



POWER SAVING SYSTEM

FORCE

Business Introduction

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1. Introduction



Manufacturing Company

Company Name	ENPOSS
Year of Establishment	January 2008
Product	Power Saving System(FORCE) Manufacturing & Sales
Location	416, 10th Floor, Room 1031, Hwagok-ro, Gangseo, Seoul Gayang Station The Sky Valley 5th Knowledge Industry Center
Homepage	www.enposs.com

2022 - Updated UL certification

2019 - Acquisition of site for factory establishment (Otama Village Sales Office, Adachi-ku, Fukushima Prefecture, Japan)

2018 - KR classification certification
- Establishment of a local corporation in the United States
- Establishment of a local corporation in Japan
- Establishment of a joint venture in Vietnam

2017 - Launch of 2nd generation FORCE (Approximately 50% improvement in device efficiency compared to the 1st generation)

2016 - Registered a Korean patent related to harmonic distortion
- Passed KTL [High Potential Test of High Voltage], [Electro Magnetic Compatibility Test]

2015 - JQA (Japan) performance certification
- KTC (Korea) performance certification
- Establishment of a local corporation in China

2013 - SGS (Spain) performance certification
- Passed the withstand voltage test standards for high-voltage products

2012 - US patent registration

2011 - USA NLTC (MET) certification

2010 - Obtained CE certification (COC)
- KOREA patent registration (DOC)
- PCT patent registration
- All materials passed ROHS

2009 - ANCE (Mexico) safety certification
- ANCE (Mexico) performance certification
- KTL EML Test

2008 - Establishment of ENPOS Co., Ltd.
- Chinese patent registration
- Vietnam patent registration
- TUV (Spain) certification

2007 - Power improvement device KOREA patent application
- Power improvement device PCT International patent application
- Establishment of own production factory
- Commercialization of power improvement devices

2. Summary of Benefits

I . **5~15% Electricity savings**

II . **Loss Reduction** (Resistance, Impedance)

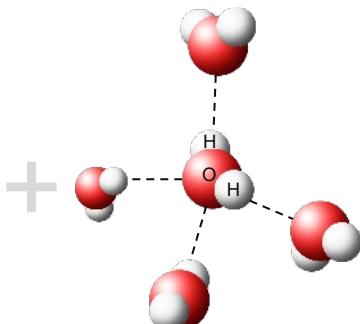
III . **THD Reduction** (Total Harmonic Distortion)

IV . **10~20% Fuel Consumption Savings** (Payback Within 18 months)

V . **Extend the Lifetime Of Equipment**

VI . **No Changes to Existing System & Safety**

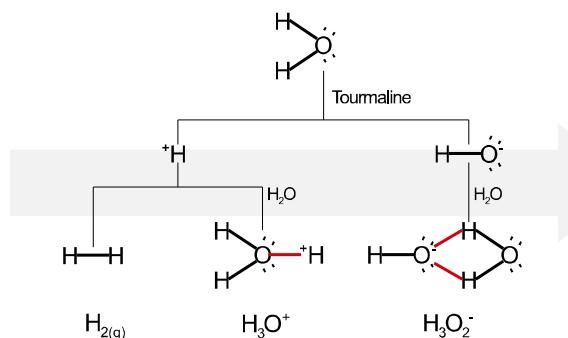
3. Fundamental Structure



Tourmaline Powder

Water

Base	Tourmaline
Longevity	15 years
Specificity	A polar crystal with an asymmetric dipole that has the characteristic of being permanently electro-polarized, when highly heated both ends become positively charged. Under normal conditions, it is negatively charged.



Negative charge generation
(Free Electrons Source)

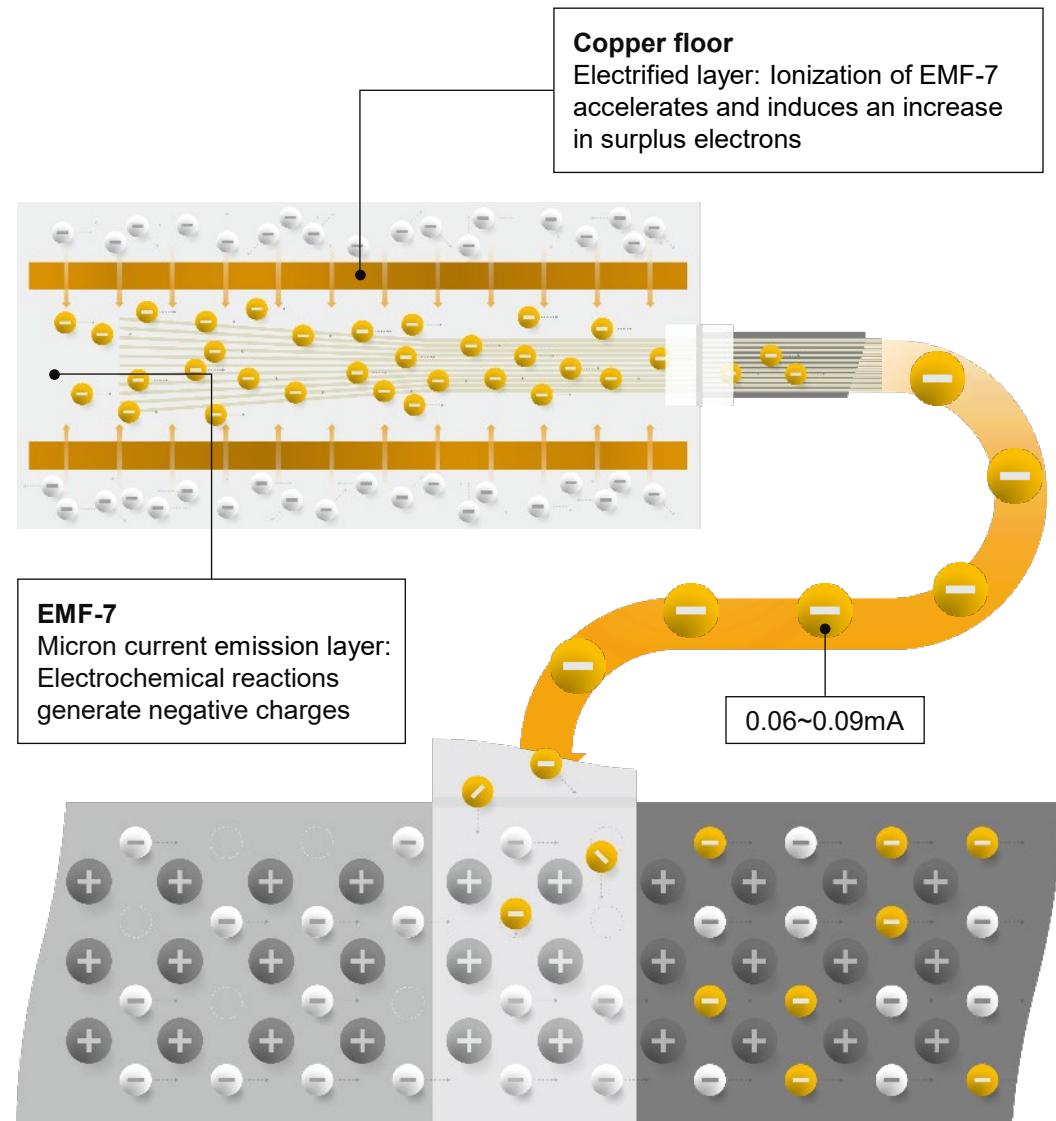
3. Fundamental Structure

- Electrochemical reactions of minerals
Negatively charged (low current)
- By accelerating the accumulation of negative charges it creates surplus electrons
- An increase in surplus electrons creates improved conductivity, increased electron density, and increased free electrons
- Surplus electron transfer at 0.1~1mm/sec
- Improved electrical energy with an increase in electrons, an increase in the delivery efficiency, improved current flow, and a reduction in electrical losses



