LIPOSOMAL PRODUCTS| APPLICATIONS OF LIPOSOMES IN DRUG DELIVERY SYSTEMS

MICROENCAPSULATION

GIBMEC

THE MVP GENERATOR
STARTUP IN AN INNOVATIVE
BIO MICROFLUIDIC ENGINEERING
CONTEXT

WHAT IS MICROENCAPSULATION ?

When it comes to the precise administration of small-molecule medicines, vaccines, and genes, Liposomal drug delivery systems are among the most reliable options. Products derived from lipid bilayers – known as liposomal products – have the ability to deliver hydrophilic and hydrophobic medications, including those used to treat cancer, bacterial and fungal infections, immunomodulation, diagnostics, ophthalmology, vaccinations, enzymes, and genetic elements. The creation of liposomes leads to distinct changes in the characteristics shared by these systems.

ABOUT GIBMEC STARTUP

GIBMEC is a cutting-edge technology startup that creates specialized MVPs in the design and development of Microfluidic devices, and Microfluidic chips for a variety of applications including biomedical research, drug discovery, and diagnostics. Our devices are designed to provide accurate, reliable, and efficient results to our audience Interested in investing or becoming customers.

more in https://www.gibmec.com

ADVANTAGES OF MICROFLUIDIC METHOD

Protect the API

Control API Release

Target drug delivery to the site of disease

Enhance solubility and bioavailability

CONVENTIONAL METHODS

Lack consistency > poor quality
Laborious/slow/low throughput
Difficult to scale-up
Requires expertise/skill

VS.

MICROFLUIDIC METHOD

Controlled and consistent size
Continuous high throughput
Highly scalable
User friendly

LIPOSOMAL PRODUCTS IN DRUG DELIVERY SYSTEMS

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WHAT ARE LIPOSOMAL PRODUCTS, AND WHY ARE THEY PROFITABLE

Targeted delivery of small-molecule medicines, vaccines, and genes may be accomplished with great success using liposomal products. A medicinal preparation known as a liposomal contains the active substance inside microscopic particles that resemble fat. Liposomal preparations are also known as liposomes. This form is more straightforward for the body to absorb, which enables more of the medicine to reach the part of the body that needs it, like a tumor. Liposomal drugs have the potential to have fewer adverse effects and to function more effectively than other versions of the drug.

In general, non-liposomal drugs have poor absorption and bioavailability, which is something that has been well-documented in clinical settings. Liposome technology makes it possible to have better nutrient absorption and greater bioavailability. Dry liposomal powder solutions, like other liposomal products, also make it possible to have this increased bioavailability. When it comes to minerals like vitamin C, vitamin D, and curcumin, liposomal administration is one of the most effective methods available. The following is a list of some of the several nutrients that are accessible in this form:

- ***Vitamin C***
- ***Vitamin D***
- ***B vitamins***
- ***Turmeric***
- ***Glutathione***
- ***Co-Enzyme Q10***

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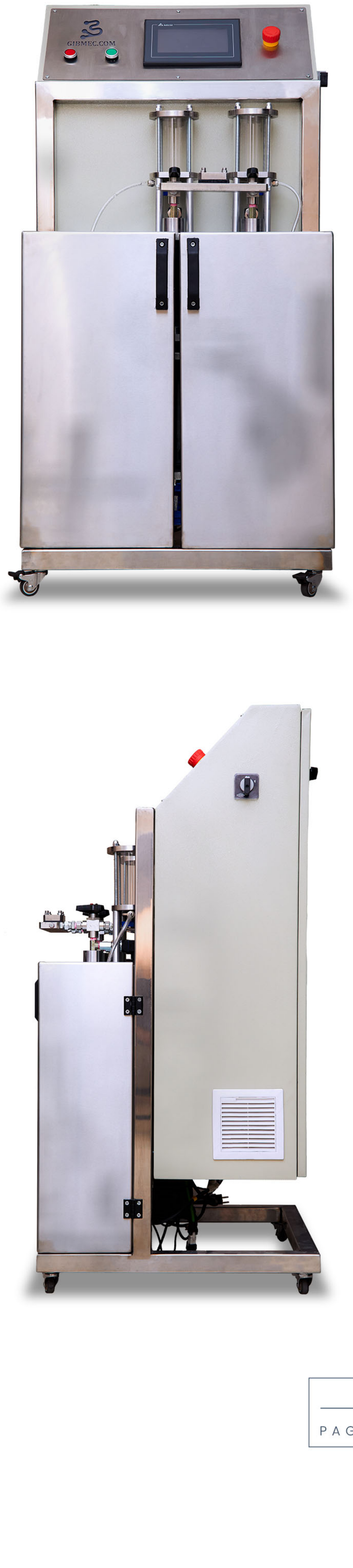

