

# STAR BLAZOR



**UV disinfection system**

ระบบกำจัดเชื้อโรคในน้ำด้วยแสง UV



**PROUD**  
ASIA

# THE BLAZOR ULTRAVIOLET DISINFECTION SYSTEM

## WHAT IS ULTRAVIOLET (UV) LIGHT?

UV light is an electromagnetic radiation having a wavelength between of visible light (400 nm) and X-Rays 100 nm). The unit of wavelength used is a nanometer (nm) which equals to  $10^{-9}$  meters. The primary source of UV energy is currently the low-pressure mercury arc lamp which is the most efficient and effective source for UV application. The radiation is generated by striking an electric arc through clouds of mercury vapour; discharge of the energy generated by excitation of the mercury results in the emission of the UV light.

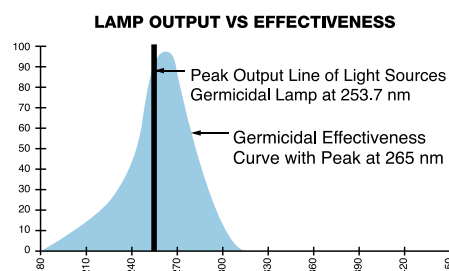
## HOW DOES UV LIGHT DISINFECT?

UV light with some wavelength causes a rearrangement in the genetic code of microorganisms, preventing them from reproducing. Microorganisms are single or multiple celled organisms and are made of molecules. Deoxyribonucleic acid (DNA) and Ribonucleic acid (RNA) are chain-like macromolecules that function to store and transfer cell's genetic information. The DNA molecule is considered to be the principal target of UV radiation where significant biological damage occurs.

## GERMICIDAL ACTIONS

Ultraviolet light in the 200-300 nanometer (nm) range is extremely effective in killing microorganisms such as airborne and surface bacteria, viruses, yeast and molds. Blazor utilize mercury-arc germicidal lamps which are designed specially to produce the highest amounts of UV radiation.

Typically, about 90% of the total rated energy is at 253.7 nm. This radiation is very close to peak of the Germicidal Effectiveness Curve of 265 nm., the most lethal wavelength to microorganism (see a plot below). So they are used in drinking water and ultrapure water system as well as sewage treatment.



# GETTING TO KNOW BLAZOR PACKAGE ULTRAVIOLET DISINFECTION SYSTEM

BLAZOR PACKAGE ULTRAVIOLET DISINFECTION SYSTEM IS DEVELOPED WITH THE LATEST TECHNOLOGIES, WHICH RESULTS IN A SIMPLE PRODUCT LINE TO INSTALL, SERVICE AND OPERATE, YET RELIABLE.



## UV MODULE

The UV module is the basic unit of the UV bank. A UV bank or reactor is made of UV modules placed in parallel with one another. There are various lengths of UV modules. The number of lamps in a UV module depends on the flowrate being treated and will vary from two lamps to four lamps per module in larger plants. The module/bank configuration is determined based on relevant information from the plant process.

The UV modules consists of stainless steel type 316 frame which holds the lamps in position and houses all its connecting wires while, processing a water tight enclosure. Mounted on top is an anodized aluminum ballast enclosure designed for easy handling by the person lifting the module out of the channel. This enclosure contains the electronic ballasts and the UV module circuit board. The UV modules are held in the support frame with the aluminum ballast enclosure above the water.

The modules are connected to the Power Distribution Receptacle through the connecting cable located at one end of the aluminum enclosure. The UV lamps are enclosed in quartz sleeves and attached to the module at each end by means of a sleeve cup and the formed leg of the module.



## UV LAMPS

BLAZOR utilize various length of lamps to fit different site condition. Their UV output after one year is approximately 65% of the output after the 100 hour burn-in period. It should also be kept in mind that frequent cycling shortens the life of the lamps.

# SPECIFICATION

MODEL	PEAK FLOW ( CMD )	LAMPS WATTS ( watts )	DIMENSION ( Millimeters )			
			W	L	H1	H2
BU 3602	95	78	187	2136	373	230
BU 3604	190	156	263	2136	373	230
BU 3606	285	234	339	2136	373	230
BU 6404	380	260	263	3355	373	300
BU 6406	570	390	339	3355	373	300
BU 6408	760	520	415	3355	373	300
BU 6410	950	650	492	3355	373	300
BU 6412	1140	780	568	3355	373	300
BU 6414	1330	910	644	3355	373	300
BU 6416	1520	1040	415	4141	525	410
BU 6420	1900	1300	492	4141	525	410
BU 6424	2280	1560	568	4141	525	410
BU 6428	2660	1820	644	4141	525	410
BU 6432	3040	2080	720	4141	525	410
BU 6436	3420	2340	796	4141	525	410
BU 6440	3800	2600	873	4141	525	410