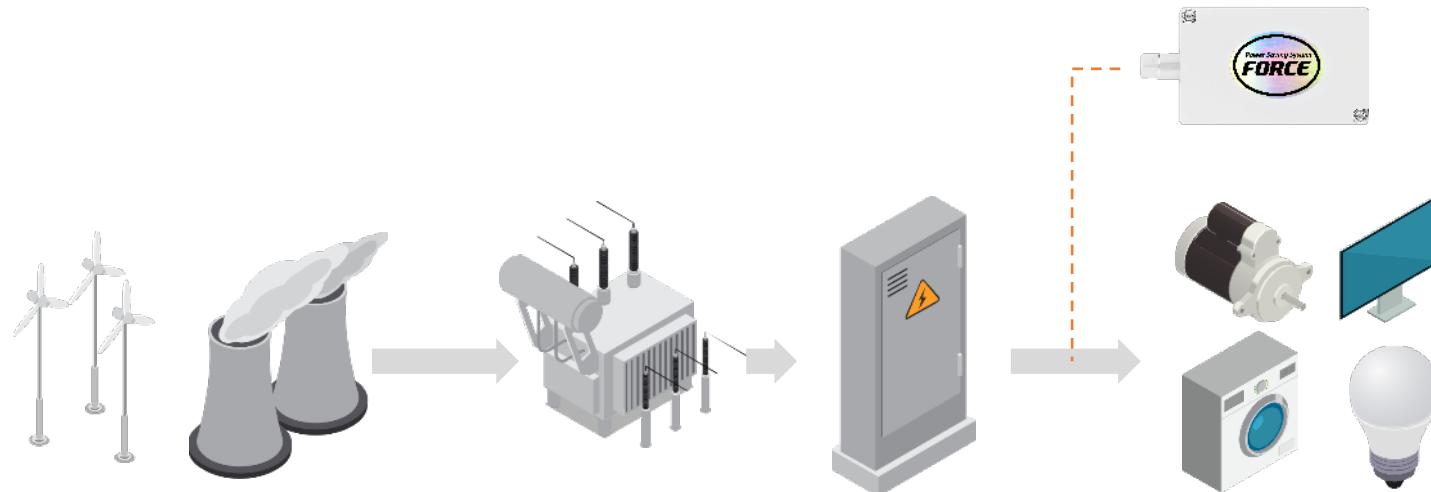
Electric Power Saving

Reduced Impedance, Heat, Noise, Vibration and Harmonic Distortion



4. Theoretical Background

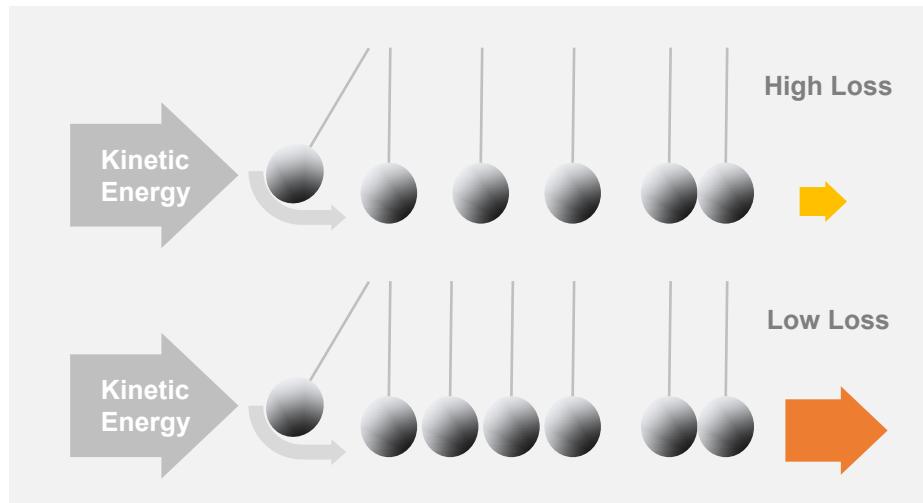
Process of Energy Saving



Power Supply & Meter	Transformer	Panel	Load
Before Installing FORCE (Power Loss)	100 kWh - → 93~98% → 97~99%	80~95%	80 kWh
After Installing FORCE (Power Loss)	90 kWh - → 95~99% → 98~99%	90~98%	80 kWh

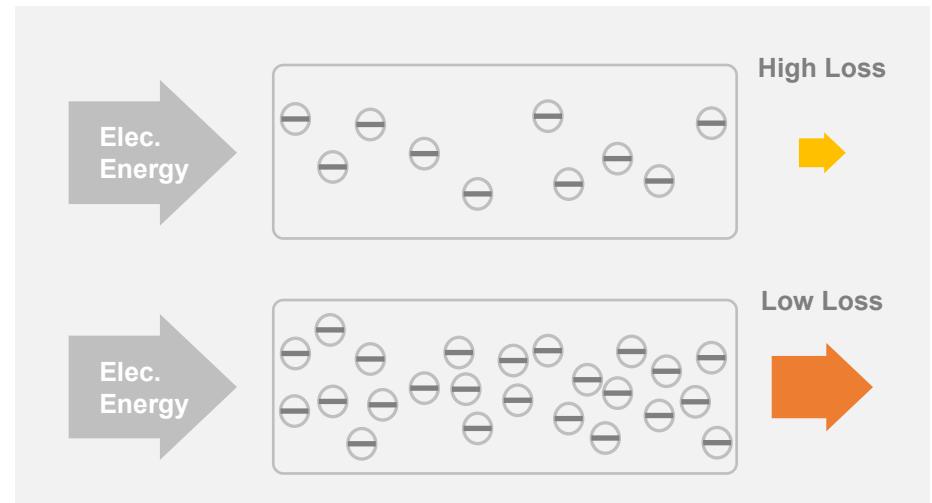
4. Theoretical Background

The efficiency of energy transfer is proportional to the density of mediators



Kinetic Energy Movement

The difference in the number of pendulums results in a difference in energy transfer efficiency



Electrical Energy Movement

The difference in the number of electrons is the difference in energy transfer efficiency

Therefore, the number of free electrons in a conductor increases the efficiency of electrical energy transfer

4. Theoretical Background

Definition of Power Saving Effects According to Impedance and Resistance Reduction

If we denote the total impedance as Z , reactance as X , complex representation of applied voltage as V , effective value as V_e , complex representation of flowing current as I , and effective value as I_e , the following equations hold.

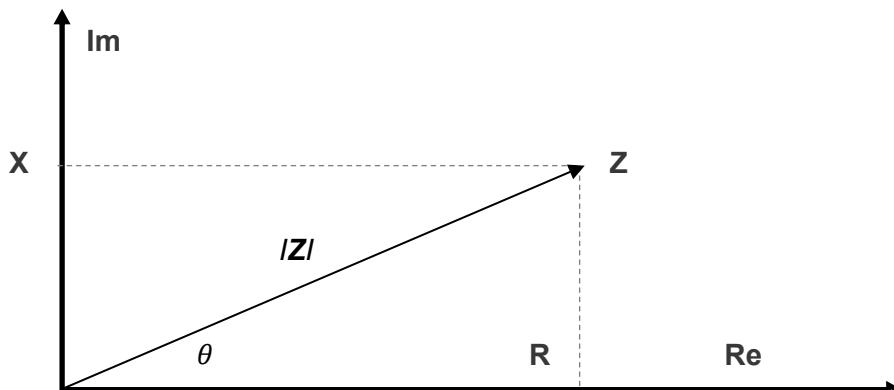
$$Z = R + j\omega L + \frac{1}{j\omega C} = R + jX$$

$$V_e = I_e \cdot Z$$

$$V_e = I_e \cdot (R + jX)$$

$$P = I/V = I^2 R = I^2 |Z|$$

$$\begin{aligned} P_e &= V_e \cdot I_e \cdot \cos\theta \\ &= I_e^2 \cdot Z \end{aligned}$$



Power consumption before installation

$$P = (100A)^2 \times 1(Z) = 10,000 \text{ W}$$

Power consumption after installation

$$P = (100A)^2 \times 0.9(Z) = 9,000 \text{ W}$$

By reducing the impedance (Z) value, the effect of power savings becomes apparent.

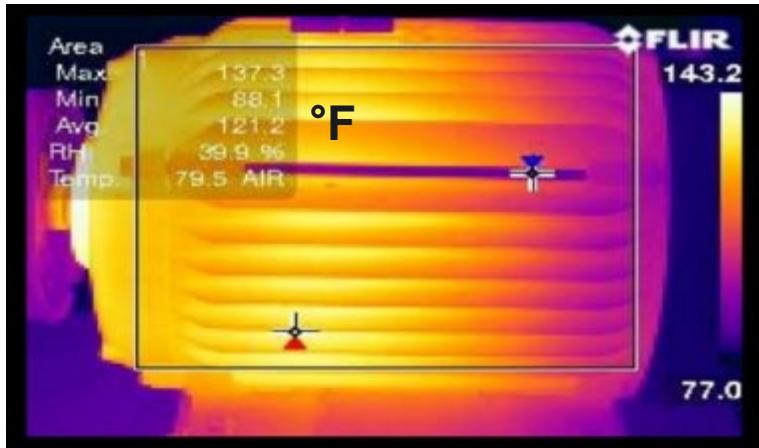
6. Examples of Applications

[Heat]

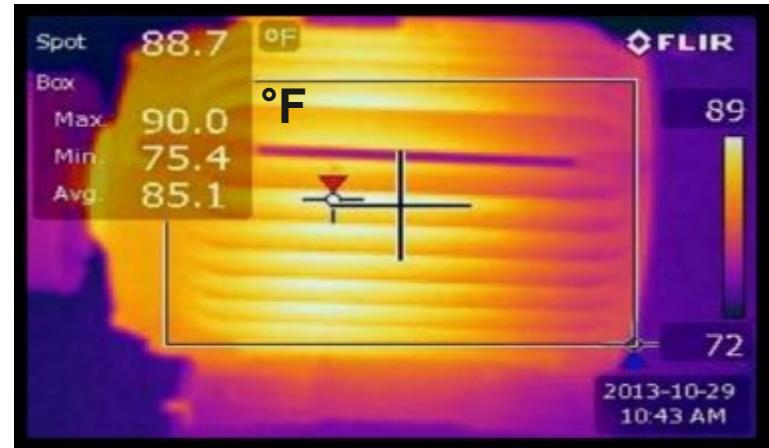
The temperature drop was observed on the surface of the pump motor

Average temperature was reduced from 49.6 °C to 29.5 °C by 29.8%

Before



After



58.5 °C

Max

34.4 °C (34.5% Down)

31.2 °C

Min

24.1 °C (14.4% Down)

