

DIGITAL POWER COMMUNICATIONS

Company Profile

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Gyeonggi-Do, Republic of Korea

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1. History

- 1982 Establishment of DONG YANG POWER SYSTEMS CO., LTD
- 1990 Establishment of DY POWER SYSTEM(M) SDN BHD (Malaysia)
- 1996 Establishment of DPC NANTONG CO., LTD. (China)
- 2000 Changed company name to DPC CO., LTD
Establishment of DPC FOSHAN CO., LTD. (China)
- 2014 HVT+Reactor Total sales exceeded 300 million units
- 2017 HVT+Reactor Total sales exceeded 400 million units
- 2021 HVT+Reactor Total sales exceeded 500 million units
- 2022 Feb, Spun off in the name of DPC Co., LTD
Appointment of CEO WOONG KIM
- 2023 Oct, Appointment of CEO WONJIN YANG, Two CEO System began.



2. Overview

1. Name – Digital Power communications Co., Ltd. (DPC)
2. Location – 145, 19 beongil, Sandanro, Ansansi, Gyeoonggido, South Korea
3. CEO – Mr. Woong Kim, Mr. Wonjin Yang
4. Business – Manufacturing, Investment, International trading
5. Main Product (1) – HVT (MWO, Industrial devices)
 - * High Voltage Transformer
6. Main Product (2) – RET, PFC RET(Air conditioner, Washing Machine)
 - * Reactor, Power Factor Correct Reactor
7. Overseas subsidiary – 1 Factory in Malaysia, 2 Factories in China
8. Capital – 10 Billion KRW
9. Turnover – 143 Billion KRW (2024)
10. Employees – HQ : 45 Factories : 1,500



3.Global Network



4. Factories



DPC MALAYSIA	DPC NANTONG (CHINA)	DPC FOSHAN (CHINA)
Since 1990	Since 1996	Since 2000
490 Employees	556 Employees	300 Employees
10,620m ²	16,040m ²	9,604m ²
Annual Capacity - HVT 8,000K - RET 5,000K	Annual Capacity - HVT 8,500K - RET 13,000K	Annual Capacity - HVT 8,000K - RET 5,000K
ISO 9001, ISO14001	ISO 9001, ISO14001	ISO 9001, ISO14001

5. Organization Chart



6. Product - HVT



HVT (High Voltage Transformer)

- High voltage generator for magnetron operation on Microwave Oven
- At least 2,000V is required to operate a magnetron
HVT increases input voltage by more than 10 times.
- Microwave oven, Medical Appliance, Dryer, and etc.

6. Product - HVT

1) Transformer

- **Converts voltage using electromagnetic induction, combining silicon steel and magnet wire.**
- **Used to convert AC voltage and current level**
- **Consists of two or more coils sharing a magnetic path, where voltage applied to the input creates the desired output.**

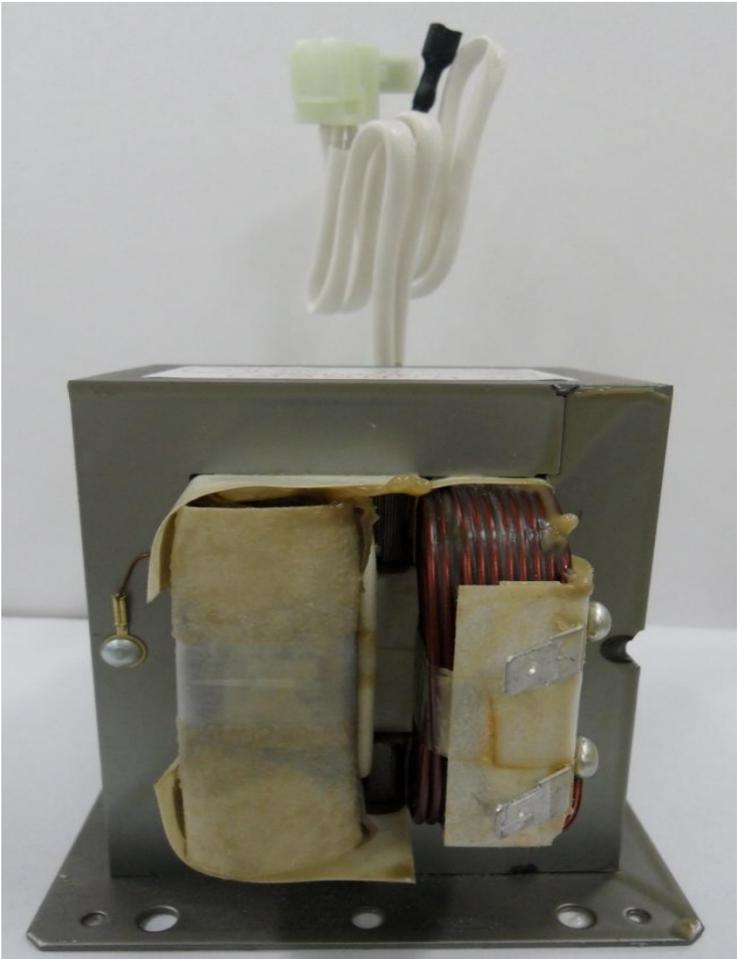
2) HVT (High Voltage Transformer)

