

The Creation of value for the customer,
that is the mission of

POWERMAX



COMPANY PROFILE

INTRODUCTION

In the year 2000, POWERMAX was reborn from Leechun Electric, the company that forms the history of Korea's electric industry. POWERMAX holds the mission of taking the significant role of constructing worldwide power infra. We concentrate on R&D and investment to be a leading company of the industry.



**TURNOVER : 2010 28Million USD
2011 35Million USD (est.)**

CAPITAL : 2.8Million USD

**MAIN SHAREHOLDERS
: CHAIRMAN
KOREA DEVELOPMENT BANK**



**MAIN PRODUCT
: TRANSFORMER, GENERATOR, GIS**



**DATE OF ESTABLISHMENT
: March 25th, 2000**

EMPLOYEES : 80 persons



**FACTORY : 1263-8 Jungwang-dong
Siheung-si Gyunggi-do, KOREA**

**SEOUL OFFICE : Power Art Center,
269-8, Nonhyun-dong Gangnam-gu,
Seoul, KOREA**

HISTORY of POWERMAX

2010

- 10 Installed Impulse Test System 600kV 30kJ (Haefely/Switzerland)
- 08 Selected as One-KEPCO Export Company (Korea Electric Power Corporation)
- 05 Awarded the KOTRA Seal of Excellence
- 02 Acquired High-Efficiency Energy Equipment Certification (Korea Energy Management Corporation)

2009

- 10 Selected as Innovative Technology SME (INNO-BIZ)
- 06 Established ERP System
- 03 Extended Transformer Factory (Up to 80MVA)

2008

- 09 Introduced Six-sigma Management

2006

- 09 Selected as Innovative Business SME (MAIN-BIZ)
- 08 Selected as PL Outstanding Company
- 06 Standard Pole Transformer (100kVA) Performance Certification

2005

- 04 Registered as Supplier of C-GIS (KEPCO)

2004

- 11 Registered as 154kV Power Line Constructor

2003

- 11 Awarded "Bronze Tower" Industrial Award at the National Quality Management Contest
- 04 Acquired Electric Work License (Gyeonggi-do)
- 01 Selected as Promising Power Venture Company (KEPCO)

2002

- 10 Selected as Promising SME (Industrial Bank of Korea)
- 07 as Export Promising SME (Gyeonggi SME export center)

2001

- 12 Acquired ISO 14001 Certification
- 06 Selected as Promising SME (Industrial Bank of Korea)
- 02 Established POWERMAX Technology Institute