49.6 °C

Avg

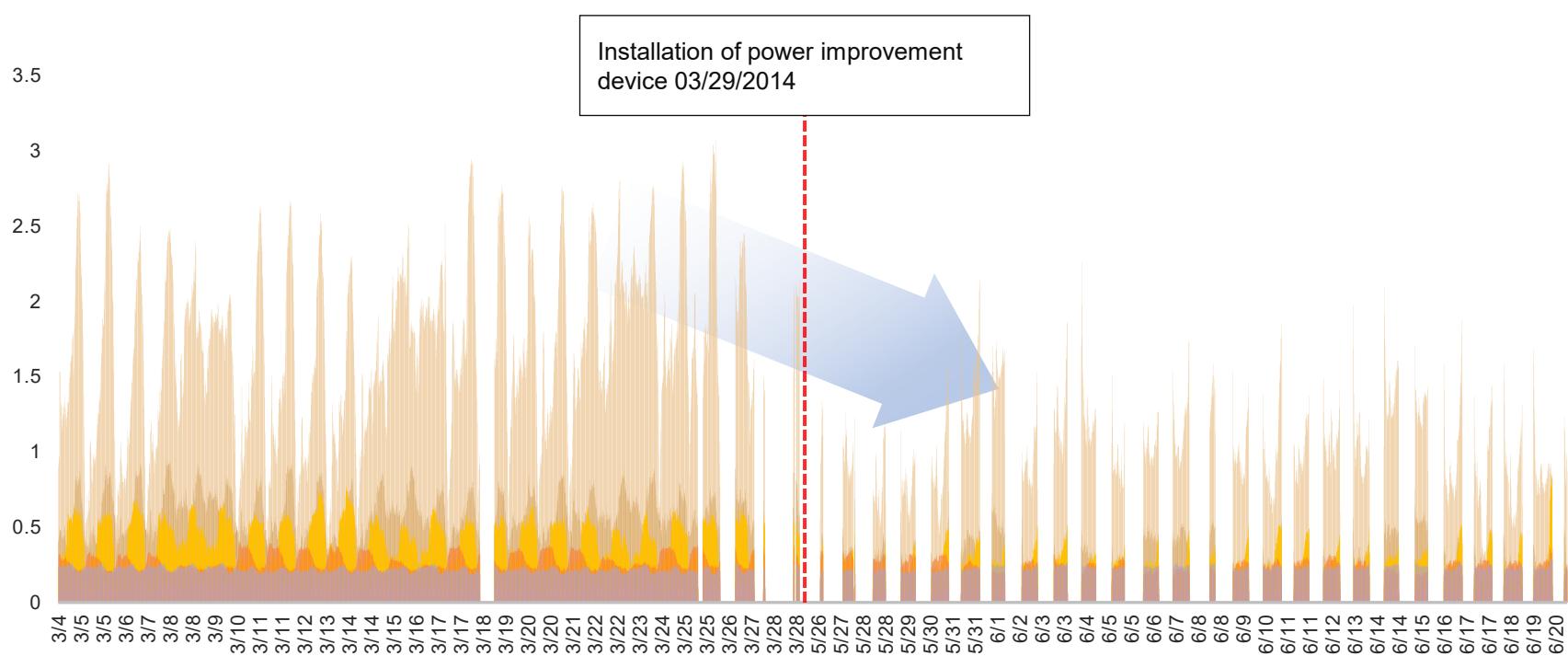
29.5 °C (29.8% Down)

6. Examples of Applications

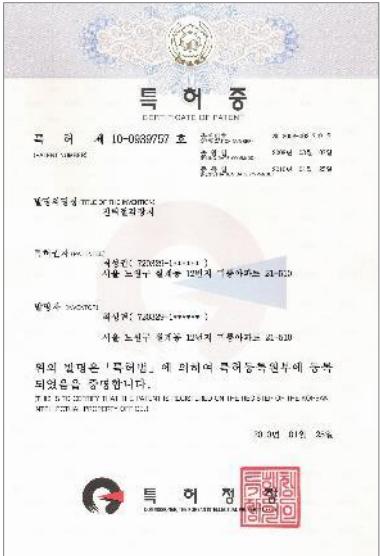
[Total Harmonic Distortion]

Comparison of circulation pump R-phase harmonics before and after installation

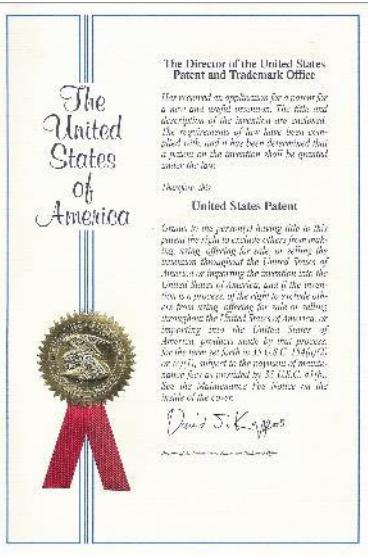
Minimizes losses by reducing power dissipation factors/THD



5. Patent Certification



Korea



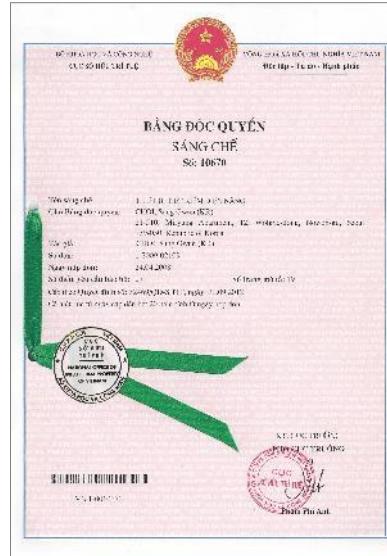
USA



China



Japan



Vietnam



5. Performance Certification

5. CONCLUSIONES

Observando estos resultados, no se detectó una disminución del consumo, en condicionamiento de uso (horario de operación al plástico) con respecto a la instalación anterior. Sin embargo, se observó una disminución en el consumo de los tres períodos que no pudo igualarse, pudiendo existir mayor consumo de lo establecido debido a la mayor duración de los equipos de climatización.

No obedece el mismo en resto de bajo consumo (tienda corriente), donde los resultados indican una disminución bastante considerable, tal como se puede observar en las gráficas apuntadas.

En los resultados obtenidos en horario de noche, la disminución de consumo se ha reducido un 11,3 % en T-1, un 6% en T-2 y 4,5% en T-3 aproximadamente.

T-1	11,3%	por savings demonstrated

El Plan de Limpieza, 16 de diciembre de 2010

En los resultados obtenidos en horarios de noche, la disminución de consumo se ha reducido un 11,3 % en T-1, un 6% en T-2 y 4,5% en T-3.

 CONCLUSIONES <p>Con los resultados obtenidos, se puede concluir que la energía de consumo energético de 1.712 kWh, es el promedio medido del día, aunque se acerca al 1.700.</p> <p>Se puede concretar un descenso progresivo del consumo en el segundo punto del mes, recordando la primera parte en la que la energía consumida se mantuvo estable a lo largo de los días 17 y 22 de noviembre.</p> <p>Resumiendo, se puede concluir que el equipo de trabajo consiguió de forma óptima.</p> <p>Se pide agradecer un descenso progresivo del consumo en la segunda parte del mes respecto a la primera parte en la que la energía consumida se mantuvo estable a lo largo de los días 17 y 22 de noviembre. Pudiéndose apreciar en el cuarto día de octubre una reducción máxima del -7,12 %.</p> <p>7.12% power savings</p> <p style="text-align: right;">Martes, 16 de diciembre de 2010</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> Realizado: Acción en Laboratorio </td> <td style="width: 50%; padding: 5px;"> Comprobado y Aprobado: Dirección Técnica en Laboratorio </td> </tr> <tr> <td style="padding: 5px;">  FERNANDO PALACIOS CASTILLO </td> <td style="padding: 5px;">  FERNANDO MONTES CLAVER </td> </tr> </table> <p><small>El informe es de naturaleza confidencial, su contenido no debe ser divulgado sin la autorización explícita del destinatario. No es una documentación legal. SGS no asume responsabilidad alguna por su uso.</small></p> <p align="center">CERTIFICADO DE VERIFICACIÓN CERTIFICADO DE MEDIDA CERTIFICADO DE CALIBRACIÓN Laboratorio de Verificación de Energía - SGS - Madrid Tel. 91 516 00 01 Fax 91 516 00 93</p>	Realizado: Acción en Laboratorio	Comprobado y Aprobado: Dirección Técnica en Laboratorio	 FERNANDO PALACIOS CASTILLO	 FERNANDO MONTES CLAVER
Realizado: Acción en Laboratorio	Comprobado y Aprobado: Dirección Técnica en Laboratorio			
 FERNANDO PALACIOS CASTILLO	 FERNANDO MONTES CLAVER			

