

『Hi Fresh』 It's a True Miracle!

Always Together with Fridge!

Best Science for Health Life!



Hi Fresh

July 19, 2019



Hi Fresh

1. Introduction & Information
2. Summary & Contents
3. Technology
4. Function & Effectiveness
5. Application's Scope
6. How to do Installation & Operation
7. Products Line-up & Electric power Information
8. Patent Information
9. Who's to use?
10. How to sale?
11. Contact information



Introduction & Information



It is the world's first / best food preservation enhancement device designed to recover / improve the original taste and ingredients of all the foods we eat using LST technology, and to promote freshness and absorption and release in the body.



Summary

- ❖ Equipment of 『Hi Fresh』 is the best bio-science and unique technology.
 - : All kind of general foods and foods stuffs(water, fruits, meat, fishes, juice, wine, liquor, oil, noodles, bakery etc.), any processed general foods, cosmetics and more agriculture farm industry, and distribution industry, seeds, fishes farm industry, and distribution industry . . . for Hi Fresh value at long time maintenance with preservability of flavor.
- ❖ Always together connecting with fridge(refrigerator)
 - Hi Fresh 1100, Hi Fresh 1100plus, Hi Fresh 1200



What is the 『Hi Fresh』?

- ❖ This Hi Fresh equipment is all kind of edible water, vegetables, fruits, and meat, fishes and all kind of foods and food stuffs etc., all of biotics body's function of cell going to metabolism's energy become to activity and then body of biotic energy and characteristics go to enhance, and more going to extend for fresh value, also life cycle to be maintenance for long term.



LST ?

- ❖ LST (Life Signal Transduction) is best science and unique technology been to combined of technology.
- ❖ LST is a life of metabolism's energy to be transducing with promotion for signal converter as an optimizing.

