

MultiSpex

<Illumination System>



MultiSpex consists of five wavelengths (violet, blue, green, red, and far-red) that are considered necessary for plant growth. It can be used for various research purposes since each of the five wavelengths can be controlled independently to provide optimal light conditions for plant growth. We hope you will make use of this unit.

Features

MultiSpex is an illumination system with five wavelengths: Purple ($\lambda_p = 415 \pm 5 \text{ nm}$), blue ($\lambda_p = 440 \pm 5 \text{ nm}$), green ($\lambda_p = 520 \pm 5 \text{ nm}$), red ($\lambda_p = 660 \pm 5 \text{ nm}$), and far red ($\lambda_p = 730 \pm 5 \text{ nm}$).

The five wavelengths (purple, blue, green, red, and far red) can be independently dimmed from 20% to 100%.

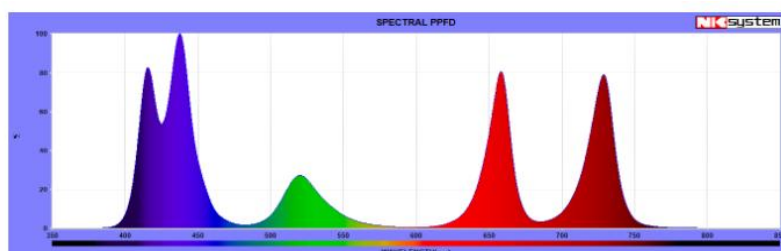
It is equipped with a timer and can be switched ON and OFF at intervals of at least 15 minutes.

Applications

Raising of seedling, experimental cultivation, etc.



Installed in a plant growth chamber



Spectrum of MultiSpex

PFD ($\mu\text{mol}/\text{m}^2/\text{s}$) between 380 and 780 nm

	Distance of 10 cm	Distance of 30 cm
All 5 colors ON	633	281
Only purple color ON	104	42
Only blue color ON	133	65
Only green color ON	81	37
Only red color ON	155	64
Only far-red color ON	186	86

* Non-offical data, reference only

Specifications

Lighting Unit

Model	PF5-75T
Outer Dimensions	350W × 350D × 44H mm
Material	Aluminum for the main body, polycarbonate for the illumination surface, and Stainless steel for the hanging brackets
Number of LEDs	144 for purple, 140 for blue, 140 for green, 144 for red, and 144 for far red
Wavelength	Purple ($\lambda_p = 415 \pm 5$ nm), blue ($\lambda_p = 440 \pm 5$ nm), green ($\lambda_p = 520 \pm 5$ nm), red ($\lambda_p = 660 \pm 5$ nm), and far red ($\lambda_p = 730 \pm 5$ nm)

Note: Connect the illumination unit to the power unit in order to utilize it.

Power Unit

Model	PF5-1BB (for 1 lighting unit)	PF5-2BB (for 2 lighting units)
Outer Dimension	190W × 307.5D × 156.5H mm	
Material	Steel plate with resin coating for the main body	
Dimmer Control	PWM* digital dimmer (20% to 100%) for each color (each of 5 wavelengths)	
Illumination Timer	ON/OFF at ≥ 15-minute intervals for 24 hours	
Power Source	Single phase 100 V, 50/60 Hz, 2 A	Single phase 100 V, 50/60 Hz, 4 A

* Pulse-Width Modulation (see https://en.wikipedia.org/wiki/Pulse-width_modulation)