

New Technology Business Promotion

# Opening New Horizons in K-Beauty with Innovative Freeze-Drying Technology

Mass Production · Cost Reduction · Ingredient Mixing Flexibility

Advanced Freeze-Drying Technology

Efficient Mass Production

Customized Product Development



# Market Opportunity Analysis - K-Beauty Trends and Developments

## 🌐 Global Beauty Trends

- By 2026, the market will prioritize brand identity and consumer experience over simple functionality
- **Science-Based Efficacy:** Data-based verification is important, including clinical trial results, efficacy metrics, and before/after photos
- **Essential Minimalism:** Consumers tired of digital overload and excessive product choices prefer curated, select few products

## 〽️ Shifting Dynamics in K-Beauty Market

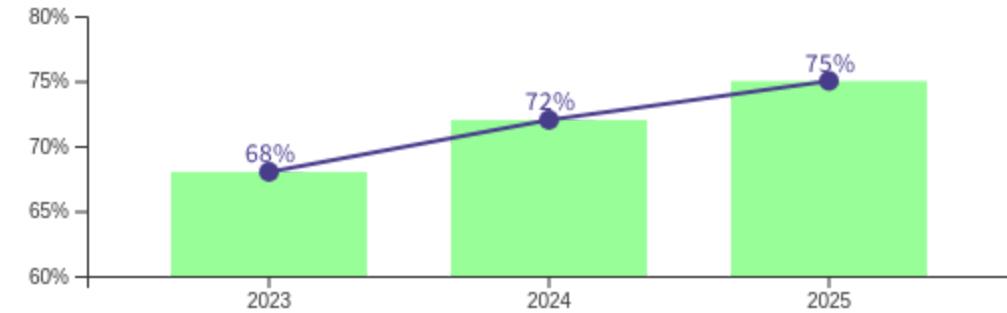
- Rapid shift from large corporations to indie brands is underway
- **Rise of Indie Brands:** Growth through technological capabilities and viral marketing, such as Medicube and Anua
- **Importance of OEM/ODM:** Secure quality competitiveness through continuous R&D and unique manufacturing recipes

## 🛒 Rise of Online Distribution Channels

Social media and online platforms have established themselves as key channels driving K-Beauty growth.

**TikTok-Google-Amazon Connection:** The flow of consumers watching videos on TikTok, searching on Google, and then making purchases on Amazon is becoming increasingly clear.

Increase in K-Beauty Product Purchase Share in the US



# Innovation of Freeze-Drying Technology

## Freeze-Drying Technology Principle



The principle involves freezing cosmetic formulations or ingredients at low temperatures, and then sublimating the ice directly into water vapor under vacuum to remove only moisture. This process minimizes the destruction of active ingredients and contributes to preserving their unique characteristics and activity.



### Maximizing Active Ingredient Preservation

저온 공정을 통해 열에 약한 단백질, 펩타이드, 비타민 등 기능성 원료의 활성을 유지하고 변성을 방지합니다.



### No Preservatives Needed

With extremely low moisture content, there is no risk of microbial growth, allowing for minimized or completely eliminated use of preservatives, reducing skin irritation.



### High Stability and Long-term Storage

Due to its dried form, there is a low risk of oxidation and deterioration, allowing for stable long-term storage even at room temperature.



### Immediate Efficacy Expression

When mixed with water just before use, it dissolves quickly, allowing highly concentrated active ingredients to be immediately absorbed into the skin and demonstrate efficacy.



### Portability and Ease of Use

가볍고 작은 형태로 제조 가능하여 휴대 및 사용이 간편합니다.