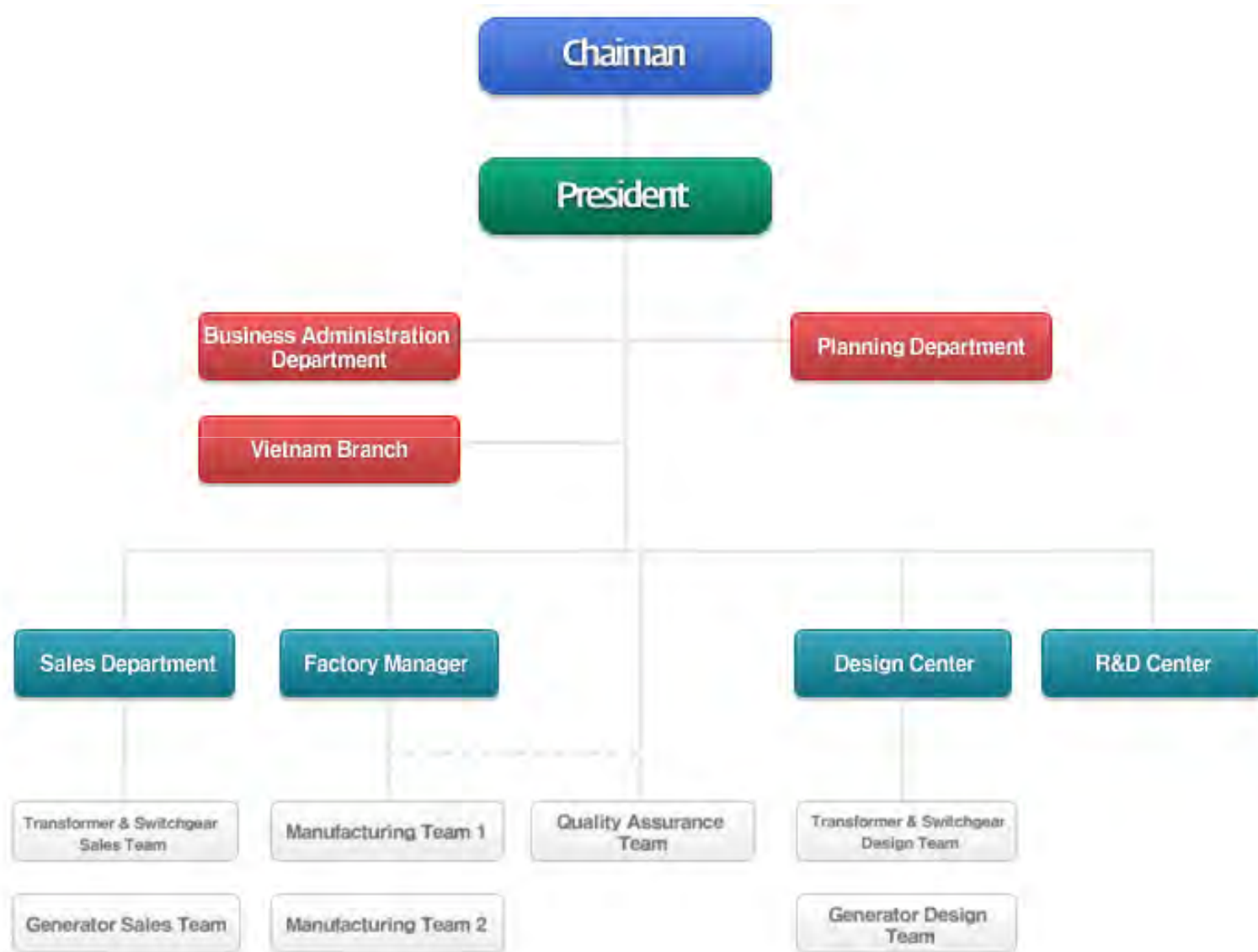
2000

- 08 Designated as Small and Medium Business Administration Venture Company
- 03 Established POWERMAX Co., Ltd. (Merged Danam Power and Hanki Heavy Electric)

“POWERMAX
creates new history
today.”



ORGANIZATION



MAIN PRODUCTS



TRANSFORMER

- **MAX CAPACITY : 3 Φ , 66kV, 80MVA**
- **MAIN CUSTOMER : KEPCO, POSCO, SAMSUNG**



GENERATOR

- **MAX CAPACITY : 3250kW, 1800rpm**
- **ENGINE : MTU, CUMMINS, CAT, MHI, DOOSAN**
- **EMERGENCY/AC/M-G GENERATOR**



SWITCHGEAR

- **CAPACITY : 25.8kV, 2,000/600A**
- **MAIN CUSTOMER : KEPCO**

TRANSFORMER

POWER TRANSFORMER



Characteristics

- Phase : Single, Three
- Frequency : 50Hz / 60Hz
- Voltage : Max, 72kV
- Capacity: Max, 80MVA

Voltage	Capacity (kVA)	Efficiency (%)	Voltage Regulation (%)	Exciting Current I ₀ (%)	Dimensions(mm)			Oil (ℓ)	Weight (kg)
					A	B	H		
3φ 22kV 6.6 / 3.3 kV	2000	98,7	1,3	3,0	1940	2320	2180	1330	4700
	3000	98,9	1,1	3,0	2320	2710	2560	1970	7520
	5000	99,0	1,1	2,8	2580	3390	2750	2740	10340
	7500	99,1	1,1	2,5	2180	3680	2940	3570	14100
	15000	99,3	1,1	1,4	3200	4150	3650	6700	26000
	30000	99,4	1,1	1,0	4500	5000	3800	10000	51000
3φ 66 / 33 / 22 kV 6.6 / 3.3 kV	8/10MVA	99,22	1,1	1,4	4150	3450	4500	3730	16220
	12/15MVA	99,24	1,3	1,4	4950	3450	4750	4550	20920
	15/20MVA	99,14	1,1	1,2	5540	3320	3860	7100	30000
	20/25MVA	99,54	1,2	0,8	4900	4800	4600	12000	48000
	25/30MVA	99,10	1,2	0,8	6540	3900	4200	10500	43200
	30/36MVA	99,20	1,5	0,8	5150	5400	4050	11500	45600
	36/40MVA	99,59	1,1	0,8	6220	5020	6200	24200	92500
	47MVA	99,30	1,2	0,8	7050	4650	5300	19500	79000
	60MVA	99,40	1,5	0,8	7470	5360	5000	20830	95490
80MVA	99,50	1,4	0,8	8900	6200	5950	24750	113500	

