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By KOREA PROCESS TECHNOLOGY

High-Pressure Homogenizer Liposome Extruder



KOREA PROCESS TECHNOLOGY CO., LTD

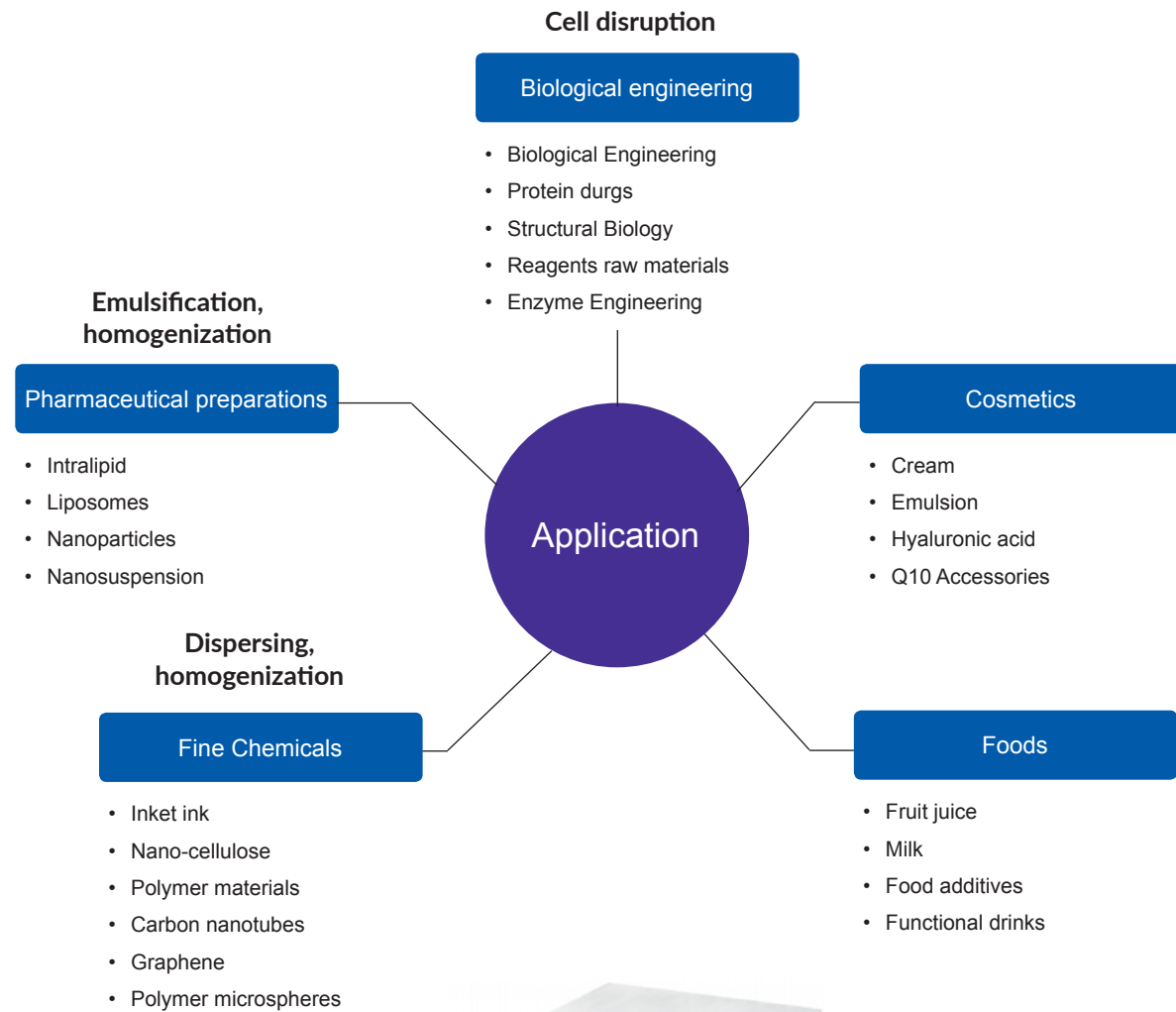
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High-pressure Homogenizer Applications