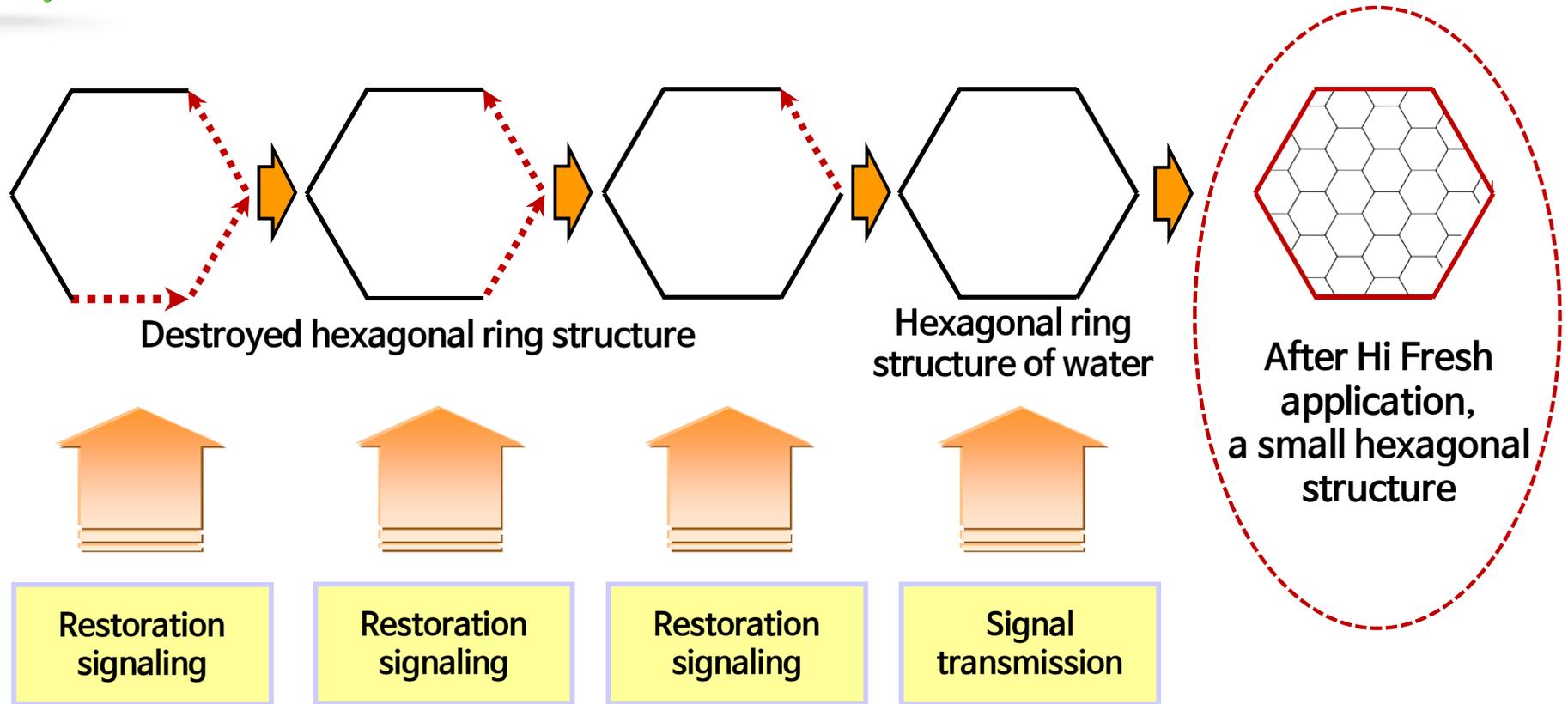


Function & Effectiveness

1. All kind of edible water, natural juice and processed juice, liquor, wine, beer, fruits, vegetables, meats, fishes . . . All kind of bio-somebody has a contain of water (moisture) become to connected of hexagonal shape and going to stabilizing with achievement, and more maintain (maintenance) to long period for freshness level at optimized and prevent to decay with oxidizing.
2. Restore of moisture cell for hexagonal shape.
: All kind of edible foods & water cell to become with change to hexagonal shape and then absorption & excrete to waste matter from body.



Moisture Cell Restoration Process



LST (Life Signal Transduction)



Function & Effectiveness

3. Taste of flavor & nutrient
 - Restore to original taste of flavor
 - To get rid of strange(odor, bad) smell
 - To be preservation & maintenance for nutrient material
4. Maintenance for fresh value to be enhance.
 - All kind of edible food & food stuffs, and water cell into restoring for energy with freshness's value of maintenance
5. Function of fermentation's effectiveness
 - Don't be decay(decompose, rotten) for all of foods & food stuffs and milk and dairy products, meat, wine, liquors change to fermentation
6. Odor(bad, strange smell) to be get rid of fridge



Application's Scope & Field

1. Edible Water
2. Natural juice & processed juice
3. All kind of fruits & vegetables
4. Meats & fishes for butcher's shop
5. Wine, liquors, beer
6. Milk & dairy industry
7. All kind of edible foods & food stuffs
8. Rice & Wheat flour, other grains
9. Noodles & bakery industry
& restaurants
10. Seeds for agriculture farm & industry
11. Fish farm industry
12. Egg farm industry
13. Floriculture farm & industry &
high level vegetable(tomato,
strawberry, paprika etc.)
14. Edible oil
15. Coffee farm & processed industry
16. Sugar syrup processed industry
→ to be change to honey meal
17. Livestock farm & butcher industry
(pig, cattle, sheep, chicken, duck)
18. Cosmetics storage
(user & factory)
19. Cigarette & tobacco for storage
20. Bean-source factory



Restaurant (in Thailand)





■ Fruits and vegetables

- ① experimental group : LST treated } Comparison of states after a certain period of time
② control group : untreated

[cherry tomato]

8 days at room temperature



①

②

- ① LST treated : Maintain freshness
② untreated : Fungus formation & spread

[paprika]

20 days at room temperature



①

②

- ① LST treated : Maintain freshness
② untreated : Fungus formation & spread



■ Egg & garlic

[garlic]

30 days at room temperature



①

②

- ① LST treated : Maintain freshness
- ② untreated : Browning appears

[egg]

5 days at 4°C



①

②

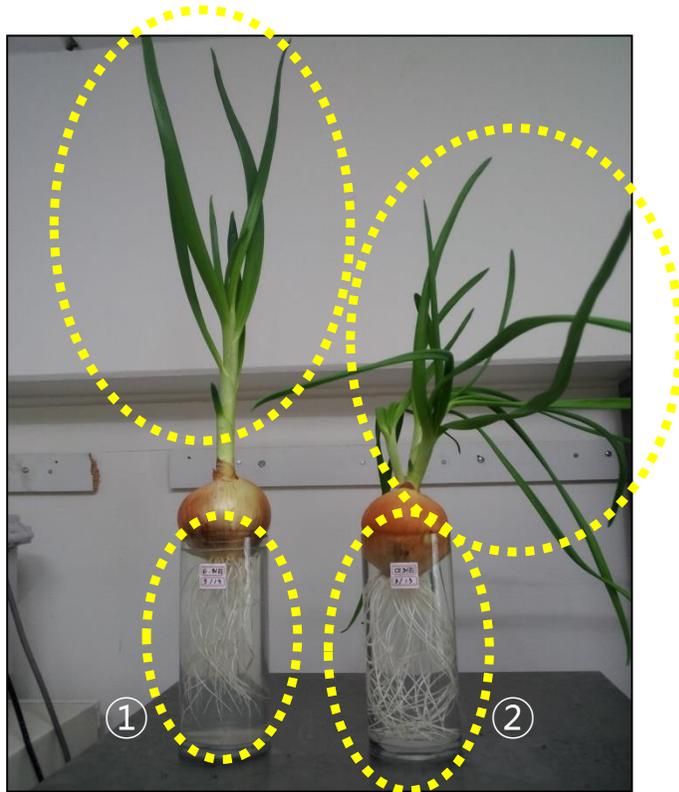
- ① LST treated : Egg yolk becomes dense and egg-specific smell disappears
- ② untreated : Egg yolk weakens and smells



plants

[onion]

40 days at room



- ① LST treated : Good growing condition(leaves)
- ② untreated : Fading...

