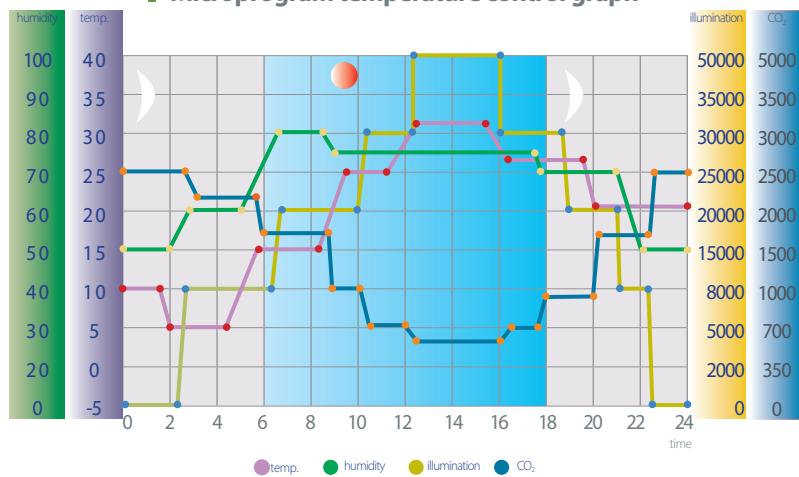


LED Growth Chamber

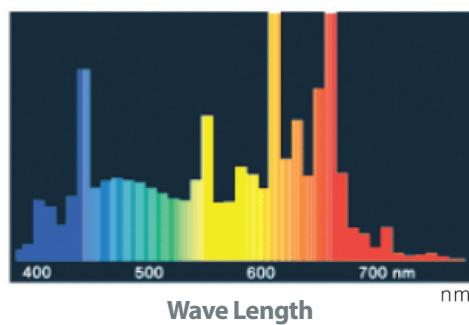
LED spectrum distribution and effect

- Culture of plants, seedling culture, cultivation, growth, form genesis, growth laboratory and tissue culture, genetic research, agricultural chemicals, pathology, ecology, animals, insect culture, keeping quality test, etc.
- LED light source – The lamp radiates less heat, and it can be used for various purposes such as not only for experiments of growth and light wavelengths of plants but also for various purposes by mixed using red light(660nm) – Acceleration of photosynthesis, blue light(470nm) – Photomorphogenesis formations, light refraction effect, near infrared rays(735nm).
- 11 Step Programmable - Possible to set temperature, humidity, CO₂, intensity of illumination in 11 steps and possible for 11 variation tests and repetition operations for day and night
- NDIR CO₂ gas PPM unit – If CO₂ automatic control device using IR sensor is attached, CO₂ can be automatically adjusted from the concentration in the atmosphere to 5,000ppm therefore it can help photosynthesis action.
- The humidity required for growth of plants is adjustable from 30% to 98%

■ Microprogram temperature control graph



■ Relative spectral distribution



■ LED Light Source

DALP 105		DALP 126
RED	RED 660nm ±20nm / 105ea	RED 660nm ±20nm / 126ea
BLUE	BLUE 470nm ±10nm / 105ea	BLUE 470nm ±10nm / 126ea
WHITE	WHITE / 105ea	WHITE / 126ea
RGB	RGB / 105ea	RGB / 126ea
Panel size	346 x 290 x 25mm(306x250mm) LED Interval : 51mm, Vertical interval : 16.5mm Array interval 15tips x 7stick =105ea	346 x 340 x 25mm(306x300mm) LED Interval : 51mm , Vertical interval : 6.5mm Array interval 18tips x 7stick =126ea

■ Wavelength effect on the plant

Wavelength (nm)			Performance effect
Infrared ray	IR-A	1400 - 1000 nm	No special effect on the plant
		780 nm	Wavelength promoting special effect of growth on the plant
Visible ray	Red	700 nm	Germination blocking (730nm), Maximum photosynthesis effect(670nm)
		680 nm	Maximum chlorophyll effect(655nm), Germination, leaf deployment and flower bud formation (660nm)
	Reddish yellow	610 nm	No benefit for photosynthesis, insect pest control(580-650nm)
	Greenish yellow	510 nm	Partial absorption by yellow pigment, fish attraction(485nm)
	Blue	430 - 440 nm	Maximum photosynthesis effect(430nm), Maximum chlorophyll effect(440nm), insect attraction
Ultraviolet ray	UV-A	315 - 400 nm	General effect on thickening the leaf, Promoting pigment color formation
	UV-B	280 nm	Important effect out of many synthesis (immune body formation). Harmful if strong effect
	UV-C	100 nm	Effect of rapidly withering the plant

LED Growth Chamber

Growth chamber for the plant growing by light wavelength

■ DS-51GLPC-C (PC Communication + CO₂)



■ DS-55GC-RED



■ DS-55GC-BLUE



■ DS-55GSSPC



■ DS-55G2H
(1room-Blue, 1room-Red)



■ DS-55G-R



■ DS-55G-B



■ DS-55G-RGB



■ DS-55G-W





LED Growth Chamber

Growth chamber for the plant growing by light wavelength

LED Chamber (Order made)



Culture figure



	DS - 55G	DS - 55GC	DS - 55G2H	DS - 55G3HC		
Chamber	1 chamber	1 chamber	2 chamber	3 chamber		
Main controller	Programmable 11step, Microprocessor LCD displayed, Auto-tuning multi-functional P.I.D controller (Temp, Humidity, CO2, Light Cycle)					
Temperature	Range	Ambient +5°C to 50°C	0°C to 60°C			
	Accuracy	±0.2°C at 30°C	±0.2°C at 25°C			
	Controller	Microprocessor digital displayed Auto-tuning multi-functional P.I.D controller				
Humidity	Range	None	30 to 98% RH			
	Accuracy	None	±0.8% at 70%			
	Humidifier	None	Evaporation by motor			
	Controller	None	Microprocessor digital displayed Auto-tuning multi-functional P.I.D controller			
CO2	Range	None	0 - 5000 ppm			
	Accuracy	None	±20 ppm at 1000 ppm			
	Sensor	None	Infra-red NDIR sensor			
LED / Illumination	Light source	RED 660nm±20nm/105ea (Option - Blue 470nm ±10nm, Far-red 735nm ±20nm, Green, White)				
	Ddirection	From above or side				
	Panel size	346 x 290 x 25mm	560 x 540 x 25mm			
	Source	Up/Down adjustable type				
Dimensions (WxDxH)mm	In	400 x 400 x 300	560 x 560 x 1000	560 x 560 x 600 x 2room		
	Out	465 x 490 x 475	720 x 850 x 1670	2160 x 850 x 1670		
	Capacity	48 L	314 L	376 L		
Door	Magnetic packing door with tempered glass viewing window					
Material (In / Out)	Stainless steel (SUS 304) / Steel plate with powder coating(SCP-1)					
Hole for cable	ID 38mm x 1ea		ID 38mm x 2ea	ID 38mm x 3ea		
Circulation fan	13W blower x 1ea	23W blower x 2ea	23W blower x 4ea	23W blower x 6ea		
Compressor	None	1/3HP	1/3HP x 2ea	1/3HP x 3ea		
Shelves	Adjustable 1ea	Adjustable 3ea	Adjustable 4ea	Adjustable 6ea		
Power(AC220V, 60Hz)	0.2Kw	1.2Kw	4.2Kw	6.6Kw		