UV Plants

UV plants consist of UV lamps installed in stainless steel housing in a defined arrangement. The water to be treated passes evenly through the housing.

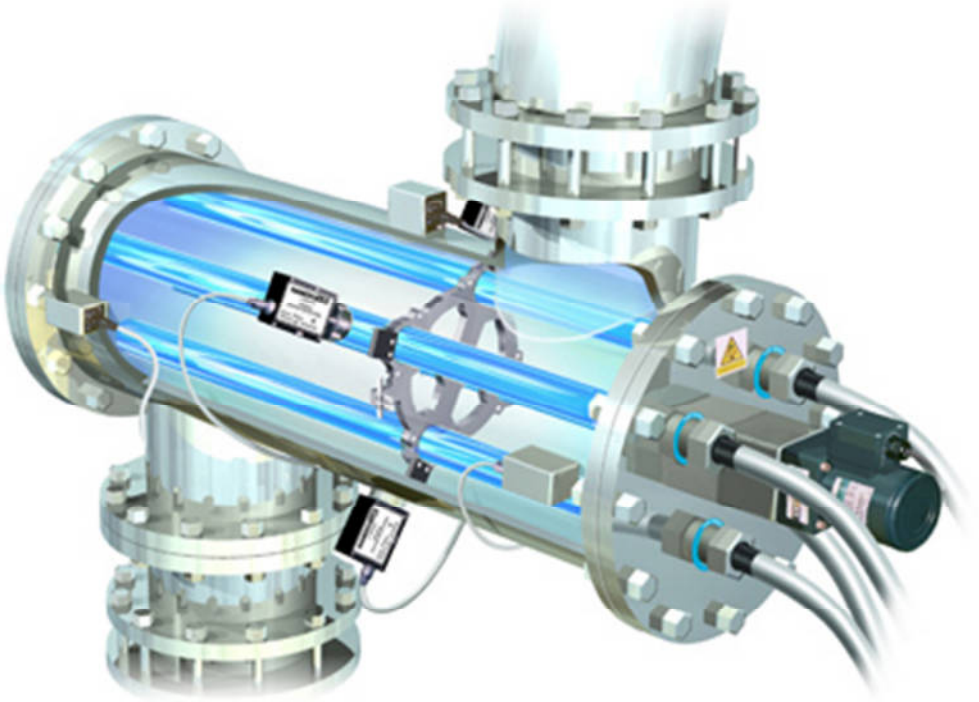
Disinfection

If a UV plant is applied for disinfection of water low pressure UV lamps are used which are emitting UV light primarily at 254 nm. For an adequate disinfection effect a min radiation dosage of 400 J/m² in relation to 254 nm is required. This min radiation dosage needs to be available at the end of the UV lamp life time which is for low pressure lamps after approx. 8,000 operating hours.

Basic requirement for an effective destruction or deactivation of microorganism is an evenly strong UV radiation through the water within the UV plant. This requires a largely particle free, clear filtered water. Furthermore, iron and manganese need to be removed beforehand to avoid creation of any coating on the UV lamp protection tubes.

UV plants are operated inline without the need for a break tank and pump station downstream to assure the required reaction time as it is necessary for chlorine or chlorine dioxide. On the other hand UV treatment of the water has no lasting effect. The water is straight after UV treatment prone to reinfection. One of the applications

UV Anlage for Disinfection or Dechlorination



for UV plants is the microbiological protection of the treated brew water. ClO2, free chlorine or ozone are not ideal solutions in this case due to their oxidative effect on the ingredients of the final product. UV protects the brew water when being stored after treatment. During brew water consumption disinfected water is permanently fed into the storage tank. At times with no consumption the content of the storage tank is circulated through the UV plant and thus kept microbiological clean.

Dechlorination

Another interesting field of application for UV plants is dechlorination of water. For the photochemical depletion of chlorine and chlorine dioxide in water a higher UV radiation compared to disinfection is required. In order to efficiently use it the focus is also here on proper pretreatment of the water to assure highest possible transmission. Further, the specific selection of the UV lamps is as decisive as the diligent construction of the UV radiation chamber. The closer the water to be treated is directed alongside the UV lamps the more efficient is the depletion of chlorine and chlorine dioxide.

THE WORLD OF WATER TREATMENT

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