



## UV DISINFECTION FOR VENDING APPLICATIONS

Models LBV-021, LBV-031, LBV-061

Specifically designed for the microbiological protection of bottled water vending/dispensing machines, the BLACKCOMB vending system has all the features you need, and more, that place this design above all others. Engineered off the very successful BLACKCOMB line, these vending based systems offer three different flow rates.

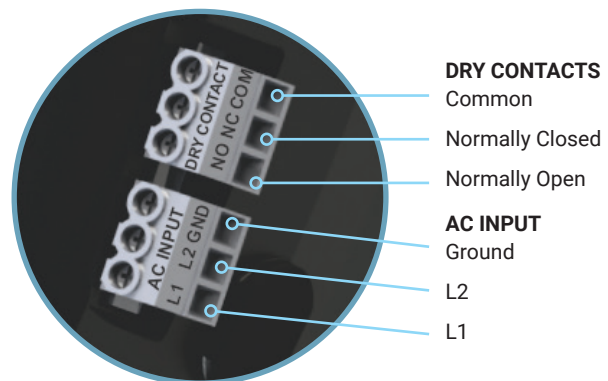
The 2-piece design allows for flexible mounting inside an enclosed vending machine. A convenient visual sight port and a "power-on" LED indicator allow for easy confirmation of lamp operation, in addition to Green LED "lamp-on" indicator. A fully potted, electronic ballast with an integral aluminum heat sink case allows for cool operation inside these sometime harsh conditions. Easy-access industrial screw terminals provide simple connections for both power and volt free (dry) contacts allowing easy connection to the control board of the vending machine.

UV technology is proven to control microbiological (bacteria & virus) issues in water including *E.coli*, *Cryptosporidium* and *Giardia lamblia*.

### Product Features

- Convenient screw terminals for both power input and dry (volt free) contacts NO, NC, and common).
- GREEN LED for lamp on, RED LED for system power.
- NO internal audio for vending applications.
- Axial flow, 304 stainless steel polished reactors.
- Visual sight port for "lamp-on" verification.
- Designed & manufactured to ASME pressure vessel standards.
- Flow rates stated at 95% UVT and a dose of 30mJ/cm<sup>2</sup>.
- True gland seal retaining nut with positive stop.
- User friendly bayonet style lamp connector (quick ¼ turn removal with no extra tools needed).
- Reliable, industry proven, proprietary low pressure (LP) coated UV lamps with ceramic bases for durability and long life (9,000 hours)
- Constant current electronic controller (one controller for all systems) in a splash proof case, fully potted ballast, virtually eliminates common water damage issues.
- 2-piece design for flexible installation options.

### Volt Free Dry Contacts



High quality Molex connections

## BLACKCOMB VENDING - Equipment Specifications

BLACKCOMB (standard-output)			
Model	LBV-021	LBV-031	LBV-061
Flow Rate (30mJ/cm <sup>2</sup> @ 95% UVT)	2 GPM	3 GPM	6 GPM
	7.6 lpm	11.4 lpm	22.7 lpm
	0.45 m <sup>3</sup> /hr	0.7 m <sup>3</sup> /hr	1.4 m <sup>3</sup> /hr
Flow Rate (40mJ/cm <sup>2</sup> @ 95% UVT)	1.6 GPM	2.4 GPM	4.4 GPM
	6.1 lpm	9.1 lpm	17 lpm
	0.36 m <sup>3</sup> /hr	0.5 m <sup>3</sup> /hr	1.0 m <sup>3</sup> /hr
Flow Rate (16mJ/cm <sup>2</sup> @ 95% UVT)	4 GPM	6 GPM	11 GPM
	15.1 lpm	23 lpm	41 lpm
	0.9 m <sup>3</sup> /hr	1.4 m <sup>3</sup> /hr	2.5 m <sup>3</sup> /hr
Port Size	½" FNPT	½" MNPT	¾" MNPT
Electrical	90-265V/50-60Hz, 1A Max.		
Plug Type	American, Nema 5/15, 3 wire for all 110V systems, "1" suffix (i.e. LBV-021) European, CEE 7/7, 3 wire for all 230V systems, "2" suffix (i.e. LBV-022) British Standard, BS 1363, 3 wire for all 230V systems, "3" suffix (i.e. LBV-023) Australian/New Zealand, AS/NZ 3112, 3 wire for all 230V systems, "4" suffix (i.e. LBV-024)		
Lamp Watts	8	15	22
Power (Watts)	14	20	30
Maximum Current (amps)	1	1	1
Replacement Lamp	RL-210	RL-290	RL-470
Replacement Sleeve	RQ-210	RQ-290	RQ-470
Chamber Material	Polished 304 stainless steel, A249 pressure rated tubing		
Reactor Dimensions	2.5 x 10.3" (6.4 x 26.2cm)	2.5 x 14.3" (6.4 x 36.4cm)	2.5 x 21.3" (6.4 x 54.2cm)
Controller Dimensions	17.2 x 9.2 x 10.2 cm (6.8 x 3.6 x 4")		
Operating Pressure	7-10.3 bar (10-150 psi)		
Operating Water Temp.	2-40° C (36 - 104°F)		
Power Input	Screw terminals		
Lamp Out Indicator	YES		
Audible "Power-on" Indicator	YES		
Shipping Weight	2.9 kg (6.3 lbs)	3.6 kg (7.9 lbs)	4.4 kg (9.6 lbs)

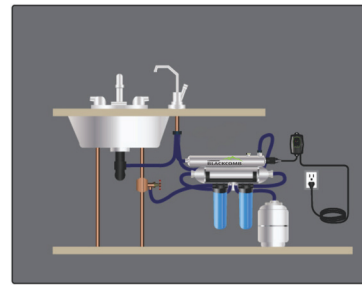
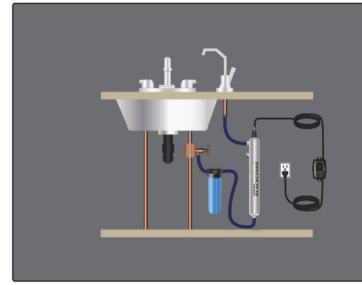
### Manufacturer's Warranty

**REACTORS** - Ten (10) year Limited Warranty  
**ELECTRONICS** - Three (3) year Limited Warranty  
**UV LAMPS** - One (1) year Limited Warranty  
**QUARTZ SLEEVES** - One (1) year Limited Warranty



See website for LUMINOR's complete warranty document including conditions and exclusions.

## Typical POU Installations



## Conditions for Use

Your system will provide years of use provided the system is maintained on a regular basis as per the specifications outlined in the Owner's Manual. For the following system to perform as tested, the following water quality parameters must be met.

Parameter	Level
Hardness	< 120 mg/L (7 gpg)
Iron (Fe)	< 0.3 mg/L (ppm)
Manganese (Mn)	< 0.05 mg/L (ppm)
Tannins	< 0.1 mg/L (ppm)
Turbidity	< 1 NTU
Transmittance	> 75% UVT

For levels outside those specified in the table above, please contact the factory for further technical assistance.

## Replacement Parts

System	Lamps	Sleeves	Controller
LBV-021	RL-210	RQ-210	RC-B4.V
LBV-031	RL-290	RQ-290	RC-B4.V
LBV-061	RL-470	RQ-470	RC-B4.V

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