TRANSFORMER

DISTRIBUTION TRANSFORMER



Characteristics

- Phase : Single, Three
- Frequency : 50Hz / 60Hz
- Voltage : Max. 36kV

Voltage	Capacity (kVA)	Efficiency (%)	Voltage Regulation (%)	Exciting Current I ₀ (%)	Dimensions(mm)			Oil (ℓ)	Weight (kg)
					A	B	H		
3φ 22kV low voltage	100	97,6	1,8	6,0	950	930	1300	230	730
	150	97,6	1,8	6,0	1020	1010	1380	260	880
	200	97,8	1,7	6,0	1100	1100	1420	300	1000
	300	97,9	1,6	5,5	1160	1410	1420	360	1300
	500	98,1	1,5	5,0	1240	1500	1500	450	1800
	750	98,3	1,3	4,8	1300	1800	1600	620	2350
	1000	98,4	1,3	4,5	1450	1740	1800	800	3100
	1500	98,4	1,3	3,5	1840	2290	2000	1330	4230
	2000	98,5	1,3	3,0	1940	2380	2180	1310	4880
3000	98,6	1,3	3,0	2420	3200	2660	2500	7750	
3φ 6,6 / 3,3kV low voltage	100	97,6	1,8	6,0	870	940	1050	180	620
	150	97,6	1,7	6,0	970	1070	1100	220	750
	200	97,7	1,7	6,0	1070	1160	1170	250	930
	300	97,9	1,7	5,5	1100	1410	1230	330	1120
	500	98,1	1,6	5,0	1160	1640	1420	390	1500
	750	98,3	1,5	4,8	1260	1740	1520	620	2270
	1000	98,4	1,3	4,5	1410	1940	1380	710	2820
	1500	98,5	1,3	3,5	1840	2370	1900	1330	4230
	2000	98,6	1,3	3,0	2030	2470	2180	1410	4700
3000	98,7	1,3	3,0	2420	2310	2560	2490	7600	

TRANSFORMER

CAST RESIN TRANSFORMER



Characteristics

- Phase : Three
- Frequency : 50Hz / 60Hz
- Voltage : Max, 36kV
- Capacity : Max, 10,000kVA
- Insulation Class : B, F

MOBILE TRANSFORMER



Characteristics

- Phase : Single
- Frequency : 50Hz / 60Hz
- Voltage : Max, 72kV
- Capacity : Max, 80MVA

ECO-FRIENDLY HIGH-EFFICIENCY TRANSFORMER



Characteristics

- Phase : Single
- Frequency : 50Hz / 60Hz
- Voltage : Max, 36kV
- Capacity : Max, 3,000kVA



☞ **Used Vegetable Oil & Magnetic Domain Refined Steel**



GENERATOR

The excellence of **POWERMAX** generator set can be verified by use in site.

Equipped with excellent quality, credibility, and compatibility, **POWERMAX** generator displays prominence in all fields due to efforts placed in technology development during the last half-century. **POWERMAX** generator guarantees top performance in diverse fields. In order to respond to the demands of the rapidly changing market, it has been designed and manufactured to provide easy maintenance and repair, and displays superior performance even during excessive load.



● Characteristics of POWERMAX Diesel Generator

1. Diverse Engine Selection

POWERMAX provides diverse engines of globally renowned brands according to customer preference.