[oriental orchids]

Growth of more than 3 years in LST treated water





■ Packaged food long-term storage test

❖ Milk & dairy products



Shelf life is over 23 months



29

22

19



21 months



■ Lettuce farm test (Kimje, Korea)



- Installed in water tank, fan in plastic house, cold storage
- Extension of harvest period in seedlings

- Lettuce is not soft, crisp and fresh
- Average yield more than doubled



■ Storage test (Strawberry)

day - 0



day - 7



day - 12



- Freshness of strawberry is maintained more than twice



Comparison of roast pork belly



LST treated



untreated



[Difference in oil]

LST treated

untreated

Left (LST treated) : After the meat is stored in a refrigerator equipped for 24 hours
Right (untreated) : Keep in refrigerator for 24 hours

- ✓ LST treated meat
 - Not burning, less smoke
 - Clear oil, less transfer of oil
 - Keep gravy after cooling
- ✓ Untreated meat
 - The meat is burning and there is a lot of smoke
 - Cloudy dark brown oil, large amount of oil
 - After the meat cools, the meat becomes hard





Storage test (egg)



Untreated (control)

Treated (experimental)



- After 5 days in the refrigerator
 - : Yolk (egg yolk) is round and rising (Fresh egg yolk is round and high, color is dense, old eggs are flat and spread, soft and thin)
- Egg long term storage test
 - : Normal Refrigerator (control) vs Refrigerator equipped with Hi Fresh (Experimental group) (Comparison of height and width of egg yolk, kept fresh about 3 weeks.)

[control]

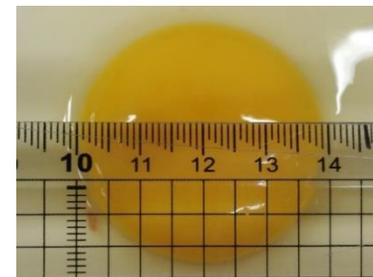
[experimental]