- **Uses the same principle as a standard transformer above, applying rated voltage to the primary side to generate high voltage on the secondary side.**
- **DPC H.V.T. supplies power to run a magnetron.**
- **Designed for stable and sufficient high-voltage generation.**

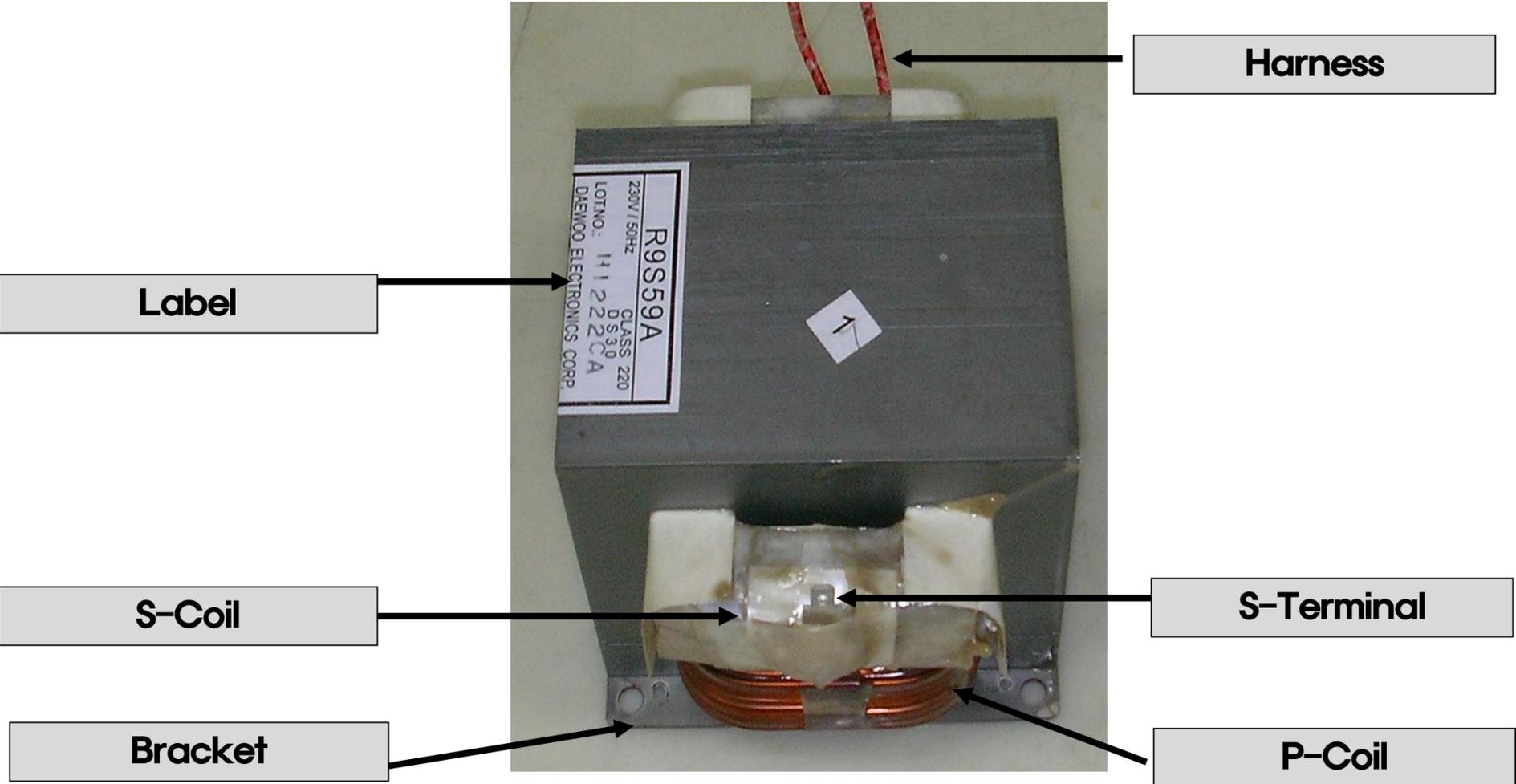
6. Product - HVT

Structure of HVT by types