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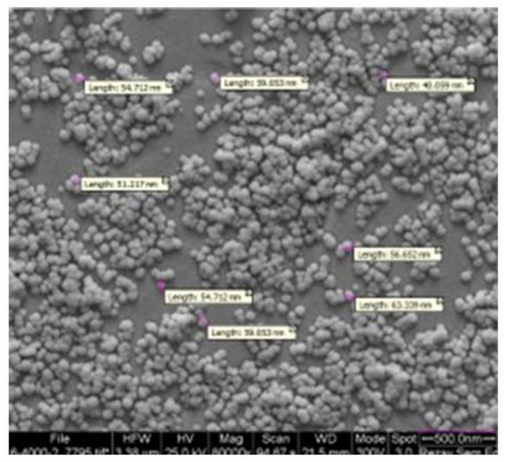
BY GIBMEC :

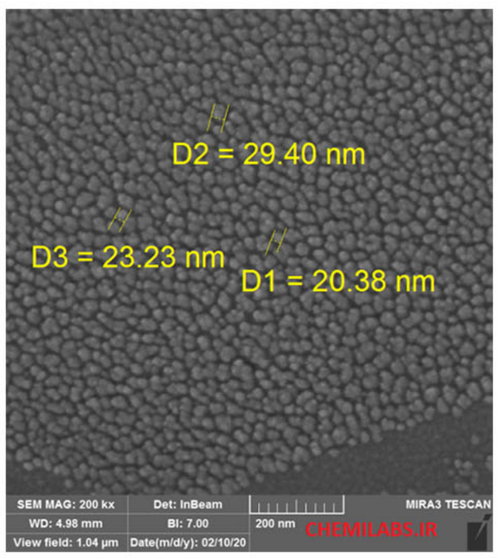
* NANO-ENCAPSULATED CURCUMIN

PDI: 0.05 to 0.15 (from DLS)
Drug Loading: 80%
No sedimentation after 8 months

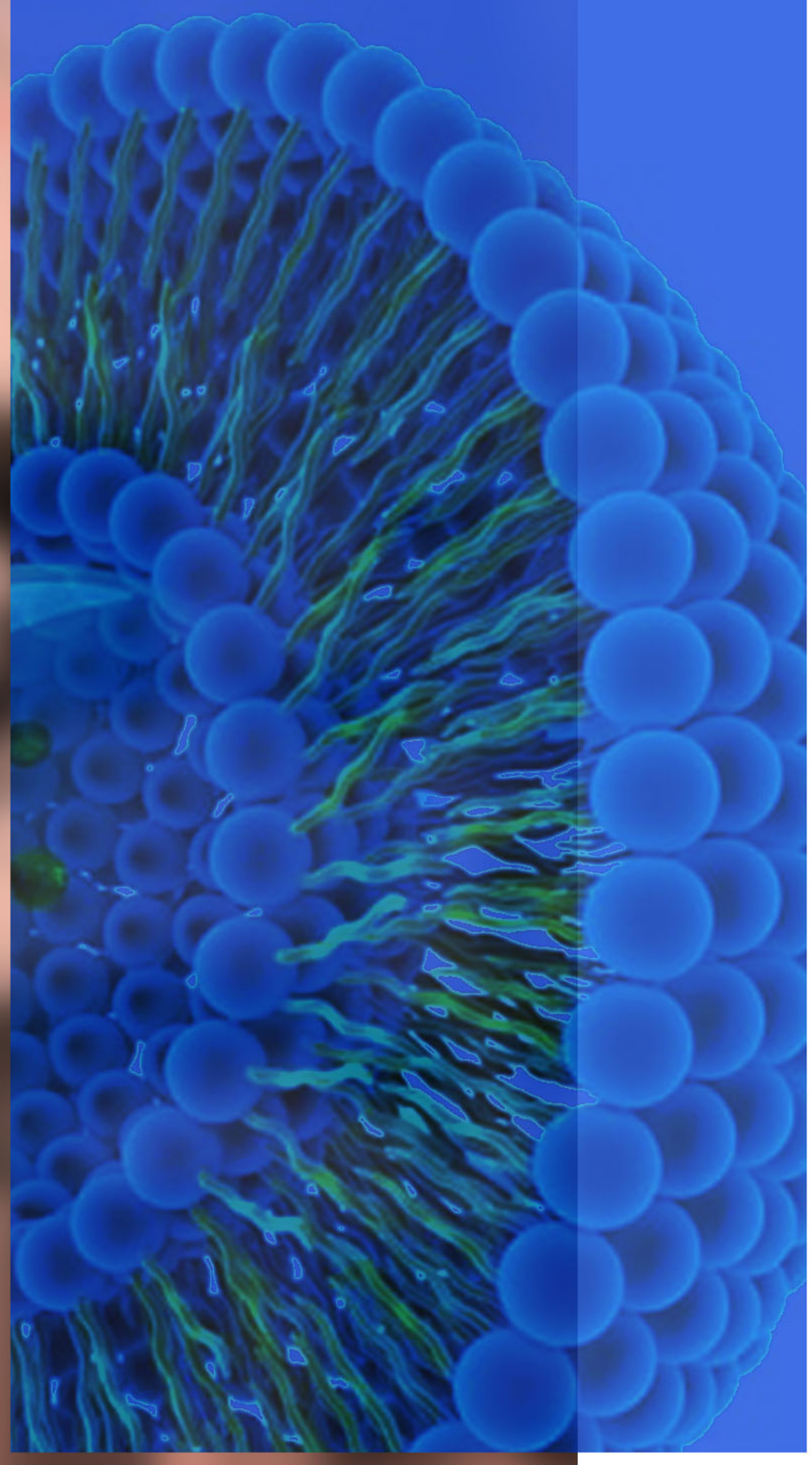


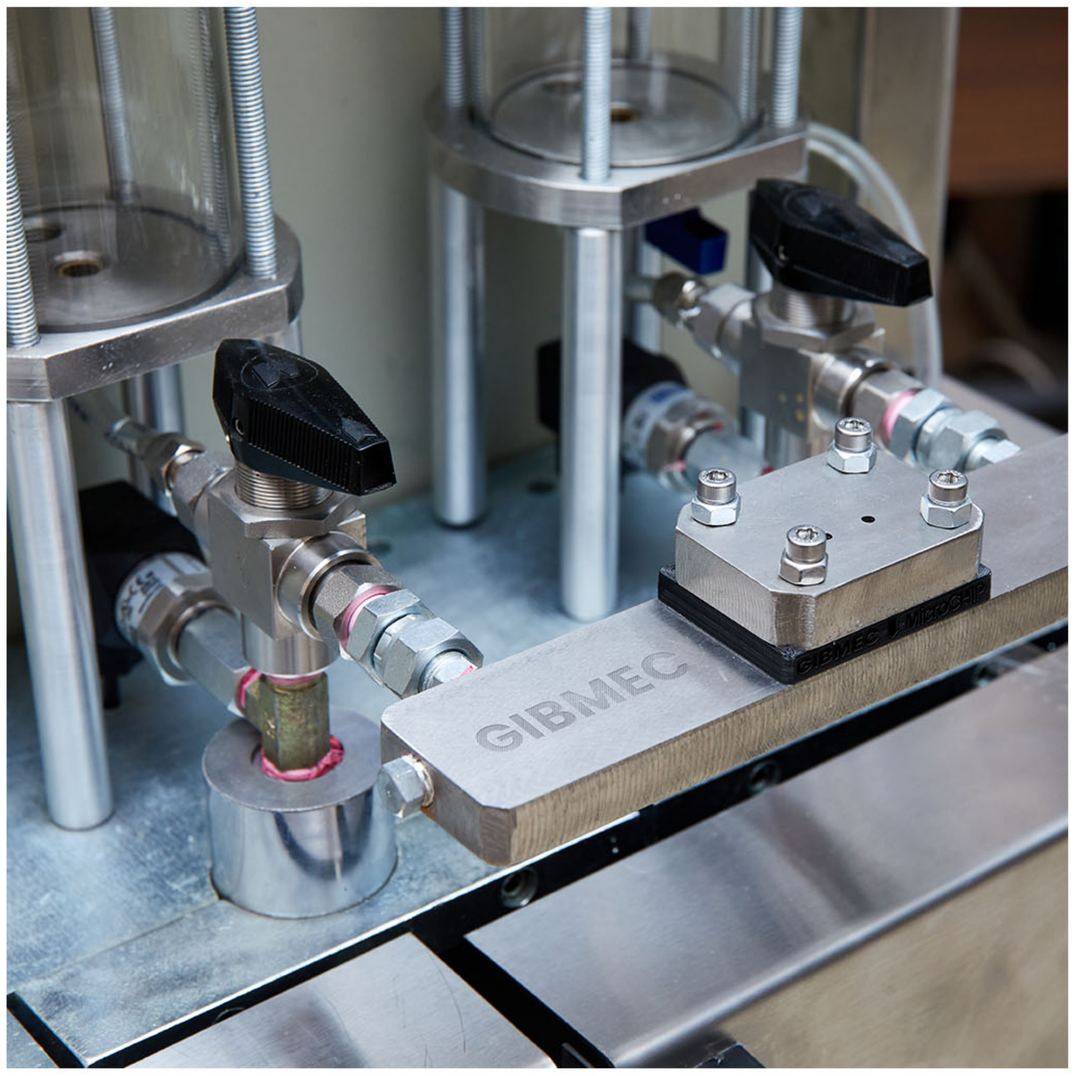
* NANO-ENCAPSULATED OREGANO ESSENTIAL OIL

PDI: 0.15 (from DLS)
Drug Loading: 70%



GIBMEC DEVICE VIEW .





PARAMETER	DESCRIPTION	SPECIFICATION
Number of modules	2 pcs	level up based on customer's requirement
HMI	7-inch screen	
Dimension	Height: 150 Cm length: 60 Cm width: 60 Cm	
Number of vessels	2	level up based on customer's requirement
Vessel capacity	120 CC	capacity could be modified according to customer's order
Maximum injection pressure	400 Bar	
Minimum injection flow rate	0.001 cc per minute	
Maximum injection flow rate	20 cc per minute	Could be level up to 80 cc per minute
Power	220 V- 10 A	
Variable valve	3-2 (600 bar)	
Accessories	Heater	Fluid with high viscosity can be preheating before injection

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