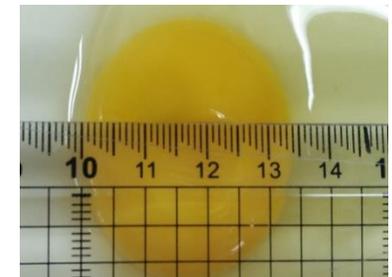
4.1 cm



3.8 cm



3.9 cm

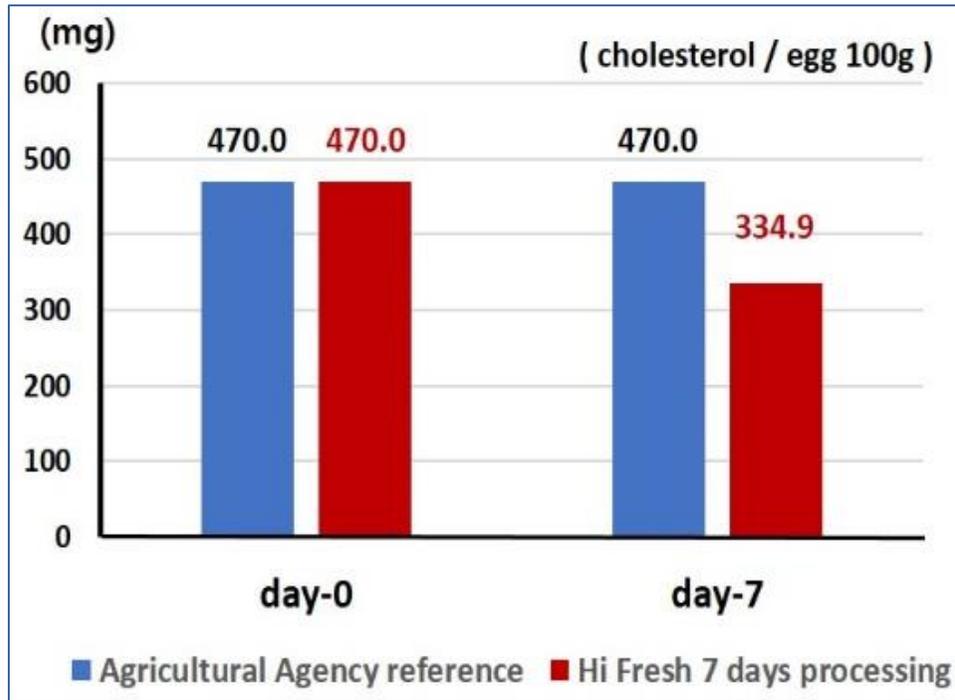


3.4 cm



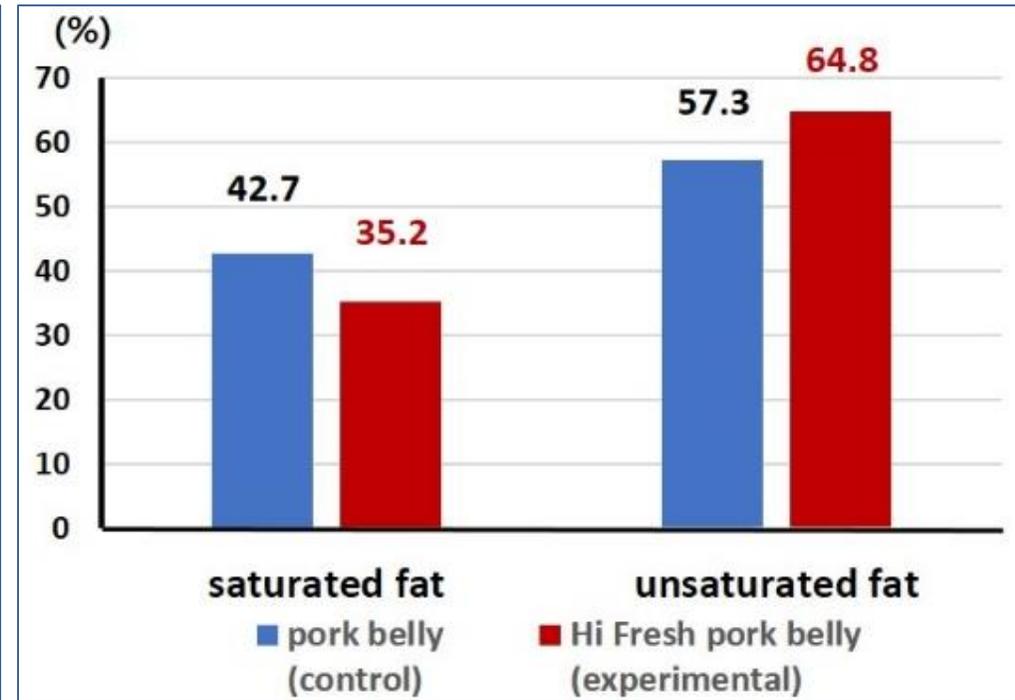
Cholesterol / unsaturated fat

❖ Comparison of Egg Cholesterol Contents (7 days LST treatment)



after 7 days LST treatment,
cholesterol decreased by **28.7%**

❖ Comparison of Pork Saturated / Unsaturated Fat Composition (2 days LST treatment)



saturated fat reduced by about **18%**



■ Cooking oil comparison experiment



LST treated



untreated



❖ Cooking oil

- Extended use period of more than 30%
- Smoke (CO_2) generated less, the difference in pans
- A fire occurs in oil after a certain temperature (untreated oil)
- There is a distinct difference in texture and taste
- Rancidity is delayed



[After use, the difference inside the pan]

LST treated

untreated





■ Other experiments

- rice cake (10 days at room temp.)
- banana (14 days at 4°C)
- chili pepper : It absorbs a lot of water and produces a lot of pepper



- potato





Other experiments

- ❖ Homemade wine, sauce ripening, Radish, Wood cultured ginseng, Sweet potato . . .



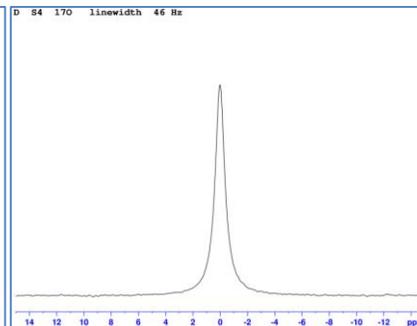
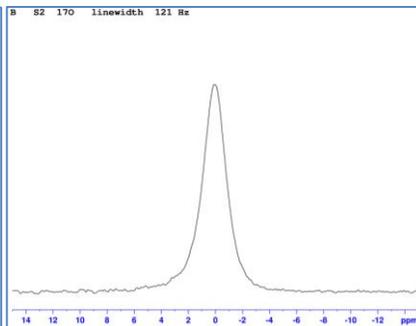
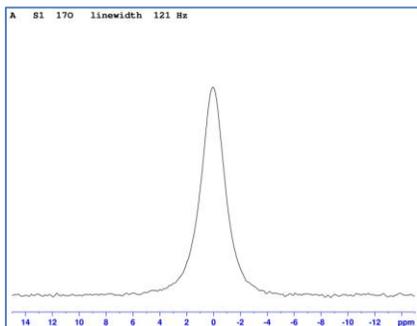


■ molecular structure(cluster) of water

Analysis of molecular structure(cluster) of water

- Korea Basic Science Institute (January 14, 2019)
- Analytical samples : tap water, mineral water (untreated), mineral water (LST treated)
- Analysis equipment : DA208 500MHz (FT-Nuclear Magnetic Resonance Spectrometer)
- Results

Sample	Result (Measure, Hz)	Remarks
Tap water	121	
Mineral water (untreated)	121	
Mineral water (LST treated)	46	



검 수 확 인 증

신청일자	2019.01.14	신청번호		실험일자	2019.01.14
검수일자	2019.01.14	검수번호	2019-WB-00049	검수장	최심재
분석종류	일반분석				
기جه명	DA208 500MHz FT-Nuclear Magnetic Resonance Spectrometer				
시료명	A B C D	시료수	4		
시행분석기간	2019-01-14 ~ 2019-01-31	이동료	₩1,500 (환: ₩1,500 / ₩1,500)		