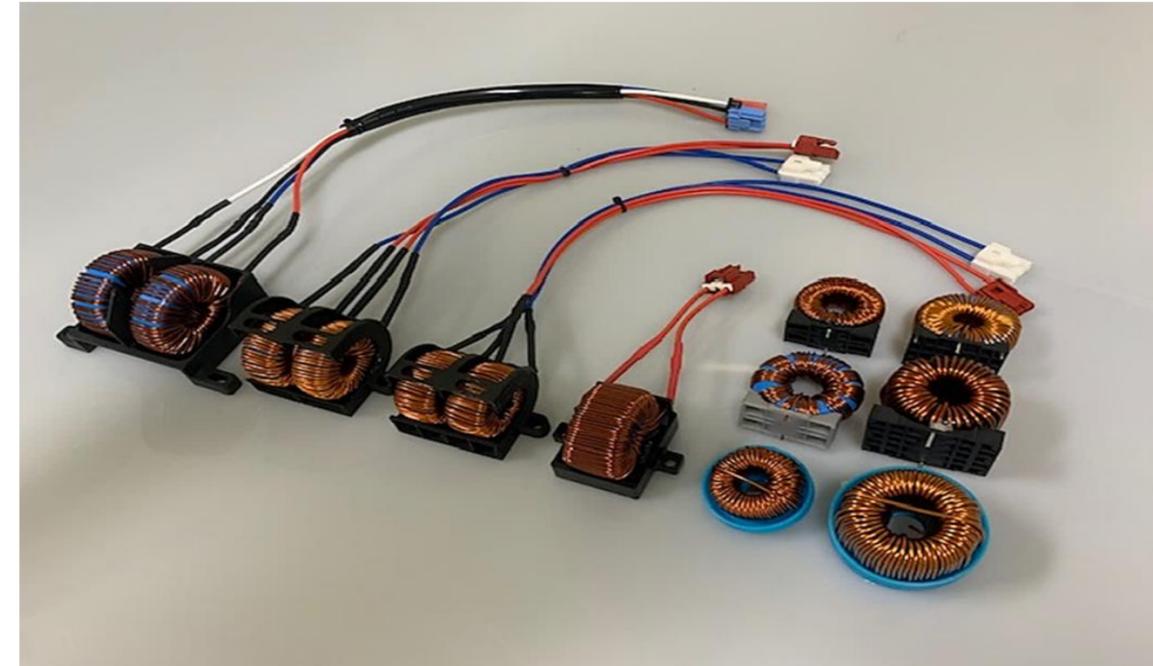
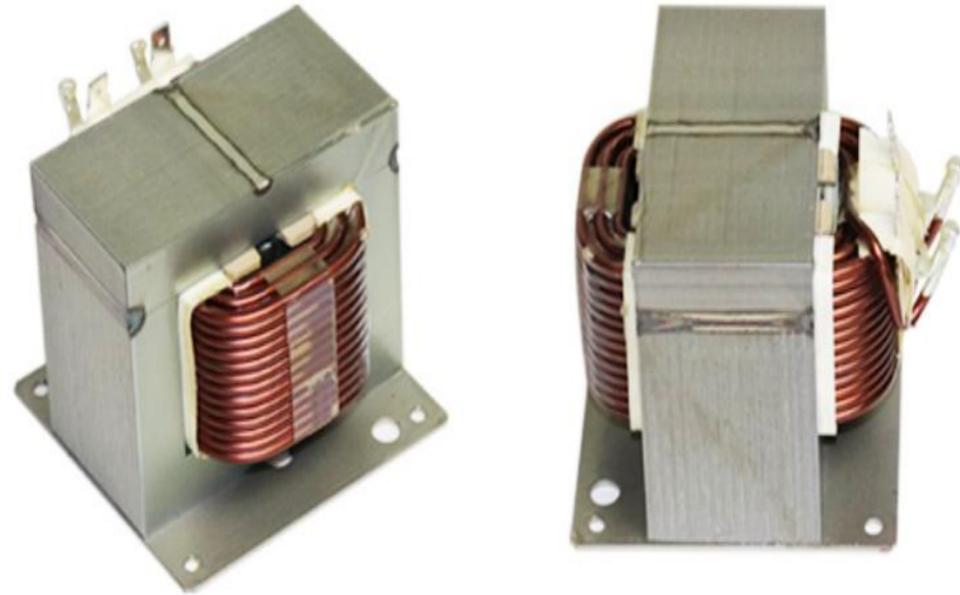
VERTICAL TYPE



HORIZONTAL TYPE



6. Product - REACTOR



RET (Laminated core Reactor, PFC Reactor)

- Protect the circuit by absorbing surge electronic pressure caused by rapid transition of electric current (Inverter circuit)
- Air conditioner, Washing machine, Refrigerator, and etc.

