

The Medium Pressure Polychromatic Advantage

Atlantium's Medium Pressure UV lamps use full spectrum polychromatic light that leverages the entire germicidal spectrum to inactivate and destroy a wider range of microorganisms.

Small but Powerful

Atlantium's Hydro-Optic™ UV water treatment systems use medium pressure UV lamps with higher intensity per sq.cm than anything else in the market. These UV lamps provide tremendous UV dose capacity, packing a much stronger dose in a smaller footprint.



Atlantium's Medium Pressure system only needs a dose of 93mJ/cm² to achieve 4-log virus disinfection of hard-to-kill viruses like adenovirus. But it takes over 186mJ/cm² and often much more to get the same performance from low pressure lamps.

When Less is More

The reason Medium Pressure UV works better, even at much lower doses, than low pressure is because medium pressure generates a wider range of light photons to inactivate a wider variety of microorganisms as well as disrupting DNA bonds and disabling proteins.

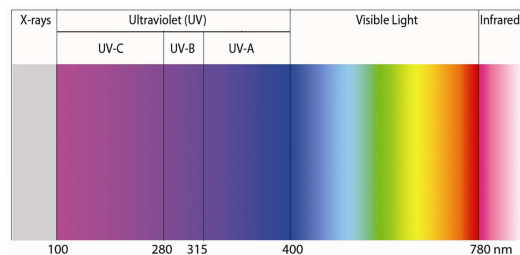
Don't be confused by claims that Low Pressure bulbs have "100% germicidal light". Ask yourself: *100% of what?*

100% of the light produced by an 80 watt bulb does not produce the same impact as 40% of the light produced by a 4200 watt bulb!

More Microorganisms Inactivated

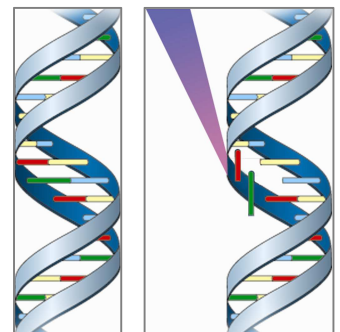
Atlantium's medium pressure UV lamps provide UV light with many wavelengths – from 200 to 415nm - whereas low pressure lamps provide only one 254nm light only.

Since different microorganisms are sensitive to different UV wavelengths, Atlantium's UV lamps can inactivate a far larger variety of microorganisms.



When They Go Down - They Stay Down

When a microorganism has been inactivated by low pressure UV, it can still regenerate using its cell-repair mechanism. Atlantium medium pressure high intensity technology disables the proteins and enzymes required for DNA repair, achieving permanent microbial inactivation at a substantially lower dose.



DNA bonds

UV photon strikes DNA, disrupting bonds

Only Medium Pressure UV Does More for Less!

Virus Disinfection

Recent scientific studies in the US and Singapore have shown that Adenoviruses - the most robust and widespread pathogenic viruses in water – are two to three times more sensitive to medium pressure than to low pressure UV.

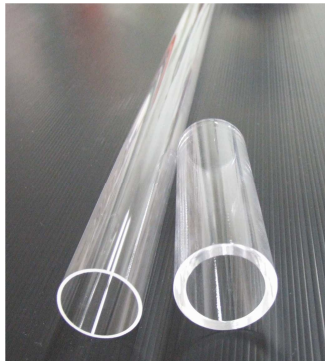
Other research has shown that Adenoviruses treated with chlorine are much more likely to be virulent again downstream than those treated with UV.

Works with Hot and Cold Water

Atlantium’s Medium Pressure lamps with their broad spectrum UV light are more effective against the typical unknown microbial flora in municipal, aquaculture, dairy and other food processing water streams. Atlantium's medium pressure lamps operate equally well in hot and cold temperatures.

Medium pressure lamps don’t lose disinfecting power with cold water (Low pressure can lose up to 80% of its full power if the water is cold). And they don’t have trouble igniting if the water is cold. They also operate efficiently at high water temperatures, while low pressure lamps lose most of their effectiveness.

Atlantium’s RZ unit comes with a sensor for water temperature regulation to keep the unit operating safely. The R unit features a water-light interface that is air-cooled from inside to ambient temperature to avoid deposits.



Showing the difference between Atlantium’s short, thick lamp tubes that are easy to handle, and the long, thin lamp sleeves of other UV systems.

Quick & Easy Lamp Replacement

Atlantium’s UV lamps, placed perpendicular to the water flow, are more effective and can be replaced quickly and easily (only four minutes). Being much easier to handle than long lamps, they are far less likely to break. The Atlantium Quick-Connect tool supplied with the unit easily connects the lamp to its connector for a secure fit.

Fewer Lamps Required

One Atlantium medium pressure high intensity lamp generates more dose than sixteen low pressure lamps or two medium pressure lamps. Therefore the Atlantium system can achieve reliable doses with lower energy consumption, fewer lamp replacements, fewer ballasts and lower maintenance costs.

No thin Quartz sleeves to replace or break, or long lamps to handle, translates into significantly higher operating efficiency and lower total cost of ownership.

Do you want to know more about the differences between the effectiveness of different lamps? Ask your Atlantium Representative for our Medium Pressure vs. Low Pressure: An Annotated Scientific Bibliography.

For more information, please contact your Atlantium representative.
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