2. High Reliability through 30 years experience

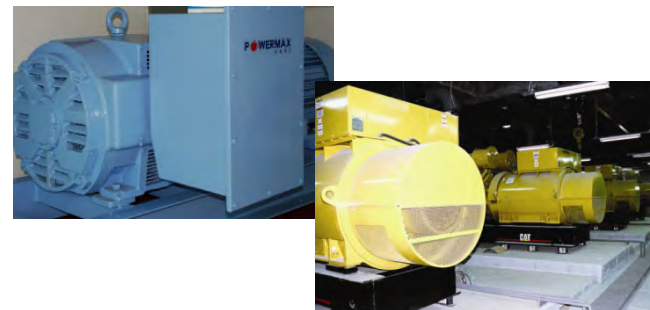
With 30 years of experience in development and production of rotary machines, **POWERMAX** is recognized by domestic and foreign customers for its excellent generator suitable for various use.

3. From Design to Test Run

POWERMAX provides full-service from design to production, installation, and test not only in emergency use but also in prime use through advanced technology.

4. Sound Proof

- Noise: below 75dB(A) Attenuation : 75dB(A) at 7m
- Sound-Proof Type
- residential area, fish farm, hospital, bank, gas station, etc.



GENERATOR

Diverse Engine Selection

POWERMAX provides diverse engines of globally renowned brands according to customer preference.



CATERPILLAR Diesel Engine



CUMMINS Diesel Engine



DOOSAN Diesel Engine



HYUNDAI Diesel Engine



M.T.U. Diesel Engine



VOLVO Diesel Engine



MITSUBISHI Diesel Engine

DELIVERY PERFORMANCE – TR



POWER TRANSFORMER

CAPACITY	3 Φ 50Hz 25/30MVA 22kV-6.9kV
CUSTOMER	POSCO / PM-SMP Plant
NO-LOAD LOSS	11.88kW
LOAD LOSS	105.8kW /25MVA
EFFICIENCY	99.53%
VOLTAGE REGULATION	0.93%
FLUX DENSITY	1.65 Tesla
CURRENT DENSITY	2.6 A/m ²

DELIVERY PERFORMANCE - TR



POWER TRANSFORMER

CAPACITY	3 Φ 50Hz 32/40MVA 66kV-11.86kV (with OLTC)
CUSTOMER	EGYPT
NO-LOAD LOSS	18kW
LOAD LOSS	147kW /40MVA
EFFICIENCY	99.59%
VOLTAGE REGULATION	1.1%
FLUX DENSITY	1.6 Tesla
CURRENT DENSITY	2.5 A/m ²

DELIVERY PERFORMANCE - TR



POWER TRANSFORMER

CAPACITY	1Φ 1667,333,5000,6667,8333kVA 33.8kV-5.04kV
CUSTOMER	USA / LOS ANGELES
NO-LOAD LOSS	5kW
LOAD LOSS	30.2kW
EFFICIENCY	99.58%
VOLTAGE REGULATION	1.2%
NOISE	50dB



USA TRANSFORMER

RATED CAPACITY :
1Φ 1667, 3333, 5000, 6667, 8333kVA 33.8kV-5.04kV

Capacity	1667kVA	3333kVA	5000kVA	6667kVA	8333kVA
No-load Loss	1.8kW	2.6kW	3.0kW	4.5kW	5.0kW
Load Loss	6.8kW	12.1kW	19.1kW	23.5kW	30.2kW
Efficiency	99.49%	99.56%	99.56%	99.58%	99.58%
Sound Level	50dB				