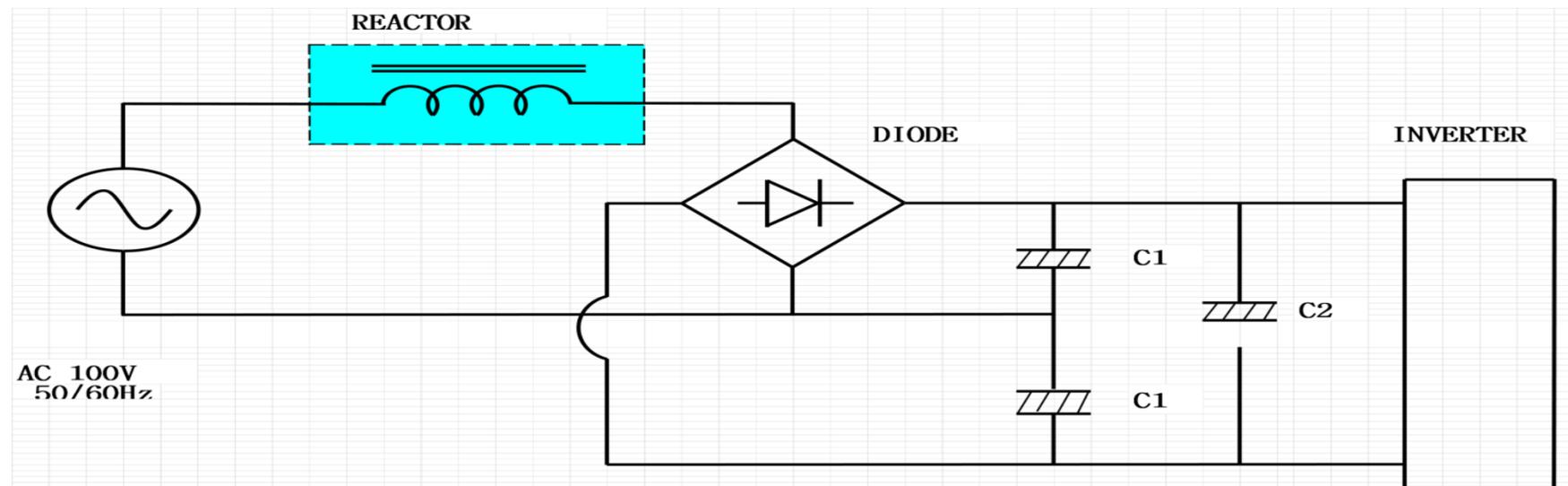
6.Product -REACTOR

1) RET (Reactor)

- A core sound with a coil, forming a structure similar to a transformer but without a secondary coil.
- Protects equipment and improves power factor by absorbing surge voltage through high inductive reactance caused by sudden changes in current.