Application Introduction

Biological articles

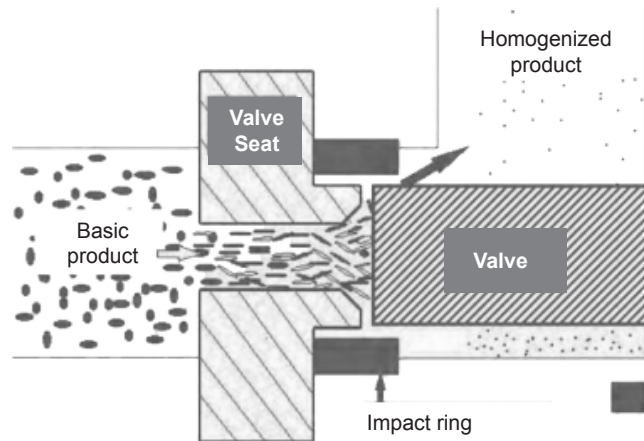
Cell disruption

Applicable type of bacteria

E. coli, Yeast, Algal cells, Animal cells, Insect cells

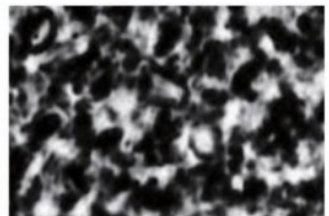
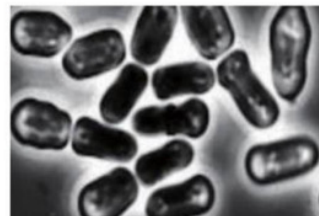
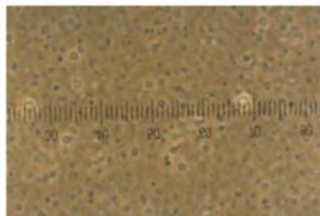
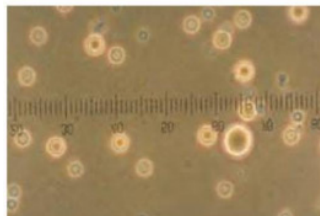
Crushing principle

Plunger movement carries sample to a valve assembly which size can be adjusted. Samples received ultrahigh pressures squeeze, through the specific slit width. Instantaneous release of pressure to high-speed crash in the homogenizing valve. Bring about cavitation, impace effect shearing effect:So as to achieve a homogenous, emulsification, dispersion effect



Techniques

- > 99% fragmentation rate
- Built-in temperature control device:direct cooling of the working part,the temperature can be controlled at below 10 °C, the samples had no time in with high temperature residen
- PLC control: optional PLC control systems, production data monitoring, collection and output
- Modular design: The device fully modular design, can achieve SIP / CIP
- Resuspended bacterial system can be configured
- Compliance with GMP / FDA requirements



800barX2(E.coli)

1200barX2(Yeast)



Application Introduction

Pharmaceutical, fine chemical

Applicable type of bacteria

Pharmaceutical : Emulsifier, Suspension and other types of drugs

Fine chemical : Nanospheres, Conductive material

Techniques

Uniformity control	Particle size control	Temperature control	Data record
(Two-level homogeneous) <ul style="list-style-type: none"> • The samples could be homogenized and dispersed in first stag • The sample would be further dispersed evenly in the second stage • Agglomerated particles would be dispersed and PDI is less than 0.1 	<ul style="list-style-type: none"> • Fat emulsion particle size < 0.2um • Liposome particle size < 0.1um • Fine Chemical System Stability 	Internal and external temperature control at the same time, can be adjusted within the range of 5-100 °C	Monitor the whole process, in line with GMP / FDA standards

Pharmacy System





Machine Type

KAH-1500

Cell disruption experimental homogenizer



Applications E. coli, yeast, animal cells, etc

Application Category

Human use / veterinary vaccines, reagents raw materials
protein drugs, structural biology, enzyme engineering

Techniques

No	Project	Parameter
1	Maxumum working pressure	1500bar/150M pa/22500psi
2	Maximum design pressure	2000bar/200Mpa/30000psi
3	Processing capacity	5~15L/H
4	The minimum processing volume	25 ml
5	Material consumption	0 ml (No residue)
6	Motor Power	1.5kw/380V/50Hz
7	Dimensions	W440*H410*L800
8	Weight	110kg

KAH-2010

Pharmacy dedicated experimental homogenizer



Applications

- Fat milk (alprostadil, propofol)
- Liposomes (doxorubicin, amphotericin B, Aoshalibo etc.)
- Nanosuspension Budesonide, albumin nanoparticles, etc.