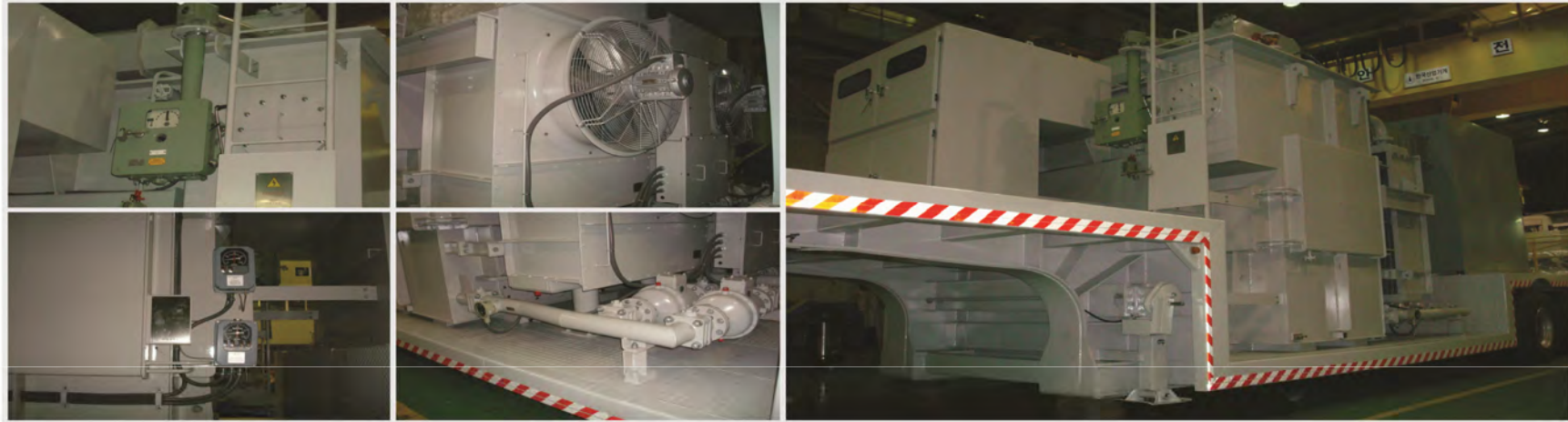
Loss minimization in no load	: Step lap core
Reducing the sound level	: Step lap core
Loss minimization in load	: Adoption of improved magnetic shield technology of transpose winding
Minimizing the local heating factor of tank	: Installation of magnetic shield

DELIVERY PERFORMANCE - TR



MOBILE TRANSFORMER

CAPACITY	3Φ 60Hz 40/44MVA 22kV-6900/3450V
CUSTOMER	POSCO / EMERGENCY MOBILE TR
NO-LOAD LOSS	35kW
LOAD LOSS	350kW
EFFICIENCY	99.2%
VOLTAGE REGULATION	1.17%
Continuous Max Rating	110%
Applicable Standard	IEC 60076



MOBILE TRANSFORMER

RATED CAPACITY :
3Φ 60Hz 40/44 MVA 22kV-6900/3450V

Low Bed Trailer 50Ton
Transformer
Control Room
Housing

Transformer Oil-Air-Cooler
Off-Circuit Tap-Changer
Temperature Indicator
Sudden Pressure Relay

GEA/Germany
MR/Germany
AKM/Sweden
Qualitrol

DELIVERY PERFORMANCE - TR



POLE TRANSFORMER

CAPACITY	1 Φ 60Hz 10kVA~100kVA 22.9kVY/13.2kV-230V
CUSTOMER	KEPCO

TRANSFORMER REFERENCE (EXPORT)

Product	Country	Ratings/Type	Unit	Delivery
T R A N S F O R M E R	EGYPT	3 ϕ 50HZ 32/40MVA 66KV-11.86KV W/OLTC	4	2009
	KINGDOM OF SAUDI ARABIA	3 ϕ 60HZ 5.0/6.5MVA 34.5KV-4.16KV	2	
		3 ϕ 60HZ 5.5/7.3MVA 34.5KV-4.16KV	2	
		3 ϕ 60HZ 10MVA 13.8KV-4.3KV	2	
		3 ϕ 60HZ 15MVA 13.8KV-4.3KV	2	
		3 ϕ 60HZ 10MVA 34.5KV-13.8KV	2	
		3 ϕ 60HZ 20MVA 34.5KV-0.48KV	2	
	IRAN	3 ϕ 50HZ 20/25MVA 20KV-6.3KV	2	2010
	USA	1 ϕ 60HZ 8333/9333KVA 33.8KV-5.04KV	15	
		1 ϕ 60HZ 6667/7467KVA 33.8KV-5.04KV	12	
		1 ϕ 60HZ 5000/5600KVA 33.8KV-5.04KV	12	
		1 ϕ 60HZ 3333/3733KVA 33.8KV-5.04KV	18	
		1 ϕ 60HZ 1667/1867KVA 33.8KV-5.04KV	3	
IRAQ	3 ϕ 50HZ 25/12.5MVA 15.76KV-6.3KV	1	2011	