취와 같이 기기이용 실험결과를 통보합니다.
2019년 01월 14일

한국기초과학지원연구원장

◆ 취직사항 ◆

1. 시료, 분석 결과를 신속하게 이의에 따르시 이의사항을 내부하여 하며, 이의불 이내 시에는 시판일시이후에 발송이 불가능함을 유념하여 주시기 바랍니다.
□ 내부요청
① 별첨내부(의견서제출용지) ② 통정된 원문 : (의견서제출) 하신첨내부(의견서제출용지)를 첨부
③ 의문사항 또는 정정요청(의견서제출)
④ 통정된 변경 : KBI(한국기초과학지원연구원)에 통정된 변경 사항이 있으시면 KBI에 통정
⑤ 통정된 변경 : KBI(한국기초과학지원연구원)에 통정된 변경 사항이 있으시면 KBI에 통정
2. 통정일이 일정에 맞지 않거나 변경 사항이 있을 경우 통정일과 변경일과 일치하지 않습니다.
□ 통정일 유선 : 서울사무국
□ 대표전화 : TEL : 02-8908-8221 FAX :
3. 이의사항은 기기이용이후에 받은 결과물을 통정할 경우 (논의, 통정, 심의)를 통해 내부적으로 통정 (이의제출, 통정요청, 통정일과 일치하는 통정일과)를 통정하여야 하며, 그 통정일과 일치하지 않는 통정일과 통정일과 일치하지 않습니다.
4. 통정일에서 통정된 변경 사항이 KBI(한국기초과학지원연구원)에 통정된 변경 사항이 있으시면 KBI에 통정하여 통정일과 일치하지 않는 통정일과 통정일과 일치하지 않습니다.
5. 이의사항, 통정된 변경사항 (http://www.kbsi.ac.kr) 내에 있는 「의견서제출」을 통해 기기 이용 결과 통정된 변경사항을 통정하여 주시기 바랍니다. 통정된 변경사항이 있으시면, 이의사항과 통정된 변경사항을 통정합니다.



Special Effect of Hi Fresh

Restoration of moisture

- Growing oriental orchids in processed water for many years
- The water in the aquarium can be changed for over a year

Restoration of taste

- The taste of oligosaccharides (product) change the taste of honey
- There is no smell of raw egg and the taste becomes complacent
- The texture of pork (fat) is improved

A healthy diet

- Pork saturated fat is lowered, and unsaturated fat is increased
- The cholesterol content of eggs is greatly reduced

Maintain freshness

- Extend the shelf life of all foods more than twice
- Fresh food intake and economy

