; reducing artificial measurement error
- ✓ User-friendly HMI with customisable menu
- ✓ Multiple measurement options, including stand-alone via bluetooth
- ✓ In-built data logging

Biora UPRtek
- PG200N Spectrometer

The PG200N Spectrometer provides plant reference spectrum for users to compare and compensate the necessary light wavelength required by each particular plant. Utilising the PG200N will accelerate plant growth, flowering and vegetation.

IP66

Modes of Operation

BASIC Mode
CCT / CRI / LUX / λP / i-Time

SPECTRUM Mode
Visible light spectrum

PPFD Mode - New Feature
PPFD / PFD / PFD-B / PFD-G

PPFD SPECTRUM Mode - New Feature
Visible light spectrum

CIE Mode
CIE1931 chromaticity / CIE1976 chromaticity

LOGGING Mode
Continues measuring

BROWSING Mode
Review historical data and save to the SD card

OPTION Mode
Other set-up items

Biora UPRtek
- PG200N Spectrometer

Multiple Measurement Options

Standalone

PC via Type C Cable

APP via Bluetooth

Specifications

Wavelength Range	350-800nm	
Touch LCD	4.3" capacitive	
Cosine Correction	Meets JIS AA and DIN B	
Dark Mode	Auto	
App Connection	Via Bluetooth & USB Mode + PC connection	
I/O	Micro SD Card (SD 2.0, SDHC/up to 32G) / Type C / Bluetooth 3.0 and 4.0 compatible with iOS & Android	
Measurement Range	1. 70 ~ 150,000 lx 2. 0.5~1,000 W/m2 (Irradiance) 3. 1~3,000 µmol/(m2*s) (PPFD)	
Illuminance Accuracy	Illuminant A @ 2,856 K at 20,000 lx *1	±5%
Illuminance Repeatability		0.2%
Colour Accuracy		±0.0025 in CIE 1931 x,y
Colour Repeatability		0.0005 in CIE 1931 x,y
CCT Accuracy		±2%
CRI Accuracy @ Ra		±1.5%
Measuring Nodes	PPFD Mode; PPFD Spectrum Mode (Including reference spectrum - Chlorophyll A, Chlorophyll B, Beta-carotene, Phytochrome A red, Phytochrome A far red); Basic Mode; Spectrum Mode; CIE 1931/1976 Chromaticity Coordinates; Logging Mode; Browser Mode; Grid Mode; Compare Mode; Option Moded	
Display languages	English, Traditional Chinese, Simplified Chinese, Japanese, Spanish, German, French, Italian, Russian	
Weight	280g	
Dimensions	190 x 81.7 x 29.5 mm (H x W x D)	

*1: Input source must be a stable light source.
*2: Temperature 23±2°C and relative humidity 50% or less.
*3: Input the 550nm monochromatic light and measure the stray light ratio at 550nm ± 40nm.
*4: It can be connected to mobile phones and tablets.
*5: MSC- Mass Storage Class.
*6: Only sensor, not the whole body

Biora
- Lighting Options

Regardless of the chamber's size or configuration, MineARC can build a customised lighting solution that will meet client specifications and spectrum requirements.

Our engineers can provide varying levels of lighting control; all accessible from the chamber's HMI and remote control system.

MineARC offers a range of LED, HPS and fluorescent lights, of varying intensities; providing complete flexibility for any project.

- ✓ **Custom lighting design based on requirements, including LED, HPS and fluorescent**
- ✓ **Control over canopy, intensity and spectrum for day time and seasonal replication**
- ✓ **Single and multi-tier opportunities**
- ✓ **Optional high-quality built-in light measurement equipment for refinement of testing conditions**

Maximise your grow area, aisle space, and flexibility with adjustable lighting and shelving. For added levels of environmental control, Biora shelving integrates seamlessly with ducted zone control temperature upgrades.

Heliospectra LED Grow Lights

Heliospectra is one of the leading suppliers of innovative horticulture lighting technology. With over a decade's worth of experience in researching plants and their relationship with light, Heliospectra know a thing or two about LED's. Coupled with their drive for innovation, it's easy to see how they are able to consistently create lights which empower growers to produce crops that taste better, last longer, and take less energy to grow.

Choose from a range of LED lights to suit any requirement.

heliospectra

Biora Method Seven
- Eye Protection

LED Eyewear Range | The world's first glasses formulated to balance and compensate for the unique spectrum of LED grow lights. Lens technology and high quality materials provide exceptional colour and clarity.

Agent 939 LEDFx

The world's first LEDfx lenses designed for full spectrum LED scenarios; blocking significant infrared heat energy.

- Polycarbonate, lightweight lens
- Large temple arm for peripheral protection
- Recessed rubber nose pad
- Flexible TR90 frame
- Also available in clip-on styles

Cultivator LED+

Providing great value and exceptional colour balancing for LED lighting with proprietary LED+ lenses.

- Polycarbonate lens, 100% UV protection
- Flash Silver exterior coating
- Asymmetrical lenses to eliminate distortion
- Rubber nose pad

Operator LED+

The world's first optics optimised for the magenta hue of LED environments, manufactured to exacting standards.

- Polycarbonate lens, 100% UV protection
- Flash Silver lens coating also allows for outdoor use
- Italian made, lightweight TR90 frame

Aviator Clip-On LED

Change the way you see your plants and grow room using your own prescription glasses.

- Polycarbonate lens, 100% UV protection
- Spring-loaded, rubber coated metal clips
- Aviator style fits over a wide variety of large lenses

HPS Eyewear Range | Delivers 'perfect colour' for the ultimate experience when working for extended periods in the intense yellow spectrum and harsh conditions of HPS lighting.

Evolution HPS+

German mineral glass HPS+ lenses provide perfect colour balance for HPS lighting as well as digital display screens.

- Full UV protection and scratch resistant lens
- Anti-reflective and Flash Silver coating
- Lightweight TR90 frame
- Concealed flex-hinges for comfort

Resistance HPS+

Utilises patented lens technology providing the perfect colour in large scale grow rooms above 10,000 watts.

- Silver lens coating for brighter spaces
- German mineral glass for optimal clarity
- Lightweight TR90 frame

Aviator Clip-On HPS

Change the way you see your plants and grow room using your own prescription glasses.

- Polycarbonate lens
- Spring-loaded, rubber coated metal clips
- Aviator style fits over a wide variety of large lenses

Biora Method Seven Photo Filters

Capture 'perfect colour' photos from within any grow room with HPS and LED photo filters. Housed in anodised aluminium and compatible with any camera with a Cokin 'P' filter holder.

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