	LABORATORIO DE PRUEBAS DE LA ANCE INFORME DE RESULTADOS	I.E. Nro.: 200007902 Período: 20/10/2008 / 09/2009 Página 1 de 12
G CONCLUSIONES		
De acuerdo a los resultados obtenidos de los ensayos con la bomba de presión se observó un efecto menor a la instalación del "Ahorrador de energía" (-0.86%).		
Por lo tanto se recomienda la instalación del "Ahorrador de energía".		
<p>Por otra parte en el informe se detallan las razones de la diferencia entre el resultado obtenido y el resultado deseado.</p> <p>En la parte final del informe se presentan las conclusiones y recomendaciones para la instalación del "Ahorrador de energía".</p>		
<p>Esperamos que este informe sea de utilidad para su trabajo.</p> <p>Atentamente,</p> <p>Ing. Raúl Monroy Pérez Gerente del Laboratorio</p> <p>Monroy Pérez, Raúl</p>		
<p style="text-align: center;"> 8.85% power savings demonstrated </p>		
 Westley Leonel Pérez Martín Ingeniero de Pruebas	 Ing. Raúl Monroy Pérez Gerente del Laboratorio	
<p>En el informe se detallan las razones de la diferencia entre el resultado obtenido y el resultado deseado.</p> <p>En la parte final del informe se presentan las conclusiones y recomendaciones para la instalación del "Ahorrador de energía".</p>		
<p>Esperamos que este informe sea de utilidad para su trabajo.</p> <p>Atentamente,</p> <p>Ing. Raúl Monroy Pérez Gerente del Laboratorio</p> <p>Monroy Pérez, Raúl</p>		

TEST DETAILS						
<u>1. Test Conditions</u>						
Power requirements (calculated for 92 hours) were measured for all test equipment were connected together as shown in Attachment 3, Wiring Diagrams based on Available, recent withstand voltage test results of 1080V AC-Sine wave, Model 57-98 provided by Applied Energy. Except for Clause 1, all test equipment were provided, external, for testing and not their operating conditions or application conditions.						
<u>Attachment 1a</u>						
No.	Details of Attachment	Test Page				
The following are known parts of the test report:						
Attachments 1	Wiring Diagram 1 to 19	6				
Attachments 2	Wiring Diagram and details of tests	1				
<u>2. Test Results</u>						
Data & Unit Headers						
Item	Duration	Wattmeter Function	PLC/AE Sizing System	Ambient Temperature	Input Voltage (V/Hz) (kWh)	Integrated Power Consumption for 29 Hr
2010-08-21 05:59	2010-08-21 05:59	--	27.8	106.82	1,023.88	1,04.28
2010-08-10 08:13	2010-08-10 08:13	None 1	27.4	106.82	1,030.03	120.33
						None (%) -5.8 -14.4
Note: FORM 6 Sizing System is connected Line and Neutral. See Attachment 2.						



5. Safety Certification

**NOTICE OF COMPLETION
AND
REQUIREMENT FOR IPI**

2002-2104

26. Itemized List

of 0212 Shallow Well 400 ft Deepwell Geopressurized
Water Well

Year Built:

02/02

Q3. Previous:

No. of Units:

Volume:

Capacity:

Depth:

Code:

Model:

Code:

Model:

Code:

Model:

Code:

Model:

Code:

Model:

Planned usage:

Residential

Commercial

Industrial

Agricultural

Other

Dear Inspector:

I have completed the installation under the above contract and conformed to the basis of your products with UL registration. We appreciate that you have a due date of certification provided and thank you for your checklist.

Please note the following: (1) The UL registration number is 2002-2104. (2) The UL registration date is 02/02/02. (3) The UL registration location is 1000 Morris Avenue, Northbrook, IL 60062. (4) The UL registration status is "Active". (5) The UL registration type is "Residential".

Manufacturer:	Brasfield Inc.	Inspector:	IC-A4
Product:	Water Well	Center:	Center
Model:	0212	Region:	CEO
Accessories:	None	Contract:	UL Residential Water Well
Surveyor:	None	Contract #:	None
Surveyor B:	None	Initial:	None
Surveyor C:	None	Date:	02/02/02
Surveyor D:	None	Date:	02/02/02

The UL registration number 2002-2104 was issued by UL based on the information contained in the application and the results of the inspection. UL does not manufacture, sell, or market the product. UL has no responsibility for the performance of the product. It is the responsibility of the manufacturer to ensure that the product complies with all applicable laws and regulations.

Please note that the UL registration number 2002-2104 is valid for one year from the date of issuance. After one year, the registration will be terminated unless re-submitted to UL for re-inspection. The registration will be terminated if the manufacturer fails to meet the requirements of the UL Residential Water Well Standard.

Please note that the UL registration number 2002-2104 is valid for one year from the date of issuance. After one year, the registration will be terminated unless re-submitted to UL for re-inspection. The registration will be terminated if the manufacturer fails to meet the requirements of the UL Residential Water Well Standard.

Please note that the UL registration number 2002-2104 is valid for one year from the date of issuance. After one year, the registration will be terminated unless re-submitted to UL for re-inspection. The registration will be terminated if the manufacturer fails to meet the requirements of the UL Residential Water Well Standard.

Please note that the UL registration number 2002-2104 is valid for one year from the date of issuance. After one year, the registration will be terminated unless re-submitted to UL for re-inspection. The registration will be terminated if the manufacturer fails to meet the requirements of the UL Residential Water Well Standard.

<i>EC Declaration of Conformity</i>	
Ref No.:	615-CE0419
Manufacturer:	ENPOSS CO., LTD.
Address:	Korea, Warjeon, Yongin-si, Gyeonggi-do, Korea
Product:	Electricity Power Saving System
Model(s):	Force
Standard:	EN 60068-2-307
Specified:	
We herewith declare,	
that the above-named equipment complies with the following Council Directive:	
CE Directive (92/31/EEC) on the approximation of the laws of the Member States relating to the harmonization of the essential requirements for the safety and health of workers.	
Date: March 28, 2010	
Notifying Body:	ENPOSS CO., LTD.
Signature:	
Address:	Jung-Gwan Choi / Manager

**Certificate of Designation
of Excellent Product**

Product: Solaris with improved power quality by reducing harmonics
Company: Ebara Co., Ltd.
Designation: ECO KI Power
Validity Period: June 30, 2017 ~ June 29, 2020
Serial No.: 2017115

This is to certify that the above mentioned product was designated as an Excellent Product in accordance with Article 9 Paragraph 2 of the Government Procurement Act and Article 18 of the Enforcement Decree thereof

June 30, 2017

Administrator Chung Yangho Chung Yangho
Public Procurement Service, Republic of Korea

UL

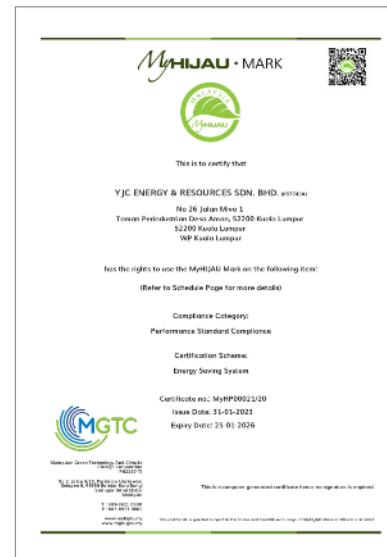
CE

POCC

PUBLIC PROCUREMENT SERVICE



5. Green Certification



Korea Green Certification(1)

Korea Green Certification(2)

Malaysia Green Certification

5. Class Certificate

Certificate of Conformity	
Page 1 of 1	
KR KOREAN REGISTER	Certificate No.: H0101-0122-1X
Date of Issue: 20-July-2018	Date of Commencement: 20-July-2018
Works Order No.:	Purchase Order No.:
Place of Inspection: Gyeonggi-do, Korea	Office: Busan Office
Manufacturer: ENPOSS LTD.	
Purchase:	
<p>This Certificate is issued to the above client to certify that the undersigned Surveyor did at their request attend the above place for the purpose of examining and testing the item of material, equipment or any other item covered by this certificate in accordance with the manufacturer's specification and found it satisfactory.</p> <p>Job ID No.: JED 40004-18 Quantity/Weight: 1 EA</p> <p>Intended Use: STICK</p> <p>Description: Electrical Power Saving Device</p> <p>Approval Status:</p> <p>Particulars: 1. Grade: 300A, 300B 2. Model No.: P-4000, P-4000, P-4000, P-4000, P-4000, P-4000</p>	
<p>Testing and Inspection:</p> <p>1. Radiated Radio Frequency Immunity Test (RS) witnessed in accordance with IEC 61000-6-4.</p> <p>2. Electromagnetic Field Immunity Test</p> <p>For details, refer to the attached Test Report No. PS0001/W-IC60002(V), 000-10-000-0001, 100-000-0001.</p>	
<p>Marking, Serial No. and Remarks:</p> <p>000-1000-18 000-000-00</p>	
  Surveyor's Name: [Signature] KOREAN REGISTER	
<small>This certificate is a representation only that the item of material, equipment or any other item covered by this certificate has been examined for the purposes set out in the reference or inspection and found to be in accordance with the manufacturer's specification. This certificate does not constitute a guarantee of the safety or performance of the item mentioned in this certificate. It is the responsibility of the user to determine the suitability of the item for its intended purpose.</small>	
<small>0000-0000-0000-0000 1000-0000-0000-0000 KR0001/W-IC60002(V) 000-10-000-0001, 100-000-0001 http://www.enposs.co.kr</small>	