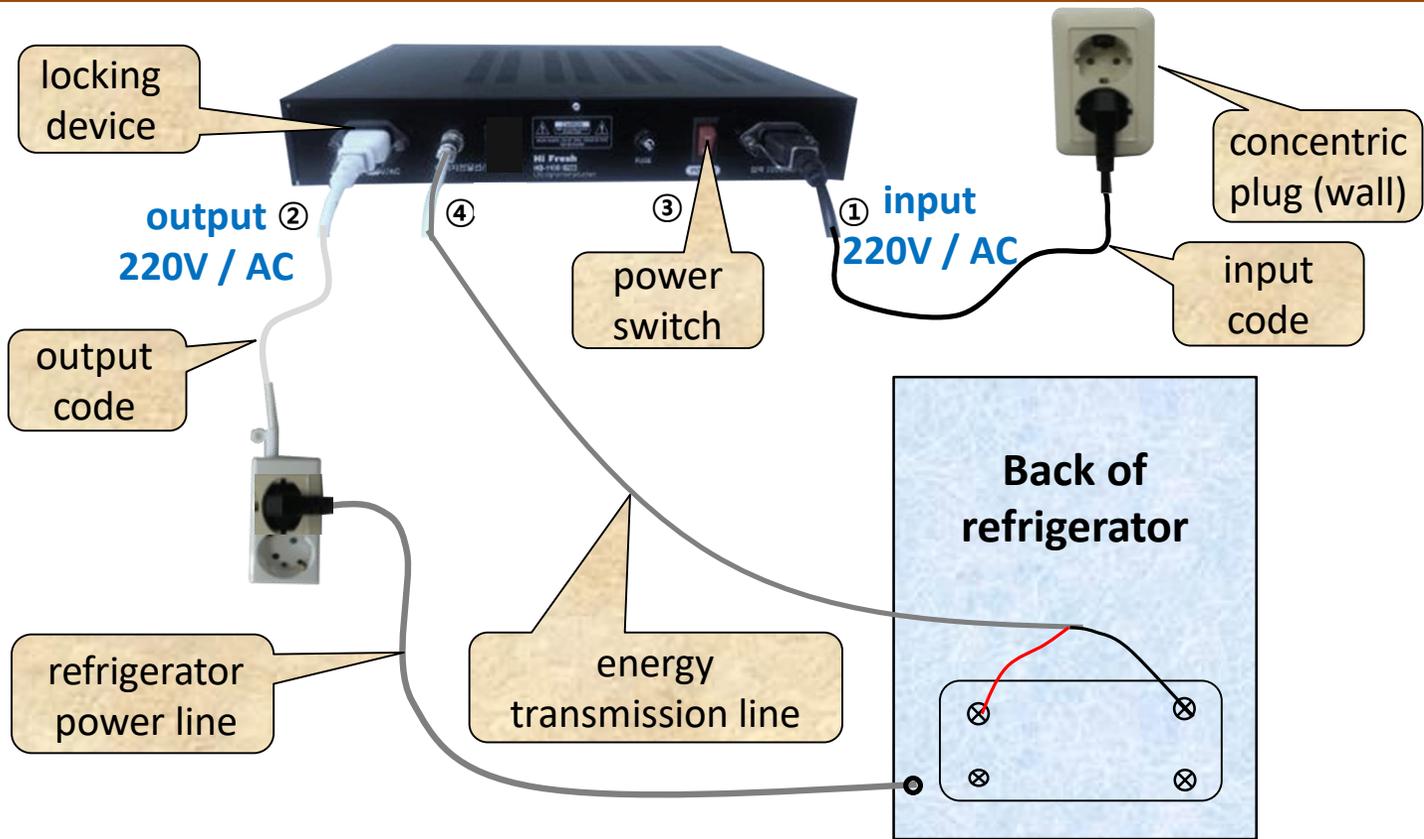
Odor removal

- After installing 『Hi Fresh』, the unpleasant smell in the refrigerator disappears immediately



How to installation & operation

✓ Installation & connecting information of map



[How to install]
Simply connect the device to the power source and connect the energy transmission line to the back of the refrigerator for easy installation.

[How to operation]
Easy touch to s/w



Equipment body



① AC input cord



② AC output cord



④ Energy transmission line



Hi Fresh products line-up

Hi Fresh for Home



■ Hi Fresh HB-1100

- size : 340(W) x 290(D) x 65(H)mm / weight : 5.5Kg
- allowable power : 1.5KW / power consumption : 2.2W



■ Hi Fresh HB-1100Plus

- size : 380(W) x 320(D) x 65(H)mm / weight : 6.3Kg
- allowable power : 2.2KW / power consumption : 2.2W

Hi Fresh for restaurant



■ Hi Fresh HB-1200

- [refrigerator for business use]
- size : 420(W) x 370(D) x 115(H)mm
- weight : 11.5Kg
- allowable power : 3.3KW
- power consumption : 2.4W