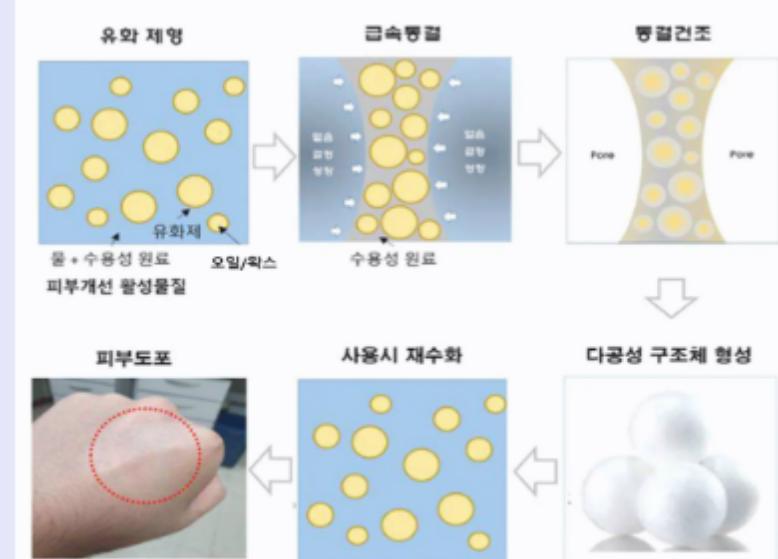


그림 2. 예술적인 제형으로 제작된 제품 제조 공정 모식도

# Mass Production and Cost Reduction Effects



## Automated Production Process

- ✓ Precisely control the entire freeze-drying process through PLC electronic control system
- ✓ Large-scale processing and production possible using large freeze dryers
- ✓ Pre-freeze drying is performed on site to reduce the complexity of the drying process and achieve automation



## Increased Production Efficiency

- ✓ 건조실 내 온도차를  $\pm 1$ 도 이하로 유지하여 균일한 건조 효과를 얻음
- ✓ The separated structure of cold trap and drying chamber provides strong moisture collection capacity and shorter drying time



## Cost Reduction Effects



### Preservatives and Additives Reduction

Minimize the use of preservatives to reduce raw material costs



### Logistics and Storage Cost Reduction

제품의 경량화 및 상온 보관 가능성으로 운송 및 보관 비용 획기적 감소



### Energy Efficiency

Efficiently manage energy consumption through optimization of the freeze-drying process to lower production costs

# Flexibility in Mixing Various Ingredients

## Functional Ingredients That Can Be Stably Mixed



### Collagen

Can contain 30-99% by weight of natural polymer collagen extracts with various molecular weights such as 1300Da, 3500Da, 4500Da



### 히알루론산

피부 탄력 및 주름 개선에 효과적인 중분자량 히알루론산의 안정화 가능



### Plant Ferment Filtrate

진흙버섯/갈대뿌리 등 한방 원료의 현대적 재해석으로 미백 및 피부 개선 효과



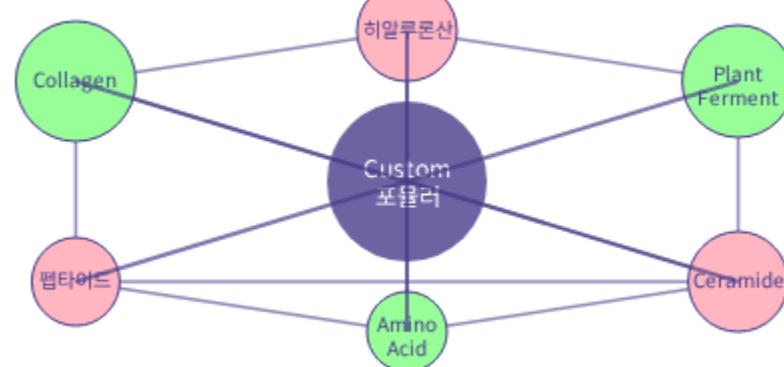
### Other Ingredients

저분자 콜라겐 펩타이드, 아미노산, 세라마이드, 펩타이드 등 다양한 성분 조합

## Advantages of Technical Flexibility

- ✓ **Maximizing Efficacy:** Maximizes the effect of active ingredients by manufacturing in a highly concentrated freeze-dried capsule form with 100% pure raw material content
- ✓ **맞춤형 포뮬러:** 고객사의 요구에 따라 저분자 콜라겐 펩타이드, 히알루론산, 아미노산, 세라마이드, 펩타이드 등 다양한 성분을 최적의 비율로 배합
- ✓ **Immediate Efficacy:** When mixed with water just before use, it dissolves quickly, allowing highly concentrated active ingredients to be immediately absorbed into the skin

## Ingredient Mixing and Distribution Visualization



# Main Product Lineup

## Freeze-dried Collagen Ball



Contains 100% highly concentrated collagen

Dissolves in water/serum

**Target Customers:** Consumers seeking elasticity and wrinkle improvement, premium skincare brands

**Expected Effects:** Improved skin elasticity, wrinkle reduction, deep hydration

## 고농축 EGF 앰플 키트



Preserves EGF growth factor

Activated just before use

**Target Customers:** Sensitive skin, consumers seeking skin regeneration and calming, derma-cosmetic brands

**Expected Effects:** Skin regeneration promotion, calming effect, skin barrier strengthening

## Functional Freeze-dried Patch



콜라겐/히알루론산/펩타이드 함유

Intensive care for specific areas

**Target Customers:** Consumers wanting intensive care for specific areas such as eye area and nasolabial folds, aesthetic specialty brands