- KR Certificate issued on July 2018
- Radiated Radio Frequency Immunity Test (RS) in accordance with IEC 61000-6-4
- Environment Test Standard: IACS UR E10 Test Specification for Type Approval
- Conducted Emission Test
- Radiated Emission Test
- Electrostatic Discharge Immunity Test
- Electromagnetic Field Immunity Test
- Electrical Fast Transient/Burst Immunity Test
- Surge Immunity Test
- Conducted Immunity Test
- Conducted Low Frequency Test
- Power Supply Variation Test
- Electrical Power Supply Failure Test
- Cold Test
- Dry Heat Test
- Damp Heat Test
- Insulation Resistance Test
- High Voltage Test

6. Examples of Applications

[Kyunghee Medical Center]

■ Installation points and capacity

- Kyunghee Medical Center / Circulation pump (ward temperature control)
- Point : Transformer ACB secondary side
- Installed Capacity : Total 1,000 kW (1,000 kW, 1 SET)

■ Methods of analysis

- Instrument : HIOKI 3169 (Wh/5min)
- Comparison of power consumption before and after installation

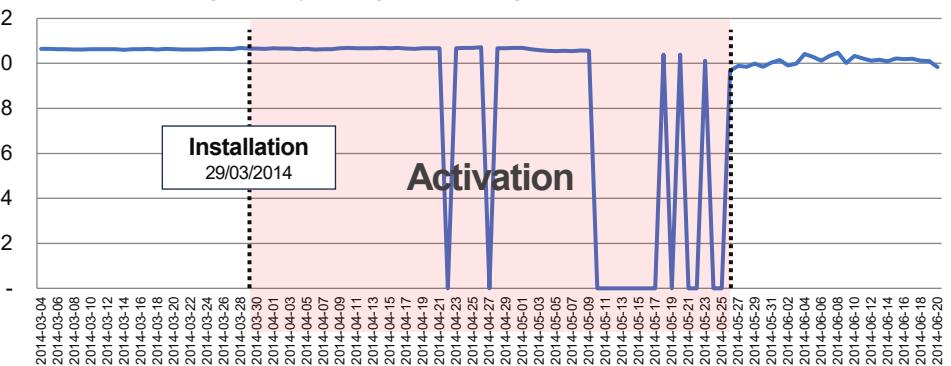
■ Installation results

- Objective : More than 5% less Power consumption than before installation
- Result : **7.63%** Reduction

	Before	After	Saving Ratio(%)
Average Power usage (W/15min)	10,632	9,821	7.63
Harmonics(A)	3.28	2.19	33.11



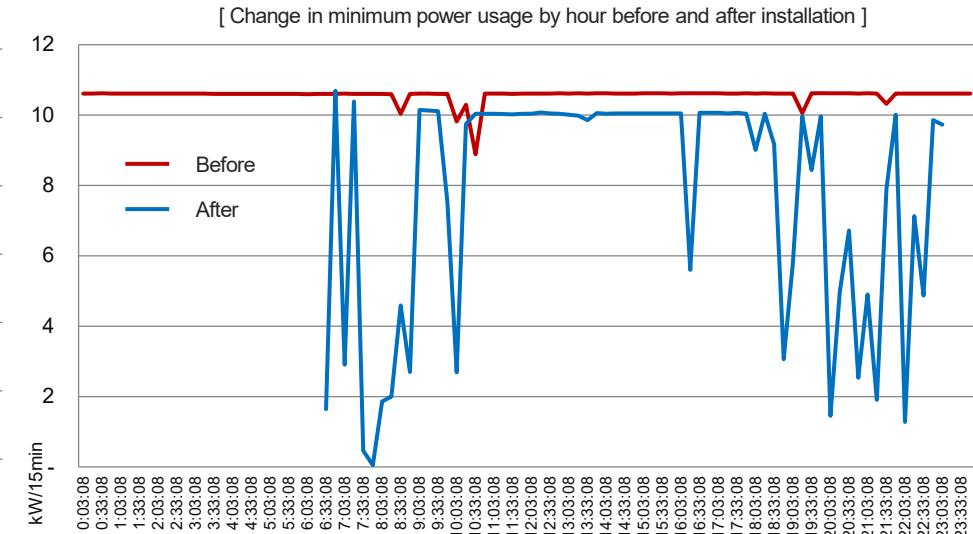
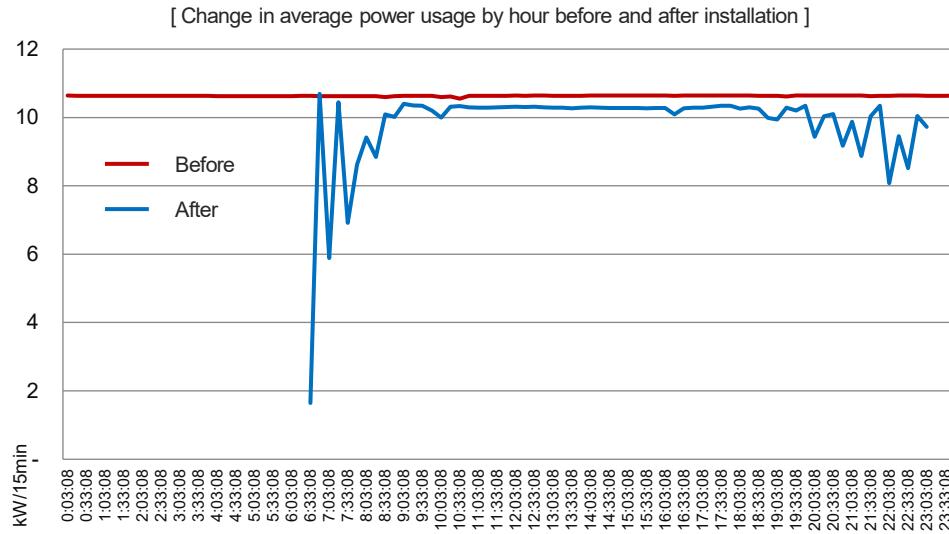
[Change in daily average power usage before and after installation]



6. Examples of Applications

[Kyunghee Medical Center]

Compare	Standard	Average before installation	Average After installation	Ratio	Result
Average power usage	The more it decreases, the better	10,632W/15min	9,821W/15min	7.63%	Reduction
Reactive power		7,115W/15min	7,078W/15min	5.28%	Decrease
5 Harmonic		1.67A	1.04A	37.91%	Decrease
7 Harmonic		0.43A	0.28A	34.47%	Decrease
11 Harmonic		0.27A	0.25A	8.5%	Decrease
Harmonic Sum		3.28A	2.19A	33.11%	Decrease



6. Examples of Applications

[Samsung Fine Chemicals]

■ Installation points and capacity

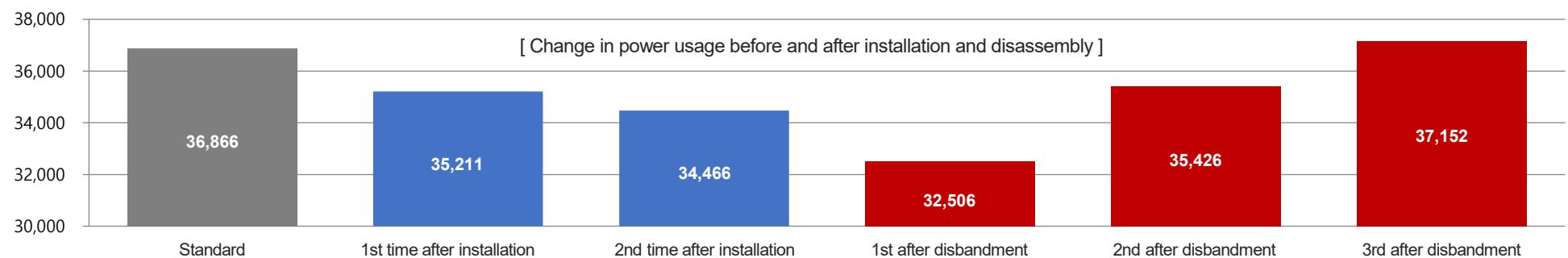
- Samsung Fine Chemicals / Lighting, electric heating
- Point : Transformer ACB secondary side
- Installed Capacity : Total 200 kW (200 kW, 1 SET)

■ Methods of analysis

- Instrument : HIOKI 3169 (Wh/10min)
- Install FORCE → Confirm reduction in power usage → Dismantle FORCE → Confirm increase in power usage