Hi Fresh products line-up

Future line-up

A. 340mm -



B. 340mm -



C. 340mm -



D. 340mm -





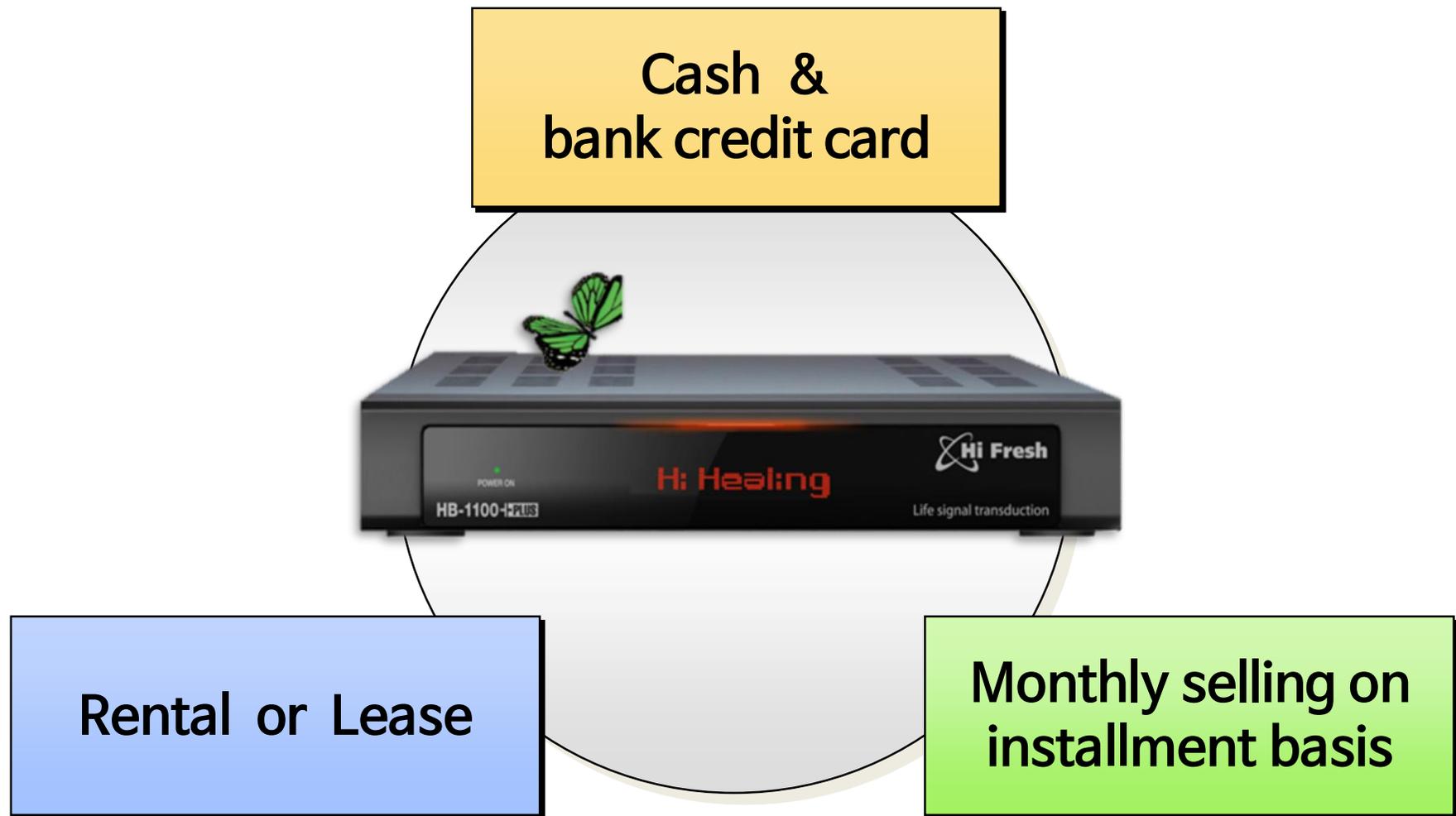
Who's to use

- ✓ Home Fridge
- ✓ All of restaurants
- ✓ Cafeteria & bar
- ✓ Drugstore
- ✓ Cosmetic & beauty shop
- ✓ Grocery store & food store
- ✓ Butcher's
- ✓ Beverage store
- ✓ bakery





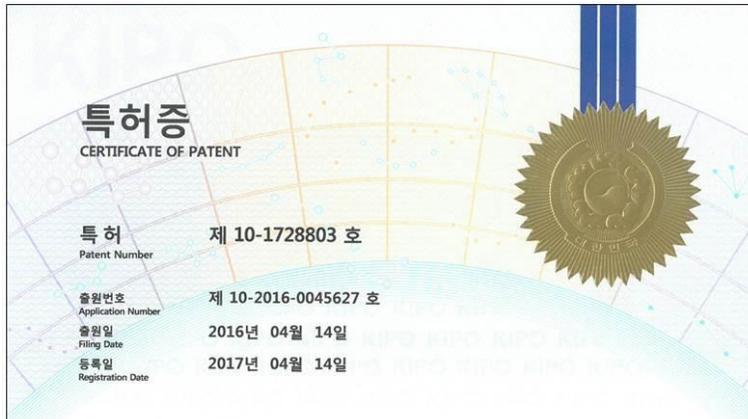
How to sale ?





Patent information

❖ Patent certificate (Korea)



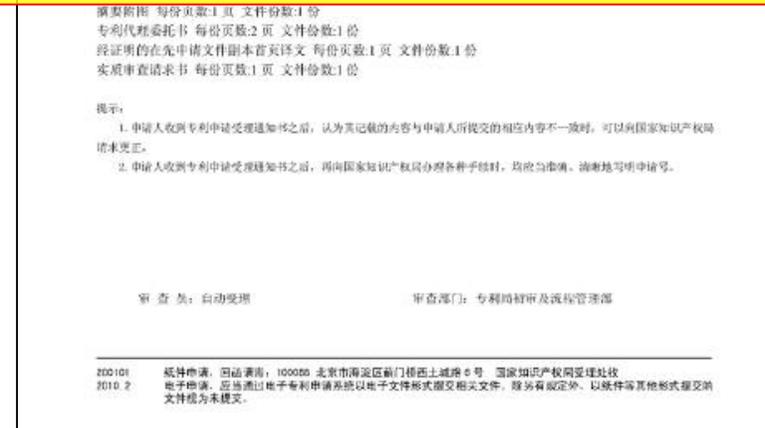
- Korean Patent Registration : No. 10-17288803
- The title of the invention
: DEVICE FOR PRESERVABILITY ENHANCEMENT
BASED ON CELLULAR WATER ACTIVATION



❖ Patent certificate (China)



- China Patent Registration : No. 201610274315.4
- The title of the invention
: DEVICE FOR PRESERVABILITY ENHANCEMENT
BASED ON CELLULAR WATER ACTIVATION





Patent information

❖ International patent application

Electronic Acknowledgement Receipt	
EPS ID:	13994563
Application Number:	16093441
International Application Number:	PCT/JP2016/004070
Confirmation Number:	1062
Title of Invention:	DEVICE FOR PRESERVABILITY ENHANCEMENT BASED ON CELLULAR WATER ACTIVATION
First Named Inventor/Applicant Name:	Sang won JUNG
Customer Number:	97149
Filer:	Robert Burns Israel/Chai Higly
Filer Authorized By:	Robert Burns Israel
Attorney Docket Number:	M2523.102270501
Receipt Date:	12-OCT-2018
Filing Date:	
Time Stamp:	15:58:47
Application Type:	U.S. National stage under 35 USC 371
Payment Information:	
Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$795
RAM confirmation Number	181518NTE13W15192806
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

Application in U.S.A.
(16093441)