**Expected Effects:** Wrinkle reduction, improved elasticity, whitening effect



## Customized Freeze-dried Powder

Blends proteins/vitamins/plant extracts

Highly concentrated active ingredients

**Target Customers:** Brands wanting to emphasize specific functionalities, personalized cosmetics market

**Expected Effects:** Implementation of customized efficacy for clients, product differentiation

# Business Model: High-Tech OEM/ODM

## K-Beauty Value Chain Analysis

### Planning/Development

Brand concept, product development, marketing strategy

### Raw Materials/Accessories

화학原料, 자연 자원, 가공 부자재

High-Tech OEM/ODM

### Product/Production

Manufacturing, processing, packaging, distribution

### Distribution/Sales

Online/offline sales, global marketing

## Importance of OEM/ODM

- The K-beauty market is being rapidly reorganized **centered around indie brands**
- The growth of indie brands actively utilizes the OEM/ODM structure to enable **flexible product launches without their own production facilities**
- This facilitates overseas expansion in line with the transition to **online channel-centered consumption trends**

## Positioning as a High-Tech OEM/ODM Specialist Company



### Technology-Centered Differentiation

Strengthening a differentiated position based on the unique advantages and market potential of freeze-drying technology



### Brand Partnership

Positioning as a key technology partner for 'brand companies' focused on brand planning and marketing



### Growth Acceleration

Using freeze-drying technology, brand companies can quickly launch innovative, high-functional products to the market without production burdens

## Indie Brand Support Strategy



- Enable **flexible product launches without their own production facilities** for indie brands that are growing rapidly through social media and online platforms
- SNS 및 솟폼 콘텐츠 기반의 마케팅을 통해 **빠르게 성장**하는 브랜드들을 지원
- Provide solutions suitable for online channel-centered consumption trends and **global expansion**

# Marketing and Sales Strategy

## Target Customers

🎯 Indie beauty brands targeting global market entry

🏢 Existing cosmetic companies seeking innovative product line expansion



### Emphasizing Industry Expertise

- ✓ Creation of professional promotional materials emphasizing the scientific excellence and efficacy of freeze-drying technology
- ✓ Technical contributions and interviews with beauty industry specialized media
- ✓ Securing technology leadership to enhance credibility



### B2B Exhibition Participation

- ✓ Participation in major beauty and cosmetic ingredient exhibitions such as Cosmoprof and in-cosmetics
- ✓ Expanding direct networking opportunities with potential clients
- ✓ Direct experience of technological differentiation through on-site demonstrations of freeze-dried products



### Utilizing Online B2B Platforms

- ✓ Entry into global B2B marketplaces such as Alibaba, Made-in-China
- ✓ Accelerating the discovery of overseas clients
- ✓ Lowering initial entry barriers through online consultations and sample provision



### Proposing Customized Solutions

- ✓ Utilizing freeze-drying technology tailored to the client's brand concept and goals
- ✓ Implementing exclusive formulas for clients by mixing various ingredients such as proteins, lipids, collagen, etc.
- ✓ Providing customized product development consulting



### Sharing Success Cases

- ✓ Securing successful product launch cases through collaboration with initial clients
- ✓ Enhancing credibility through active promotion of success cases
- ✓ Utilizing for attracting additional customers



### Continuous R&D Investment

- ✓ Developing new freeze-dried formulations in line with market changes and client requirements
- ✓ Continuous investment in functional ingredient development
- ✓ Maintaining technological competitive advantage

# Future Vision and Growth Strategy

## 💡 Future Vision

### ★ Core Partner in K-Beauty Innovation

Beyond being a simple manufacturer, we will establish ourselves as a core partner leading K-beauty innovation by maximizing the stability of highly active ingredients and rapidly supplying customized, highly functional products to meet the diverse needs of our clients

### ↳ Opening New Horizons in the Market

Based on our unique technological advantage, efficient mass production capability, and innovative cost reduction effects, we will open new horizons in the K-beauty market and set the standard for the future beauty industry through continuous growth

## 📌 Growth Strategy



### Continuous R&D Investment

Maintaining technological competitive advantage by continuously investing in the development of new freeze-dried formulations and functional ingredients in line with market changes and client requirements



### Customized Solutions

Providing customized product development consulting using freeze-drying technology tailored to clients' brand concepts and goals, implementing exclusive formulas for clients



### Emphasizing Industry Expertise

Creating professional promotional materials emphasizing the scientific excellence and efficacy of freeze-drying technology, technical contributions and interviews with beauty industry specialized media

“ In the rapidly changing beauty market, our freeze-dried cosmetics, which combine technological prowess and efficiency, will set the standard for the future beauty industry through continuous growth. ”