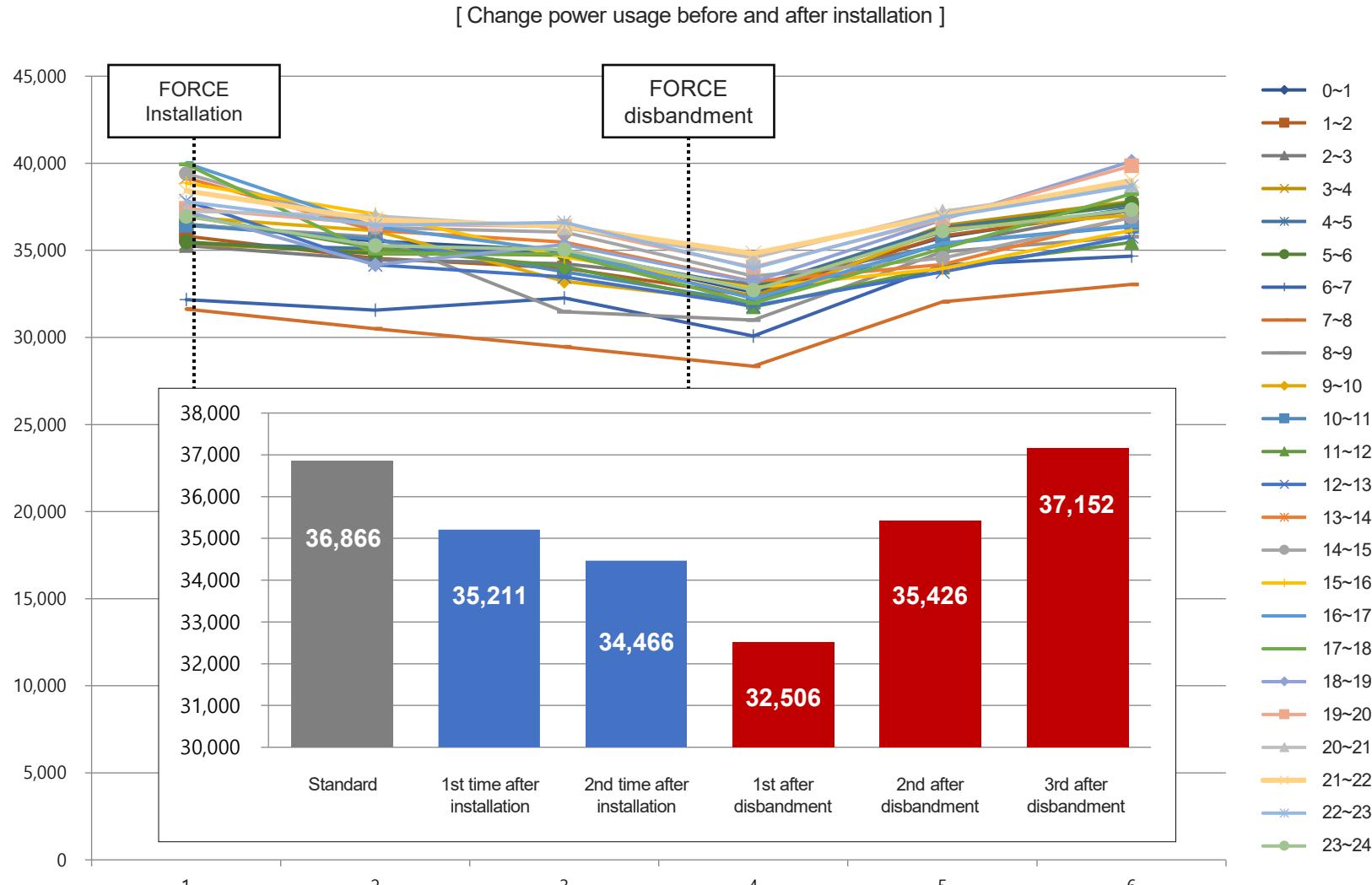
■ Installation results

- Objective : More than 5% less Power consumption than before installation
- Result : **6.5% Reduction**



6. Examples of Applications

[Samsung Fine Chemicals]



6. Examples of Applications

[Bitexco building]

■ Installation points and capacity

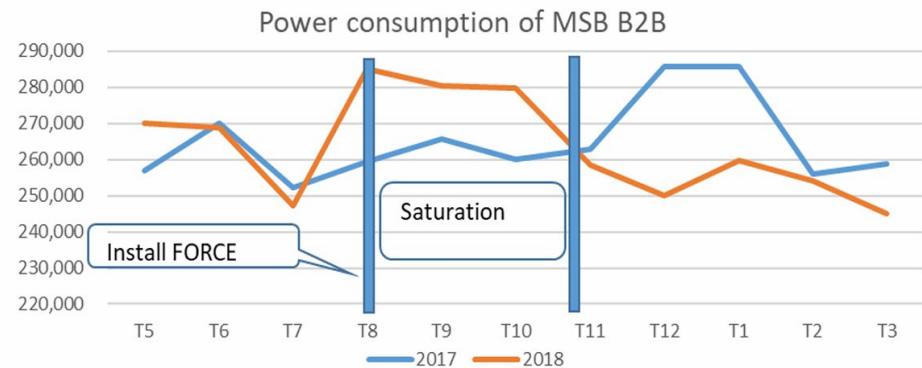
- The Bitexco building
- Point : Transformer ACB secondary side
- Installed Capacity : Total 1,000 kW

■ Methods of analysis

- Instrument : HIOKI 3169 (Wh/5min)
- Comparison of power consumption before and after installation

■ Installation results

- Objective : More than 5% less Power consumption than before installation
- Result : **18.3% Reduction**

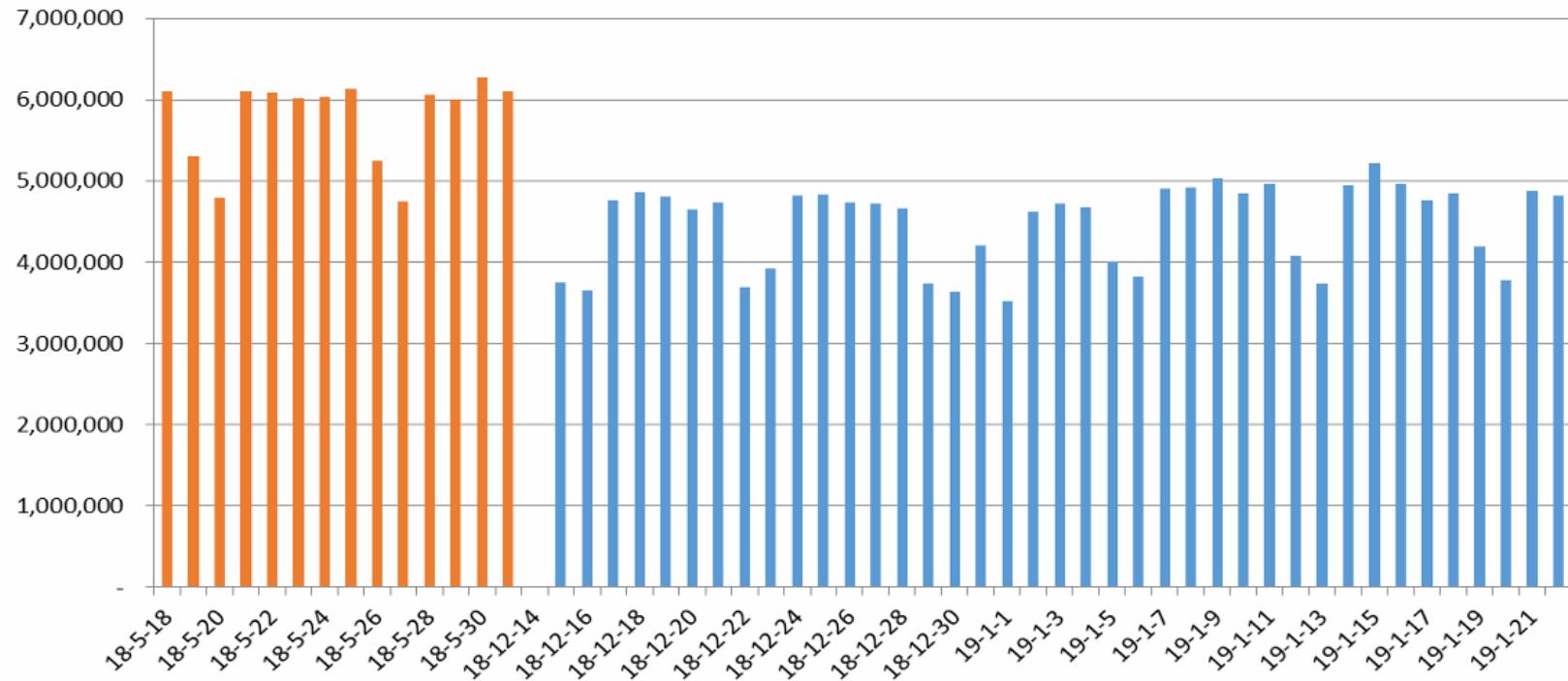


6. Examples of Applications

[Bitexco building]

Daily power consumption before/after

Figure1



6. Examples of Applications

[Marriot Hotel in Hanoi]

■ Installation points and capacity

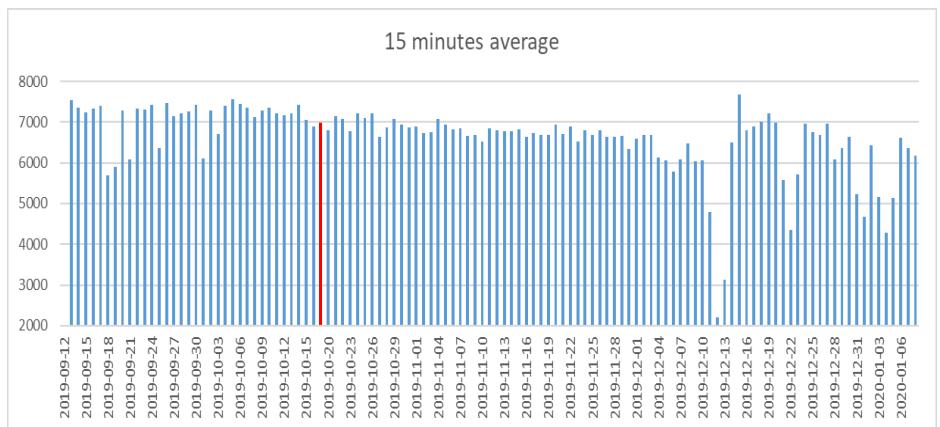
- Marriot Hotel in Hanoi Vietnam
- Point : Transformer ACB secondary side
- Installed Capacity : Total 200 kW

■ Methods of analysis

- Instrument : HIOKI 3169 (Wh/5min)
- Comparison of power consumption before and after installation

■ Installation results

- Objective : More than 5% less Power consumption than before installation
- Result : **9.5% Reduction**





7. Reduction in Operating Costs

■ FORCE specification calculation method

- Vessel Generator capacity (1,000kw) x Power factor 80% (0.8) x Peak utilization percentage (80~90%)
= Installed FORCE specification (about 1,500kw)

■ Payback period examples based on fuel consumption of 1,000kw load, (1,500 kW FORCE) and average cost.