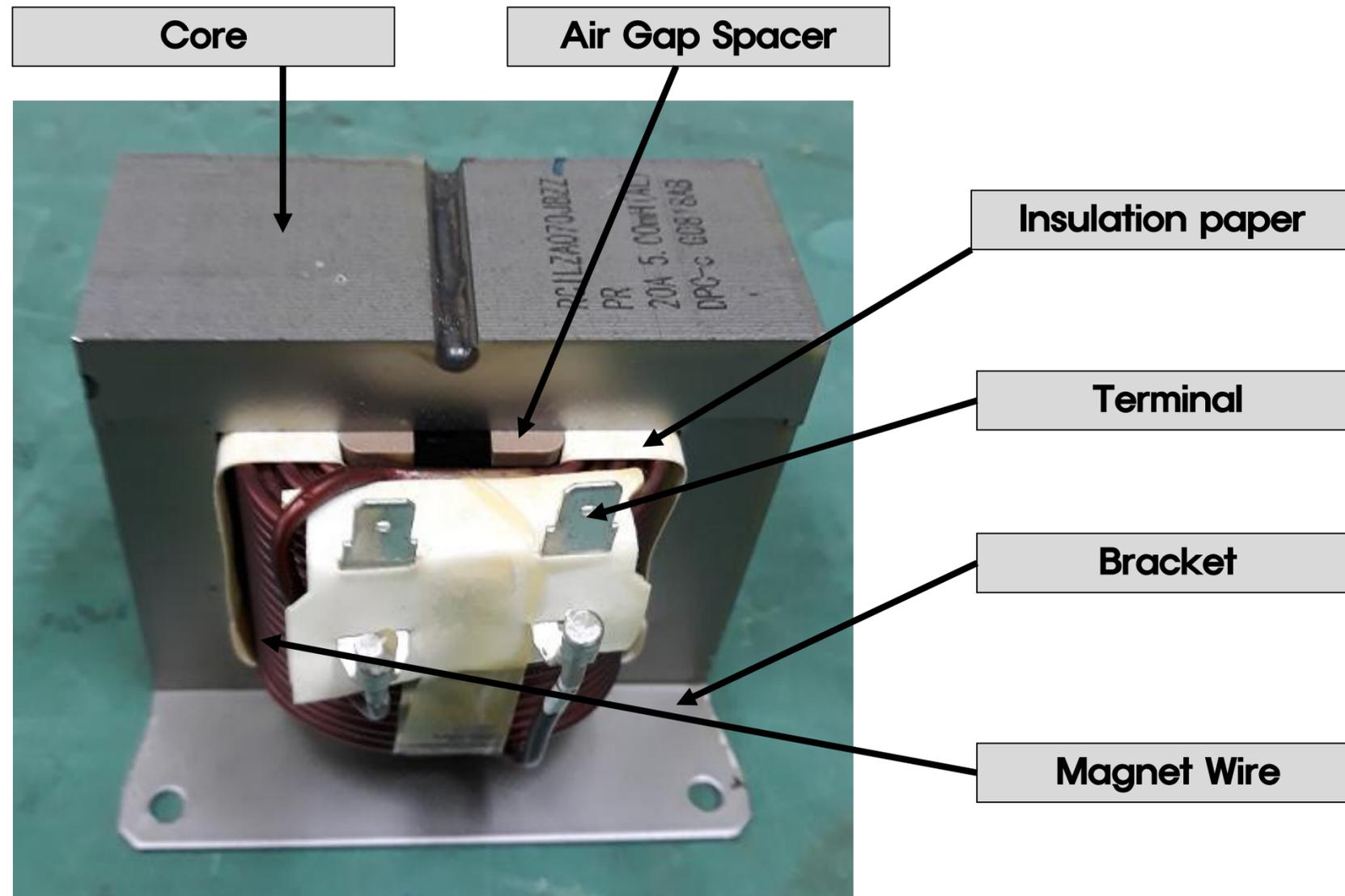
2) Reactor for Air Conditioners

- Used in inverter air conditioners and installed in the outdoor unit.
- Basic inverter air conditioner circuit (voltage-doubled rectifier circuit)



6. Product – REACTOR

Structure of Laminated core REACTOR



6. Product – PFC REACTOR

1. Definition – Reactor with donut shaped core

surrounded by aluminum/copper winding

2. Remark – Mainly used in high-frequency circuits and

high-current power circuits due to its high stability

3. Function – On electric device, correct power factor and prevent surge current

(Same with laminated core reactor)

4. Difference – Core material

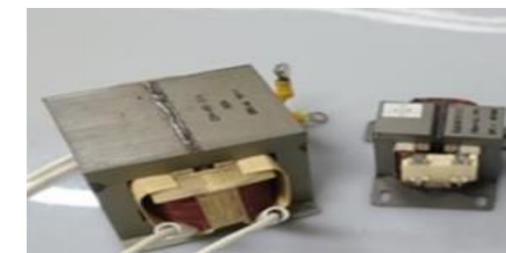
1) Laminated core RET :

Silicon Steel (SI) ‘50-1300’ , 35-600’ , 35-230’

2) PFC core RET :

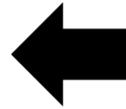
powder forming ‘FE-Si-Al, Fe- Si, Fe-Ni’ /

ferrite (Mn-Zn, Ni-Zn)