DELIVERY PERFORMANCE - GEN



DIESEL ENGINE GENERATOR

CAPACITY	2000kW, 60Hz, 4P, 6600V, 4SET
CUSTOMER	DAEWOO E&C
ENGINE	CATERPILLAR, 3516B DITA, 4SET
USE	Stand-by for Normal Power Failure
DELIVERY	December 2002

DELIVERY PERFORMANCE - GEN



DIESEL ENGINE GENERATOR

CAPACITY	1200kW, 50Hz, 4P, 6600V, 4SET
CUSTOMER	JW Marriott Hotel (Hanoi, Vietnam)
ENGINE	Cummins, 4SET
USE	Stand-by for Normal Power Failure
DELIVERY	August 2008

DELIVERY PERFORMANCE - GEN



HIGH FREQUENCY GENERATOR (M-G SET)

CAPACITY	1500kVA, 240HZ, 16P, 6900/3450V
CUSTOMER	ILJIN ELECTRIC
MOTOR	750kW, 60HZ, 4P, 3300V, Wound-Rotor Induction Motor
USE	Ultra High Voltage Transformer Test
DELIVERY	December 2008

FACTORY & FACILITIES



SIHEUNG FACTORY



**600kV 30kJ
IMPULSE TEST SYSTEM
By HAEFELY TEST AG**



LARGE DRYING FURNACE



CRANE (80MT)



LARGE WINDING MACHINE

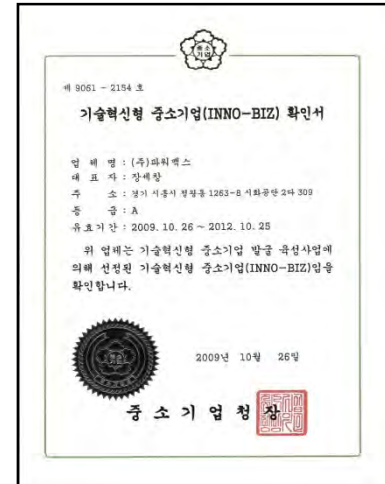
CERTIFICATION



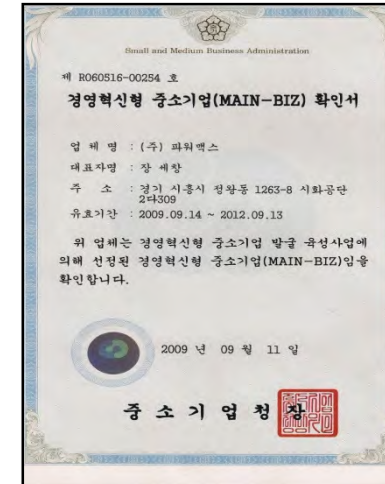
ISO 9001



ISO 14001



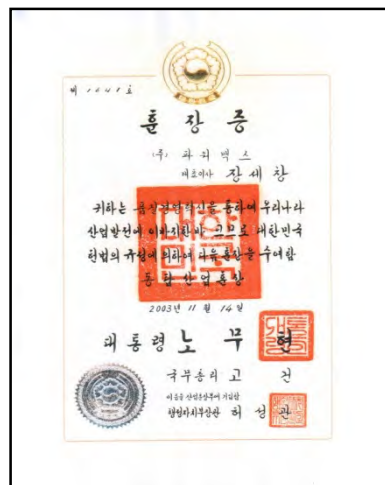
Business Innovation



Management Innovation



High-efficiency TR



Industrial Award from President of Korea



KOTRA Seal of Excellence

KOTRA (Korea Trade Agency) guarantees Quality, Technology and Trustworthiness.



Thank you for your Attention!

CONTACT : YG Kim (ygkim@powermax.kr)