- Reduction in fuel Usage per day of 8% x 365 days = \$43,800.00 per month (Payback period about 23 months)
- Reduction in fuel usage per day of 10% x 365 days = \$54,750.00 per month (Payback period about 18 months)
- Reduction in fuel usage per day of 12% x 365 days = \$65,700 per year (Payback period about 16 months)

* B-C price : US600\$/ton

8. References

■ Commercial and Industrial installations

Company	Installed capacity (kW)	Company	Installed capacity (kW)
H-Line Shipping	62,900	Credulity wires	2,870
HMM	1,000	POSCO	10,550
KLCSM	1,200	Ilshin Industrial Metals	2,670
Lotte Fine Chemicals	1,850	Limcheon Industry	1,200
Ottogi Foods	13,550	KEPCO Industrial Development	1,500
Finite Kimberley	5,000	Gyeongam Building	1,800
Taekwang Business	5,000	Shinhan Bank	2,500
Hanwha Total	1,300	Daejin Industry	1,000
Kolon Life Sciences	2,000	DYM	1,700
Henkel Korea	1,200	Shinhan Industrial	1,750
Orange Dunes CC	2,000	Samsung Corning	1,000

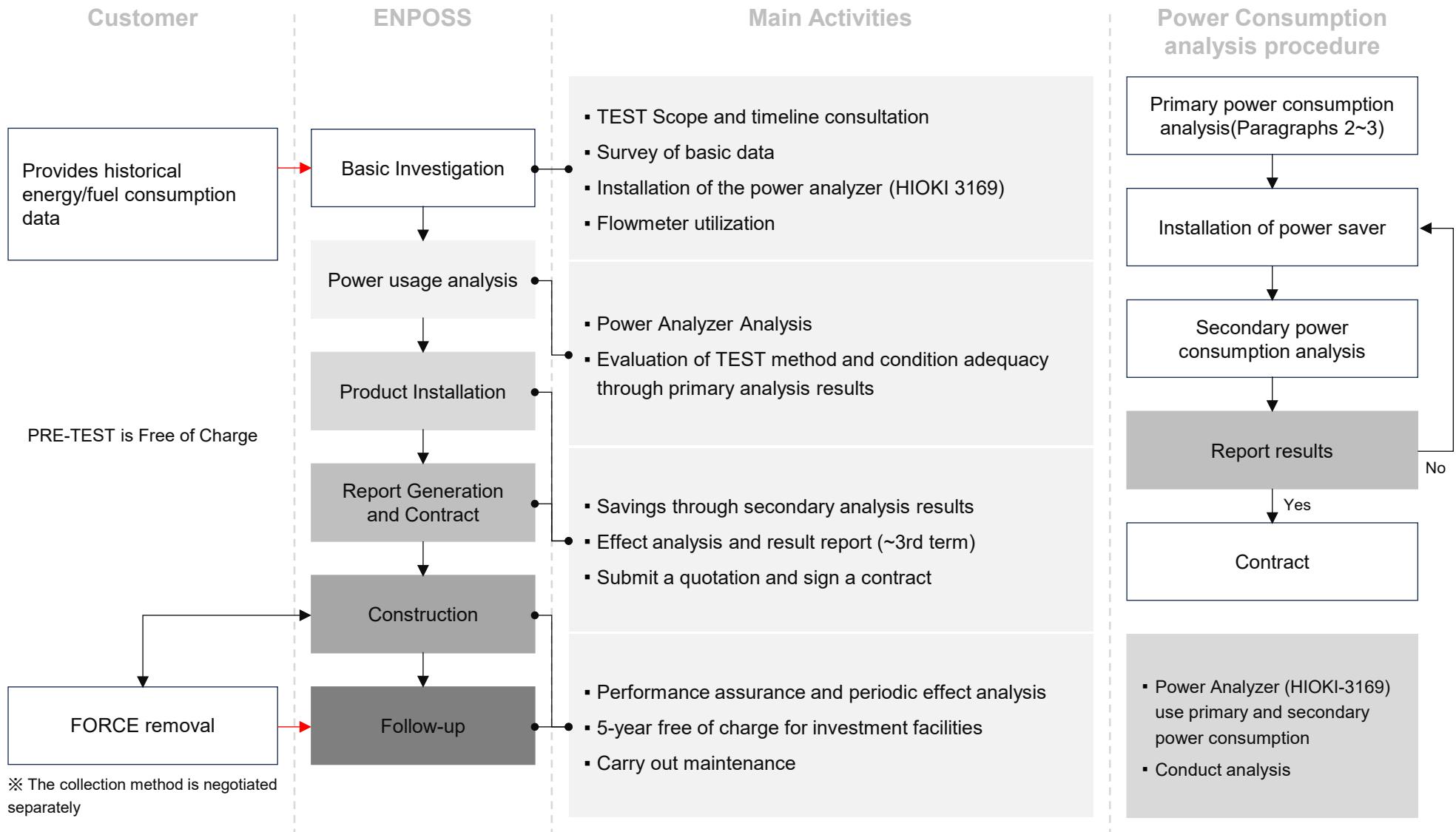
8. References

■ Vessel installations

Vessel	Installed capacity (kW)	Vessel	Installed capacity (kW)	Vessel	Installed capacity (kW)	Vessel	Installed capacity (kW)
HL SUCCESS	1,350	HYUNDAI HADONG	1,100	HL BORYEONG	1,200	HL AQUAMARINE	2,000
HL SALDANHA BAY	1,350	SAMCHEONPO	1,100	HL BRAZIL	2,000	SAO PEARL	2,000
HL TUBARAO	2,000	HL PASSION	1,200	HL TAEAN	1,100	HL NAMBU1	2,000
HL IBT	1,100	HL PIONEER	1,200	SAO LOUIS	2,000	HL NAMBU2	2,000
HYUNDAI KOMIPO	1,100	HL PORT WALCOTT	1,200	SAO MASTER	2,000	SK. K TANAN	1,500
HL HARMONY	1,100	HL VENUS	2,000	HL DIAMOND	2,000	FEG SUCCESS	1,000
HL HADONG	1,200	HYUNDAI LEADER	1,000	SAO NEPTUNE	2,000	HL BALIKPAPAN	1,200
HL GLADSTONE	1,100	HL MERCURY	2,000	HL EMERALD	2,000	WP BRAVE	1,200
HL BALTIMORE	900	HL ESPERANCE	1,350	HL ECO	2,000	PAN COSMOS	1,500
HL VISION	1,350	HL DALRYMPLE BAY	1,200	HL PEARL	2,000	Lake Shihwa Ferry	300
HL SHINBORYEONG	1,200	HL PRIDE	1,200	HL GREEN	2,000	-	-
HL SINES	1,350	HL DANGJIN	1,200	SAO OASIS	2,000	-	-
HL PORT HEADLAND	1,350	HL SAMARINDA	1,200	HL SAPPHIRE	2,000	-	-