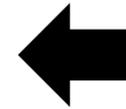


7. Process – HVT, REACTOR

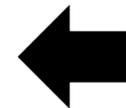
1. Pressing



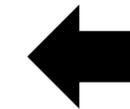
2. Winding



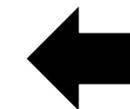
3. Insulation



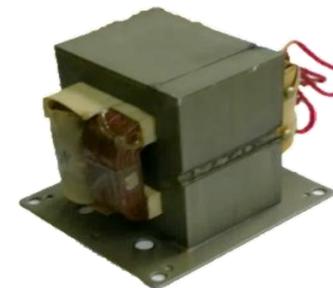
4. Coil & E-I Core Assemble



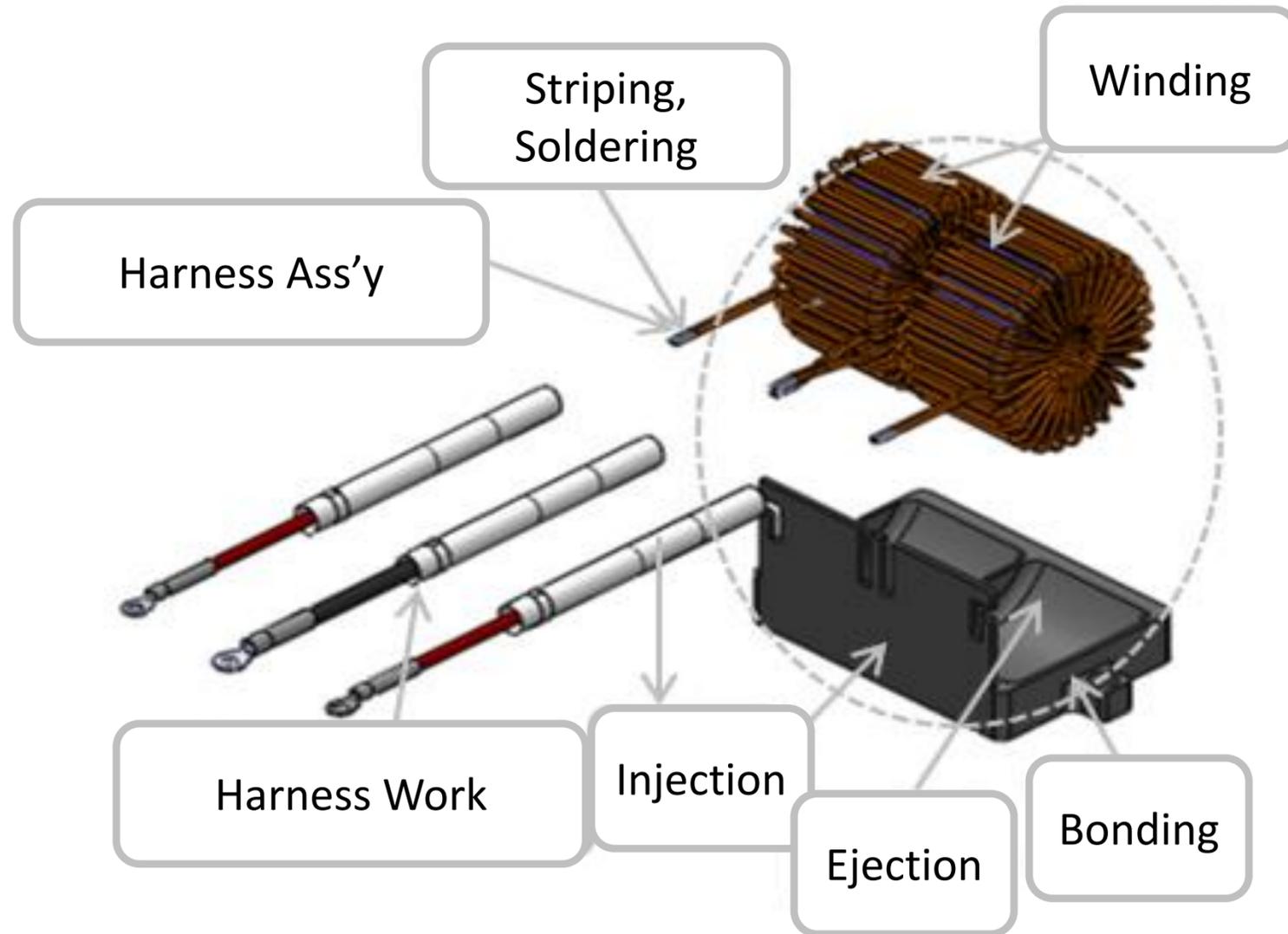
5. Varnishing



6. Finished Product



7. Process – PFC REACTOR



Process	By	Detail
Winding	DPC	Core winding
Stripping	DPC	Coil Stripping
Soldering	DPC	Soldering on stripped area
Injection	Outsource	Inject base
Ejection	DPC	Eject Base bonding part
Bonding, Hardening	DPC	Base & coil ass'y bonding and hardening
Visual check	DPC	Cleaning
Harness Work	DPC /Outsource	Wire cut, strip, connect to ring terminal
Harness Ass'y	DPC	Harness, SRGT, cable tie assemble, heat shrink tubing
Solder Filling	DPC	Filling solder on connection area