整理番号:MAN0086JP PCT/KR2016/004070 (P.7/10) 提出日:平成30年10月12日 1/1

【書類名】 国内書面
 【整理番号】 MAN0086JP
 【提出日】 平成30年10月12日
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 【出願の区分】 特許
 【発明者】
 【住所又は居所】 大韓民国 01489 クァンジュ、トンゲ、サンリムロ 1
 19ベオン-ギル 15-1
 【氏名】 ジュン、サン-ウオン
 【特許出願人】
 【住所又は居所】 大韓民国 08377 ソウル、クログ、デジタルロード 3
 3-ギル 2B, 306 号、(クロードン、ウナム、イービー
 ズ センター 1-チヤ)
 【氏名又は名称】 ハンビット、イーアンドビー
 【氏名又は名称原語表記】 HANBIT E&B
 【代理人】
 【識別番号】 100166545
 【弁護士】
 【氏名又は名称】 折坂 茂樹
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 【振替番号】 00023799
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 【物件名】 明細書の翻訳文 1
 【物件名】 請求の範囲の翻訳文 1
 【物件名】 要約書の翻訳文 1
 【物件名】 図面の翻訳文 1

Application in Japan
(MAN0086JP)

Acknowledgement of receipt							
We hereby acknowledge receipt of the form for entry into the European phase (EPO as designated or elected Office) as follows:							
Submission number	6827607						
PCT application number	PCT/KR2016/004070						
EP application number	1669715.4						
Date of receipt	19 October 2018						
Receiving Office	European Patent Office, The Hague						
Your reference	T 118 0306 EP						
Applicant							
Country							
Documents submitted	<table border="1"> <tr> <td>package-data.xml</td> <td>ep-euro-pst.xml</td> </tr> <tr> <td>application-body.xml</td> <td>epf1200.pdf (5 p.)</td> </tr> <tr> <td>SPECTRANEPO-1.pdf(English translation - T 118 0306 EP.pdf (26 p.)</td> <td></td> </tr> </table>	package-data.xml	ep-euro-pst.xml	application-body.xml	epf1200.pdf (5 p.)	SPECTRANEPO-1.pdf(English translation - T 118 0306 EP.pdf (26 p.)	
package-data.xml	ep-euro-pst.xml						
application-body.xml	epf1200.pdf (5 p.)						
SPECTRANEPO-1.pdf(English translation - T 118 0306 EP.pdf (26 p.)							
Submitted by	CN=Joachim Krauser 52554						
Method of submission	Online						
Date and time receipt generated	19 October 2018, 13:27 (CEST)						
Message Digest	40:8C:C2:00:78:B6:AE:C6:F7:27:CB:72:A8:6C:5D:7F:06:82:05:E2						
Correction by the EPO of errors in debit instructions filed by eOLF Errors in debit instructions filed by eOLF that are caused by the editing of Form 1038E entries or the continued use of outdated software (all forms) may be corrected automatically by the EPO, leaving the payment date unchanged (see decision T 1528).							
Acknowledgement of receipt - application number PCT/KR2016/004070							

Application in E.U.
(6827607)



Patent information

❖ Certification of Trademark Registration

상표등록증
CERTIFICATE OF TRADEMARK REGISTRATION

등록 제 40-1095974 호
Registration Number

출원번호 제 40-2014-0019671 호
Application Number

출원일 2014년 03월 25일
Filing Date

등록일 2015년 03월 26일
Registration Date

상표권자 Owner of the Trademark Right
(주)한빛이엔비(110111-4*****)
서울특별시 구로구 디지털로33길 28, 306호(구로동)

상표를 사용할 상품 및 구분
List of Goods
제 11 류
냉각장치 및 기계등 8건



- Trademark registration : No. 40-1095974



특허청장
COMMISSIONER,
KOREAN INTELLECTUAL PROPERTY OFFICE



상표등록증
CERTIFICATE OF TRADEMARK REGISTRATION

등록 제 40-1065983 호
(REGISTRATION NUMBER)

출원번호 제 2013-0075876 호
(APPLICATION NUMBER)

출원일 2013년 11월 14일
(FILING DATE:YY/MM/DD)

등록일 2014년 10월 23일
(REGISTRATION DATE:YY/MM/DD)

상표권자
(OWNER OF THE TRADEMARK RIGHT)
(주)한빛이엔비(110111-4*****)
서울특별시 구로구 디지털로33길 28, 306호(구로동)

상표를 사용할 상품 및 구분
(LIST OF GOODS)
제 11 류
냉각장치 및 기계등 8건

L S T
엘에스티

- Trademark registration : No. 40-1065983



특허청장 김영
COMMISSIONER, THE KOREAN INTELLECTUAL PROPERTY OFFICE



본속기간갱신등록신청일은 2024년 10월 23일까지이며 등록원부로 관리관계를 확인바랍니다.



How to doing for involving with you ?

✓ Contact information

- Sangwon Jung / Dongkyu Lee / Junghan Lee
- CEO / Managing Director / Ph. D
- Mobile : +82 10 9682 2013 / +82 10 7303 2277 / +82 10 2210 1256
- Link : Kakao talk
- E-mail : hanbit5528@daum.net

✓ Company (**HANBIT E&B Co., Ltd.**)

- Tel : +82 2 3663 6433
- Fax : +82 2 3663 6434
- Location : Daerung post tower #2 - 713
Digital-ro 306, Guro-gu, Seoul, Korea



Hi Fresh



Thank you very much for your attention

www.hifresh.kr