Techniques

No	Project	Parameter
1	Maxumum working pressure	1800bar/180Mpa/27000ps
2	Maximum design pressure	2000bar/200Mpa/30000psi
3	Processing capacity	5~10L/H
4	The minimum processing volume	25 ml
5	Material consumption	0 ml (No residue)
6	Motor Power	1.5kw/380V/50Hz
7	Dimensions	W440*H700*L440
8	Weight	150kg



Machine Type

KAH-BASIC

Most cost-effective universal homogenizer



Applications Category

Biology: cell disruption, enzyme engineering, protein drugs

Pharmacy: liposomes, fat emulsion, nanoparticles, etc.

Food, cosmetics, Fine Chemicals, etc.

Techniques

Project	Basic 1	Basic 2
Maxumum working pressure	1500bar/150Mpa/22500ps	1000bar/100Mpa/15000psi
Maximum design pressure	1800bar/180Mpa/27000ps	1200bar/120Mpa/18000psi
Processing capacity	10L/H	20L/H
The minimum processing volume	25ml	25ml
Material consumption	0ml (No residue)	0ml (No residue)
Motor Power	1.5kw/380V/50Hz	1.5kw/380V/50Hz
Dimensions	W440*H410*L800	W440*H410*L800
Weight	110kg	110kg

KAH-PILOT II



Applications

Can be used in the formulations, biotechnology, food and other industries especially for pharmaceutical research and development of small pilot requirements

Built-in temperature control, flow control

Optionals: Gas pressure regulator, Cycle stainless steel jar

Techniques

No	Project	Parameter
1	Maxumum working pressure	1800bar/180Mpa/27000psi
2	Processing capacity	15-40L/H
3	The minimum processing volume	25 ml
4	Material consumption	0 ml (No residue)
5	Dimensions	W750*H850*110
6	Weight	180kg



Machine Type

KAH-30-100

Mass production homogenizer



Applications

Pharmacy, Suspensions, Cell disruption

Techniques

No	Project	Parameter
1	Maxumum working pressure	1500bar/150Mpa/22500psi
2	Maximum design pressure	1800bar/180Mpa/27000psi
3	Processing capacity	500L/H
4	The minimum processing volume	3L
5	Material consumption	0 ml (No residue)
6	Motor Power	30kw/380V /50 Hz

Production equipment list

TYPE	Processing capacity(L)	Pressure (bar)	Motor Power (KW)
KAH 08-100	100	1000	7.5
KAH 08 PLUS	60~80	1500	7.5
KAH 12-100	150	1500	11
KAH 25-150	300	1500	18.5
KAH 30-100	500	1500	30
KAH 37-100	1000	1000	37





Liposomes extruder list

LF-I Liposome extruder

- samples of each extrusion volume is 1 ml, 500ul is the two needle cylinder.
- the minimum amount of sample processing for 0.1ml.
- after the test for 0 residue

The membrane can choose 50nm,100nm,200nm,400nm,800nm,1000nm



EX10 Liposome extruder

- Each sample volume: 0-10ml
- Maximum working pressure: 1000PSI
- The jacket temperature control design
- The standard 100nm microporous membrane
- Net weight: 4kg



EX10 Liposome extruder

- Each extrusion amount of liposomes: 0.5-50mL,
- But the preparation of uniform lamellar lipid body, 5 to 50 ml of processing capacity



Liposome Extrusion System

- Adriamycin liposome
- 100L liposome extrusion system
- Production type 297 extruder + high pressure homogenizer