8. Main Customers



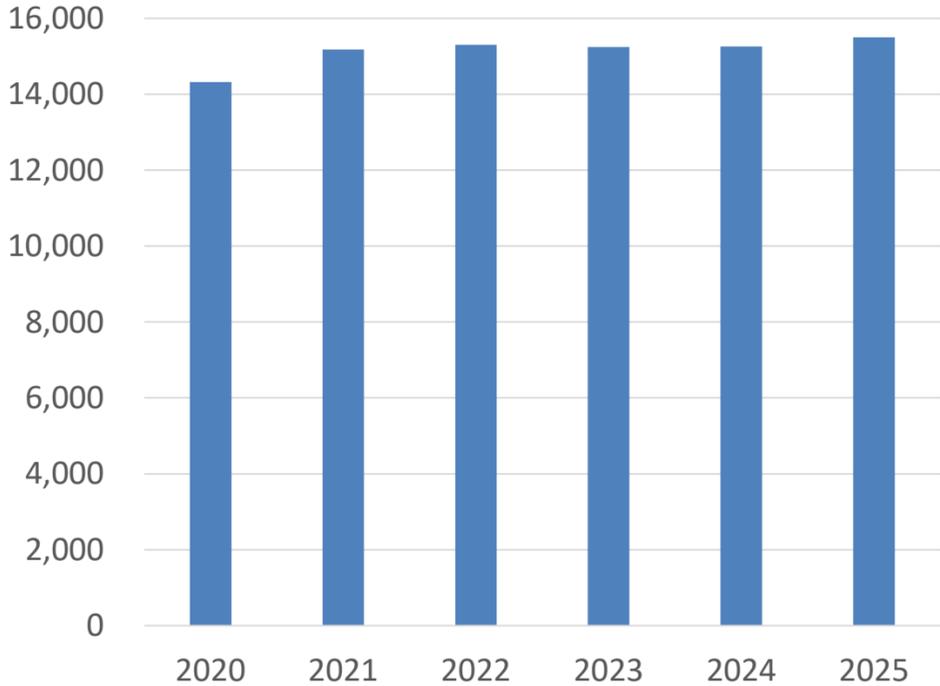
- And we are doing business with other various companies

9. Sales Record

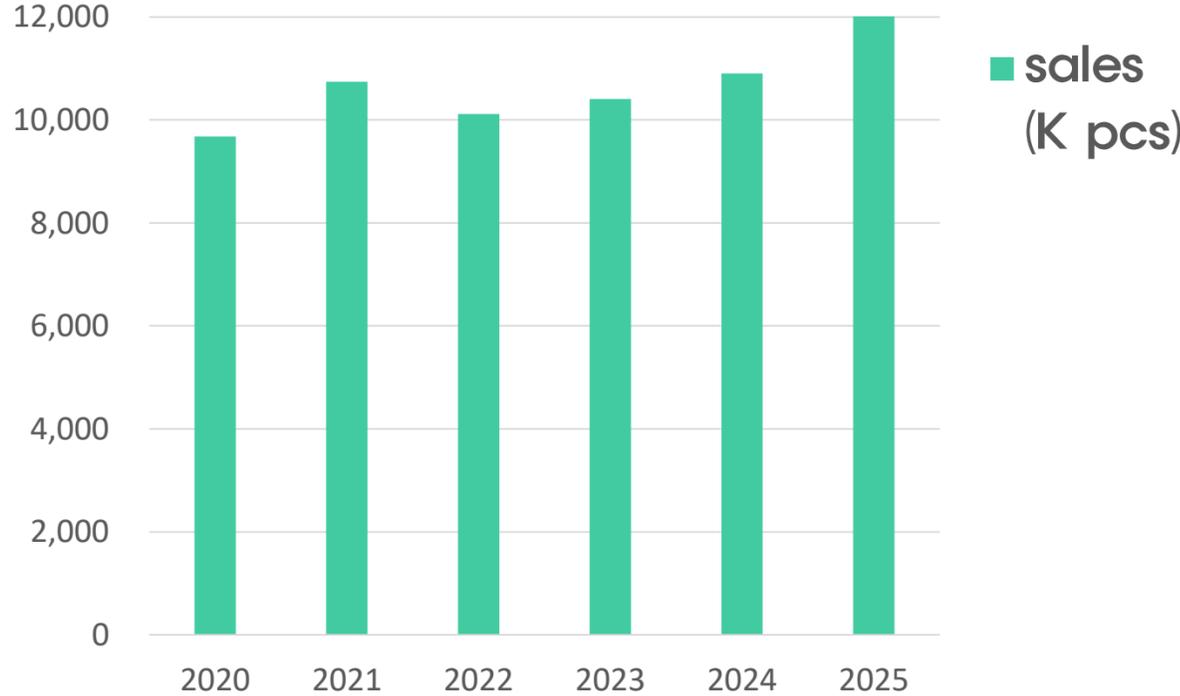
(K pcs)

