

Principle of Light-Controlled Atomization Module



Article Overview

A light-controlled atomization module uses electrical signals, often triggered by a light source, to drive a piezoelectric element that converts liquid into fine mist through ultrasonic vibrations.

Working Principle

The core of a light-controlled atomization module is the atomizer, typically an ultrasonic piezoelectric transducer. When a high-frequency electrical signal is applied to the piezo element, it vibrates at ultrasonic frequencies. These vibrations create mechanical waves on the liquid surface, breaking it into micron-sized droplets (usually 1-5 microns), which are then dispersed as a fine mist into the air, enhancing humidification or scent diffusion .

Light Control Mechanism

In a light-controlled setup, the module is integrated with a lighting element or a light sensor. The light signal can act as a trigger for the module, either directly or via a microcontroller (MCU). For example:

- Direct control: The light intensity or a photodiode output can switch the module on or off.

Article Content

Chapter 9 Atomic Absorption and Atomic Fluorescence Spectrometry

The light from the source (HCL) passes through the furnace and absorption during the atomization step is recorded over several

the water atomizing process 1 | Total Materia

Figure 1: Iron and copper powders produced through water atomization Water Atomization Process Principles The fundamental

Modulation Basics – Wavelength Electronics

Direct Modulation is when the current, before reaching the laser diode, is modified with the desired signal for the application. This

Ultrasonic atomization principle

How ultrasonic atomization works Ultrasonic atomization is a liquid to a solid type of process, however contrary to the

Pressure Atomisation

Ultrasonic atomization can easily control the droplet size and produce excellent atomization quality with very low water consumption.

ENERGY-SAVING TECHNOLOGIES OF LIQUID ATOMIZATION:

Various approaches to optimizing heat and mass transfer through innovative liquid atomization methods are described. The designs

Atomizing Nozzles: Types, Uses & Optimization –

Atomizing nozzles break liquids into tiny droplets for various applications. Different types of

Experimental and theoretical investigation of rotary atomization ...

Abstract Experiments were conducted to characterize a rotary spray atomization and congealing process using model

Atomization: A Comprehensive Guide

Atomization is a process widely used in various industries to convert bulk liquid into a spray or powder form through the application of

How does ultrasonic atomizer work

By leveraging ultrasonic technology, they offer a highly efficient and energy-saving solution for atomization. This article

Spray Droplet Size Measurement System

A receiver module that can hold one of two lenses (300mm or 750mm), which focuses any light scattered

Fuel atomization in gas turbines: A review of novel technology

The atomization of fuel is crucial in the combustion and emission of a gas turbine, and the fuel atomization is

Construction of electronic cigarettes

E-cigarette components include a mouthpiece (drip tip), a cartridge (liquid storage area), a heating element / atomizer, a

ACEBOTT 3Pcs Humidifier Module, Spray Module Circuit Board, Atomization ...

Spray Principle: Piezoelectric ceramics drive the metal plate to oscillate at high frequency, and ultrasonic liquid atomization. Micron

PRINCIPLES OF ATOMIZATION

Basic principles of materials science and physics which apply to the formation and solidification of small droplets during gas and

Principles of Atomization | Springer Nature Link

Basic principles of materials science and physics which apply to the formation and solidification of small droplets during gas and

Vibration Analysis of a Piezoelectric Ultrasonic Atomizer to Control ...

In this work, a mechanical vibrational analysis of an ultrasonic atomizer is carried out to control its atomization mass

ATOMIZATION

The liquid properties of importance in atomization are surface tension, viscosity, and density. Basically, atomization

Atomisation

Therefore, air-assisted atomization is able to achieve uniformly distributed droplets at low air velocity and liquid pressure, with good

Research Advances in Close-Coupled Atomizer Flow and Atomizing ...

Therefore, it is expected to improve the close-coupled gas atomized powder preparation technology and achieve

Atomization

Atomization is the formation of an aerosol or suspension of small droplets in a gas phase. For the purposes of encapsulation, the gas

(PDF) Production of metal powders by gas atomization

Metal powder production by gas atomization has been studied in some depth in recent years. The driving force for that

News and Stories about EmiControls and our Projects

What are its limits? Ultrasonic atomization technology is effective only for low-viscosity Newtonian fluids. How can optimal

WO/2026/081801 ELECTRONIC ATOMIZATION DEVICE, AND

An electronic atomization device (1), and a control method for a light-emitting diode module, which are capable of controlling a light

An Intelligent Atomizer with PWM Lighting Effect Control

Finally, PWM is used to control the new intelligent lighting effect of the atomization device and improve the ornamentation of the

Keyestudio Atomization Module — keyestudio WiKi documentation

Working principle: The module usually produce water mist through ultrasonic technology. It contains a piezoelectric ceramic sheet

What is Spray Atomization? | Lechler | Lechler US

These nozzles are commonly used for coatings, humidification, odor control, mixing, lubrication, and dust control. Some industries

Two Fluid Atomization Fundamentals | Springer Nature Link

In this chapter we review the major types of atomization process configurations: free-fall gas atomization with an

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://jrsekwele.co.za>

Email: info@jrsekwele.co.za

Phone: +31-20-794-2536

Address: Herengracht 47, 1015 BB Amsterdam, Netherlands

This document is for informational purposes only. Specifications subject to change without notice.