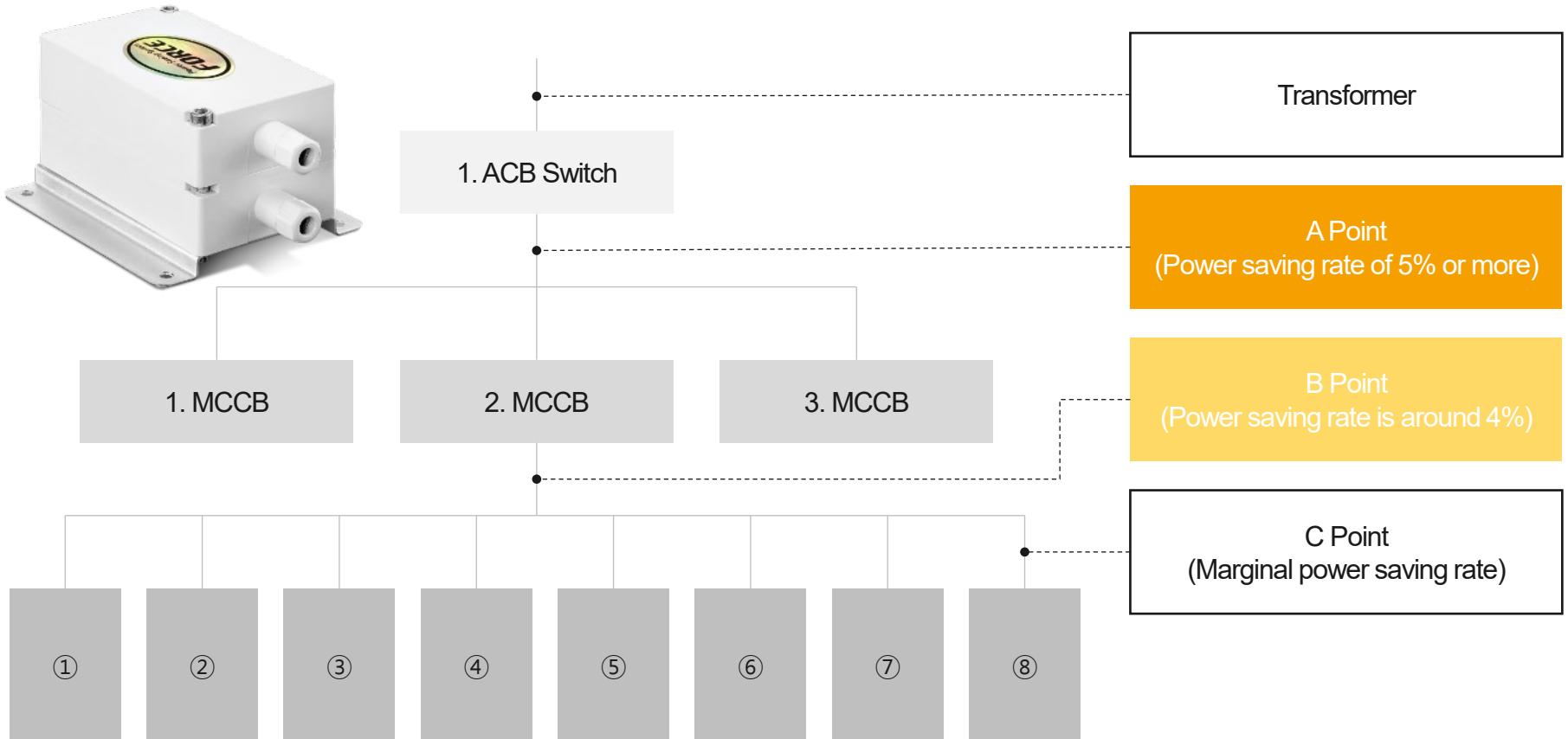
9. Installation Process

[If tested]



10. Installation Overview

■ Power System Location / Power Saving Rate

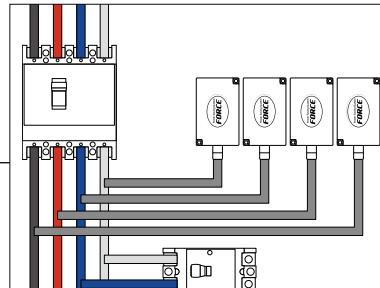
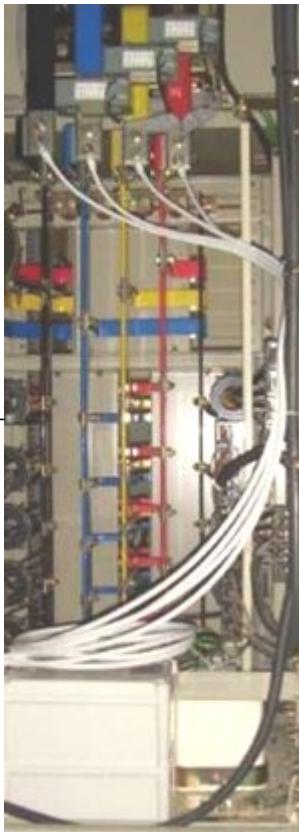


10. Installation Overview

■ Switch Board



Connecting to R,S,T,N
angular phase easy to install



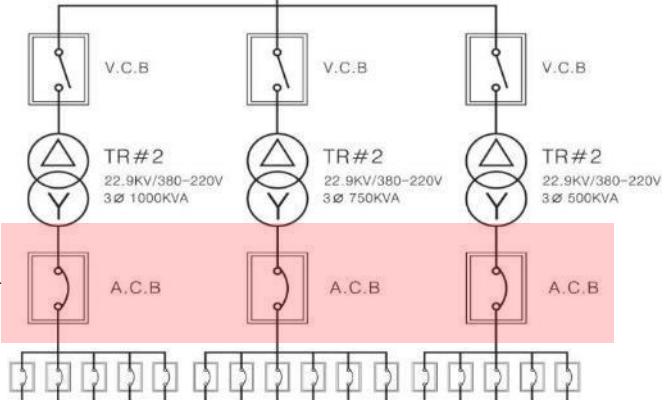
Ultra-small power improvement
device UNIT

KEPCO

3Ø 4W 22.9KV 60Hz

MOF

V.C.B

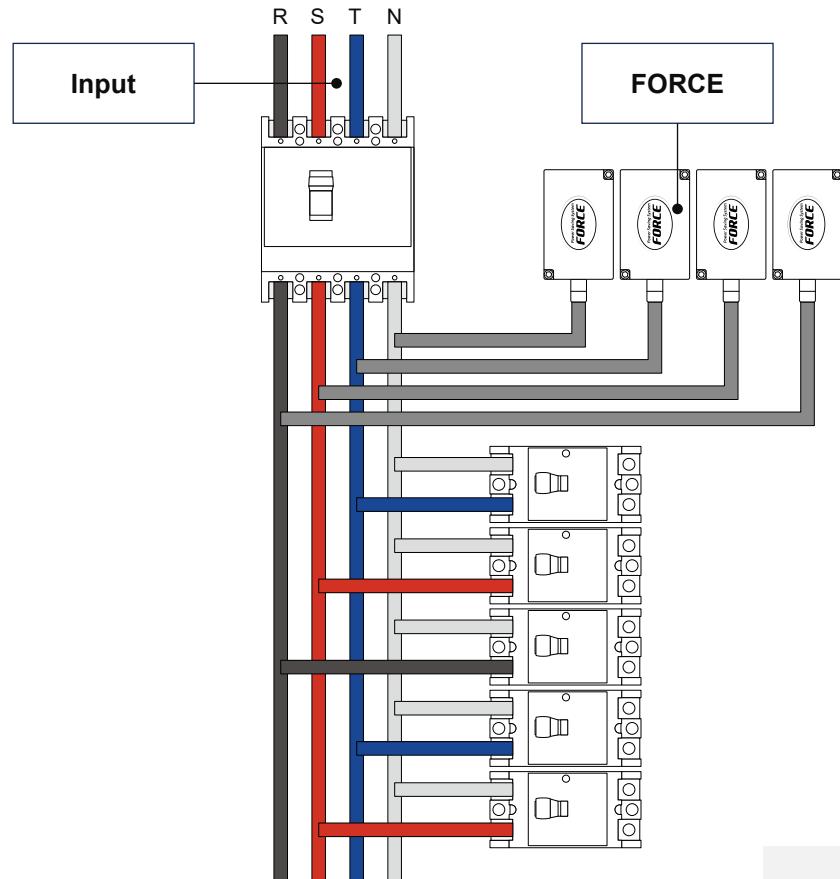


Installation Location

Main 2nd stage ACB (Air Circuit Breaker)
parallel connection to R, S, T, N phases

10. Installation Overview

■ Distribution Board



FORCE placement (inside switchboard cabinet)



One for each of the main 2nd stage breakers R, S, T, and N
Parallel connection makes installation very simple and fast

※ FORCE may be installed inside or outside the switchboard cabinet.

11. Product Specifications

Power	Capacity (kW)	Model	Wire	Size (W×L×H)	Weight (kg)
1P 2W	5	F-2005	8SQ	80×130×35	1.5
	10	F-2010		80×110×70	1.8
3P 3W	5	F-3005	14SQ	65×95×55	1.5
	10	F-3010		80×110×70	2.7
	20	F-3020		80×130×70	3.3
	30	F-3030		80×180×70	4.5
	50	F-3050		80×180×85	5.8
	75	F-3070	25SQ	130×175×75	8.6
	100	F-3100		130×175×100	11.0
	200	F-3200		140×230×100	16.6
	300	F-3300		150×245×100	18.8
	400	F-3400		150×250×130	24.7
3P 4W	500	F-3500		190×280×130	30.9
	750	F-3750		190×380×130	45.8

Power	Capacity (kW)	Model	Wire	Size (W×L×H)	Weight (kg)
3P 4W	10	F-4010	14SQ	65×95×55	2.0
	20	F-4020		80×110×70	3.6
	30	F-4030		80×130×70	4.5
	50	F-4050		80×180×70	6.1
	75	F-4070		80×180×85	7.8
	100	F-4100	25SQ	130×175×75	11.5
	200	F-4200		130×175×100	14.6
	300	F-4300		140×230×100	22.2
	400	F-4400		150×245×100	25.1
	500	F-4500		150×250×130	33.0
3P 5W	750	F-4750	25SQ	190×280×130	41.3
	1,000	F-4110		190×380×130	61.1

- Products with a capacity of less than 5kW and more than 750kW are customized as per client's request.
- Depending on the length and thickness of the wire, size/weight may differ from the table.

Thank you



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