	2020	2021	2022	2023	2024	2025 (expectation)
HVT	14,323	15,174	15,300	15,239	15,260	15,500
RET	9,678	10,744	10,115	10,406	10,903	13,000
Total	24,001	25,918	25,415	25,645	26,163	28,500

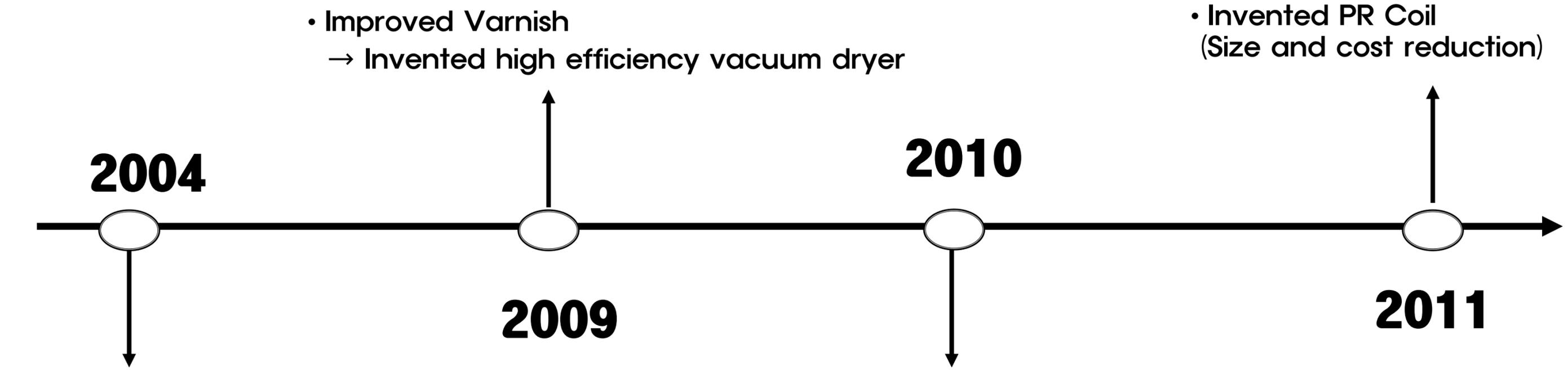
HVT



RET



10. Technology



- Started using AL-Coil for the first time in the industry
- Invented Locking Type E-I Core



- Improved Varnish
→ Invented high efficiency vacuum dryer

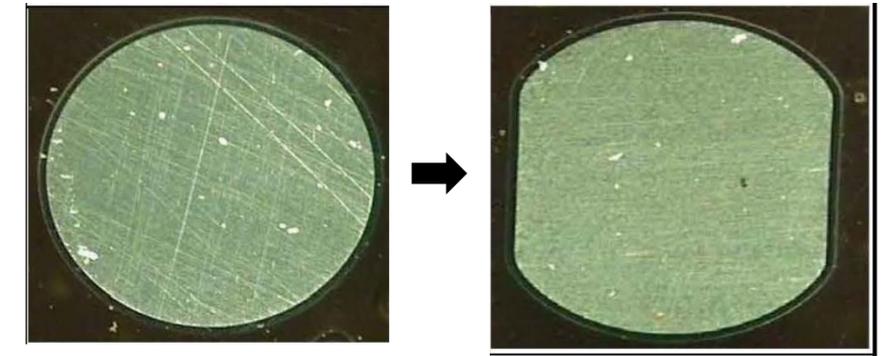
2009

- Invented Ultrasonic Soldering System
(Improved quality)

2010

- Invented PR Coil
(Size and cost reduction)

2011



Thank you